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Tax Avoidance and Tax Disclosures in Corporate Social Responsibility Reports in the United Kingdom

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ABSTRACT: This study examines how a firm's tax disclosures in a CSR report are influenced by its tax avoidance behavior. Using a sample of public U.K. firms, our empirical analysis reveals that firms engaging in higher levels of tax avoidance are more likely to provide tax-specific disclosures in their CSR reports. In addition, the tax disclosures tend to be longer, contain more justification words, and contain more soft claims than hard information. Further cross-sectional analyses suggest that the positive association between tax avoidance and tax disclosures is attenuated when firms exhibit better CSR performance as well as stronger corporate governance. Collectively, our findings provide evidence that firms appear to legitimize their tax avoidance behavior by providing more tax disclosures in their communications with stakeholders.

JEL Classifications: H26; M14; M4.

Keywords: tax avoidance; tax disclosure; corporate social responsibility.

I. INTRODUCTION

Corporate tax avoidance has increasingly attracted attention from politicians and the public, as many business enterprises are being challenged for not paying enough tax (Cameron 2013; OECD 2013; Packman 2014). From shareholders' perspectives, tax avoidance could be value-enhancing, since effective tax management increases shareholder wealth (Armstrong, Blouin, Jagolinzer, and Larcker 2015; Cook, Moser, and Omer 2017; Desai and Dharmapala 2006). Despite the relevance of tax avoidance for shareholders, some researchers suggest that engaging in strategic behavior designed to minimize corporate taxes is deemed socially irresponsible (Freedman 2003; Landolf 2006; Slemrod 2004). Margrethe Vestager (2015), the European Union's competition commissioner, has argued against tax avoidance and stated, "Paying one's fair share of tax should be firmly integrated in a company's corporate social responsibility (CSR)." Practitioners also advocate that increasing tax disclosures could improve community relations (Ernst & Young 2011).

While corporate tax avoidance has been considered a social issue and attracted heightened attention from the media and public, relatively few studies of CSR have investigated the association between CSR and tax activities. One notable exception is a study by Lanis and Richardson (2012), who find that more socially responsible firms have a lower level of tax aggressiveness. Meanwhile, most of the prior CSR literature focuses on CSR disclosures in general or environmental disclosures in particular (Clarkson, Li, Richardson, and Vasvari 2008; Matsumura, Prakash, and Vera-Muñoz 2014; Muslu, Mutlu, Radhakrishnan, and Tsang 2019), while not examining tax-specific disclosures. Therefore, this study attempts to further

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our understanding of firms' tax disclosures in the context of CSR. More specifically, we ask this research question: Do firms engaging in tax avoidance provide more or less tax-related disclosure in their CSR reports?

The extant literature has documented the trade-off between tax reporting complexity and tax authority scrutiny in firms' voluntary tax disclosure decisions. On one hand, aggressive tax planning often involves increased financial or organizational complexity, resulting in a less transparent information environment (Balakrishnan, Blouin, and Guay 2019; Chen, Hepfer, Quinn, and Wilson 2018). Therefore, tax-aggressive firms tend to voluntarily disclose more tax-related information in their financial reports to reduce the information asymmetry arising from tax complexity (Balakrishnan et al. 2019; Ehinger, Lee, Stomberg, and Towery 2020). On the other hand, however, more tax disclosures might increase the scrutiny of tax authorities. Studies provide evidence that the Internal Revenue Service (IRS) in the U.S. uses firms' public financial disclosures to facilitate tax enforcement (Bozanic, Hoopes, Thornock, and Williams 2017; Hoopes, Mescall, and Pittman 2012; Maylie 2011; Mills 1998).

Disclosures that outline a firm's tax-related activities are likely relevant for investors, as taxes saved represent a form of profit maximization (Hanlon, Hoopes, and Shroff 2014). In contrast, stakeholders other than investors demand tax-related information to assess the fairness of a firm's tax payments (Avi-Yonah 2008; Williams 2007). Nevertheless, it is not clear whether stakeholders obtain the same information from reading the tax disclosures provided in financial reports. Take the beverage company Diageo plc, for example: in its 2013 annual report, the footnotes on taxation mainly disclose the amount of taxes paid, the components of taxes, and the factors affecting tax charges.[1] In contrast, in its sustainability report, Diageo plc (2013) provides detailed disclosures about its tax affairs and tax policy under the governance and ethics section, including the statement "every year, our tax contribution accounts for a significant proportion of the value we contribute to economies around the world."[2] We can see that the tax disclosures in CSR reports emphasize *tax accountabilities,* while such claims are not conveyed in annual reports.

From the above example, one might argue that firms with higher levels of tax avoidance should provide more disclosures in their CSR reports to placate stakeholders who care about social fairness. However, among our sample of U.K. firms that provide CSR reports, the length of tax-related disclosures varies from 5 words to 3,989 words, while these firms' effective tax rates range between 0.72 percent and 75 percent. Therefore, whether tax avoidance has a positive or negative association with tax disclosures is an empirical question.

We predict that tax avoidance may affect tax disclosures in CSR reports in two ways. On one hand, the voluntary disclosure theory suggests that firms that are performing well have incentives to provide disclosures to signal their "good type" (Dye 1985; Verrecchia 1983). From this perspective, firms that engage less in tax avoidance tend to disclose more tax-related information to inform stakeholders of their fair tax payments. On the other hand, the legitimacy theory suggests that firms with threatened social legitimacy are more likely to make self-serving disclosures to legitimize their behavior (Gray, Kouhy, and Lavers 1995; Lindblom 1994). Gray, Owen, and Lavers (1987) define CSR disclosures as disclosures providing information designed to discharge social accountability. According to this perspective, firms that are more tax aggressive might provide more tax disclosures to communicate with stakeholders in an attempt to change their perceptions. The two theories thus lead to competing predictions about the effect of tax avoidance on tax disclosures in CSR reports.

To test our hypothesis, we study a sample of public U.K. firms that issued standalone CSR reports during the fiscal years 2010–2014. Our main analysis shows a positive association between tax avoidance and tax disclosures in the firms' CSR reports, a finding consistent with the legitimacy theory. The magnitude of this positive effect is also economically significant. Specifically, when a firm's effective tax rate decreases by 1 percent, the probability of providing tax-related disclosures increases by 24.7 percent. Furthermore, we find that firms engaging in higher levels of tax avoidance tend to provide more soft information (i.e., information that is generally descriptive and not readily verifiable) and use more justification-related words in their tax disclosures. Overall, our findings suggest that firms appear to legitimize their tax avoidance behavior by providing more tax disclosures in their communications with stakeholders.[3]

In the additional analyses, we explore cross-sectional variations and find that better CSR performance and stronger corporate governance attenuates the positive relation between tax avoidance and tax disclosures. Moreover, we do not find evidence that tax complexity exerts a significant influence on the tax disclosures in CSR reports, a finding in contrast to that regarding the tax disclosures made in financial reports. These results suggest that, when firms are paying lower taxes, poor performance in CSR as well as in governance strengthens their legitimating motives for increasing tax disclosures in their CSR reports. We also find that the positive association between tax avoidance and tax disclosures has been more pronounced since 2013, when the U.K. government implemented the General Anti-Abuse Rule (GAAR), which makes aggressive tax planning

[1] See its 2013 annual report, available at: https://www.diageo.com/PR1346/aws/media/1479/diageo_ar_2013_lo-res_master_final.pdf
[2] See its 2013 sustainability report (Diageo plc 2013).
[3] Law and Mills (2017) argue that managers with military experience share common values related to government legitimacy and thus pursue less tax avoidance. In contrast, our study suggests that firms engaging in more tax avoidance pursue legitimacy through providing more tax disclosures in CSR reports.

more costly. Collectively, our empirical evidence provides support for the legitimacy theory as an explanation for increased tax disclosures in the CSR reporting of more tax-aggressive firms.

This paper contributes to the existing literature in a number of ways. First, we add to the tax literature studying firms' voluntary tax disclosures. Different from prior research that focuses on tax disclosures provided mainly to investors (e.g., Balakrishnan et al. 2019; Ehinger et al. 2020), our study examines tax disclosures in CSR reports provided to a wider community of stakeholders. This investigation is important as various stakeholders in society all demand information about the social fairness of firms' tax payments (Ernst & Young 2011; Packman 2015).

Second, this study contributes to the CSR literature by developing a comprehensive measure of tax-specific disclosures in CSR reports. The extant research on CSR mostly concentrates on either the environmental disclosures (Clarkson et al. 2008; Matsumura et al. 2014; Plumlee et al. 2015) or the entire disclosures in CSR reports (Lanis and Richardson 2012; Muslu et al. 2019). We further analyze the content of tax disclosures by distinguishing soft information from hard information, as well as by studying the words/tones used in the disclosures. Our findings suggest that a firm's level of tax avoidance affects not only the quantity but also the nature of tax-related disclosures in its CSR reports.

Finally, we show that the positive association between tax avoidance and tax disclosures in firms' CSR reports is not driven by tax complexity but varies with firms' CSR performance and corporate governance. This finding complements prior studies documenting that tax reporting complexity dominates managers' tax disclosure decisions in financial reports. Our evidence suggests that the legitimating motive to alleviate public concerns explains tax-aggressive firms' disclosure behavior in their communications to stakeholders.

The rest of the paper is organized as follows. Section II reviews related literature and develops the research hypothesis. Section III describes the data and research methodology. Section IV presents the empirical results. Section V discusses additional analyses. Section VI provides concluding remarks.

II. RELATED LITERATURE AND HYPOTHESIS DEVELOPMENT

Researchers have proposed that tax planning is a value-enhancing activity and that tax avoidance is valued by shareholders (Armstrong et al. 2015; Cook et al. 2017; Desai and Dharmapala 2006). Given the importance of tax management to shareholder value, the prior literature shows that firms engage in varying levels of tax avoidance activities, which are affected by various firm-level as well as executive-level characteristics (Shackelford and Shevlin 2001; Dyreng, Hanlon, and Maydew 2010; Law and Mills 2017). Nevertheless, aggressive tax strategies can pose a significant risk to corporate reputations, and thus managers also consider reputational costs in deciding a firm's level of tax avoidance (Hanlon and Slemrod 2009; Shulman 2009; Gallemore, Maydew, and Thornock 2014; Graham, Hanlon, Shevlin, and Shroff 2014; Dyreng, Hoopes, and Wilde 2016; Austin and Wilson 2017; Dhaliwal, Goodman, Hoffman, and Schwab 2021).

While most studies have investigated the determinants of tax avoidance, another stream of research has focused on tax disclosure behavior. Firms will rationally disclose tax-related information based on the costs and benefits of doing so. On the benefit side, voluntary tax disclosures can reduce investors' costs of processing complex tax information and improve firms' information environments. For example, Schwab (2014) provides evidence that firms that engage in higher levels of tax avoidance are more likely to provide disclosures related to book-tax differences in earnings releases. Balakrishnan et al. (2019) find that tax-aggressive firms attempt to mitigate the negative consequences of financial reporting opacity by increasing tax disclosures in their annual reports. Similarly, Chen et al. (2019) document that managers are more likely to provide forecasts of effective tax rates when they experience greater tax complexity. Overall, the above literature suggests that the tax complexity embedded in tax planning triggers managers to increase tax-related disclosures for investors.

On the cost side, increased tax disclosures can inform tax authorities about potential noncompliance. For example, Bozanic et al. (2017) provide evidence that the IRS uses FIN 48 disclosures in the U.S. for tax enforcement purposes. Anecdotal evidence also shows that tax disclosures provided by U.K. firms could attract non-U.K. tax authorities' attention (Maylie 2011). In a similar vein, Hope, Ma, and Thomas (2013) document that U.S. multinational companies opting to discontinue disclosures of geographic earnings in their financial reports have lower worldwide effective tax rates. In summary, the literature suggests that managers have incentives to reduce disclosures in an attempt to mask their tax avoidance behavior.

Most of the literature studying tax disclosures concentrates on disclosures made in annual reports or conference calls that are accessed by investors. Different from shareholders who require tax disclosures to understand whether managers engage in proper tax planning, the public cares more about whether firms are paying enough taxes to contribute to the well-being of society as a whole (Avi-Yonah 2008; Williams 2007). As an issue of major public concern, tax aggressiveness is regarded as a strategy incompatible with community expectations (Christensen and Murphy 2004; Sikka 2010). Supporting this argument, Lanis and Richardson (2012) find that more socially responsible firms are less tax aggressive and tend to pay their fair share of corporate taxes. Rather than studying how CSR engagement affects tax avoidance behavior, our paper examines how the level of tax avoidance affects firms' decisions regarding the tax disclosures in their CSR reports.

We posit that tax avoidance may affect the tax disclosures included in CSR reports in two ways. The voluntary disclosure literature suggests that companies have incentives to disclose "good news" to differentiate themselves from companies with "bad news" (Dye 1985; Verrecchia 1983). Consistent with this theoretical argument, Clarkson et al. (2008) find that firms with superior environmental performance tend to provide a higher level of discretionary environmental disclosures. Dyreng et al. (2016) also show that firms that do not comply with tax laws perceive the cost of disclosing detailed information to be greater than the benefit of a more complete information environment. With respect to the social aspects of corporate taxation, firms that pay their fair share of taxes and thus contribute to economic development are considered good performers (Freedman 2003; Landolf 2006). Accordingly, the voluntary disclosure theory suggests that firms engaging in lower levels of tax avoidance are more likely to reveal their good performance type by providing more disclosures to inform stakeholders about their tax policies.[4]

There is an alternative argument that predicts a positive relationship between tax avoidance and tax disclosures in CSR reports. The legitimacy theory suggests that when there is a discrepancy between corporate actions and societal expectations, managers employ disclosure media as a means to alleviate community concerns (Gray et al. 1995; Lindblom 1994). Moreover, even if a corporation is complying with societal expectations, its legitimacy may be threatened if it fails to make disclosures that convincingly demonstrate compliance (Newson and Deegan 2002). Deegan and Rankin (1996) find that companies increase their reporting of favorable environmental information surrounding periods of increased media attention to environmental prosecutions. Brown and Deegan (1998) and Deegan, Rankin, and Tobin (2002) also report a similar finding and confirm public concerns as an explanation for increased levels of environmental CSR disclosures. According to this perspective, we expect that firms that pay lower taxes have greater incentives to legitimize their behavior by increasing tax disclosures in their CSR reports to improve the perceptions of stakeholders.

The above two competing theories provide opposite predictions regarding how tax avoidance may affect tax disclosures in CSR reports. We therefore formulate our hypothesis as follows:

H1a: A firm's level of tax avoidance is negatively associated with the likelihood and the level of tax disclosures in its CSR report.

H1b: A firm's level of tax avoidance is positively associated with the likelihood and the level of tax disclosures in its CSR report.

III. RESEARCH DESIGN

Voluntary Tax Disclosure

A key research design issue in this study is developing a reliable proxy for a firm's voluntary tax disclosures in CSR reports. Previous tax research has not developed such a measure, as the tax disclosures in annual reports can be different from those provided in CSR reports. Therefore, we develop tax disclosure measures based on the tax transparency framework proposed by PwC in the U.K. (Packman 2014, 2015), as well as the GRI sustainability reporting guidelines (Global Reporting Initiative 2015).

Table 1 summarizes the tax disclosure framework. Our index of tax disclosure includes six categories: (A1) governance structure and management systems, (A2) credibility of tax compliance, (A3) amounts or distribution of tax spending, (A4) general statement of tax spending, (A5) tax strategy, and (A6) tax profile.[5] Each category contains several items, and therefore a firm receives a score of 1 if a particular item is disclosed, and 0 otherwise. Our tax disclosure index has a Cronbach's α coefficient of 0.925, which indicates very high internal reliability (Cronbach 1951).

We use three variables to measure firms' voluntary tax disclosures. The first variable is an indicator, *Tax_Disclosure,* which equals 1 if a firm discloses in a CSR report any item listed in Table 1, and 0 otherwise. The second variable, *Tax_Score,* is the sum of total awarded scores and captures the level of tax disclosures. We further measure the length of tax-related disclosures by calculating the number of words related to tax information (*Tax_Words*). To account for non-disclosure as well as the skewness of *Tax_Words,* we take a natural logarithm and use *ln(1+Tax_Words)* as our third empirical variable. As shown in Table 1, among the sample that provides voluntary tax disclosures (120 observations), the most commonly disclosed category is general statement of tax spending, which accounts for 73.33 percent. A majority of the sample also discloses tax

[4] Bozanic et al. (2017) suggest that a tax authority could use the information in third party reports during its tax audit process. As a result, it is also likely that more tax-aggressive firms provide less tax disclosures in their CSR reports to avoid potential scrutiny from tax authorities.

[5] We provide examples of each category in Appendix B.

TABLE 1

Index of Voluntary Tax Disclosures in CSR Reports

	Percentage of Observations Disclosing This Item n = 120
(A1) *Governance Structure and Management Systems* (Maximum Score: 3)	12.50
1. Attribution of Responsibility (0–1): The score is 1 if the CSR report has disclosures of corresponding positions for tax compliance or clear tax responsibility attribution; 0 otherwise.	10.83
2. Governance-Tax Committee (0–1): The score is 1 if the CSR report has disclosures of the setup of a tax committee; 0 otherwise.	4.17
3. Stakeholders' Involvement (0–1): The score is 1 if the CSR report has disclosures of a tax strategy or tax policy that involves discussions among stakeholders; 0 otherwise.	1.67
(A2) *Credibility of Tax Compliance* (Maximum Score: 7)	46.67
1. Independent Verification (0–1): The score is 1 if the CSR report is verified by an independent third party, i.e., tax professionals or a CPA firm; 0 otherwise.	9.17
2. Participation in Related Organizations (0–1): The score is 1 if the CSR report discloses a participation of tax-related organizations or large-scale parliamentary debates that discuss how to improve tax practices; 0 otherwise.	10.83
3. Relationships with Authorities (0–1): The score is 1 if the CSR report states that the company has a cooperative relation with tax authorities, including the discussion of tax planning, strategies, risks, and significant transactions, as well as how to disclose tax information in a timely manner; 0 otherwise.	30.83
4. Reference to GRI (0–1): The score is 1 if the CSR report discloses tax information with a reference to how the company meets GRI sustainable reporting guidelines; 0 otherwise.	5.83
5. Voluntary Endorsement of Framework or Initiatives (0–1): The score is 1 if the CSR report states that the company endorses tax principles, statements, policies, or proposed legislation from tax authorities, such as the arm's length principles and the Base Erosion and Profit Shifting project (BEPS); 0 otherwise.	25.00
6. Professional Advisory (0–1): The score is 1 if the CSR report indicates that the company hires professional advisory or technical tax support; 0 otherwise.	7.50
7. Award (0–1): The score is 1 if the CSR report mentions that the company won an award related to its tax compliance or reporting; 0 otherwise.	4.17
(A3) *Amounts or Distribution of Tax Spending* (Maximum Score: 5)	63.33
1. Amounts of Contributions (0–1): The score is 1 if the CSR report discloses the amount of tax contributions to governments or society; 0 otherwise.	61.67
2. Distribution by Region (0–1): The score is 1 if the CSR report discloses how and how much the company contributes its tax to which regions; 0 otherwise.	9.17
3. Distribution by Category (0–1): The score is 1 if the CSR report discloses how and how much the company contributes its tax to which categories or products; 0 otherwise.	18.33
4. Tax Incentives—Details (0–1): The score is 1 if the CSR report discloses which tax incentives the company applies for, which tax havens the subsidiaries are located in, and what the impacts are; 0 otherwise.	6.67
5. Taxes in Financial Statements (0–1): The score is 1 if the CSR report discloses taxes in the financial statements or in the reconciliation table; 0 otherwise.	12.50
(A4) *General Statement of Tax Spending* (Maximum Score: 2)	73.33
1. General Statement of Contributions (0–1): The score is 1 if the CSR report discloses that the company committed to comply with the laws, complete tax requirements, or undertake due consideration of tax obligations to align with corporate and social responsibilities; 0 otherwise.	67.50
2. Tax Incentives—General Statement of Utilization (0–1): The score is 1 if the CSR report has general but not detailed disclosures indicating that the company claimed tax incentives to reduce tax costs or to maximize shareholders' benefits; 0 if there are no such disclosures.	15.00
(A5) *Tax Strategy* (Maximum Score: 7)	42.50
1. Object (0–1): The score is 1 if the CSR report discloses the company's tax strategy or missions; 0 otherwise.	17.50
2. Policy (0–1): The score is 1 if the CSR report discloses the tax principles or policies that the company follows; 0 otherwise.	22.50
3. Governance—General Statement (0–1): The score is 1 if the CSR report discloses the company's tax governance; 0 otherwise.	17.50

(continued on next page)

TABLE 1 (continued)

	Percentage of Observations Disclosing This Item n = 120
4. Governance—Review (0–1): The score is 1 if the CSR report discloses that the company reviews its tax compliance or governance regularly; 0 otherwise.	15.00
5. Governance—Risk Management (0–1): The score is 1 if the CSR report discloses that the company engages in the management of tax risk; 0 otherwise.	16.67
6. Transparency—General Statement (0–1): The score is 1 if the CSR report discloses that the company has committed to be open and transparent about how it operates or complies with tax laws; 0 otherwise.	39.17
7. Training (0–1): The score is 1 if the CSR report discloses that the company has employee training in tax principles; 0 otherwise.	5.00
(A6) *Tax Profile* (Maximum Score: 2)	64.17
1. Compliance—Laws (0–1): The score is 1 if the CSR report states that the company is fully compliant with relevant tax regulations and required reporting; 0 otherwise.	31.67
2. Tax Issues (0–1): The score is 1 if the CSR report discloses that the company complies with anti-avoidance tax rules; 0 otherwise.	49.17

profile (64.17 percent) and the amount or distribution of tax spending (63.33 percent). The least disclosed category is governance structure and management systems, with only 12.5 percent of the sample disclosing this category.

Empirical Model

To examine whether tax avoidance is associated with voluntary tax disclosures in CSR reports, we employ the following regression model:

$$Tax\_Disclosure,\ Tax\_Score,\ \text{or}\ \ln(1 + Tax\_Words) = \beta_0 + \beta_1 ETR + \beta_2 TOBINQ + \beta_3 VOLAT + \beta_4 ROA + \beta_5 LEV + \beta_6 SIZE + \beta_7 \ln CSRWords + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + \varepsilon \quad (1)$$

We use logistic regression to estimate model (1) when the dependent variable is measured by the indicator *Tax_Disclosure*. When the dependent variable is *Tax_Score* or *ln(1+Tax_Words),* we estimate model (1) by Tobit regression because both variables are left-censored at zero (Tobin 1958).[6] Our main explanatory variable of interest is *ETR,* a proxy commonly used for tax avoidance in the prior literature (Hanlon and Heitzman 2010). We define *ETR* as the amount of tax expenses divided by pretax income. A smaller value of *ETR* represents higher tax avoidance. Therefore, β_1 is expected to be positive if the voluntary disclosure theory holds as predicted by H1a. On the other hand, we expect β_1 to be negative if the legitimacy theory is supported as indicated by H1b.

We include various control variables that might influence firms' voluntary tax disclosure decisions. We control for Tobin's Q (*TOBINQ*) as a proxy for growth opportunities. *TOBINQ* is defined as the sum of market value of equity, book value of preferred stock, and book value of debt, divided by book value of total assets. The association between growth opportunities and voluntary disclosures is ambiguous. On the one hand, firms with higher growth opportunities provide more voluntary disclosures to reduce information asymmetry (Waymire 1985). On the other hand, higher growth opportunities indicate higher proprietary costs, which hinder voluntary disclosures (Bamber and Cheon 1998). Therefore, *TOBINQ* could be positively or negatively related to tax disclosures. Following Lim (2001), we use stock return volatility (*VOLAT*) to proxy for the level of information asymmetry. *VOLAT* is measured by the standard deviation of monthly stock returns during the fiscal year. Since firms facing higher information asymmetry are more likely to increase voluntary disclosures (Healy and Palepu 2001), we expect the coefficient on *VOLAT* to be positive. Prior research suggests that firms with superior financial performance tend to disclose more to reveal their "good type" (Lang and Lundholm 1993). Thus, we include return on assets (*ROA*) to proxy for financial performance and expect a positive coefficient. Leverage (*LEV*) is included to control for creditors' demand for information (Leftwich, Watts, and Zimmerman 1981) and computed as total liabilities divided by total assets. Please verify

[6] The results are qualitatively similar if we take a natural logarithm of *Tax_Score* and use *ln(1+Tax_Score)* as the dependent variable.

TABLE 2

Sample Selection Process

Initial sample: U.K. public firms issuing standalone CSR reports during 2010–2014, excluding those in the financial, utilities, and mining industries	983
Less:	
Effective tax rate greater than one or less than zero	72
Pretax income less than zero	77
Missing data on empirical variables	29
Final sample	805
Final sample providing tax disclosures	120

authorship and correct or provide missing reference entry. As the agency cost of debt increases with leverage, we expect the coefficient on *LEV* to be positive. According to prior studies, larger firms tend to be more transparent (Lang and Lundholm 1993), and thus we control for firm size (*SIZE*), which is measured by the natural logarithm of total equity at fiscal year-end. Since firms that have longer CSR reports are likely to disclose more tax-related information, we also control for the length of the CSR report. More specifically, we include the variable *lnCSRWords,* which is measured as the natural logarithm of one plus the total number of words in the CSR report. Finally, we include industry (defined based on two-digit SIC codes) and year fixed effects to account for potential disclosure differences across industries and years. A summary of the variable definitions is provided in Appendix A.

Data and Sample Selection

We begin with a sample of public U.K. firms from the fiscal years 2010 to 2014. The sample period starts with 2010, when the European Commission began to consider tax transparency as an important agenda for society (Ernst & Young 2013). Following prior research, we exclude firms in the financial, utilities, and mining industries, as these firms are subject to different regulations (Kubick, Lynch, Mayberry, and Omer 2016). Table 2 summarizes the sample selection process. The initial sample starts with 983 observations that issued standalone CSR reports, identified from the GRI sustainability disclosure database. We then remove 72 observations with effective tax rates greater than one or less than zero to reduce measurement errors (Stickney and McGee 1982). We further exclude 77 observations with negative pretax income and 29 observations that have missing data for any of the empirical variables. Our final sample consists of 805 firm-year observations from 203 unique companies. We obtain data on financial and stock return variables from the Compustat-Global database. Data on CSR performance is obtained from the Thomson Reuters ASSET4 database.

In Table 3, we present the sample distribution by year and by industry. Panel A shows that the number of firms is distributed evenly across the sample years. Panel B demonstrates that firms in the manufacturing industry account for the largest percentage (38.51 percent) of our sample, followed by the services industry (22.86 percent).

IV. RESULTS

Descriptive Statistics and Correlations

Table 4, Panel A, presents the descriptive statistics of the major empirical variables. To mitigate the influence of outliers, we winsorize all the continuous variables at the 1st and 99th percentiles. On average, 14.9 percent of our sample provide tax disclosures, with an average score of 0.712 and an average length of 41 words. The mean effective tax rate (*ETR*) is 24.4 percent, which is close to the statutory rate in the U.K., suggesting that, on average, U.K. firms pay fair taxes to their government. However, the standard deviation of the *ETR* is 11.2 percent, indicating large variations in tax compliance among firms. We also see a wide variation in the length of CSR reports, with an average of 2,984 words and a standard deviation of 4,119 words.

Panel B of Table 4 reports the Pearson correlation matrix. The correlation between *Tax_Disclosure* and *ETR* is negative and significant, providing preliminary evidence in support of H1b. While the correlations between *ETR* and the other two tax disclosure measures are not significant, this univariate test does not account for the left-censored nature of *Tax_Score* and *Tax_Words*. Therefore, we rely on multivariate regression estimation that also controls for other confounding covariates to draw more valid inferences.

TABLE 3
Sample Distribution

Panel A: Sample Distribution by Year

Fiscal Year	Number of Observations	Percentage of Total Observations
2010	155	19.25
2011	161	20.00
2012	167	20.75
2013	167	20.75
2014	155	19.25
Total	805	100.00

Panel B: Sample Distribution by Industry

SIC Two-Digit	Description	Observations	Percentage of Total Observations
15–17	Construction	60	7.45
20–39	Manufacturing	310	38.51
40–48	Transportation	68	8.45
50–51	Wholesale Trade	43	5.34
52–59	Retail Trade	140	17.39
70–89	Services	184	22.86
Total		805	100.00

Regression Results

Table 5 presents the main results for the effect of tax avoidance on voluntary tax disclosures in CSR reports.[7] Column (1) shows that the coefficient on *ETR* is negative and significant, indicating that firms with lower effective tax rates are more likely to provide tax disclosures in their CSR reports. In terms of economic significance, the coefficient of −5.354 suggests that the probability of providing tax disclosures increases by 24.7 percent for a 1 percent reduction in *ETR*. We also find negative and significant coefficients on *ETR* in columns (3) and (7), consistent with firms engaging in higher levels of tax avoidance providing disclosures containing more tax-specific items and disclosures of longer length. Columns (4)–(6) and (8)–(10) report the marginal effect decomposition of Tobit coefficients when the dependent variables are *Tax_Score* and *1n(1+Tax_Words),* respectively. The unconditional expected value (UEV) provides the marginal effect of a one-unit change in an independent variable on the dependent variable. The conditional expected value (CEV) provides the marginal effect of the predictor variables conditional on the dependent variable being uncensored (i.e., positive). Finally, the probability of being uncensored (PUC) tells us how the probability of observing a positive dependent variable changes given a unit change in the independent variable. For brevity, we discuss the marginal effects of the regression with *Tax_Score* as the dependent variable. Specifically, the marginal effect of *ETR* on the unconditional (conditional) expected value of tax disclosure score is −1.579 (−2.092), which suggests 157.9 percent (209.2 percent) increases in tax disclosure score for 1 percent reduction of *ETR*. The PUC marginal effect of −0.495 suggests that each 1 percent reduction in *ETR* increases the probability of having a positive tax score by 49.5 percent. Overall, our findings of a positive relation between tax avoidance and tax disclosures are consistent with the prediction of H1b. These results support the legitimacy theory in that firms appear to legitimize their tax avoidance behavior by disclosing more tax-related information in their CSR reports.

Alternative Measure of Tax Avoidance

In the main analysis, we calculate *ETR* based on the reported tax expenses, which include tax accruals (e.g., deferred taxes) for financial reporting purposes. To ensure the robustness of our findings, we follow prior studies (e.g., Dyreng et al. 2008,

[7] All the models show a good fit (significant likelihood ratios), suggesting a good model specification.

TABLE 4

Descriptive Statistics and Pearson Correlations

Panel A: Descriptive Statistics

Variable	n	Mean	P1	Q3	Median	Q3	P99	Std. Dev.
Tax_Disclosure	805	0.149	0.000	0.000	0.000	0.000	1.000	0.353
Tax_Score	805	0.712	0.000	0.000	0.000	0.000	14.000	2.332
Tax_Words	805	41.015	0.000	0.000	0.000	0.000	632.000	231.507
ln(1+Tax_Words)	805	0.843	0.000	0.000	0.000	0.000	6.922	1.993
ETR	805	0.244	0.007	0.189	0.238	0.285	0.750	0.112
TOBINQ	805	1.808	0.515	1.142	1.539	2.211	5.545	0.974
VOLAT	805	0.009	0.002	0.003	0.004	0.005	0.283	0.034
ROA	805	0.084	0.001	0.043	0.070	0.112	0.284	0.058
LEV	805	0.484	0.115	0.366	0.478	0.592	0.981	0.176
SIZE	805	7.493	4.771	6.559	7.215	8.248	11.305	1.375
CSRWords	805	2,983.962	12.100	830.636	1,791.000	3,534.333	26,528.000	4,118.976
lnCSRWords	805	7.393	2.573	6.723	7.491	8.171	10.186	1.184

Panel B: Pearson Correlations

Variable	*Tax_Disclosure*	*Tax_Score*	*ln(1+Tax_Words)*	*ETR*	*TOBINQ*	*VOLAT*	*ROA*	*LEV*	*SIZE*	*lnCSRWords*
Tax_Disclosure	1.000									
Tax_Score	0.741***	1.000								
ln(1+Tax_Words)	0.912***	0.713***	1.000							
ETR	−0.071*	−0.018	−0.047	1.000						
TOBINQ	−0.048	−0.046	−0.060	0.046	1.000					
VOLAT	0.141***	0.243***	0.138***	0.039	−0.056	1.000				
ROA	0.005	−0.023	−0.012	−0.149***	0.722***	−0.067	1.000			
LEV	0.077*	0.021	0.079*	0.028	−0.032	0.030	−0.151***	1.000		
SIZE	0.403***	0.469***	0.429***	−0.045	0.049	0.121***	0.086*	−0.013	1.000	
lnCSRWords	0.143***	0.060	0.150***	−0.050	−0.048	0.007	−0.018	0.091**	0.170***	1.000

***, **, * Represent significance levels (two-tailed) at 1 percent, 5 percent, and 10 percent, respectively.
Table 4 presents descriptive statistics and Pearson correlations for variables used in the empirical model. Statistics are presented for the full sample of 805 firm-year observations from 2010 to 2014. All continuous variables are winsorized at the 1 percent and 99 percent levels.
See Appendix A for the variable definitions.

TABLE 5

The Effect of Tax Avoidance on Tax Disclosures

	Dependent Variable									
	Tax_Disclosure		*Tax_Score*				*ln(1+Tax_Words)*			
	Coefficient (Robust t) (1)	Marginal Effect (2)	Coefficient (Robust t) (3)	UEV (4)	CEV (5)	PUC (6)	Coefficient (Robust t) (7)	UEV (8)	CEV (9)	PUC (10)
Intercept	−12.952***		−33.536***				−30.966***			
	(−6.89)		(−8.90)				(−8.15)			
ETR	−5.354***	−0.247	−10.862***	−1.579	−2.092	−0.495	−10.566***	−1.680	−2.105	−0.499
	(−2.73)		(−2.68)				(−2.83)			
TOBINQ	−0.634**	−0.029	−1.830**	−0.266	−0.352	−0.083	−1.931**	−0.307	−0.385	−0.091
	(−2.07)		(−2.31)				(−2.56)			
VOLAT	5.024	0.231	12.877*	1.872	2.480	0.587	7.129	1.133	1.420	0.337
	(1.40)		(1.73)				(0.91)			
ROA	11.068**	0.510	22.680**	3.296	4.368	1.034	20.699**	3.291	4.125	0.977
	(2.57)		(2.18)				(2.07)			
LEV	3.172***	0.146	8.340***	1.212	1.606	0.380	6.914***	1.099	1.378	0.326
	(2.92)		(3.19)				(2.76)			
SIZE	1.287***	0.059	3.160***	0.459	0.609	0.144	3.118***	0.496	0.621	0.147
	(6.61)		(8.34)				(7.95)			
lnCSRWords	0.277***	0.013	0.601***	0.087	0.116	0.027	0.675***	0.107	0.134	0.032
	(4.49)		(4.30)				(5.01)			
Industry Fixed Effects	Yes		Yes				Yes			
Year Fixed Effects	Yes		Yes				Yes			
n	805		805				805			
Pseudo R^2	0.43		0.27				0.25			
(ROC)	(0.91)									
Log Likelihood	−165.70		−461.89				−510.44			
Likelihood Ratio χ^2	249.71		345.21				333.98			

***, **, * Represent significance levels (two-tailed) at 1 percent, 5 percent, and 10 percent, respectively.
Columns (1) and (2) are estimated by logistic regression, and columns (3)–(10) are estimated by Tobit regression. Robust t-statistics are presented in parentheses. Columns (1) and (2) present the estimated coefficients and marginal effects in logistic regression. Columns (3) and (7) present the estimated coefficients in Tobit regressions. We report marginal effects based on the McDonald and Moffitt (1980) decomposition of Tobit coefficients. Columns (4) and (8) report the unconditional expected value (UEV), columns (5) and (9) report the conditional expected value (CEV), and columns (6) and (10) report the probability of being uncensored (PUC).
All variables are defined in Appendix A.

2010) and use cash effective tax rate (*CashETR*) as an alternative measure of tax avoidance. *CashETR* reflects firms' actual tax payments for a given level of pretax income. Table 6 reports the regression results when we replace *ETR* with *CashETR* in model (1). We consistently find negative and significant coefficients on *CashETR* in all three columns, suggesting that firms paying lower taxes tend to provide more tax disclosures in their CSR reports.[8] Thus, our findings are not sensitive to the measure of tax avoidance.

V. ADDITIONAL ANALYSIS

Hard versus Soft Disclosures

The main results suggest that more tax-aggressive firms appear to legitimize their tax payments by providing more tax-related information in their CSR reports. To provide further evidence regarding such legitimization behavior, we classify tax

[8] Some studies suggest that the long-run tax rate better captures a firm's tax management ability (e.g., Dyreng et al. 2008); thus, we also compute *CashETR* over a three-year period and a five-year period. Untabulated results indicate a negative coefficient on both measures, providing evidence consistent with the main findings.

TABLE 6

Alternative Measure of Tax Avoidance

	Dependent Variable		
	Tax_Disclosure **(1)**	***Tax_Score*** **(2)**	***ln(1+Tax_Words)*** **(3)**
Intercept	−13.294***	−35.473***	−31.113***
	(−6.97)	(−8.01)	(−7.19)
CashETR (?)	−4.781***	−8.295**	−10.669***
	(−2.60)	(−2.01)	(−2.60)
TOBINQ (±)	−0.704**	−2.118***	−2.115***
	(−2.33)	(−2.72)	(−2.79)
VOLAT (+)	5.123	12.953*	10.055
	(1.51)	(1.76)	(1.26)
ROA (+)	13.581***	27.471***	27.458***
	(3.19)	(2.60)	(2.64)
LEV (+)	3.091***	7.205***	5.811**
	(2.92)	(2.80)	(2.29)
SIZE (+)	1.241***	3.290***	3.084***
	(6.50)	(8.15)	(7.33)
lnCSRWords (+)	0.284***	0.629***	0.715***
	(4.58)	(4.57)	(5.16)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
n	758	758	758
Pseudo R^2	0.43	0.28	0.25
(ROC)	(0.91)		
Log Likelihood	−164.58	−429.10	−467.51
Likelihood Ratio χ^2	245.93	339.56	312.24

***, **, * Represent significance levels (two-tailed) at 1 percent, 5 percent, and 10 percent, respectively.
Column (1) is estimated by logistic regression, and columns (2) and (3) are estimated by Tobit regression. Robust t-statistics are presented in parentheses. All variables are defined in Appendix A.

disclosures into hard and soft disclosures. As hard disclosures are objective and readily verifiable, we expect that firms engaging in higher levels of tax avoidance tend to manage stakeholders' perceptions through soft disclosures. In Table 1, categories A1–A3 are considered hard disclosures, as they contain numerical information and/or are relatively objective. Meanwhile, categories A4-A6 are considered soft disclosures, as they are generally descriptive and not readily verifiable.[9] We present the regression results of this analysis in Table 7.

In columns (1) and (2) of Table 7, the dependent variable *Soft_Score* (*Hard_Score*) represents the sum of scores from soft (hard) disclosure items. We find that the coefficient on *ETR* is significantly negative in column (1) but not significant in column (2). These results suggest that firms paying lower taxes do not increase hard disclosures but provide more soft claims.[10] In column (3), we use the ratio of soft disclosure score to total score (*Soft_Ratio*) as the dependent variable, and consistently find a negative and significant coefficient on *ETR*. We also create an indicator, *Soft_HighScore,* which equals 1 if the firm's percentile soft disclosure score is higher than the percentile hard disclosure score, and 0 otherwise.[11] The logistic regression result in column (4) again shows a significantly negative coefficient on *ETR*. Collectively, the findings in Table 7 suggest that firms engaging in higher levels of tax avoidance tend to placate stakeholders by making more soft disclosures in their CSR reports.

[9] While such disclosures lack credibility and substantiation, they can also represent true commitment to social fairness.

[10] We also perform multinomial logit regression by using a categorical dependent variable, which is coded 1 if a firm provides hard disclosures only, 2 if a firm provides soft disclosures only, 3 if a firm provides both soft and hard disclosures, and 0 otherwise (representing the base outcome). The untabulated results show that firms with lower *ETR* are more likely to provide soft claims alone or both types of information instead of hard disclosures alone.

[11] Since hard disclosures contain 15 items while soft disclosures contain 11 items, we first convert each disclosure score into percentiles (i.e., dividing the score by the number of items) so that each disclosure score ranges between 0 and 1.

TABLE 7

The Effect of Tax Avoidance on Soft versus Hard Tax Disclosures

	Dependent Variable			
	Soft_Score **(1)**	***Hard_Score*** **(2)**	***Soft_Ratio*** **(3)**	***Soft_HighScore*** **(4)**
Intercept	−20.984***	−19.772***	−0.807***	−9.891***
	(−8.53)	(−7.89)	(−8.53)	(−6.84)
ETR (−)	−7.705***	−3.505	−0.296***	−4.454***
	(−2.89)	(−1.54)	(−2.89)	(−2.66)
TOBINQ (±)	−1.241**	−1.203*	−0.048**	−0.548*
	(−2.40)	(−1.96)	(−2.40)	(−1.87)
VOLAT (+)	8.467*	8.524**	0.326*	3.089
	(1.75)	(2.04)	(1.75)	(0.94)
ROA (+)	14.413**	−0.880	0.554**	8.635**
	(2.13)	(−0.12)	(2.13)	(2.14)
LEV (+)	4.819***	7.048***	0.185***	2.132**
	(2.81)	(3.73)	(2.81)	(2.05)
SIZE (+)	1.977***	1.786***	0.076***	0.875***
	(7.98)	(7.36)	(7.98)	(5.72)
lnCSRWords (+)	0.377***	0.350***	0.015***	0.256***
	(4.10)	(3.92)	(4.10)	(3.98)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
n	805	805	805	805
Pseudo R^2	0.29	0.38	0.84	0.32
(ROC)				(0.88)
Log Likelihood	−405.31	−275.88	−30.628	−181.08
Likelihood Ratio χ^2	328.01	344.47	328.01	172.74

***, **, * Represent significance levels (two-tailed) at 1 percent, 5 percent, and 10 percent, respectively.
Columns (1)–(3) are estimated by Tobit regression, and column (4) is estimated by logistic regression. Robust t-statistics are presented in parentheses. All variables are defined in Appendix A.

Analysis of Placating/Justification Words

To provide further evidence that the legitimating incentive explains our findings, we next examine the extent to which firms use placating/justification words in their tax disclosures in CSR reports. In identifying the list of placating/justification words, we refer to the dictionary of linguistic hedging developed by Resche (2015), as well as the positive word list developed by Loughran and McDonald (2011). Linguistic hedging refers to a speaker's use of language to explicitly qualify his/her lack of commitment to the truth of a proposition he/she states (Crompton 1997, 281). The dictionary developed by Resche (2015) includes six sections that measure different perspectives of justification: (1) vagueness; (2) hedges limiting the time of statement; (3) hedges pertaining to uncertainty; (4) hedges regarding veracity; (5) justification reasoning; and (6) hedges expressing organizational/personal conviction. Using this dictionary to analyze firms' CSR narratives, Li and Haque (2019) find that hedging is evident in CSR disclosures to manage legitimacy challenges. Therefore, we consider it appropriate to use this dictionary in our context. Additionally, to be more consistent with the accounting literature that commonly uses the sentiment dictionary developed by Loughran and McDonald (2011), we also use their list of positive words, as managers often use positive tones for impression management (Cho, Roberts, and Patten 2010; Huang, Teoh, and Zhang 2014).

To examine whether higher tax avoidance is associated with more placating in tax-related CSR disclosures, we replace the dependent variable in model (1) with the count or percentage of justification words and report the Tobit regression results in Table 8. In column (1) of Table 8, the dependent variable *Justification* is the total count of justification words based on Resche's (2015) dictionary of linguistic hedging and Loughran and McDonald's (2011) list of positive words.[12] The dependent

[12] As a robustness test, we use only the dictionary of linguistic hedging to identify justification words, and find qualitatively similar results.

TABLE 8

The Effect of Tax Avoidance on the Use of Justification Words in Tax Disclosures

	Dependent Variable		
	Justification **(1)**	***Justify_Pct*** **(2)**	***Justify_TaxPct*** **(3)**
Intercept	−59.031***	−0.364***	−0.224***
	(−7.07)	(−7.07)	(−7.20)
ETR (?)	−17.102**	−0.102**	−0.062**
	(−2.01)	(−2.00)	(−1.98)
TOBINQ (±)	−0.933	−0.012	−0.005
	(−0.54)	(−1.11)	(−0.85)
VOLAT (+)	19.830	0.190**	0.071
	(1.25)	(2.01)	(1.19)
ROA (+)	7.309	0.127	0.063
	(0.30)	(0.89)	(0.72)
LEV (+)	16.362***	0.102***	0.062***
	(2.79)	(2.87)	(2.85)
SIZE (+)	5.287***	0.033***	0.020***
	(6.30)	(6.40)	(6.38)
lnCSRWords (+)	1.160***	0.008***	0.005***
	(3.74)	(4.20)	(4.19)
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
n	805	805	805
Pseudo R^2	0.23	0.27	0.25
Log Likelihood	−445.06	−461.89	−510.44
Likelihood Ratio χ^2	269.38	345.21	333.98

***, ** Represent significance levels (two-tailed) at 1 percent and 5 percent, respectively.
Columns (1)–(3) are estimated by Tobit regression. *Justification* is the total count of justification words based on Resche's (2015) dictionary of linguistic hedging and Loughran and McDonald's (2011) list of positive words. *Justify_Pct* is the ratio of *Justification* to total number of words in the CSR reports. *Justify_TaxPct* is the ratio of *Justification* to total number of tax-related words in the CSR reports. Robust t-statistics are presented in parentheses.
All variables are defined in Appendix A.

variable *Justify_Pct* in column (2) is the ratio of *Justification* to total number of words in the CSR reports. In column (3), *Justify_TaxPct* is the ratio of *Justification* to total number of tax-related words in the CSR reports. In all three columns, we consistently find negative and significant coefficients on *ETR,* indicating that firms with lower effective tax rates tend to use more justification words related to tax disclosures in their CSR reports. For brevity, we do not report the marginal effects in Table 8, but the untabulated estimates indicate an economically significant magnitude. For example, the marginal effect of *ETR* on the unconditional (conditional) expected value of *Justification* is −2.018 (−3.057), which suggests 201.8 percent (305.7 percent) increases in the count of justification words for 1 percent reduction of *ETR*.

The Moderating Effect of CSR Performance

In light of our findings above, we next explore how the documented association varies with firms' CSR performance. Firms committed to CSR and demonstrating superior CSR performance are acting in line with societal expectations and thus have lower incentives to legitimize their tax avoidance behavior (Adams 2004). We measure firms' CSR performance using an indicator, *HIGHCSR,* which equals 1 if a firm's average of environmental and social performance scores from the ASSET4 database is above the industry mean, and 0 otherwise. Then we add this indicator as well as its interaction with *ETR* into model (1) to test the moderating effect of CSR performance. The regression results are presented in Panel A of Table 9.

As shown in Table 9 Panel A, the coefficient on *ETR* is consistently negative and significant across all three columns. Moreover, the coefficient on the interaction term *ETR* × *HIGHCSR* is positive and significant, suggesting a weaker association between tax avoidance and tax disclosures in firms having better CSR performance. These results indicate that superior CSR performance attenuates tax-aggressive firms' legitimization incentives for increasing tax disclosures in their CSR reports.

TABLE 9

Cross-Sectional Tests

Panel A: The Moderating Effect of CSR Performance

	Dependent Variable		
	Tax_Disclosure (1)	*Tax_Score* (2)	*ln(1+Tax_Words)* (3)
Intercept	−12.098***	−32.400***	−30.132***
	(−7.75)	(−8.76)	(−8.14)
ETR (−)	−5.323**	−13.341**	−10.144**
	(−2.07)	(−2.26)	(−2.32)
HIGHCSR (?)	2.909	6.058	1.605
	(1.04)	(0.93)	(0.30)
ETR × *HIGHCSR* (+)	1.129*	3.159**	2.638*
	(1.78)	(2.06)	(1.91)
Control Variables	Included	Included	Included
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
n	805	805	805
Pseudo R^2	0.43	0.28	0.24
(ROC)	(0.91)		
Log Likelihood	−184.05	−473.04	−536.31
Likelihood Ratio χ^2	282.16	361.48	338.15

Panel B: The Moderating Effect of Corporate Governance

	Dependent Variable		
	Tax_Disclosure (1)	*Tax_Score* (2)	*ln(1+Tax_Words)* (3)
Intercept	−12.031***	−34.693***	−29.999***
	(−8.08)	(−7.99)	(−6.99)
ETR (−)	−4.910***	−14.731***	−13.515***
	(−3.02)	(−3.75)	(−3.68)
HIGHCSR (?)	0.157	0.313	0.473
	(0.29)	(0.23)	(0.36)
ETR × *HIGHCSR* (+)	4.228*	10.209*	8.678*
	(1.89)	(1.92)	(1.67)
Control Variables	Included	Included	Included
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
n	805	805	805
Pseudo R^2	0.42	0.28	0.24
(ROC)	(0.91)		
Log Likelihood	−188.42	−444.26	−493.91
Likelihood Ratio χ^2	273.43	351.86	319.80

(continued on next page)

The Moderating Effect of Corporate Governance

We also investigate whether the strength of a firm's corporate governance moderates the relation between tax avoidance and tax disclosures. On one hand, strong corporate governance increases the likelihood that managers provide more disclosures to mitigate the problem of information asymmetry (Balakrishnan et al. 2019). On the other hand, firms with weaker governance have a greater propensity to disclose more information in an attempt to discharge their social responsibility. As a result, it is not clear how the association between tax avoidance and tax disclosures varies with corporate governance. We use the governance

TABLE 9 (continued)

Panel C: The Moderating Effect of Tax Complexity

	Dependent Variable		
	Tax_Disclosure **(1)**	***Tax_Score*** **(2)**	***ln(1+Tax_Words)*** **(3)**
Intercept	−11.600***	−30.320***	−29.356***
	(−6.35)	(−6.95)	(−7.62)
ETR (−)	−6.603*	−20.196**	−18.977***
	(−1.65)	(−2.05)	(−2.97)
HIGHCSR (?)	−0.917	−3.384	−0.865
	(−0.87)	(−1.32)	(−0.59)
ETR × *HIGHCSR* (+)	2.430	9.756	−0.717
	(0.56)	(0.93)	(−0.14)
Control Variables	Included	Included	Included
Industry Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
n	805	805	805
Pseudo R^2	0.41	0.27	0.24
(ROC)	(0.90)		
Log Likelihood	−181.33	−460.40	−506.67
Likelihood Ratio χ^2	251.73	348.18	341.53

***, **, * Represent significance levels (two-tailed) at 1 percent, 5 percent, and 10 percent, respectively.
Column (1) is estimated by logistic regression, and columns (2) and (3) are estimated by Tobit regression. Robust t-statistics are presented in parentheses. All variables are defined in Appendix A.

score from the ASSET4 database and create an indicator, *HIGHGOV,* that equals 1 if a firm's governance score is above the industry mean, and 0 otherwise. We add this indicator and its interaction with *ETR* into model (1) and report the regression results in Panel B of Table 9.

In Table 9 Panel B, we find that the coefficient on *ETR* is negative and significant across all three columns. In addition, we find a positive and significant coefficient on the interaction term *ETR* × *HIGHGOV*. These results suggest that strong corporate governance attenuates the positive association between tax avoidance and tax disclosures in CSR reports. This finding provides evidence consistent with the legitimacy theory in that firms with weaker governance are more inclined to demonstrate social compliance through increased disclosures.

The Moderating Effect of Tax Complexity

While our analysis above suggests that the positive association between tax avoidance and tax disclosures in CSR reports seems to be driven by firms' incentives of legitimization, it is also possible that firms provide more tax disclosures because of the inherent financial and organizational complexity resulting from aggressive tax-planning activities. Therefore, we also examine the extent to which tax complexity affects the cross-sectional variations in the relation between tax avoidance and tax disclosures. Following prior studies (Bratten, Gleason, Larocque, and Mills 2017; Ehinger et al. 2020), we use principal component analysis to develop a continuous measure of tax complexity (*Tax_Complexity*) based on three underlying variables: permanent book-tax differences in year *t* (*absPermDiff*), ETR surprise from year *t*−1 to year *t* (*AbsΔETR*), and three-year ETR volatility from year *t*−2 to year *t* (*ETR_3yrSTD*). Similar to the previous tests, we add the variable *Tax_Complexity* and its interaction with *ETR* into model (1). The regression results are reported in Panel C of Table 9.

Table 9 Panel C shows that the coefficient on *ETR* is significantly negative across all the measures of tax disclosures. However, the coefficients on *Tax_Complexity* as well as the interaction *ETR* × *Tax_Complexity* are not significant across all the columns. These results suggest that the complexity of tax planning does not explain firms' tax disclosure behavior in CSR reports.

The Effect of the General Anti-Abuse Rule (GAAR)

In July 2013, the U.K. government implemented the General Anti-Abuse Rule (GAAR), which was intended to counteract tax advantages arising from tax arrangements that are abusive. The passage of GAAR not only increases firms' costs of

TABLE 10

The Effect of Tax Avoidance on Tax Disclosures after GAAR

	Dependent Variable		
	Tax_Disclosure (1)	*Tax_Score* (2)	*ln(1+Tax_Words)* (3)
Intercept	−16.302***	−35.547***	−32.683***
	(−8.60)	(−9.43)	(−8.51)
ETR (−)	−3.627**	−8.265*	−13.927***
	(−1.97)	(−1.81)	(−3.17)
Post2013 × *ETR* (−)	−3.140*	−9.333**	−8.285**
	(−1.68)	(−2.15)	(−1.97)
Post2013 (?)	1.192***	3.203***	1.965*
	(2.63)	(2.83)	(1.81)
TOBINQ (±)	−0.332	−1.389**	−1.328**
	(−1.34)	(−1.99)	(−1.97)
VOLAT (+)	1.990	14.034*	8.935
	(0.62)	(1.85)	(1.10)
ROA (+)	9.445***	20.147**	21.270**
	(2.63)	(2.09)	(2.25)
LEV (+)	3.443***	5.881**	4.578*
	(3.43)	(2.33)	(1.84)
SIZE (+)	1.348***	3.282***	3.081***
	(7.55)	(8.24)	(7.53)
lnCSRWords (+)	0.370***	0.629***	0.712***
	(2.64)	(4.56)	(5.15)
Industry Fixed Effects	Yes	Yes	Yes
n	805	805	805
Pseudo R^2	0.39	0.27	0.24
(ROC)	(0.90)		
Log Likelihood	−188.05	−450.47	−493.97
Likelihood Ratio χ^2	240.27	339.45	319.66

***, **, * Represent significance levels (two-tailed) at 1 percent, 5 percent, and 10 percent, respectively.
Column (1) is estimated by logistic regression, and columns (2) and (3) are estimated by Tobit regression. Robust t-statistics are presented in parentheses.
All variables are defined in Appendix A.

aggressive tax planning (Cowx and Kerr 2020) but also indicates a greater societal influence over corporate behavior (Gray et al. 1995). The legitimacy theory suggests that the greater the influence of relevant publics, the greater a corporation's willingness to legitimize its activities. Therefore, we conduct an additional analysis to examine the possible differential effects of tax avoidance before and after this regulation. We expect firms to provide more tax disclosures to demonstrate their compliance with tax authorities in the post-GAAR period. To perform this test, we include an indicator, *Post2013,* which equals 1 for the fiscal years after 2013 (inclusive), and 0 otherwise. We then interact this indicator with *ETR* in the estimation of model (1). Table 10 reports the regression results of this analysis.

The results in Table 10 show that the coefficient on *ETR* is significantly negative across all the measures of tax disclosures. In addition, the coefficient on *Post2013* is positive and significant, suggesting that firms tend to increase tax disclosures after the GAAR becomes effective. We also find negative and significant coefficients on the interaction *Post2013* × *ETR,* indicating that the positive relation between tax avoidance and tax disclosures is more pronounced in the post-GAAR arena. Since the passage of the GAAR raises public concerns regarding tax avoidance, our findings suggest that firms engaging in higher levels of tax avoidance post-GAAR are more likely to increase tax disclosures as a means to discharge their social accountability.

VI. CONCLUSION

Businesses are increasingly being challenged to ensure that they contribute through the tax system to the societies in which they operate, and to provide information on their tax management principles and policies. This study examines how a firm's tax

disclosures in CSR reports are influenced by its tax avoidance behavior. On one hand, the voluntary disclosure theory suggests that firms paying their fair share of taxes have greater incentives to reveal their good type by providing more tax-related disclosures. On the other hand, however, the legitimacy theory suggests that tax-aggressive firms are more likely to increase disclosures to alleviate public concerns of perceived social irresponsibility.

Using a sample of public U.K. firms, our empirical analysis reveals that firms engaging in higher levels of tax avoidance are more likely to provide tax-specific disclosures in their CSR reports. In addition, the tax disclosures tend to be longer and to contain more soft information, as well as more words related to justification. These results are consistent with the legitimacy theory, which predicts that firms not acting in line with community expectations tend to provide more voluntary disclosures to manage stakeholder perceptions of social fairness. Further cross-sectional analyses suggest that the positive association between tax avoidance and tax disclosures is attenuated when firms exhibit better CSR performance as well as stronger corporate governance. Moreover, we do not find evidence that the increased tax disclosures are driven by the greater complexity stemming from more aggressive tax-planning activities. Collectively, our findings suggest that, in contrast with the disclosures provided to investors, the legitimization incentive rather than the tax complexity dominates tax-aggressive firms' communications of tax-related matters to stakeholders.

We note that our study is subject to several limitations. First, we use content analysis to identify firms' disclosures of tax-related information and thus the resulting measure of tax disclosure might contain measurement error. Second, our study focuses on firms that issue standalone CSR reports. Firms may choose other venues such as press releases or corporate websites to disclose CSR and tax-related information. Failure to consider other forms of CSR reporting could influence the interpretation of our results. Finally, our sample period is limited due to the labor-intensive work involved in the data collection process. Thus, the small sample size reduces the generalizability of our findings. Nevertheless, this study still provides implications to regulators, such as the GRI, who might consider offering more guidance regarding tax-related disclosures as part of a firm's sustainability reporting.

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APPENDIX A

Variable Definitions

Variable	Definitions
Dependent Variables	
Tax_Disclosure	An indicator equal to 1 if a firm's CSR report contains any tax disclosure item specified in Table 1, and 0 otherwise.
Tax_Score	The total awarded score of tax disclosures in a firm's CSR report.
ln(1+Tax_Words)	Natural logarithm of one plus the number of words related to tax disclosures.
Main Test Variable	
ETR	Effective tax rate, calculated as the amount of tax expenses divided by pretax income in the fiscal year.
Control Variables	
LEV	The ratio of total liabilities to total assets at the end of the fiscal year.
lnCSRWords	Natural logarithm of the number of words in the CSR report.
ROA	Return on assets, measured by earnings before extraordinary items divided by total assets at the beginning of the fiscal year.
SIZE	Natural logarithm of total equity at the end of the fiscal year.
TOBINQ	Tobin's Q, defined as the sum of market value of equity, book value of preferred stock, and book value of debt, divided by book value of total assets.
VOLAT	The standard deviation of monthly stock returns during the fiscal year.
Variables in Additional Analysis	
AbsΔETR	The absolute value of the difference between firm *j*'s effective tax rate from year $t-1$ to year *t*.
absPermDiff	The absolute value of the difference between firm *j*'s GAAP ETR and the statutory tax rates in the U.K. in year *t*.
CashETR	Cash effective tax rate, calculated as cash taxes paid divided by pretax income in the fiscal year.
ETR_3yrSTD	The standard deviation of a firm's effective tax rate over the past three years (from year $t-2$ to year *t*).
Hard_Score	The sum of scores from hard disclosure items, defined as items in categories A1–A3 in Table 1.
HIGHCSR	An indicator that equals 1 if a firm's average of environmental and social performance scores from the ASSET4 database is above the industry mean, and 0 otherwise.
HIGHGOV	An indicator that equals 1 if a firm's corporate governance score from the ASSET4 database is above the industry mean, and 0 otherwise.
Justification	Total count of justification words based on Resche's (2015) dictionary of linguistic hedging and Loughran and McDonald's (2011) list of positive words.
Justify_Pct	The ratio of *Justification* to total number of words in CSR reports.
Justify_TaxPct	The ratio of *Justification* to total number of tax-related words in CSR reports.
Post2013	An indicator that equals 1 for the fiscal years after 2013 (inclusive), and 0 otherwise.
Soft_HighScore	An indicator that equals 1 if the firm's percentile soft disclosure score is higher than the percentile hard disclosure score, and 0 otherwise.
Soft_Score	The sum of scores from soft disclosure items, defined as items in categories A4–A6 in Table 1.
Soft_Ratio	The ratio of soft disclosure score to total score.
Tax_Complexity	The factor score from a principal component analysis of *absPermDiff, AbsΔETR, and ETR_3yrSTD*.

APPENDIX B

Examples of Tax Disclosures

(A1) Governance Structure and Management Systems

SABMiller plc. Our Approach to Tax 2013

Tax Governance

Tax governance within the group works through a set of documented standards and procedures. These describe the strategy, policies and operational aspects of tax and set the framework for how tax is managed. Working in line with this framework is mandatory. Tax policies are set and tax risk is managed by the Group Tax Committee, which is chaired by the Group Chief Financial Officer, a member of the Executive Committee and of the Board of Directors. Policies are kept under continuous review and would be revised in the light of factors such as material changes within the group or in tax legislation.

Each year, the Group Tax Committee confirms to the Board of Directors that the standard set by the group's tax governance framework has been met.

(A2) Credibility of Tax Compliance

Rio Tinto Sustainable Development 2014

For the third time in the past four years, we won a Building Public Trust award for the transparency of our tax reporting.

Rio Tinto's Taxes Paid in 2014

2014 has been a year of significant change in the international tax landscape, as a result of the Organisation for Economic Co-operation and Development's (OECD) project on Base Erosion and Profit Shifting (BEPS). Rio Tinto agrees with the primary aims of BEPS, which are to prevent aggressive tax avoidance and to update tax rules on a consistent basis to cater for modern, globalised business structures. Rio Tinto does not engage in aggressive tax avoidance.

(A3) Amounts or Distribution of Tax Spending

DIAGEO PLC Sustainability and Responsibility Report 2013

Performance

In Kenya, Ghana, and Nigeria, we contributed 6 percent, 3 percent, and 0.7 percent, respectively, of the government's total tax receipts.

(A4) General Statement of Tax Spending

BT Better Future Report 2013

Expenditure:

We make a considerable contribution to the UK economy, and generate wealth in the other markets where we operate. Through . . . the taxes we pay, and the financial returns we deliver to investors.

UK tax contribution:

BT has historically, and continues to be, based in the UK for tax purposes, allowing its business profits to be taxed where they arise.

BT makes a significant contribution to the UK Exchequer, where most of our businesses operate.

We collect and pay taxes of over £3 billion in a typical year. We also pay a smaller amount of tax in other countries where we operate.

(A5) Tax Strategy

GSK Corporate Responsibility Report 2012

Our approach to tax:

We understand our responsibility to pay an appropriate amount of tax. At the same time, we have a responsibility to our shareholders to be financially efficient and deliver a sustainable tax rate. We also support efforts to ensure companies are appropriately transparent about how their tax affairs are managed.

GSK seeks to maintain open, positive relationships with governments and tax authorities worldwide and we welcome constructive debate on taxation policy.

Internal processes: we have robust internal policies, processes, training, and compliance programmes to ensure we have alignment across our business and meet our tax obligations. Our Audit and Risk Committee and the Board are responsible for approving our tax strategy and management.

(A6) Tax Profile

GSK Corporate Responsibility Report 2012

Our approach to tax:

> During 2012 we took the decision to centralise our Pharmaceutical intellectual property and product inventory ownership into the UK . . . The changes were also made possible by the introduction of new "patent box" tax rules by the UK Government. These rules make the UK a more attractive place to locate IP and investment. Our decision to centralise IP and fund more R&D from the UK means that over the medium term we expect to pay more corporation tax in the UK, as more of the value we generate from sales of our pipeline products will have been created in the UK and be subject to UK tax.
>
> We do not engage in artificial tax arrangements—those without business or commercial substance—and our policy is to use locations only where we have substantial business presence.