

# Qualitative Disclosure as a Tax Enforcement Mechanism: Evidence from the U.K. Tax Strategy Disclosure Requirement

**Junwei Xia**

*Texas A&M University*

[jxia@mays.tamu.edu](mailto:jxia@mays.tamu.edu)

January 2024

**Abstract:** In 2016, the U.K. government passed a regulation that requires large businesses to publicly disclose their tax strategy. The regulator expects these qualitative disclosures to attract public scrutiny of firms' tax practices, which will in turn pressure firms to reduce tax avoidance. This study examines whether the U.K. tax strategy disclosure requirement has achieved this objective. Using a difference-in-differences design and a sample of U.K. publicly traded firms, I provide evidence that is mostly compatible with the regulation not having a significant impact on firms' tax avoidance. Inferences are similar when I focus on subsamples that are most likely to exhibit the intended behavioral changes using a series of cross-sectional tests within treated firms. Thus, the collective evidence is largely inconsistent with the regulation being successful in curbing tax avoidance, which should inform regulators worldwide as they consider similar disclosure regulations to combat corporate tax avoidance.

**Keywords:** *Tax strategy disclosure, public scrutiny, tax avoidance*

**Data Availability:** *Data in this study are obtained from public sources as identified in the paper.*

**Acknowledgements:** This paper is based on my doctoral dissertation at Indiana University. I thank my dissertation committee members – Sonja Rego (chair), Brian Miller, Casey Schwab, Bridget Stomberg, and Noah Stoffman for their constructive feedback. I greatly appreciate comments from Daniel Beneish, Shannon Chen, Cristi Gleason, Yadav Gopalan, Brad Hepfer, P.J. Hoffman, Michelle Hutchens, Rosh Sinha, Ayung Tseng, Brian Williams, two anonymous reviewers of the 2024 JATA Conference, and participants at the 2019 IU Spring Tax Camp, Indiana University, Texas A&M University, and University of North Carolina at Wilmington. I am indebted to Jeff McMullin and Kathleen Schuchard for sharing their knowledge about textual analysis tools, and I am grateful to John Georgiou for sharing institutional knowledge. I appreciate research assistance from Andrew Porcelli, and I thank faculty members and fellow doctoral students at Indiana University and Texas A&M University for their encouragement and support. Lastly, I thank Kelley School of Business at Indiana University and Mays Business School at Texas A&M University for generous financial support. All errors and omissions are my own.

## I. INTRODUCTION

The global corporate tax environment has shifted dramatically in the past decade to focus more acutely on the direct impact of corporate tax revenue on social welfare and economic equity (e.g., PwC 2022; Elliott 2022). From the U.K. consumer boycott following the negative publicity surrounding Starbucks' tax practices to the European Commission's high-profile crackdown on Ireland's favorable tax treatment of Apple, a growing set of corporate stakeholders are pressuring businesses to pay their "fair share" of tax. Consistent with this trend, in 2016, the U.K. passed a new regulation that requires large businesses to publish their tax strategy. The regulation expects these disclosures to enable greater public scrutiny over a business's approach to tax, which will in turn curb aggressive tax behavior (HMRC 2015b, p.11). This study examines whether the U.K. tax strategy disclosure requirement has achieved the objective of reducing corporate tax avoidance.

Tax authorities worldwide have implemented various private or public tax disclosure initiatives to combat corporate tax avoidance (Hoopes et al. 2023). As one of the many public tax disclosure requirements in place, the U.K. tax strategy disclosure requirement is unique in several aspects. First, the U.K. regulation only mandates *qualitative* information about firms' overall tax strategy, including 1) approach to tax risk management, 2) attitude toward tax planning, 3) tax risk appetite, and 4) approach to interacting with Her Majesty's Revenue and Customs (HMRC), the U.K. tax authority. The qualitative nature of the disclosure constitutes a stark contrast to other public tax disclosure regimes that seek *quantitative* information (e.g., the amount of tax payments) to combat tax avoidance. Second, the U.K. tax strategy disclosure requirement also differs from public disclosure of tax-related information mandated by accounting standard setters or capital market regulators (e.g., the disclosure of unrecognized tax benefits in the U.S.). While financial statement disclosure is intended to provide investors with value-relevant information such as the

impact of tax on future after-tax cash flows (Hoopes et al. 2023), the U.K. tax strategy disclosure does not serve this purpose. Instead, the HMRC expects these disclosures to attract public scrutiny of firms' tax practices, making the public the intended audience of these disclosures.

Although these design features of the U.K. tax strategy disclosure requirement are somewhat unprecedented among existing public tax disclosure regimes, the HMRC believes they are important in achieving the objective of curbing tax avoidance. For example, the mandatory disclosure focuses on firms' tax strategy rather than specific transactions because the HMRC (i.e., the regulator) believes that the level of formalization and content of a firm's tax strategy are clear indicators of its stand on tax aggressiveness (HMRC 2015a). Thus, the HMRC expects public disclosure of tax strategy to provide information about firms' tax practices.

The regulation also adopts a "principles-based" disclosure approach with a minimum disclosure threshold. Specifically, it only requires that firms disclose information about each mandatory disclosure component to ensure consistency in the scope and comparability of disclosures across firms. However, firms can choose the level of detail and the specific content of the disclosures. The HMRC believes that offering flexibility in disclosure "will minimise the risk of businesses publishing sanitised 'generic' tax strategies" (HMRC 2015c, p.11). This view is consistent with recent research evidence that firms' tax avoidance is associated with their disclosure choices and characteristics (e.g., Inger et al. 2018; Adams et al. 2022). From this perspective, qualitative disclosures could be informative about firms' tax practices, and the public can use these disclosures to scrutinize firms' tax avoidance.

Finally, the HMRC mandated public disclosure based on belief that "reputational concerns can influence the attitudes of large businesses and encourage them to pursue less aggressive tax planning arrangements" (HMRC 2015b, p.12). This view is consistent with ample survey and

anecdotal evidence that the U.K. has a strong and negative public sentiment toward corporations not paying their “fair share” of taxes (Dyrenge et al. 2016; Maynard and Watt 2016; Pegg 2017). Thus, the overall corporate tax environment in the U.K. should work in favor of the regulation achieving its objective through leveraging public scrutiny.

Although the HMRC expects the regulation to reduce tax avoidance, there are reasons why the regulation may not be effective in achieving this objective. First, a principles-based disclosure approach could be counter-productive if it allows too much discretion (Leuz 2010). For example, tax aggressive firms can easily comply with the regulation by providing minimum information or using boilerplate language, both of which are low-cost options that allow these firms to avoid costly disclosure that may attract public scrutiny. If this is the case, tax strategy disclosures will not provide useful information to the public to identify and scrutinize tax-aggressive firms.

Second, despite the HMRC’s belief that public scrutiny will have a meaningful impact on firms’ tax avoidance, research thus far provides at most mixed evidence regarding whether and to what extent negative public perception can change firms’ tax avoidance. In fact, most findings are compatible with public scrutiny not having enough “teeth” (e.g., Gallemore et al. 2014; Hasegawa et al. 2013; Hoopes et al. 2018; Chen et al. 2019). Thus, even in a country like the U.K., where the overall corporate tax environment is favorable to the regulation in achieving its objective, it remains unclear whether public scrutiny will have a significant impact such that firms change tax practices. Finally, a lack of consistency in where firms publish their tax strategy disclosures makes it difficult for the public to locate such information. As search costs increase, the level of public scrutiny that these disclosures can attract decreases, and the potential impact of the disclosures on firm behavior weakens. Taken together, whether the U.K. tax strategy disclosure requirement will achieve its objective of curbing tax avoidance is an empirical question.

I construct a sample of U.K.-incorporated firms that are publicly listed on the London Stock Exchange (LSE) from 2010 to 2019 with data necessary to construct regression variables. I focus on U.K.-incorporated firms because their British identity makes them more likely and willing to change tax behavior in response to public scrutiny than non-U.K. firms (HMRC 2015a). This sample selection choice also holds the tax enforcement environment constant across sample firms. The regulation applies to U.K. firms, groups, or subgroups with total assets above £2 billion or turnover greater than £200 million (Finance Act 2016). Accordingly, I classify firms as treated if they meet at least one disclosure threshold. I measure tax avoidance with both one-year book and cash effective tax rates (ETRs). Using a difference-in-differences (DiD) research design, I estimate statistically insignificant changes in tax avoidance for treated firms relative to control firms. I confirm that the 95% confidence intervals for the coefficient estimates of interest include zero in all specifications (Cready et al. 2022). The upper bound estimates, which capture the largest estimated effect in the predicted direction if the regulation is effective, correspond to an average reduction in book (cash) effective tax rate of 2.3 (1.2) percent, or 11 (five) percent of the sample mean (Cready et al. 2022). Thus, in addition to being statistically insignificant, the largest estimated effect is modest in magnitude. Taken together, these findings are mostly compatible with no differential changes in tax avoidance between treated and control firms, which is inconsistent with the regulation's intent.

To complement the DiD design, I conduct several cross-sectional tests within treated firms. These tests minimize the concern that changes in tax avoidance among the control firms could explain the primary results. More importantly, by focusing on firms that are most likely to exhibit the intended behavioral responses, these tests provide additional evidence on the effect of the regulation, even if such effect only exists in a subsample of treated firms. I first partition firms

based on the ownership of valuable brands. Austin and Wilson (2017) show that firms with valuable brands are more sensitive to public perceptions of their tax practices due to the potential negative impact on brand value. Thus, all else equal, I expect the effect of the regulation to be stronger among firms with valuable brands. Next, I partition firms based on the existence of tax haven operations. Due to the negative perception of tax haven use by the U.K. public (Dyreng et al. 2016), I expect that firms with at least one subsidiary in a tax haven are more likely to reduce tax avoidance. In all cross-sectional tests, I find evidence that is mostly compatible with no differential changes in tax avoidance, even among the subsamples of treated firms that are most likely to exhibit the intended behavioral responses. These findings complement results from the DiD analysis and are inconsistent with the regulation being effective in curbing tax avoidance.

I conduct three supplemental tests, including implementing a regression discontinuity (RD) design, examining changes in U.K. tax avoidance, and addressing the potential impact of the Country-by-Country (CbC) reporting requirement. In all supplemental tests, I find qualitatively similar results, which should corroborate the primary evidence and alleviate the concern of an alternative explanation. Although I cannot conclude definitively that firms subject to the U.K. tax strategy disclosure requirement did not change tax avoidance, the collective evidence is mostly compatible with the regulation not being successful in curbing tax avoidance, which is in sharp contrast to the HMRC's belief.

This study has important policy implications. Despite the HMRC's belief that the U.K. regulation will be effective in achieving its objective, my findings are inconsistent with such expectation and are mostly compatible with the regulation – at least in its current form – not having a significant impact on firms' tax practices. Thus, I provide direct evidence on the effectiveness of this regulation, which is relevant to the HMRC. More importantly, the U.K. tax strategy disclosure

initiative is the first *mandatory, qualitative* public tax disclosure that is solely focused on firms' tax practices. Since its implementation, the demand for public qualitative tax disclosure has increased around the world. For example, the Australian Taxation Office (ATO) incorporated the U.K. tax strategy disclosure requirement into its Voluntary Tax Transparency Code in 2018 (Australian Taxation Office 2018). In Spain and Denmark, publicly traded firms are expected to publish similar tax disclosures (KPMG 2021). Even the GRI standards incorporate a tax topic into its widely used framework for sustainability reporting in 2019, and the tax topic requires disclosures similar to those under the U.K. regulation (GRI 2019). These recent developments in disclosure initiatives worldwide indicate growing interests in public, qualitative disclosure about firms' tax practices. As a forerunner, the U.K. tax strategy disclosure requirement provides a setting for researchers to examine and understand the effectiveness of this novel disclosure initiative in curbing tax avoidance. Such evidence should be relevant to regulators, policymakers, and standard setters who are interested in implementing a similar disclosure initiative.

This study also contributes to the tax disclosure literature by examining the effectiveness of a *qualitative* disclosure requirement, which differs from existing public tax disclosure regimes that seek quantitative information as well as private tax disclosure initiatives. Despite the design features of the U.K. regulation being appealing to the HMRC, my findings are inconsistent with the regulation being effective in changing behavior. In contrast, recent studies find some promising evidence that CbC reporting – a private disclosure requirement implemented in the U.K. and other countries – is effective in reducing tax avoidance and has real effects on firms' investment decisions (e.g., Joshi 2020; De Simone and Olbert 2022). Given that regulators and businesses have limited resources, the collective evidence in this study, along with existing research of other tax disclosure initiatives, could inform regulators that they should consider the potential “crowd

out” effect when evaluating different disclosure initiatives. Finally, this study adds to research on the reputational costs of tax avoidance. Consistent with existing studies (e.g., Gallemore et al. 2014; Chen et al. 2019; Hasegawa et al. 2013), my findings suggest that reputational concerns may not have enough “teeth” in altering corporate actions even in the U.K., where there is a strong, negative public sentiment toward corporate tax avoidance.

Other concurrent studies examine different aspects of the U.K. regulation. Belnap (2022) conducts a field experiment, where he initiates a public campaign against U.S. multinational firms that are subject to this regulation. He finds that after being exposed to public naming-and-shaming by reputable media outlets, firms that were previously noncompliant with the regulation responded by providing required disclosures, and those that were compliant improved disclosure quality. These findings could suggest that public scrutiny, if leveraged to its full potential, could induce changes in disclosure. Bilicka et al. (2022), a concurrent working paper, finds an increase in firms’ tax disclosure in annual reports after the regulation became effective, suggesting a potential spillover benefit of the regulation. Similar to this study, they do not find that firms reduce tax avoidance in the post-regulation period. My study differs from Bilicka et al. (2022) in that they primarily focus on the textual properties of the U.K. tax strategy disclosures and how the regulation influences *other* tax disclosures. In contrast, this study specifically addresses the effectiveness of the regulation in curbing tax avoidance using various research designs to corroborate the primary findings. The fact that two independently designed studies reach similar conclusions should lend creditability to each other and jointly, they suggest that the U.K. regulation likely has little impact on firms’ tax avoidance. Collectively, these three studies provide a comprehensive picture of the effect of this novel qualitative tax disclosure initiative.

## **II. BACKGROUND AND HYPOTHESIS DEVELOPMENT**



## **Overview of the U.K. tax strategy disclosure requirement**

On September 15, 2016, the U.K. tax strategy disclosure requirement obtained Royal Assent as part of the U.K. Finance Act 2016 (U.K. Parliament 2016). This regulation requires “qualifying entities” to publicly disclose their tax strategy on an annual basis and is effective for fiscal years beginning after September 15, 2016. “Qualifying entities” include any U.K. firms, groups, or subgroups with total assets over £2 billion or turnover (i.e., sales under U.S. GAAP) above £200 million in the preceding fiscal year. These thresholds apply to publicly traded corporations, flow-through entities, and private firms. To expand the coverage of the regulation to non-U.K. firms, “qualifying entities” also include multinational firms with a U.K. presence and global turnover above €750 million (Finance Act 2016). The regulation mandates four disclosure components: 1) tax risk management, 2) attitude toward tax planning, 3) tax risk appetite, and 4) the firm’s approach to dealing with the HMRC (Finance Act 2016). To comply, firms must discuss all four components in relation to U.K. taxation but are *not* required to disclose quantitative information such as the amount of tax payments. The regulation does not require that these disclosures be audited, and firms can choose where to publish their tax strategy (e.g., corporate website, annual report) as long as they keep the disclosures publicly accessible for free (HMRC 2016b). Appendix A provides two examples of the U.K. tax strategy disclosure.

The U.K. tax strategy disclosure requirement imposes a £7,500 initial penalty on nondisclosure, incomplete disclosure, or failure to keep the disclosure publicly accessible. Additional charges apply if a noncompliant firm fails to take corrective action (HMRC 2016b). In addition to financial penalties, the HMRC also considers a firm’s compliance with the regulation and the extent to which the disclosed tax strategies align with the firm’s tax practice during the internal business risk review process (HMRC 2016a). This review process allows the HMRC to

classify business taxpayers into different risk levels using both hard information (e.g., size, nature of the business operations) and soft information (e.g., internal governance, relationship with the HMRC from prior interactions). Thus, untruthful disclosure is unlikely because it will negatively affect a firm's tax risk rating assigned by the HMRC, a key factor that guides the HMRC's approach to dealing with the firm.

### **U.K. regulation vs. existing public tax disclosure initiatives**

Tax authorities worldwide use both private and public disclosure initiatives to combat tax avoidance. Most existing private tax disclosure initiatives require firms to provide information solely to the tax authority to help reduce information asymmetry between taxpayers and the tax authority. A notable example is the CbC reporting framework under Action 13 of the Base Erosion and Profit Shifting (BEPS) project, which requires firms to disclose economic profits and global tax payments by jurisdiction to the tax authority.<sup>1</sup> Because the required information under private disclosure regimes is usually proprietary in nature and otherwise unavailable to the tax authority, firms subject to these disclosures could change tax behavior due to the deterrent effect of or actual future tax enforcement activities (Hoopes et al. 2023).

In contrast, the U.K. tax strategy disclosure requirement represents a mandatory, *public* tax disclosure initiative. Compared to existing public tax disclosure regimes, the U.K. regulation is unique in several aspects.<sup>2</sup> First, the U.K. tax strategy disclosure requirement purposefully excludes quantitative information from being a mandatory disclosure component, which makes the disclosure content largely *qualitative* in nature (HMRC 2015b). The required disclosure also

---

<sup>1</sup> The U.K. adopted the CbC reporting requirement in 2017 – the first year when the U.K. tax strategy disclosure requirement became effective. I address the potential impact of the CbC regime in a supplemental test.

<sup>2</sup> The literature on tax disclosure is extensive. Because the U.K. tax strategy disclosure regulation is a form of public disclosure, the discussion is limited to public tax disclosures that are most relevant to the U.K. regulation. Readers can refer to Hoopes et al. (2023) for a comprehensive literature review.

focuses on firms' approach to tax (i.e., tax strategy) rather than specific tax planning activities. Thus, the U.K. tax strategy disclosure regulation differs from existing mandatory, public tax disclosure requirements that seek *quantitative* information. An example of such disclosure is the Australian regulation that requires the ATO to annually publish select tax return numbers (e.g., taxable income and tax payable) and identifying information for a subsample of firms (Australian Taxation Office 2018).

Second, the U.K. tax strategy disclosure requirement was proposed and mandated by the HMRC, the U.K. tax authority, which makes it different from public disclosure of tax-related information in financial statements as mandated by accounting standard setters or capital market regulators (e.g., disclosure of unrecognized tax benefits in the U.S.). Whereas the goal of the financial statement disclosures is to provide value-relevant information to investors (Hoopes et al. 2023), the U.K. tax strategy disclosure does not serve such purpose.<sup>3</sup> In addition, the HMRC has other information sources to obtain details about firms' tax avoidance activities. Thus, the U.K. regulation is not designed to provide new information to the tax authority. Instead, the general public is the target audience of the disclosures, and the HMRC aims to leverage public scrutiny to constrain firms' tax avoidance.<sup>4</sup>

---

<sup>3</sup> Graham et al. (2012) review research on public disclosure of tax-related information in financial statements.

<sup>4</sup> Existing research finds that tax authorities use firms' public disclosure of tax-related information in financial statements to assist tax enforcement (e.g., Bozanic et al. 2017; Hope et al. 2013; Chi et al. 2023; Fox and Wilson 2023). Because the objective of financial reporting differs from that of tax reporting, these differences make the financial statement disclosures complementary to the private disclosures provided to the tax authority. However, the U.K. tax strategy disclosure is less likely to serve a similar purpose because it is mandated by the HMRC – the U.K. tax authority. More importantly, given the nature of the tax enforcement process in the U.K., firms subject to the U.K. tax strategy disclosure requirement interact directly and frequently with the HMRC. These firms are also subject to the mandatory disclosures of tax avoidance activities (DOTA) regime, under which firms must provide the HMRC with information about the nature and design of their tax planning activities. Given these alternative information sources, the U.K. tax strategy disclosures are unlikely to provide new information about firms' tax avoidance activities to the HMRC. Discussions with a U.K. practitioner confirm this statement.

Because of these unique features, the U.K. tax strategy disclosure requirement represents a novel disclosure regulation to curb tax avoidance. In fact, this regulation is the first to *mandate* disclosure of *qualitative* information that is entirely about firms' tax practices. Since its implementation in 2017, there has been a growing demand for public, qualitative disclosure around the world. For example, in 2019, the Global Reporting Initiative ("GRI") standards incorporated a separate topic related to tax into its widely used framework for sustainability reporting. Effective in 2021, firms adopting the GRI standards will disclose their tax strategy, which is similar to the disclosure required by the U.K. regulation, under the tax topic (GRI 2019). In addition, several countries such as Australia, Denmark, and Spain have introduced disclosure initiatives that seek similar information to those under the U.K. regulation (Australian Taxation Office 2018; KPMG 2021). These recent developments in global disclosure initiatives indicate increasing interests in mandatory, public disclosure related to tax issues. As a forerunner of these new initiatives, the U.K. tax strategy disclosure requirement warrants a close examination and provides a setting to understand the effectiveness of this novel disclosure regulation in combating tax avoidance.

### **Hypothesis development**

#### *Predicted effects of the U.K. regulation: Regulator's perspective*

Per the HMRC, the goal of the U.K. tax strategy disclosure requirement is to "drive behaviour changes around tax planning and therefore enhance tax compliance" (HMRC 2015b). The regulator expects this public disclosure requirement to achieve this objective for a few reasons. First, the HMRC believes there is an inherent relation between firms' tax strategy and their stand on tax aggressiveness, which makes the tax strategy disclosures informative about firms' tax practices. Specifically, the HMRC's internal research finds that "the degree of codification and content of a tax strategy" are "clear indicators for aggressiveness in tax planning" (HMRC 2015a,

p.21), and firms with greater risk appetite tend to focus on minimizing tax payments to be no more than what is legally required (HMRC 2015a). Thus, the HMRC expects that firms' tax strategy disclosures will provide useful information to the public to scrutinize firms' tax practices.

Second, the regulation adopts a "principles-based" disclosure approach, which allows firms to choose the level of detail and the specific content of their disclosures. Relative to a "rule-based" approach, the HMRC expects that a "principles-based" approach "will minimise the risk of businesses publishing sanitised 'generic' tax strategies" (HMRC 2015c, p.11) and allows for more informative disclosures to the public. Consistent with this expectation, recent research shows that firms' disclosure choices and characteristics can provide incremental information about their tax planning. For example, Inger et al. (2018) find that firms engaging in greater (less) tax avoidance than industry peers have less readable (more straight-forward) tax footnotes. Using a sample of firms providing sustainability disclosure, Adams et al. (2022) find a negative relation between the level of tax avoidance and the likelihood as well as the amount of voluntary tax-related disclosure. These studies suggest that firms' tax avoidance is related to their disclosure choices and characteristics. A "principles-based" disclosure framework can provide the opportunity for firms to reveal their "type" through disclosure, which supports the HMRC's view that this disclosure approach can help shed light on firms' tax practices.

The two examples in Appendix A illustrate how a "principles-based" disclosure could be informative. The first example is the initial tax strategy disclosure by Travis Perkins PLC, a FTSE 250 firm listed on the London Stock Exchange. The disclosure is detailed and contains abundant firm-specific information. For example, when discussing its governance structure and risk management protocols in relation to tax, the firm not only provides an overview of the procedures in place but also identifies the specific parties involved and their respective role. The disclosure

also highlights the consideration of the firm's reputation as a "responsible corporate citizen" when making tax decisions. In comparison, the second disclosure by Marshalls PLC, also a FTSE 250 firm, is much shorter and less firm-specific. These two examples illustrate that disclosure characteristics such as the amount of information disclosed and the extent of firm-specific information could reflect a firm's effort to maintain a positive public image related to its tax practice. Detailed disclosures about the governance mechanisms in place could also assure the public that the firm's actual tax practice aligns with the disclosure (GRI 2019). Thus, disclosure characteristics can be useful to identify firms that are more likely to be tax-aggressive.

Another striking feature of Travis Perkins PLC's disclosure is the explicit statement that the firm has "a low risk appetite in relation to tax matters". In contrast, Marshalls PLC does not provide similar disclosure. The tax risk appetite disclosure is one disclosure component that can be particularly informative about firms' tax practices. Because it is costly for a firm to publicly acknowledge that it maintains a high tax risk tolerance, a separating equilibrium is likely to occur where only firms that are truly non-aggressive in their tax practices will make an explicit disclosure of having a low tax risk appetite (Spence 1973; Verrecchia 1983). Thus, the existence of (or lack thereof) the tax risk appetite disclosure can be informative about a firm's tax practice.<sup>5</sup> These two examples illustrate how the public can use the specific information disclosed as well as certain disclosure characteristics to identify and scrutinize firms that are more likely to be tax-aggressive.

Third, the HMRC requires firms to *publicly* disclose their tax strategy rather than privately communicate such information to the tax authority because evidence suggests large businesses are willing to reduce tax avoidance in response to public scrutiny (HMRC 2015b). For example, the HMRC's qualitative interviews with key decision makers in large businesses find that public

---

<sup>5</sup> In fact, some sample firms even voluntarily disclose that they receive a low tax risk rating assessment by the HMRC. This is another evidence consistent with firms using disclosure to signal that they are not tax-aggressive.

perception is an important consideration for tax-related decision-making within these firms, and that the potential impact of public perception is stronger for firms with a British identity (HMRC 2015b). As one interviewee stated, “this sense of [British] identity was used in boardroom negotiations about tax – the desire to retain a British identity and presence had a direct influence on tax strategy” (HMRC 2015, p.22). These findings convince the HMRC that “reputational concerns can influence the attitudes of large businesses and encourage them to pursue less aggressive tax planning arrangements” (HMRC 2015b, p.12).

Other anecdotal evidence also supports the HMRC’s belief that the U.K. has a strong and negative public sentiment toward corporate tax avoidance, which should work in favor of the regulation achieving its objective by leveraging public scrutiny. For instance, after the revelation of Starbucks’ tax avoidance schemes in 2012, a high-profile U.K. consumer boycott led to an unprecedented, voluntary tax payment of £20 million by the firm (Houlder and Thompson 2012; Neville and Treanor 2012). Similarly, a 2017 survey of U.K. adults finds that 90 percent of the respondents consider corporate tax avoidance unethical despite being legal, and that over 40 percent would consider boycotting products and services from firms that do not pay their fair share of taxes (Pegg 2017). Because public scrutiny in the U.K. is perceived as a powerful force that could shape firm behavior, the regulator believes that relying on public scrutiny will help the U.K. tax strategy disclosure requirement achieve its objective.

#### *Effectiveness of the U.K. regulation: Potential concerns*

Although the HMRC expects that the U.K. tax strategy disclosure will inform the public about firms’ tax practices and public scrutiny will then pressure tax-aggressive firms to change behavior, several factors cast doubt onto the effectiveness of this regulation in achieving this objective. First, while a principles-based disclosure approach could induce firms to provide

decision-useful information and reveal their type, this approach requires costly enforcement and can be counter-productive if firms take advantage of disclosure discretion (Leuz 2010). From the enforcement perspective, the regulation imposes financial penalties on noncompliance, and the dollar amount is much higher compared to other tax disclosure regulations in the U.K.<sup>6</sup> However, these penalties may not be sufficiently punitive given the size of the firms subject to this regulation (i.e., at least £2 billion in total assets or £200 million in turnover). More importantly, because the regulation only requires that firms disclose some information about each mandatory disclosure component, the compliance threshold is low. Thus, tax-aggressive firms could easily avoid financial penalties by providing low-quality disclosures that contain minimal information or extensive boilerplate language. In this scenario, the disclosure will not be useful to the public to identify tax-aggressive firms, which is a necessary condition for public scrutiny to pressure firms to change their tax avoidance.

Second, even in a country like the U.K., where there is a strong and negative public sentiment toward tax avoidance, it is unclear whether and to what extent negative public perception can sufficiently influence firms to change tax practices. In fact, research about the reputational costs of tax avoidance has provided mixed findings. For example, Hanlon and Slemrod (2009) examine firms engaging in tax shelter transactions, the most egregious type of tax avoidance, and find negative investor responses around the revelation of these activities. However, using a similar setting, Gallemore et al. (2014) show that the negative market reactions documented in Hanlon and Slemrod (2009) reversed within weeks after the initial revelation, suggesting that the negative valuation impact of engaging in these transactions is only temporary. In addition, they do not find that tax shelter activities are associated with outcomes reflecting reputational costs such as changes

---

<sup>6</sup> For example, the maximum penalty for noncompliance with the U.K. subsidiary disclosure requirement examined in Dyreng et al. (2016) is only £1,000.



in tax avoidance, auditor switches, manager turnover, and decreases in sales. Overall, Gallemore et al. (2014) do not find empirical support for tax reputational costs.

Other studies have examined the reputational costs of tax avoidance in different settings. For instance, Chen et al. (2019) use negative media coverage to capture reputational costs and do not find that large U.S. public firms change tax avoidance in response to negative publicity. Hasegawa et al. (2013) examine publicly traded corporations in Japan, where these firms' tax return information is publicly disclosed and find no change in tax avoidance after such information becomes public. Hoopes et al. (2018) exploit a similar regulation in Australia and find minimal changes in tax avoidance in response to the disclosure initiative, even though equity investors anticipated net costs for firms that are likely to face increased public scrutiny (Chen 2017). In contrast, Kays (2022) finds that firms affected by the Australian regulation strategically increase voluntary disclosure to offset potential reputational costs, which may explain the lack of changes in tax avoidance.<sup>7</sup> Overall, the mixed evidence casts doubt onto the effectiveness of the U.K. regulation in leveraging public scrutiny to reduce tax avoidance.

Lastly, the U.K. regulation did not designate a common repository for firms to publish their tax strategy disclosures. Allowing firms to publish tax strategy on the platform of their choice significantly increases the search costs for stakeholders who are interested in the disclosures, which in turn weakens the level of actual public scrutiny these disclosures can attract (Belnap 2022). Taken together, the above arguments suggest whether the U.K. tax strategy disclosure requirement will achieve its objective of curbing tax avoidance is an empirical question. Thus, I state my hypothesis in the null form:

---

<sup>7</sup> The Japanese and Australian regulations examined in prior research involve the regulator publishing tax return information, whereas the U.K. regulation requires firms to directly disclose tax strategy. Thus, the U.K. tax strategy disclosure requirement is fundamentally different from the public tax return disclosure regulations in Japan and Australia, and results from Hasegawa et al. (2013) and Hoopes et al. (2018) may not generalize to the U.K. setting.

*Hypothesis: The U.K. tax strategy disclosure requirement is not associated with changes in firms' tax avoidance.*

### III. RESEARCH DESIGN AND SAMPLE SELECTION

#### Difference-in-differences (DiD) design

To examine whether firms reduce tax avoidance after the U.K. tax disclosure requirement became effective, I use a difference-in-differences (DiD) research design and estimate the following OLS model:

$$\begin{aligned} Tax\_Avoidance = & \alpha_0 + \beta_1 Post \times Treat + \beta_2 Size + \beta_3 Leverage + \beta_4 Intangible + \\ & \beta_5 Inventory + \beta_6 R\&D + \beta_7 PPE + \beta_8 Capex + \beta_9 ROA + \\ & \beta_{10} Loss + Firm\ FE + Year\ FE + \epsilon \end{aligned} \quad (1)$$

The dependent variable (*Tax\_Avoidance*) is either one-year 1) book effective tax rate (*ETR*) or 2) cash effective tax rate (*CETR*). I define *ETR* (*CETR*) as income tax expense (cash taxes paid) scaled by pretax income before special items (Dyreng et al. 2008). By definition, both measures decrease in tax avoidance. Book ETRs reflect tax avoidance for financial reporting purposes and only include permanent book-tax differences. This measure is relevant to my setting due to its saliency to the public (Graham et al. 2014; Austin and Wilson 2017; Chen et al. 2019; Rego et al. 2020). In contrast, cash ETRs reflect firms' actual cash tax payments and tax planning strategies that result in both permanent and temporary book-tax differences. Thus, cash ETRs better capture the HMRC's goal to increase tax revenue than book ETRs do.

*Post* is an indicator variable equal to one for fiscal years beginning after September 15, 2016, when the U.K. tax strategy disclosure requirement became effective.<sup>8</sup> To identify firms that are subject to this regulation, I compare firms' total assets and turnover in the year

---

<sup>8</sup> For firms whose fiscal year ends in the months of 1/2/3/4/5/12, the regulation became effective in 2017 fiscal year. For these firms, *Post* equals one for fiscal years 2017 through 2019, and *Treat* is constructed using fiscal year 2016 financial statements. For firms whose fiscal year ends in the months of 6/7/8/9/10/11, the regulation became effective in 2018 fiscal year. For these firms, *Post* equals one for fiscal years 2018 and 2019, and *Treat* is constructed using fiscal year 2017 financial statements.

immediately prior to the regulation becoming effective to the disclosure thresholds. I set an indicator variable, *Treat*, to equal one if a firm meets at least one disclosure threshold (i.e., treated firm), and zero otherwise (i.e., control firm).<sup>9</sup> The interaction term,  $Post \times Treat$ , is the variable of interest and captures the differential changes in tax avoidance for the treated firms after the regulation became effective relative to the control firms. If the regulation is effective in curbing tax avoidance, I expect a positive coefficient on the interaction term ( $\beta_1 > 0$ ).

Following prior research (e.g., Gupta and Newberry 1997; Rego 2003; Chen et al. 2010), I control for the determinants of tax avoidance, including size (*Size*), leverage (*Leverage*), intangibles (*Intangible*), inventory (*Inventory*), research and development activities (*R&D*), tangible assets (*PPE*), capital expenditures (*Capex*), profitability (*ROA*), and prior losses (*Loss*). I include firm fixed effects to control for time-invariant, unobservable firm characteristics and year fixed effects to control for macroeconomic factors. Due to the fixed effects structure, the main effects of *Post* and *Treat* are subsumed. Appendix B provides detailed variable definitions.

### **Cross-sectional tests within treated firms**

I complement the DiD design with a series of cross-sectional tests *within* the sample of treated firms (Chen et al. 2019; De Simone et al. 2022). These within-treatment, cross-sectional tests offer two empirical benefits. First, the DiD design estimates the average effect of the regulation across *all* treated firms. In contrast, the cross-sectional tests focus on subsamples that are most likely to exhibit the intended behavioral changes. Thus, these tests allow me to capture the effect of the regulation even if it only exists in subsamples of treated firms. Second, restricting

---

<sup>9</sup> In untabulated analysis, I confirm that about 94 percent of the firms subject to the disclosure requirement in the first year when it became effective continue to meet at least one disclosure threshold in the remaining years over the sample period. Thus, *Treat* is “sticky” over time.

the sample to only treated firms alleviates the concern that results from the DiD design could be driven by changes in tax avoidance among control firms.

To provide cross-sectional evidence, I modify equation (1) by replacing the indicator variable for treated firms (*Treat*) with a set of cross-sectional variables (*XS\_VAR*) to capture subsamples that are most likely to reduce tax avoidance in response to the U.K. regulation. Specifically, I estimate the following OLS model:

$$Tax\_Avoidance = \alpha_0 + \beta_1 Post \times XS\_Var + \beta_2 Size + \beta_3 Leverage + \beta_4 Intangible + \beta_5 Inventory + \beta_6 R\&D + \beta_7 PPE + \beta_8 Capex + \beta_9 ROA + \beta_{10} Loss + Firm\ FE + Year\ FE + \epsilon \quad (2)$$

I first partition treated firms based on their ownership of (or lack thereof) valuable brands. *Brand* is an indicator variable set to equal one if the firm owns at least one valuable brand based on Kantar Millward Brown's Top 50 (Top 75) U.K. brands in 2017 (2018) (Kantar 2017, 2018), and zero otherwise. I consider brand equity relevant because firms with valuable brands are more visible to the public. Thus, they are more likely to be subject to public scrutiny of their tax strategy disclosures than firms without valuable brands (Austin and Wilson 2017; Chen et al. 2019). In addition, prior research suggests that consumers have a more unanimous, negative view toward tax avoidance than other stakeholders such as equity investors, and firms with valuable brands are more sensitive to negative public perceptions of their tax practices due to the impact on brand value (Austin and Wilson 2017). Thus, all else equal, I expect that firms with valuable brands are more likely to change tax behavior in response to the public scrutiny of their tax strategy disclosures than those without ( $\beta_1 > 0$ ).

Next, I partition treated firms based on the presence of tax haven operations. *Haven\_Sub* is an indicator variable set to equal one if the firm has at least one subsidiary in a tax haven country, and zero otherwise (Dyreng and Lindsey 2009). Dyreng et al. (2016) show that the U.K. public

negatively perceives the use of tax haven entities. Thus, firms with tax haven operations likely face greater public scrutiny than those without. Accordingly, I expect the regulation to have a greater impact, if any, on firms with tax haven operations ( $\beta_1 > 0$ ).

### **Sample selection**

I use the Compustat Global database to construct a sample of U.K.-incorporated, non-subsubsidiary firms listed on the London Stock Exchange from 2010 to 2019. Because the U.K. enacted a major tax reform and switched to a territorial corporate tax system in 2009, I set the sample period to begin in 2010 to hold the tax regime constant. Focusing on U.K.-incorporated firms offers several empirical benefits. First, the HMRC's internal research shows that U.K. firms are more likely and willing to change tax behavior than non-U.K. firms due to the British identity (HMRC 2015a). Thus, using a sample of U.K.-incorporated firms should increase the power to detect changes in tax avoidance, if any. Second, the level of scrutiny and potential enforcement likely differ between U.K. and non-U.K. firms. Thus, focusing on U.K.-incorporated firms holds the tax environment constant across sample firms. Finally, this sample selection choice eliminates the potential concern that variations in the statutory tax rates across countries may drive results.

I exclude mutual funds because they are taxed differently. Since each qualifying group only provides one tax strategy disclosure, I remove member firms of a group because it is difficult to attribute behavioral changes at the group-level to individual member firms. I further require non-missing variables to estimate equation (1). Lastly, I retain firms that appear in both the pre- and post-regulation periods. The final sample using book (cash) effective tax rate as the measure of tax avoidance includes 6,920 (5,080) observations related to 864 (624) unique firms. Table 1 provides detailed sample selection procedures.

## **IV. RESULTS**

## Difference-in-differences design

### *Primary findings*

Table 2, Panel A presents descriptive statistics for variables used to estimate equation (1). Treated (control) observations constitute 52 (48) percent of the regression sample. On average, sample firms report *ETR* (*CETR*) of 19.2 (21.4) percent, and they are profitable with 8.2 percent of return on assets (*ROA*). Panel B presents descriptive statistics separately for the treated (*Treat* = 1) and control (*Treat* = 0) subsamples. On average, treated observations report slightly higher *ETR* and *CETR*, suggesting that treated firms engage in less tax avoidance over the entire sample period relative to control firms. As expected, treated firms are larger (*Size*) than control firms at the mean (i.e., 7.85 versus 4.35). Treated firms also differ from control firms in other firm characteristics such as leverage (*Leverage*), tangibility (*PPE*), etc.<sup>10</sup>

Table 3, Panel A presents results of estimating equation (1) using the DiD design. For completeness, I report regression results both with and without control variables. In columns (1) and (2), where the dependent variable is *ETR*, the coefficient estimates on *Post*×*Treat* are statistically insignificant. I confirm that the 95% confidence intervals of the estimated coefficients on *Post*×*Treat* include zero in both columns, which provides evidence that is compatible with treated firms not exhibiting differential changes in tax avoidance in the post-regulation period relative to control firms (Cready et al. 2022). The upper bound (UB) estimate is of particular interest to this study because it is in the predicted direction if the regulation is effective. Using column (2) as an example, the UB of the 95% confidence interval of the coefficient estimate on *Post*×*Treat* is 0.023, or 11.88% (13.55%) of the mean (standard deviation) of the dependent

---

<sup>10</sup> These univariate statistics could suggest that control firms may not be ideal counterfactuals to treated firms due to differences in firm characteristics. In a supplemental test, I address this concern and provide corroborative evidence using an alternative research design.

variable. Thus, even the largest estimated effect in the predicted direction is modest in magnitude (Cready et al. 2022). To reach statistical significance at 10 percent level using two-tailed tests, the coefficient estimate on  $Post \times Treat$  in column (2) has to be 0.019, or 375% larger than the current estimate of 0.004. Taken together, these statistics provide evidence that is mostly compatible with treated firms not differentially reducing tax avoidance after the regulation became effective.

Inferences are similar when *CETR* is the dependent variable. In columns (3) and (4), the coefficient estimates on  $Post \times Treat$  are not only statistically insignificant but also opposite to the predicted direction if the regulation is effective in curbing tax avoidance. In both columns, the 95% confidence intervals include zero, and the magnitudes of the largest estimated effect in the predicted direction are modest. Using column (4) estimate as an example, the UB of the 95% confidence interval of the coefficient estimate on  $Post \times Treat$  is 0.012, or 5.39% (6.35%) of the mean (standard deviation) of the dependent variable. To reach statistical significance at 10 percent level using two-tailed tests, the coefficient estimate on  $Post \times Treat$  in column (4) has to be 0.025, or 278.57% larger than the current estimate. Although the statistically insignificant estimates are not sufficient to conclude that the regulation is ineffective in changing firms' tax avoidance, findings are consistent across all specifications and are mostly compatible with the regulation not having a meaningful impact on treated firms' tax avoidance.

#### *Parallel trend analysis*

An underlying assumption of the DiD design is that tax avoidance for treated and control firms would evolve in parallel absent the treatment effect (i.e., parallel trend assumption).

Although this assumption cannot be empirically confirmed, I conduct two tests to evaluate the reasonableness of this assumption in my setting following Armstrong et al. (2022). In Figure 1, I separately plot the time-series trend of tax avoidance for treated and control firms using *ETR*

(panel A) and *CETR* (panel B) as the measure of tax avoidance. In both panels, I do not observe significant differences or different trends in tax avoidance between treated and control firms prior to the regulation becoming effective. Next, I re-estimate equation (1) after replacing *Post* with separate indicators for each year in the sample period. I use the year immediately prior to the regulation becoming effective as the benchmark and label it year  $t$ . Table 3, Panel B presents regression results. For parsimony, I tabulate results of the specification that includes the control variables. Inferences are similar when I exclude control variables. In both columns, the coefficient estimates on the interaction terms are mostly statistically insignificant in years prior to the regulation becoming effective. To provide visual evidence, I plot the coefficient estimates on the interaction terms in Figure 2. Consistent with the regression results, I do not observe significant pre-treatment differences in tax avoidance between treated and control firms. Taken together, the evidence suggests that the parallel trend assumption is plausible in my setting.

### **Within-treatment, cross-sectional tests**

#### *Valuable brands*

Table 4, Panel A presents results of estimating equation (2) after partitioning treated firms based on their ownership of (or lack thereof) valuable brands (*Brand*). About 41 treated firms, or 10.56 percent of the sample, own at least one valuable brand (untabulated). In columns (1) and (2), where *ETR* is the measure of tax avoidance, the coefficient estimates on  $Post \times Brand$  are statistically insignificant and opposite to the predicted effect of the regulation. In both columns, the 95% confidence intervals corresponding to the coefficient estimates on  $Post \times Brand$  include zero. Using column (2) estimate as an example, the upper bound of the 95% confidence interval for the coefficient estimate of interest is 0.024, or 11.61% (15.29%) of the mean (standard deviation) of the dependent variable. Thus, even the largest estimated effect is modest in



magnitude. Inferences are similar in columns (3) and (4), where *CETR* is the measure of tax avoidance. These findings are incompatible with differential changes in tax avoidance in the post-regulation period for firms owning valuable brands.

Austin and Wilson (2017) show that the reputational impact of tax avoidance also varies by branding strategy. Consistent with reputational concerns being weaker absent a direct link between brand names and the owner firm, they find that firms using a “house of brands” strategy (i.e., brand names are unrelated to the name of the owner firm) are less sensitive to reputational concerns than those using a “corporate branding” or mixed branding strategy. In Panel B, I present results after decomposing *Brand* into two indicator variables, *Brand\_House* and *Brand\_Other*. I set *Brand\_House* (*Brand\_Other*) to equal one if the firm adopts a “house of brands” strategy (a “corporate branding” or a mixed branding strategy), and zero otherwise.<sup>11</sup> Building on Austin and Wilson (2017), I expect greater pressure from public scrutiny for firms using a corporate branding or mixed branding strategy due to a direct link between brand names and the owner firm, suggesting that these firms should be more likely to exhibit the intended behavioral changes, if any, than firms using a “house of brands” strategy.

Across all specifications examined, the coefficient estimates on  $Post \times Brand\_Other$  are statistically insignificant. More importantly, in three out of the four columns, the coefficient estimates are opposite to the predicted direction if the regulation is effective. Further, I confirm that the corresponding 95% confidence intervals include zero in all columns, and the largest estimated effects are relatively small in magnitude. Finally, in all four columns, the coefficient estimates on  $Post \times Brand\_Other$  are not statistically different from those on  $Post \times Brand\_House$ .

---

<sup>11</sup> An example of a “corporate branding” strategy is Burberry Group PLC, whose valuable brand is “Burberry”. An example of a “house of brands” strategy is Unilever PLC, whose valuable brands include “Dove” and “Lipton”. Royal Bank of Scotland adopts a mixed branding strategy and it owns two valuable brands: “RBS” and “NatWest”.

Taken together, Table 4 results are compatible with firms having a valuable brand not differentially reducing tax avoidance in the post-regulation period, even though these firms should be the most sensitive to public scrutiny of their tax practices. Thus, these findings are inconsistent with the predicted effect if the regulation has achieved its objective.

#### *Tax haven operations*

Table 5 presents results of estimating equation (2) after partitioning treated firms based on the presence of tax haven subsidiary (*Haven\_Sub*). Across all four columns, the coefficient estimates on  $Post \times Haven\_Sub$  are statistically insignificant and opposite to the predicted direction if the regulation is effective in curbing tax avoidance. The 95% confidence intervals corresponding to the coefficient estimates on  $Post \times Haven\_Sub$  include zero, and the largest estimated effect is modest in magnitude. Using column (2) estimate as an example, the UB of the 95% confidence interval for the coefficient estimate of interest is 0.018, or 9.02% (13.08%) of the mean (standard deviation) of the dependent variable. Inferences are similar in columns (3) and (4), where *CETR* is the measure of tax avoidance. Thus, Table 5 results are compatible with firms having tax haven operations not differentially reducing tax avoidance after the regulation became effective, even though these firms are more likely to attract public scrutiny of their tax strategy disclosures. Taken together, the cross-sectional findings in Tables 4 and 5 are inconsistent with the regulation having achieved its objective.

## **V. SUPPLEMENTAL AND ROBUSTNESS TESTS**

### **Supplemental tests**

#### *Regression discontinuity design*

Because the U.K. tax strategy disclosure requirement uses total assets and turnover as disclosure thresholds, a primary concern of the DiD research design is that control firms may be

less comparable to treated firms. To corroborate the primary results, I examine changes in tax avoidance in response to this regulation using a sharp regression discontinuity (RD) design. An RD design use observations that are within a certain “bandwidth” around the disclosure threshold to estimate the treatment effect. The empirical appeal of implementing an RD design in the U.K. setting is that, relative to firms that are further away from the disclosure threshold, firms just below the disclosure threshold (and therefore untreated) provide a better counterfactual to those immediately above the threshold (and treated). Thus, an RD design directly addresses the primary concern of the DiD design and provides corroborative evidence.

To implement the RD design, I restrict the primary regression sample to the post-regulation period because the treatment effect does not exist prior to the regulation becoming effective. The running variable (*RV\_Turnover*) is calculated as the difference between the firm’s turnover, measured in the year immediately prior to the regulation taking effect, and the £200 million disclosure threshold. I use turnover to construct the running variable because it is more important than the total assets threshold in determining the treatment effect.<sup>12</sup>

An important assumption of the RD design is that individual observations are unable to precisely manipulate the assignment variable (i.e., turnover) to receive or avoid the treatment effect (Cattaneo et al. 2019; Lee and Lemieux 2010). I first examine whether this assumption holds in my setting. In an untabulated analysis, I plot the distribution of the running variable and find that the 95 percent confidence intervals for the treated and control firms on both sides of the threshold overlap (Cattaneo et al. 2019), a pattern that is consistent with no manipulation of the disclosure threshold. In addition, I formally test the density discontinuity for *RV\_Turnover* and fail to reject

---

<sup>12</sup> Although both asset and turnover thresholds determine whether a firm is subject to the disclosure requirement, only 68 percent of the treated firms meet both thresholds. For the remaining 32 percent, the majority (i.e., 30 percent) only meet the turnover threshold. Thus, I use turnover to construct the running variable for RD estimates.

the null hypothesis of continuity of the density function at the threshold (untabulated). Thus, there is no statistical evidence suggesting manipulation of turnover at the disclosure threshold. These findings also help alleviate any potential concern that the primary findings could be attributable to firms manipulating disclosure thresholds to avoid being subject to the disclosure requirement.

Following the recommendation of existing research (Cattaneo et al. 2019; De Simone and Olbert 2022; Lee and Lemieux 2010), I estimate both local linear and second-order polynomial regressions with a triangular kernel function, which assigns greater weights to observations that are closer to the disclosure threshold. I select optimal bandwidths that minimize the mean-squared error of the local RD estimator (Cattaneo et al. 2019). Table 6 presents results. In all four columns, the RD estimates are statistically insignificant. Thus, the RD analysis provides evidence that is most compatible with treated firms not differentially reducing tax avoidance in the post-regulation period. More importantly, these findings corroborate the results from the DiD analysis.

#### *U.K. tax avoidance*

In the primary analyses, I measure tax avoidance using *ETR* and *CETR*, both of which capture firms' worldwide tax avoidance. Because the regulation only mandates information in relation to U.K. taxation, the objective of the regulation is to curb tax avoidance that results in immediate reductions in U.K. tax revenues (i.e., U.K. tax avoidance). If treated firms respond to potential increases in public scrutiny of *U.K. tax avoidance* by shifting tax avoidance to jurisdictions outside the U.K., they could increase U.K. tax expense or payments without affecting worldwide tax burden (De Simone et al. 2023). In the second supplemental test, I examine whether this scenario explains my primary findings. Specifically, I re-estimate equation (1) using a subsample of U.K. domestic firms; for these firms, *ETR* and *CETR* reflect U.K. tax avoidance. I classify a firm as a U.K. domestic firm if it does not report any subsidiary outside the U.K. Table

7 presents results. Across all specifications, the coefficient estimates on the interaction terms are statistically insignificant, and the corresponding 95% confidence intervals include zero. Thus, the primary inferences continue to hold, and findings are compatible with no differential changes in U.K. tax avoidance between treated and control firms following the regulation.

### *Country-by-Country reporting*

The U.K. adopted CbC reporting for fiscal years starting on or after January 1, 2016 (HMRC 2019). Firms with global turnover exceeding €750 million and operations in both the U.K. and at least one other country are subject to this reporting requirement (HMRC 2019). Because the first CbC report is due in 2017, this reporting requirement coincides with the year in which the U.K. tax strategy disclosure requirement became effective. Despite overlaps in the timing of these two regulations, the CbC reporting requirement is unlikely to explain my findings for two reasons. First, existing studies find some evidence that the CbC requirement is effective in reducing tax avoidance (e.g., Joshi 2020). Because firms subject to the CbC regime are also subject to the U.K. tax strategy disclosure requirement, including CbC firms in the treated sample should only bias *in favor of* finding results that are consistent with the intended behavioral changes of the U.K. regulation. Yet, I *do not* find evidence compatible with treated firms reducing tax avoidance relative to control firms. Second, the U.K. had committed to adopting the CbC reporting regime when the HMRC proposed the U.K. tax strategy disclosure requirement (HMRC 2015b). However, the HMRC views the CbC regime as “an additional risk-assessing tool for tax administrations” (HMRC 2015b, p.12), whereas it considers the U.K. tax strategy disclosure requirement “separate to, and distinct from, the OECD’s country-by-country reporting model” (HMRC 2015b, p.13). Thus, these two disclosure regimes are inherently different.

Nevertheless, to empirically rule out any potential confounding effect of the CbC reporting regime, I exclude firms that are subject to the mandatory CbC reporting requirement from the sample and re-estimate equation (1). Table 8 presents results. Across all specifications, the coefficient estimates on the interaction terms are statistically insignificant, and the corresponding 95% confidence intervals include zero. These findings suggest that the CbC reporting requirement is unlikely to explain my primary results.

### **Robustness tests**

I conduct several robustness tests. First, some FTSE 50 firms had voluntarily disclosed information about their tax strategy prior to the regulation becoming effective (HMRC 2015b). Because a rational firm should only provide such disclosure on a voluntary basis if the disclosure costs are low, I do not expect tax-aggressive firms to do so prior to the disclosure mandate. That is, the existence of some voluntary disclosers prior to the regulation becoming effective should not prevent the regulation from changing the behavior of tax-aggressive firms, which are the target of the regulation. For robustness, I exclude treated firms that voluntarily provided similar disclosure in the pre-regulation period and re-estimate equation (1). Inferences are similar, which suggests that the rare existence of voluntary disclosure in the pre-regulation period does not explain the lack of changes in tax avoidance post-regulation.

Second, I re-estimate equation (1) using only firms that are required to provide the tax strategy disclosure starting in 2017 fiscal year and find similar results. These findings should alleviate the concern of biased estimates in a staggered difference-in-differences design (Baker et al. 2022). Finally, inferences are similar if I use long-run (i.e., three-year) ETR measures and exclude fiscal years where the ETR measurement window span both the pre- and post-regulation

periods. Taken together, these robustness tests suggest that the primary results are not attributable to the empirical proxies used or certain research design choices.

## **VI. EXPLORATORY ANALYSIS AND POLICY IMPLICATIONS**

### **Exploratory analysis**

The evidence thus far is largely inconsistent with the HMRC's expectation that the U.K. tax strategy disclosure will curb tax avoidance. In this section, I examine a few factors that could influence the effectiveness of the regulation. I consider these analyses exploratory in nature and acknowledge that the evidence is largely indirect. However, such evidence could potentially help explain the lack of empirical findings that firms reduce tax avoidance in response to the regulation.

#### *Information acquisition costs*

I first consider information acquisition costs. To replicate the experience of an average stakeholder (e.g., a consumer) who is interested in accessing firms' tax strategy disclosures, I hand collected treated firms' published disclosures from corporate websites. To allow for tractability in data collection, I focus on firms' initial tax strategy disclosures. I first search the term "tax strategy" on a treated firm's corporate website. If the initial search is unsuccessful, I switch to Google searches using firm name plus the term "tax strategy" to locate the disclosure.<sup>13</sup> Out of the 458 treated firms in the regression sample, I am able to obtain initial tax strategy disclosures for only 204 firms. Nearly all firms publish their tax strategy on the corporate website, but these disclosures are published in various sections of the corporate website such as the "sustainability" section or the "investor relations" page. The complex search process and relatively low success rate in locating the published disclosures echo the concern that the lack of

---

<sup>13</sup> Where necessary, I also use Wayback Machine to retrieve previously published tax strategy disclosures that are no longer available on the corporate website.

a common repository for firms' tax strategy disclosures likely impose nontrivial information acquisition costs on stakeholders who might be interested in accessing these disclosures.

### *Disclosure characteristics*

The HMRC believes that a “principles-based” disclosure approach allows for maximum information and qualitative disclosures can be informative about firm’s tax practices. Motivated by the regulator’s expectation that firms’ disclosures could reveal their type, I next explore the information content and characteristics of firms’ tax strategy disclosures. Using the 204 hand-collected disclosures, I find that firms disclose 3.37 out of the four required components on average, suggesting a high level of compliance. Nearly all firms disclose information about tax risk management (99 percent), attitude toward tax planning (96 percent), and the approach to dealing with the HMRC (93 percent). At the mean, firms’ disclosures contain about 899 words, but the length of the disclosures ranges between 294 and 3,862 words (untabulated), suggesting significant variations in the amount of information disclosed.

Interestingly, only 49 percent of the firms explicitly disclosed tax risk appetite. The lower compliance rate of the tax risk appetite disclosure is indicative of this disclosure component being costlier than the other three mandatory disclosure components, and it is consistent with a potential separating equilibrium where only firms with a low tax risk appetite will make such statement publicly. Thus, a lack of disclosure of this component should be an indicator of firms’ tolerance for aggressive tax practices under a mandatory disclosure regime. To examine whether the existence of (or lack thereof) tax risk appetite disclosure is associated with changes in firms’ tax avoidance, I re-estimate equation (2) after partitioning treated firms based on whether they explicitly disclosed tax risk appetite. If the public understands the implications of firms’ disclosure choices related to the tax risk appetite component, I expect that firms not disclosing tax risk



appetite (*NoDisc\_RiskAppt*) will attract greater public scrutiny and thus, are more likely to change behavior than firms providing this disclosure.

Table 9 presents results. In both columns (1) and (2), where *ETR* is the measure of tax avoidance, the coefficient estimates on the interaction terms are statistically insignificant. I confirm that the 95% confidence intervals for the coefficient estimates of interest include zero in both specifications, and the magnitude of the largest estimated effect appears small. For instance, the UB of the 95% confidence interval for the coefficient estimate of interest in column (2) is 0.012, or 8.58% (6.04%) of the mean (standard deviation) of the dependent variable. Inferences are similar in columns (3) and (4), where *CETR* is the measure of tax avoidance. In fact, in all columns, the coefficient estimates on the interaction terms are negative and opposite to the predicted effect of the regulation. Taken together, these statistics are mostly compatible with no differential changes in tax avoidance conditioned on firms' disclosure choices related to tax risk appetite, which should provide information about firms' type.

### **Policy implications**

This study provides empirical evidence on the effectiveness of the U.K. tax strategy disclosure requirement in curbing tax avoidance. Such evidence should be of interest to the HMRC in assessing the design of this specific regulation. More importantly, findings of this study have broader policy implications beyond this U.K. regulation itself. First, the U.K. tax strategy disclosure requirement is the first mandatory, public disclosure initiative that seeks qualitative information solely about firms' tax practices. Since its implementation, several other countries such as Australia, Spain, and Denmark have introduced similar disclosure initiatives (Australian Taxation Office 2018; KPMG 2021). In 2019, the GRI standards incorporated a tax topic into its sustainability reporting framework; this new topic requires tax strategy disclosure similar to the

U.K. regulation (GRI 2019). As the demand for public, qualitative disclosure about firms' tax practices continues to increase, findings of this study should be of interest to regulators, policymakers, and standard setters worldwide who are interested in similar disclosure regimes.

Second, this study complements existing research on tax disclosure initiatives that are intended to curb tax avoidance. Among those, researchers find some promising evidence that the CbC reporting, a private disclosure initiative implemented in the U.K. around the same time period as the tax strategy disclosure requirement, is effective in reducing tax avoidance and has real effects on firms' capital and labor investments (e.g., Joshi 2020; De Simone and Olbert 2022). Although I am unable to directly compare the effects of these two disclosure initiatives, the collective evidence at least suggests that a public, qualitative tax disclosure initiative may not have enough "teeth" in changing firms' tax avoidance. Given that regulators and firms face resource constraints, regulators should consider whether introducing a less effective disclosure requirement may potentially "crowd out" more effective solutions.

Finally, findings about this public, qualitative tax disclosure initiative could also be of interest to non-tax disclosure initiatives that seek qualitative information such as the recently proposed ESG disclosure requirement. For example, my findings could indicate that regulators should consider how specific design choices, such as using a "principles-based" versus a "rule-based" disclosure approach as well as target stakeholder groups and their information acquisition costs, could influence the effectiveness of the regulation in achieving its objective.

## **VII. CONCLUSION**

In 2016, the U.K. government passed a regulation requiring large businesses to publicly disclose their tax strategy. The HMRC expects these mandatory disclosures to attract public scrutiny of firms' tax practices, which in turn will curb corporate tax avoidance (HMRC 2015b).

Motivated by a growing demand for greater tax transparency worldwide and the rising interests in using tax disclosures to curb tax avoidance, this study examines whether the U.K. tax strategy disclosure requirement is effective in achieving its objective. Using a difference-in-differences design and a series of within-treatment, cross-sectional test, my findings are mostly compatible with the regulation not having a significant impact on firms' tax avoidance. These findings are largely inconsistent with the HMRC's belief that the U.K. tax strategy disclosure requirement – at least in its current design – will be effective in curbing tax avoidance. To my knowledge, this study is among the first to examine a public, qualitative tax disclosure requirement. Findings of this study should inform regulators in evaluating the effectiveness of similar disclosure initiatives.

This study is subject to three limitations. First, I only examine change in tax avoidance, which is the stated objective, as a consequence of the regulation. Thus, this study alone cannot draw conclusions about the net benefits (costs) of the regulation. Second, this study examines U.K. publicly traded corporations. Thus, findings of this study cannot speak to whether results will generalize to non-U.K. multinational firms, private firms, or non-corporate entities affected by this regulation. Finally, estimating statistically insignificant changes in tax avoidance among firms that are subject to the regulation does not constitute definitive evidence that the intended behavioral changes do not exist. Instead, I can only conclude that the collective evidence in this study is mostly compatible with the regulation not being effective in curbing tax avoidance.

## REFERENCES

- Adams, J. R., E. Demers, and K. J. Klassen. 2022. "Tax aggressive behavior and voluntary tax disclosure: Evidence from corporate sustainability reporting." *Working paper*. Available at SSRN: <https://doi.org/10.2139/ssrn.4284813>.
- Armstrong, C., J. D. Kepler, D. Samuels, and D. Taylor. 2022. "Causality redux: The evolution of empirical methods in accounting research and the growth of quasi-experiments." *Journal of Accounting and Economics* 74 (2): 101521, <https://doi.org/10.1016/j.jacceco.2022.101521>.
- Austin, C. R., and R. J. Wilson. 2017. "An examination of reputational costs and tax avoidance: Evidence from firms with valuable consumer brands." *Journal of the American Taxation Association* 39 (1): 67–93, <https://doi.org/10.2308/atax-51634>.
- Australian Taxation Office. 2018. "Tax transparency: reporting of entity tax information," <https://www.ato.gov.au/Business/Large-business/In-detail/Tax-transparency/Tax-transparency--reporting-of-entity-tax-information/>.
- Baker, A. C., D. F. Larcker, and C. C. Y. Wang. 2022. "How much should we trust staggered difference-in-differences estimates?" *Journal of Financial Economics* 144 (2): 370–95, <https://doi.org/10.1016/j.jfineco.2022.01.004>.
- Belnap, A. 2022. "The effect of intermediary coverage on disclosure: Evidence from a randomized field experiment." *Journal of Accounting and Economics*, July, 101522, <https://doi.org/10.1016/j.jacceco.2022.101522>.
- Bilicka, K. A., E. Casi, C. Seregini, and B. Stage. 2022. "Tax strategy disclosure: A greenwashing mandate." *Working Paper 21–047*. ZEW Discussion Papers, <https://www.econstor.eu/handle/10419/260881>.
- Bozanic, Z., J. L. Hoopes, J. R. Thornock, and B. M. Williams. 2017. "IRS Attention." *Journal of Accounting Research* 55 (1): 79–114, <https://doi.org/10.1111/1475-679X.12154>.
- Cattaneo, M. D., N. Idrobo, and R. Titiunik. 2019. "A practical introduction to regression discontinuity designs: Foundations." *Elements in Quantitative and Computational Methods for the Social Sciences*, November, <https://doi.org/10.1017/9781108684606>.
- Chen, Shannon. 2017. "Do investors value corporate tax return information? Evidence from Australia." Doctoral Dissertation, University of Texas at Austin, <https://doi.org/10.15781/T2QZ23064>.
- Chen, Shannon, K. Schuchard, and B. Stomberg. 2019. "Media coverage of corporate taxes." *The Accounting Review* 94 (5): 83–116, <https://doi.org/10.2308/accr-52342>.
- Chen, Shuping, X. Chen, Q. Cheng, and T. Shevlin. 2010. "Are family firms more tax aggressive than non-family firms?" *Journal of Financial Economics* 95 (1): 41–61, <https://doi.org/10.1016/j.jfineco.2009.02.003>.
- Chi, S., A. Persson, T. Shevlin, and O. Urcan. 2023. "The deterrence effect of cross-border monitoring: Evidence from EDGAR search activity by foreign tax authorities." *Working Paper*.
- Cready, W. M., J. He, W. Lin, C. Shao, D. Wang, and Y. Zhang. 2022. "Is there a confidence interval for that? A critical examination of null outcome reporting in accounting research." *Behavioral Research in Accounting* 34 (1): 43–72, <https://doi.org/10.2308/BRIA-2020-033>.
- De Simone, L., C. McClure, and B. Stomberg. 2022. "Examining the effects of the Tax Cuts and Jobs Act on executive compensation." *Contemporary Accounting Research* 39 (4): 2376–2408, <https://doi.org/10.1111/1911-3846.12801>.

- De Simone, L., and M. Olbert. 2022. “Real effects of private country-by-country disclosure.” *The Accounting Review* 97 (6): 201–32, <https://doi.org/10.2308/TAR-2020-0714>.
- De Simone, L., B. Stomberg, and B. Williams. 2023. “Does tax enforcement disparately affect domestic versus multinational corporations around the world?” *Contemporary Accounting Research* Forthcoming, <https://doi.org/10.1111/1911-3846.12900>.
- Dyreng, S. D., M. Hanlon, and E. L. Maydew. 2008. “Long-run corporate tax avoidance.” *The Accounting Review* 83 (1): 61–82, <https://doi.org/10.2308/accr.2008.83.1.61>.
- Dyreng, S. D., J. L. Hoopes, and J. H. Wilde. 2016. “Public pressure and corporate tax behavior.” *Journal of Accounting Research* 54 (1): 147–86, <https://doi.org/10.1111/1475-679X.12101>.
- Dyreng, S. D., and B. P. Lindsey. 2009. “Using financial accounting data to examine the effect of foreign operations located in tax havens and other countries on U.S. multinational firms’ tax rates.” *Journal of Accounting Research* 47 (5): 1283–1316, <https://doi.org/10.1111/j.1475-679X.2009.00346.x>.
- Elliott, C. B. 2022. “Tax as a component of ESG.” *Forbes*, October 12, 2022, <https://www.forbes.com/sites/taxnotes/2022/10/20/tax-as-a-component-of-esg/?sh=216c5f105155>.
- Finance Act. 2016. “Finance Act 2016,” [http://www.legislation.gov.uk/ukpga/2016/24/pdfs/ukpga\\_20160024\\_en.pdf](http://www.legislation.gov.uk/ukpga/2016/24/pdfs/ukpga_20160024_en.pdf).
- Fox, Z. D., and R. Wilson. 2023. “Double trouble? IRS’s attention to financial accounting restatements.” *Review of Accounting Studies* 28 (4): 2002–38, <https://doi.org/10.1007/s11142-022-09680-6>.
- Gallemore, J., E. L. Maydew, and J. R. Thornock. 2014. “The reputational costs of tax avoidance.” *Contemporary Accounting Research* 31 (4): 1103–33, <https://doi.org/10.1111/1911-3846.12055>.
- Graham, J. R., M. Hanlon, T. Shevlin, and N. Shroff. 2014. “Incentives for tax planning and avoidance: Evidence from the field.” *The Accounting Review* 89 (3): 991–1023.
- Graham, J. R., J. S. Raedy, and D. A. Shackelford. 2012. “Research in accounting for income taxes.” *Journal of Accounting and Economics* 53 (1): 412–34, <https://doi.org/10.1016/j.jacceco.2011.11.006>.
- GRI. 2019. “GRI 207: Tax 2019,” <https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/>.
- Gupta, S., and K. Newberry. 1997. “Determinants of the variability in corporate effective tax rates: Evidence from longitudinal data.” *Journal of Accounting and Public Policy* 16 (1): 1–34, [https://doi.org/10.1016/S0278-4254\(96\)00055-5](https://doi.org/10.1016/S0278-4254(96)00055-5).
- Hanlon, M., and J. Slemrod. 2009. “What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement.” *Journal of Public Economics* 93 (1): 126–41, <https://doi.org/10.1016/j.jpubeco.2008.09.004>.
- Hasegawa, M., J. L. Hoopes, R. Ishida, and J. Slemrod. 2013. “The effect of public disclosure on reported taxable income: Evidence from individuals and corporations in Japan.” *National Tax Journal* 66 (3): 571–607, <https://doi.org/10.17310/ntj.2013.3.03>.
- HMRC. 2015a. “Exploring large business tax strategy behaviour,” [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/444898/HMRC\\_Research\\_Report\\_363\\_-\\_Exploring\\_Large\\_Business\\_Tax\\_Behaviours.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/444898/HMRC_Research_Report_363_-_Exploring_Large_Business_Tax_Behaviours.pdf).

- HMRC. 2015b. “Improving large business tax compliance: Consultation document,” [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/447313/Improving\\_Large\\_Business\\_Tax\\_Compliance.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/447313/Improving_Large_Business_Tax_Compliance.pdf).
- HMRC. 2015c. “Improving large business tax compliance: Summary of responses,” [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/484117/Improving\\_Large\\_Business\\_Tax\\_Compliance\\_-\\_summary\\_of\\_responses\\_M-7501-02\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/484117/Improving_Large_Business_Tax_Compliance_-_summary_of_responses_M-7501-02_.pdf).
- HMRC. 2016a. “HMRC internal manual: Tax compliance risk management,” <https://www.gov.uk/hmrc-internal-manuals/tax-compliance-risk-management/term3345>.
- HMRC. 2016b. “Publish your large business tax strategy,” <https://www.gov.uk/guidance/large-businesses-publish-your-tax-strategy>.
- HMRC. 2019. “HMRC internal manual: International exchange of information manual,” <https://www.gov.uk/hmrc-internal-manuals/international-exchange-of-information/ieim300021>.
- Hoopes, J. L., L. Robinson, and J. Slemrod. 2018. “Public tax-return disclosure.” *Journal of Accounting and Economics* 66 (1): 142–62, <https://doi.org/10.1016/j.jacceco.2018.04.001>.
- Hoopes, J. L., L. Robinson, and J. Slemrod. 2023. “Corporate Tax Disclosure.” *Working Paper*. National Bureau of Economic Research, <https://doi.org/10.3386/w31467>.
- Hope, O.-K., M. (Shuai) Ma, and W. B. Thomas. 2013. “Tax avoidance and geographic earnings disclosure.” *Journal of Accounting and Economics* 56 (2): 170–89, <https://doi.org/10.1016/j.jacceco.2013.06.001>.
- Houlder, V., and J. Thompson. 2012. “Starbucks faces boycott calls over tax affairs.” *Financial Times*, October 17, 2012, <https://www.ft.com/content/5cd14dcc-187f-11e2-8705-00144feabdc0>.
- Inger, K. K., M. D. Meckfessel, M. (Jamie) Zhou, and W. (Patrick) Fan. 2018. “An examination of the impact of tax avoidance on the readability of tax footnotes.” *Journal of the American Taxation Association* 40 (1): 1–29, <https://doi.org/10.2308/atax-51812>.
- Joshi, P. 2020. “Does private Country-by-Country reporting deter tax avoidance and income shifting? Evidence from BEPS action item 13.” *Journal of Accounting Research* 58 (2): 333–81, <https://doi.org/10.1111/1475-679X.12304>.
- Kantar. 2017. “Top 50 most valuable U.K. brands 2017,” [https://brandz.com/admin/uploads/files/BZ\\_Top\\_50\\_UK\\_Report\\_DL.pdf](https://brandz.com/admin/uploads/files/BZ_Top_50_UK_Report_DL.pdf).
- Kantar. 2018. “Top 75 most valuable U.K. brands 2018,” [https://brandz.com/admin/uploads/files/UK\\_Report\\_2018\\_Final.pdf](https://brandz.com/admin/uploads/files/UK_Report_2018_Final.pdf).
- Kays, A. 2022. “Voluntary disclosure responses to mandated disclosure: Evidence from Australian corporate tax transparency.” *The Accounting Review* 97 (4): 317–44, <https://doi.org/10.2308/TAR-2018-0262>.
- KPMG. 2021. “ESG tax transparency: The global journey,” <https://home.kpmg/xx/en/home/insights/2021/12/esg-tax-transparency-the-global-journey.html>.
- Lee, D. S., and T. Lemieux. 2010. “Regression discontinuity designs in economics.” *Journal of Economic Literature* 48 (2): 281–355, <https://doi.org/10.1257/jel.48.2.281>.
- Leuz, C. 2010. “Different approaches to corporate reporting regulation: How jurisdictions differ and why.” *Accounting and Business Research* 40 (3): 229–56, <https://doi.org/10.1080/00014788.2010.9663398>.

- Maynard, P., and H. Watt. 2016. "David Cameron's adviser feared Panama Papers would end boss's career." *The Guardian*, October 20, 2016, <https://www.theguardian.com/politics/2016/oct/20/david-camerons-adviser-feared-panama-papers-would-end-bosss-career>.
- Neville, S., and J. Treanor. 2012. "Starbucks to pay £20m in tax over next two years after customer revolt." *The Guardian*, December 6, 2012, <https://www.theguardian.com/business/2012/dec/06/starbucks-to-pay-10m-corporation-tax>.
- Pegg, D. 2017. "Tax avoidance by big firms is morally wrong, say nine out of 10 in U.K." *The Guardian*, November 27, 2017, <https://www.theguardian.com/business/2017/nov/27/tax-avoidance-by-big-firms-is-morally-wrong-say-nine-out-of-10-in-uk>.
- PwC. 2022. "Tax is a crucial part of the ESG conversation," <https://www.pwc.com/gx/en/services/tax/publications/tax-is-a-crucial-part-of-esg-reporting.html>.
- Rego, S. O. 2003. "Tax-avoidance activities of U.S. multinational corporations." *Contemporary Accounting Research* 20 (4): 805–33, <https://doi.org/10.1506/VANN-B7UB-GMFA-9E6W>.
- Rego, S. O., B. M. Williams, and R. J. Wilson. 2020. "Does corporate tax avoidance reduce individual investors' willingness to own stock?" *Working paper*, <https://doi.org/10.2139/ssrn.2919004>.
- Spence, M. 1973. "Job market signaling." *The Quarterly Journal of Economics* 87 (3): 355–74, <https://doi.org/10.2307/1882010>.
- U.K. Parliament. 2016. "Bill stages - Finance Act 2016," <https://services.parliament.uk/Bills/2016-17/finance/stages.html>.
- Verrecchia, R. E. 1983. "Discretionary disclosure." *Journal of Accounting and Economics* 5 (January): 179–94, [https://doi.org/10.1016/0165-4101\(83\)90011-3](https://doi.org/10.1016/0165-4101(83)90011-3).

## Appendix A: Examples of U.K. Tax Strategy Disclosures

This appendix includes two illustrative examples of the U.K. tax strategy disclosures.

### *Example One*

Below is the initial tax strategy disclosure by Travis Perkins PLC, a retailer of building and home improvement materials. Travis Perkins PLC is a FTSE 250 firm listed on the London Stock Exchange. The following disclosure can be accessed via the link below:

<https://www.travisperkinsplc.co.uk/~media/Files/T/Travis-Perkins/group-tax-strategy-november-2017.pdf>

#### **Tax Strategy**

##### **Scope**

The Group is headquartered in the UK. The vast majority of the Group's operations are UK based, with only four small overseas subsidiaries.

This strategy applies to Travis Perkins plc and to the group of companies headed by Travis Perkins plc in accordance with paragraph 16 of Schedule 19 to the Finance Act 2016. A list of the entities to which it applies is set out below. In this strategy, references to 'Travis Perkins plc' and "the group" are to all these entities.

This strategy applies from the date of publication until it is superseded. References to 'UK Taxation' are to the taxes and duties set out in paragraph 15(1) of the Schedule which include Income Tax, Corporation Tax, PAYE, NIC, VAT, Insurance Premium Tax, and Stamp Duty Land Tax. References to 'tax', 'taxes' or 'taxation' are to UK taxation and to all corresponding worldwide taxes and similar duties in respect of which the Group has legal responsibilities.

##### **Aim**

The Group pays in its own right, and collects from third parties on behalf of the Government, substantial amounts of UK tax and these are remitted to the UK exchequer as they fall due.

The Group's objectives in managing and controlling its tax affairs and related tax risks are to:

- Ensure compliance with all applicable rules, regulations and disclosure requirements under which the Group operates;
- Develop and maintain an open and co-operative relationship with the tax authorities it deals with.
- Be transparent about its dealings with these tax authorities;
- Pay the correct amount of tax as it falls due;
- Maintain appropriate systems, processes and controls to ensure the correct calculation and recording of tax liabilities and receivables;
- Protect its reputation as a responsible UK tax payer; and
- Protect its ability to service government contracts when such opportunities arise.

##### **Governance**

The Board is responsible for the Group's tax strategy and policies and has delegated responsibility for their implementation within the Group to the Group's Chief Financial Officer (CFO). As part of the annual financial reporting process the CFO, who is also the Group's Senior Accounting Officer, reports to the Board of Directors on the Group's compliance with its tax strategy, policies and on its tax position.

Every six months the Audit Committee receives an update on the status of the Group's tax position, its effective tax rate, tax provisions and key tax issues to ensure it is fully informed of tax developments and issues affecting the Group.

##### **Tax risk management**

Tax risks are assessed as part of the Group's formal governance process and are reviewed by the CFO and reported to the Audit Committee and Board on a regular basis.

Significant tax risks, implications arising from these risks and potential mitigating actions are considered by the Group Board in line with the Group's governance process.



## Appendix A: Examples of U.K. Tax Strategy Disclosures (continued)

### *Example One (continued)*

The Group's governance structure requires that specialist third party technical advice is obtained on any significant tax treatments before the Board of Directors authorises the tax position to be adopted by the Group.

The systems used to determine tax liabilities are subject to regular review by the Internal Audit Department whilst the external auditors undertake a review of the Group's corporation tax provisions as part of the annual statutory audit. HMRC periodically reviews aspects of the Group's systems which the Group welcomes as it provides further assurance that tax is being paid as it falls due.

#### **Approach to Tax Planning and Level of Risk**

The Group seeks to protect its reputation as a responsible corporate citizen by ensuring that it acts in accordance with the letter and the spirit of current tax legislation so that it pays the right amount of tax when it falls due.

The level of risk which the Group accepts in relation to UK taxation is consistent with its overall objective of achieving certainty in the group's tax affairs. In relation to any specific issue or transaction, the Board is ultimately responsible for identifying the risks, including tax risks, which need to be addressed and for determining what actions should be taken to manage those risks, having regard to the materiality of the amounts and obligations in question. The Group considers that it has a low risk appetite in relation to tax matters.

#### **Relationships with the Tax Authorities**

The Group's policy is to deal with all tax authorities in an open, professional and mutually respectful manner. The Group employs professional advisors to assist it with complex areas of its tax affairs and to deal with the tax authorities in the overseas jurisdictions in which it operates.

Tax legislation is complicated and can be difficult to interpret. As a result it can take time to reach an agreed position with the tax authorities. The Group aims to work collaboratively with the tax authorities to achieve certainty of its tax position and to resolve open tax enquiries and disputes as rapidly as possible, whilst recognising its responsibility to protect the interests of its stakeholders.

The Group meets with HMRC annually to discuss the Group's risk rating and ensure it is being maintained at a suitable level.

In large businesses governed by complex tax legislation, adjustments are occasionally discovered by the Group to the amount of tax previously paid. In these circumstances the Group's policy is to inform HMRC and promptly pay any tax due or reclaim any tax refund.

#### **Further information**

The Group's approach to tax applies to all entities in the Group and to all transactions it enters into with third parties outside the Group. The Group's tax strategy is reviewed and updated annually as appropriate.


Approved by: Alan Williams, CFO  
On behalf of the Board of Directors of Travis Perkins plc  
Date: 06 November 2017

## Appendix A: Examples of U.K. Tax Strategy Disclosures (continued)

### *Example Two*

Below is the initial tax strategy disclosure by Marshalls PLC, a manufacturer of home improvement and landscaping products. Marshalls PLC is a FTSE 250 firm listed on the London Stock Exchange. The following disclosure can be accessed via the link below:

<https://www.marshalls.co.uk/documents/policies/taxpolicystatement.pdf>



**Marshalls**


**Tax Policy Statement**

Marshalls aims to pay its fair share of tax and to do so within the spirit of the law. Marshalls believes it is fair to mitigate the company's tax in a fair way using generally available reliefs, but without using aggressive tax avoidance schemes.

The Board of Marshalls has set out that Marshalls;

- will pay the right amount of tax in accordance with relevant statute and case law.
- will pay tax and make all returns on a timely basis, across all taxes.
- aims to have a good working relationship with HMRC and will liaise with the Group's CRM (Customer Relationship Manager) when relevant.
- will not use aggressive tax planning or enter into complicated tax avoidance schemes.
- will not use tax havens or inappropriately shift profits between tax jurisdictions.

The Board will review this policy annually to ensure that it is complied with.



**Jack Clarke**  
Group Finance Director  
3 November 2017

## Appendix B: Variable Definitions

Variable Name	Definition
<b><u>Difference-in-differences Variables</u></b>	
<i>Capex</i>	Capital expenditures [CAPX] scaled by total assets [AT]. This variable is reset to zero if the numerator is missing.
<i>CETR</i>	One-year cash effective tax rate, calculated as cash taxes paid [TXPD] scaled by pretax income before special items. Special items are reset to zero if missing. This variable is reset to missing if the denominator is non-positive, and the value is winsorized at zero and one.
<i>ETR</i>	One-year book effective tax rate, calculated as income tax expense [TXT] scaled by pretax income before special items [PI - SPI]. Special items are reset to zero if missing. This variable is reset to missing if the denominator is non-positive, and the value is winsorized at zero and one.
<i>Intangible</i>	Intangibles [INTAN] scaled by total assets. This variable is reset to zero if the numerator is missing.
<i>Inventory</i>	Inventory [INVT] scaled by total assets. This variable is reset to zero if the numerator is missing.
<i>Leverage</i>	Long-term debt [DLTT] scaled by total assets. This variable is reset to zero if the numerator is missing.
<i>Loss</i>	Indicator variable set to equal one if a firm reports pretax loss before special items [PI – SPI < 0] in any of the past three years (i.e., $t-3$ to $t-1$ ), and zero otherwise.
<i>Post</i>	Indicator variable set to equal one for fiscal years beginning after September 15, 2016, when the U.K. tax strategy disclosure requirement became effective, and zero otherwise.
<i>PPE</i>	Property, plant and equipment [PPENT] scaled by total assets. This variable is reset to zero if the numerator is missing.
<i>R&amp;D</i>	Research and development expense [XRD] scaled by total assets. This variable is reset to zero if the numerator is missing.
<i>ROA</i>	Pretax income [PI] scaled by total assets.
<i>Size</i>	Natural log of one plus total assets measured in U.S. dollars. If total assets are stated in a currency other than U.S. dollars, I use the exchange rate on the last day of the month in which the firm's fiscal year ends for conversion. Exchange rates are obtained from the Federal Reserve Bank and OANDA website.
<i>Treat</i>	Indicator variable set to equal one if the firm meets at least one disclosure threshold, and zero otherwise.
<b><u>Cross-sectional Variables</u></b>	
<i>Brand</i>	Indicator variable set to equal one if a firm owns at least one brand listed in the 2017 U.K. Top 50 or 2018 U.K. Top 75 most valuable brands published by Kantar Millward Brown, and zero otherwise. <i>Source: Kantar Millward Brown</i>

## Appendix B: Variable Definitions (continued)

### Cross-sectional Variables (continued)

<i>Brand_House</i>	Indicator variable set to equal one if a firm owns a valuable brand and adopts a “houses of brands” strategy (Austin and Wilson 2017), and zero otherwise.
<i>Brand_Other</i>	Indicator variable set to equal one if a firm owns a valuable brand and adopts either a “corporate branding” or a “mixed branding” strategy (Austin and Wilson 2017), and zero otherwise.
<i>Haven_Sub</i>	Indicator variable set to equal one if a firm has at least one subsidiary in a tax haven country, and zero otherwise. <i>Source: Bureau van Dijk</i>

### Other Variables

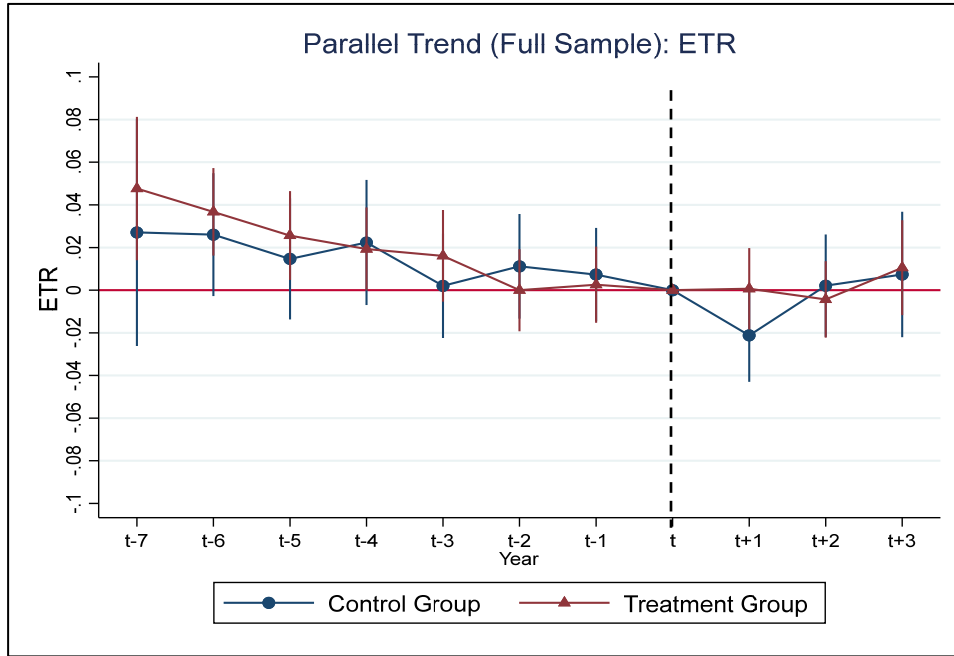
<i>NoDisc_RiskAppt</i>	Indicator variable set to equal one if a firm discloses tax risk appetite in its U.K. tax strategy disclosure, and zero otherwise. <i>Source: Hand collected data</i>
<i>RV_Turnover</i>	The difference between firm’s total turnover in the year immediately prior to the regulation becoming effective and the £200 million disclosure threshold.

---

All variables are constructed using Compustat Global unless stated otherwise. Data items are listed in square brackets. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentile unless stated otherwise.

**Figure 1: Tax Avoidance by Year**

**Panel A: ETR as the measure of tax avoidance**



**Panel B: CETR as the measure of tax avoidance**

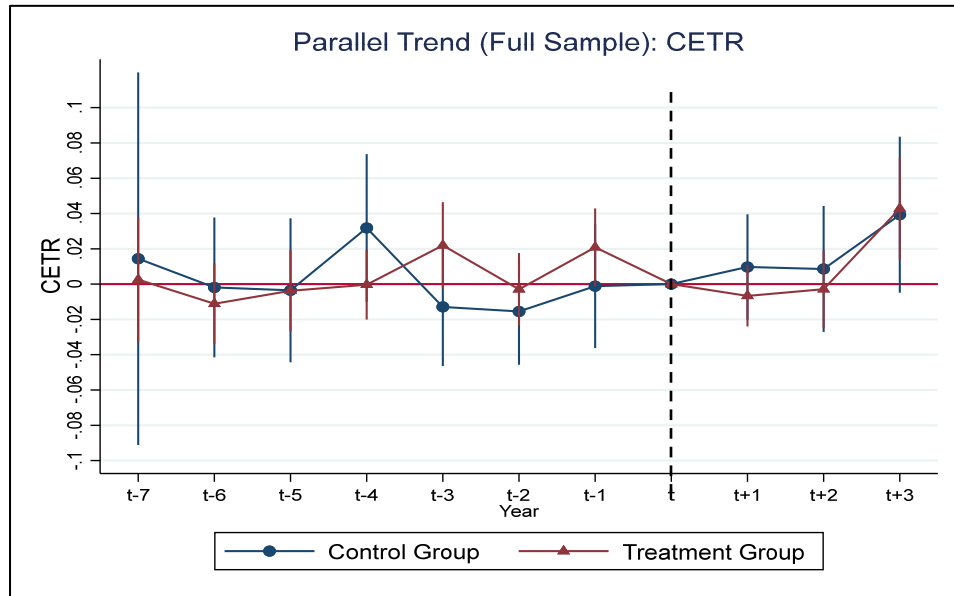
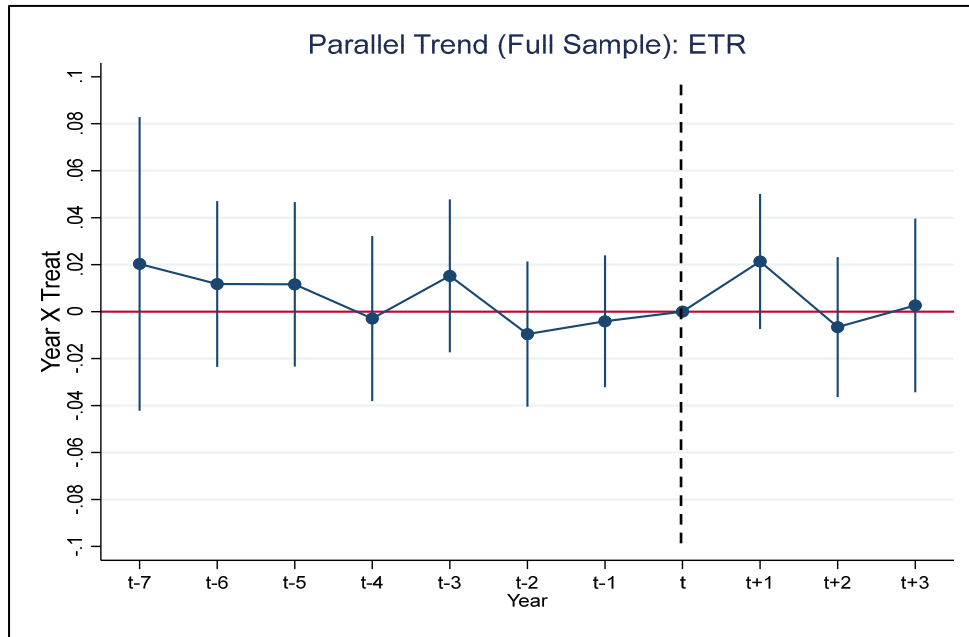


Figure 1 plots the level of tax avoidance by year separately for treated and control firms. In Panel A (Panel B), the measure of tax avoidance is *ETR* (*CETR*). In both panels, year *t* serves as the benchmark and represents the year immediately prior to the U.K. tax strategy disclosure requirement becoming effective. The vertical axis represents the incremental amount of *ETR* and *CETR* in a specific year to the value in year *t*. Appendix B provides detailed variable definitions.

**Figure 2: Coefficient Estimates Plot for the DiD Regression**

**Panel A: ETR as the measure of tax avoidance**



**Panel B: CETR as the measure of tax avoidance**

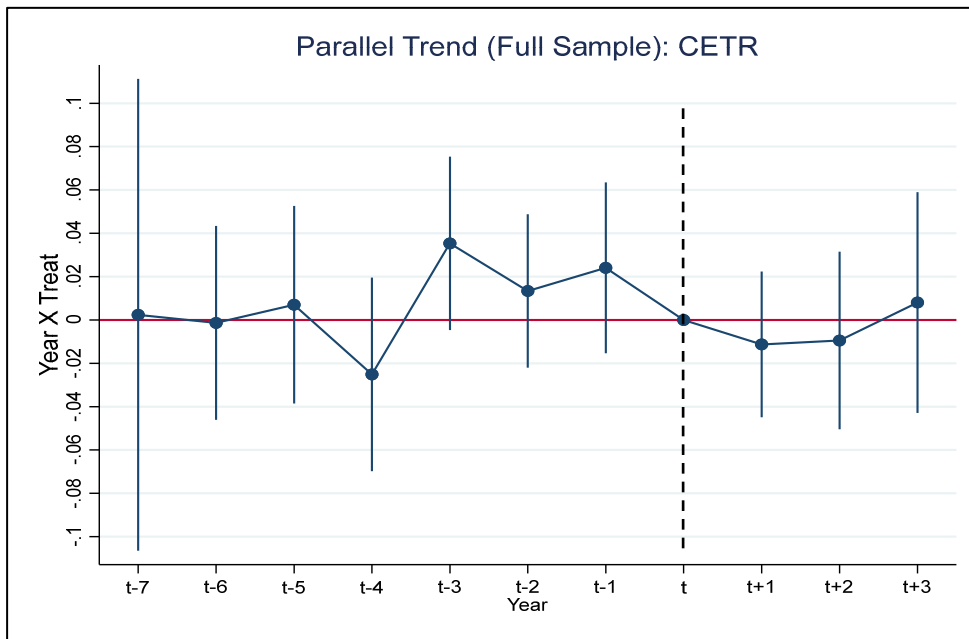


Figure 2 plots coefficient estimates on the interaction terms in Table 3, Panel B. Panel A corresponds to regression results in column (1) and Panel B corresponds to regression results in column (2). In both panels, year  $t$  serves as the benchmark and represents the year immediately prior to the U.K. tax strategy disclosure requirement becoming effective. Appendix B provides detailed variable definitions.

**Table 1: Sample Selection**

	<b># Obs.</b>	<b># Firms</b>
<b>U.K.-incorporated, non-subsidiary firms listed on the London Stock Exchange from 2010 to 2019</b>	17,987	2,334
Less:		
Mutual funds	(2,161)	(264)
Investment entities within the same group	(245)	(29)
Missing control variables	(1,564)	(87)
Missing <i>ETR</i>	(5,544)	(517)
Not present in both the pre- and post-regulation periods	(1,553)	(573)
<b>Main sample</b>	<b>6,920</b>	<b>864</b>
<b>Sample using <i>CETR</i></b>	<b>5,080</b>	<b>624</b>

Table 1 provides detailed sample selection procedure to create the sample used to estimate equation (1) under the difference-in-differences design (“DiD sample”). Sample size for the cross-sectional tests is reduced and varies based on the availability of the cross-sectional variables.

**Table 2: Descriptive Statistics – DiD Design****Panel A: Pooled sample**

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>StdDev</b>	<b>Min</b>	<b>P25</b>	<b>P50</b>	<b>P75</b>	<b>Max</b>
<i>Treat</i>	6,920	0.520	0.500	0.000	0.000	1.000	1.000	1.000
<i>Post</i>	6,920	0.303	0.459	0.000	0.000	0.000	1.000	1.000
<i>ETR</i>	6,920	0.192	0.168	0.000	0.086	0.188	0.250	1.000
<i>CETR</i>	5,080	0.214	0.182	0.000	0.108	0.188	0.265	1.000
<i>Size</i>	6,920	6.173	2.398	1.577	4.440	5.969	7.718	13.266
<i>Leverage</i>	6,920	0.139	0.161	0.000	0.000	0.084	0.227	0.692
<i>Intangible</i>	6,920	0.219	0.233	0.000	0.010	0.127	0.384	0.814
<i>Inventory</i>	6,920	0.086	0.140	0.000	0.000	0.019	0.122	0.761
<i>R&amp;D</i>	6,920	0.013	0.032	0.000	0.000	0.000	0.007	0.174
<i>PPE</i>	6,920	0.187	0.231	0.000	0.016	0.086	0.279	0.899
<i>Capex</i>	6,920	0.030	0.039	0.000	0.002	0.015	0.041	0.194
<i>ROA</i>	6,920	0.082	0.088	-0.137	0.028	0.063	0.116	0.445
<i>Loss</i>	6,920	0.188	0.391	0.000	0.000	0.000	0.000	1.000

**Panel B: Treated vs. control firms**

<b>Variable</b>	<b><i>Treat = 0</i></b>			<b><i>Treat = 1</i></b>			<b>Mean Diff</b>
	<b>N</b>	<b>Mean</b>	<b>P50</b>	<b>N</b>	<b>Mean</b>	<b>P50</b>	
<i>Post</i>	3,320	0.311	0.000	3,600	0.295	0.000	0.016
<i>ETR</i>	3,320	0.179	0.171	3,600	0.204	0.198	-0.025 ***
<i>CETR</i>	2,190	0.206	0.169	2,890	0.221	0.196	-0.015 ***
<i>Size</i>	3,320	4.354	4.395	3,600	7.854	7.593	-3.501 ***
<i>Leverage</i>	3,320	0.094	0.019	3,600	0.181	0.152	-0.087 ***
<i>Intangible</i>	3,320	0.218	0.112	3,600	0.219	0.138	-0.001
<i>Inventory</i>	3,320	0.074	0.008	3,600	0.097	0.031	-0.023 ***
<i>R&amp;D</i>	3,320	0.017	0.000	3,600	0.010	0.000	0.007 ***
<i>PPE</i>	3,320	0.158	0.051	3,600	0.214	0.130	-0.056 ***
<i>Capex</i>	3,320	0.026	0.011	3,600	0.033	0.022	-0.007 ***
<i>ROA</i>	3,320	0.088	0.066	3,600	0.077	0.062	0.011 ***
<i>Loss</i>	3,320	0.269	0.000	3,600	0.113	0.000	0.156 ***

Table 2 presents descriptive statistics for the DiD sample used to estimate equation (1). Panel A provides descriptive statistics for the pooled sample. Panel B provides select descriptive statistics separately for treated (*Treat = 1*) and control (*Treat = 0*) firms as well tests of differences in the mean. All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.



**Table 3: Changes in Tax Avoidance – DiD Design**

**Panel A: Regression results**

	Pred.	Dependent Variable =			
		<i>ETR</i>		<i>CETR</i>	
		(1)	(2)	(3)	(4)
<i>Post</i> × <i>Treat</i>	+	0.005 (0.54)	0.004 (0.42)	-0.014 (-1.09)	-0.014 (-1.07)
<i>Size</i>	+/-		0.002 (0.25)		0.004 (0.31)
<i>Leverage</i>	+/-		0.018 (0.51)		0.002 (0.05)
<i>Intangible</i>	-		0.002 (0.07)		0.010 (0.19)
<i>Inventory</i>	-		0.086 (0.83)		-0.098 (-0.81)
<i>R&amp;D</i>	-		-0.157 (-1.14)		-0.199 (-0.94)
<i>PPE</i>	-		0.123** (2.00)		0.059 (0.81)
<i>Capex</i>	-		-0.166 (-1.19)		0.103 (0.67)
<i>ROA</i>	+		0.082 (1.30)		-0.617*** (-8.12)
<i>Loss</i>	+/-		0.015 (1.46)		-0.017 (-1.12)
N.		6,920	6,920	5,080	5,080
Adjusted R <sup>2</sup>		0.293	0.295	0.285	0.321
Fixed Effects		Firm, Year	Firm, Year	Firm, Year	Firm, Year
Cluster		Firm	Firm	Firm	Firm

Table 3, Panel A presents results of estimating equation (1). *Post* is an indicator variable set to equal one for years after the U.K. tax strategy disclosure requirement became effective. *Treat* is an indicator variable set to equal one for firms that are subject to the U.K. tax strategy disclosure requirement. All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. Firm and year fixed effects are included, and standard errors are clustered by firm. *t*-stats are reported in parentheses below the corresponding coefficient estimate. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.

**Table 3: Changes in Tax Avoidance – DiD Design (continued)**

**Panel B: Parallel trend assumption**

	Pred.	Dependent Variable =	
		<i>ETR</i> (1)	<i>CETR</i> (2)
<i>Year_t-7</i> × <i>Treat</i>	+/-	0.020 (0.64)	0.002 (0.04)
<i>Year_t-6</i> × <i>Treat</i>	+/-	0.012 (0.65)	-0.001 (-0.06)
<i>Year_t-5</i> × <i>Treat</i>	+/-	0.012 (0.65)	0.007 (0.30)
<i>Year_t-4</i> × <i>Treat</i>	+/-	-0.003 (-0.16)	-0.025 (-1.10)
<i>Year_t-3</i> × <i>Treat</i>	+/-	0.015 (0.92)	0.035* (1.73)
<i>Year_t-2</i> × <i>Treat</i>	+/-	-0.010 (-0.61)	0.013 (0.74)
<i>Year_t-1</i> × <i>Treat</i>	+/-	-0.004 (-0.29)	0.024 (1.20)
<i>Year_t+1</i> × <i>Treat</i>	+	0.021 (1.46)	-0.011 (-0.66)
<i>Year_t+2</i> × <i>Treat</i>	+	-0.007 (-0.43)	-0.009 (-0.45)
<i>Year_t+3</i> × <i>Treat</i>	+	0.003 (0.14)	0.008 (0.31)
Control Variables		Included	Included
N.		6,920	5,080
Adjusted R <sup>2</sup>		0.295	0.322
Fixed Effects		Firm, Year	Firm, Year
Cluster		Firm	Firm

Table 3, Panel B presents results of estimating equation (1) after replacing *Post* with indicators for individual years over the sample period. *Year\_t* serves as the benchmark and represents the year immediately prior to the U.K. tax strategy disclosure requirement becoming effective. All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. Firm and year fixed effects are included, and standard errors are clustered by firm. *t-stats* are reported in parentheses below the corresponding coefficient estimate. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.

**Table 4: Cross-Sectional Tests based on Brand Equity**

**Panel A: Tax avoidance and brand equity**

	Pred.	Dependent Variable =			
		<i>ETR</i>		<i>CETR</i>	
		(1)	(2)	(3)	(4)
<i>Post</i> × <i>Brand</i>	+	-0.025 (-1.13)	-0.020 (-0.90)	-0.008 (-0.33)	-0.014 (-0.61)
<i>Size</i>	+/-		0.006 (0.56)		0.030** (2.44)
<i>Leverage</i>	+/-		0.049 (1.05)		0.056 (1.14)
<i>Intangible</i>	-		0.001 (0.02)		-0.034 (-0.54)
<i>Inventory</i>	-		0.173 (1.50)		0.013 (0.09)
<i>R&amp;D</i>	-		0.074 (0.23)		-0.069 (-0.16)
<i>PPE</i>	-		0.118 (1.42)		0.036 (0.35)
<i>Capex</i>	-		-0.125 (-0.55)		0.128 (0.45)
<i>ROA</i>	+		0.245*** (2.61)		-0.552*** (-5.69)
<i>Loss</i>	+/-		0.029* (1.78)		-0.001 (-0.02)
N.		3,600	3,600	2,890	2,890
Adjusted R <sup>2</sup>		0.282	0.289	0.319	0.359
Fixed Effects		Firm, Year	Firm, Year	Firm, Year	Firm, Year
Cluster		Firm	Firm	Firm	Firm

Table 4, Panel A presents results of estimating equation (2) within the subsample of firms that are subject to the U.K. tax strategy disclosure (*Treat* = 1). The cross-sectional variable is *Brand*, which captures firms' ownership of (or lack thereof) valuable brand. All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. Firm and year fixed effects are included, and standard errors are clustered by firm. *t-stats* are reported in parentheses below the corresponding coefficient estimate. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.

**Table 4: Cross-Sectional Tests based on Brand Equity (continued)**

**Panel B: Decomposing branding strategy**

	Pred.	Dependent Variable =			
		<i>ETR</i>		<i>CETR</i>	
		(1)	(2)	(3)	(4)
<i>Post</i> × <i>Brand_House</i>	+	0.009 (0.11)	0.017 (0.20)	-0.068 (-1.01)	-0.067 (-0.97)
<i>Post</i> × <i>Brand_Other</i>	+	-0.030 (-1.28)	-0.024 (-1.07)	0.003 (0.10)	-0.005 (-0.21)
<i>Size</i>	+/-		0.006 (0.55)		0.030** (2.44)
<i>Leverage</i>	+/-		0.048 (1.03)		0.057 (1.15)
<i>Intangible</i>	-		0.002 (0.04)		-0.036 (-0.57)
<i>Inventory</i>	-		0.173 (1.50)		0.014 (0.09)
<i>R&amp;D</i>	-		0.081 (0.25)		-0.084 (-0.19)
<i>PPE</i>	-		0.121 (1.47)		0.030 (0.30)
<i>Capex</i>	-		-0.125 (-0.54)		0.129 (0.46)
<i>ROA</i>	+		0.245*** (2.61)		-0.551*** (-5.68)
<i>Loss</i>	+/-		0.029* (1.77)		-0.000 (-0.02)
N.		3,600	3,600	2,890	2,890
Adjusted R <sup>2</sup>		0.282	0.289	0.319	0.359
Fixed Effects		Firm, Year	Firm, Year	Firm, Year	Firm, Year
Cluster		Firm	Firm	Firm	Firm
<b>F-tests: <i>Post</i> × <i>Brand_House</i> vs. <i>Post</i> × <i>Brand_Other</i></b>					
<i>F-stat</i>		0.20	0.23	0.99	0.75
p-value		0.656	0.629	0.321	0.387

Table 4, Panel B presents results of estimating equation (2) within the subsample of firms that are subject to the U.K. tax strategy disclosure (*Treat* = 1). The cross-sectional variables include whether a firm adopts 1) a “house of brands” strategy (*Brand\_House*) or 2) other branding strategies (*Brand\_Other*). All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. Firm and year fixed effects are included, and standard errors are clustered by firm. *t-stats* are reported in parentheses below the corresponding coefficient estimate. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.

**Table 5: Cross-Sectional Tests based on Tax Haven Operations**

	Pred.	Dependent Variable =			
		<i>ETR</i>		<i>CETR</i>	
		(1)	(2)	(3)	(4)
<i>Post</i> × <i>Haven_Sub</i>	+	-0.006 (-0.51)	-0.007 (-0.56)	-0.014 (-0.91)	-0.020 (-1.28)
<i>Size</i>	+/-		0.014 (0.91)		0.023* (1.68)
<i>Leverage</i>	+/-		0.010 (0.23)		0.007 (0.14)
<i>Intangible</i>	-		-0.029 (-0.49)		-0.052 (-0.78)
<i>Inventory</i>	-		0.143 (1.32)		0.043 (0.33)
<i>R&amp;D</i>	-		-0.486 (-1.48)		-0.017 (-0.03)
<i>PPE</i>	-		0.087 (1.24)		0.088 (1.00)
<i>Capex</i>	-		-0.007 (-0.04)		0.226 (0.79)
<i>ROA</i>	+		0.358*** (3.93)		-0.548*** (-5.11)
<i>Loss</i>	+/-		0.022 (1.34)		-0.010 (-0.54)
N.		2,764	2,764	2,267	2,267
Adjusted R <sup>2</sup>		0.324	0.339	0.317	0.353
Fixed Effects		Firm, Year	Firm, Year	Firm, Year	Firm, Year
Cluster		Firm	Firm	Firm	Firm

Table 5 presents results of estimating equation (2) within the subsample of firms that are subject to the U.K. tax strategy disclosure (*Treat* = 1). The cross-sectional variable is *Haven\_Sub*, which equals one if the firm has at least one subsidiary in a tax haven country. All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. Firm and year fixed effects are included, and standard errors are clustered by firm. *t-stats* are reported in parentheses below the corresponding coefficient estimate. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.

**Table 6: Changes in Tax Avoidance – Regression Discontinuity Design**

	Dependent Variable =			
	<i>ETR</i>		<i>CETR</i>	
	(1)	(2)	(3)	(4)
RD Estimate	0.005 (0.11)	-0.059 (-1.08)	-0.008 (-0.16)	-0.085 (-1.23)
Original Sample N.	6,920	6,920	1,518	1,518
RD Sample N.	2,074	2,074	1,518	1,518
Bandwidth (in £Millions)	172	262	260	365
Total Obs. in Bandwidth	872	1,340	910	945
Polynomial Order	Linear	Second-Order	Linear	Second-Order
Kernel	Triangular	Triangular	Triangular	Triangular
Include Controls	No	No	No	No
Include Fixed Effects	No	No	No	No

Table 6 presents results of estimating the effect of the U.K. tax strategy disclosure requirement on firms' tax avoidance using a regression discontinuity design. The sample for this test is restricted to observations in the post-regulation period. Columns (1) and (3) estimate a nonparametric local linear model, and columns (2) and (4) estimate a second-order polynomial model. The RD estimate is reported in the first row, and the *t*-statistics calculated using robust bias-corrected standard errors are reported in parentheses below the RD estimate. All specifications use the optimal bandwidth that minimizes the mean-squared error and a triangular kernel function. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.

**Table 7: Changes in Tax Avoidance – DiD Design with U.K. Domestic Firms**

		Dependent Variable =			
		<i>ETR</i>		<i>CETR</i>	
		(1)	(2)	(3)	(4)
<i>Post</i> × <i>Treat</i>	+	0.010 (0.57)	0.008 (0.41)	0.014 (0.66)	0.017 (0.86)
<i>Size</i>	+/-		-0.023 (-1.08)		-0.040 (-1.35)
<i>Leverage</i>	+/-		0.028 (0.46)		-0.096 (-1.03)
<i>Intangible</i>	-		0.000 (0.00)		0.199* (1.95)
<i>Inventory</i>	-		0.188 (0.83)		0.289*** (3.08)
<i>R&amp;D</i>	-		-0.541* (-1.81)		-1.070*** (-4.64)
<i>PPE</i>	-		0.020 (0.16)		0.043 (0.32)
<i>Capex</i>	-		-0.041 (-0.13)		0.082 (0.25)
<i>ROA</i>	+		0.030 (0.25)		-0.164 (-1.63)
<i>Loss</i>	+/-		0.029 (1.21)		-0.079*** (-2.86)
N.		1,172	1,172	634	634
Adjusted R <sup>2</sup>		0.221	0.225	0.303	0.353
Fixed Effects		Firm, Year	Firm, Year	Firm, Year	Firm, Year
Cluster		Firm	Firm	Firm	Firm

Table 7 presents results of estimating equation (1) using a subsample of U.K. domestic firms. *Post* is an indicator variable set to equal one for years after the U.K. tax strategy disclosure requirement became effective. *Treat* is an indicator variable set to equal one for firms that are subject to the U.K. tax strategy disclosure requirement. All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. Firm and year fixed effects are included, and standard errors are clustered by firm. *t-stats* are reported in parentheses below the corresponding coefficient estimate. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.

**Table 8: Excluding Firms Subject to the Country-by-Country Reporting Requirement**

	Pred.	Dependent Variable =			
		<i>ETR</i>		<i>CETR</i>	
		(1)	(2)	(3)	(4)
<i>Post × Treat</i>	+	0.018 (1.55)	0.017 (1.44)	-0.014 (-0.84)	-0.012 (-0.71)
<i>Size</i>	+/-		0.001 (0.13)		-0.006 (-0.40)
<i>Leverage</i>	+/-		0.032 (0.83)		0.027 (0.54)
<i>Intangible</i>	-		0.019 (0.47)		0.041 (0.66)
<i>Inventory</i>	-		0.048 (0.39)		-0.259 (-1.55)
<i>R&amp;D</i>	-		-0.256* (-1.85)		-0.273 (-1.29)
<i>PPE</i>	-		0.112 (1.53)		0.033 (0.36)
<i>Capex</i>	-		-0.242 (-1.54)		0.012 (0.07)
<i>ROA</i>	+		0.003 (0.05)		-0.611*** (-6.64)
<i>Loss</i>	+/-		0.012 (1.06)		-0.020 (-1.09)
N.		5,138	5,138	3,572	3,572
Adjusted R2		0.298	0.299	0.270	0.305
Fixed Effects		Firm, Year	Firm, Year	Firm, Year	Firm, Year
Cluster		Firm	Firm	Firm	Firm

Table 8 presents results of estimating equation (1) after excluding firms that are subject to the Country-by-Country (CbC) reporting requirement from the sample. All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. Firm and year fixed effects are included, and standard errors are clustered by firm. *t-stats* are reported in parentheses below the corresponding coefficient estimate. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.



**Table 9: Cross-Sectional Tests based on Risk Appetite Disclosure**

	Pred.	Dependent Variable =			
		<i>ETR</i>		<i>CETR</i>	
		(1)	(2)	(3)	(4)
<i>Post × NoDisc_RiskAppt</i>	+	-0.016 (-1.09)	-0.017 (-1.17)	-0.017 (-0.84)	-0.010 (-0.58)
<i>Size</i>	+/-		-0.014 (-0.96)		0.031** (2.43)
<i>Leverage</i>	+/-		0.093* (1.78)		-0.012 (-0.24)
<i>Intangible</i>	-		0.054 (0.63)		-0.055 (-0.61)
<i>Inventory</i>	-		0.126 (0.96)		0.206** (2.18)
<i>R&amp;D</i>	-		-0.572 (-1.50)		-0.806** (-2.50)
<i>PPE</i>	-		0.078 (0.93)		0.021 (0.24)
<i>Capex</i>	-		0.655* (1.91)		0.614* (1.91)
<i>ROA</i>	+		0.302** (2.56)		-0.564*** (-4.38)
<i>Loss</i>	+		0.039* (1.78)		0.022 (0.71)
N.		1,873	1,873	1,482	1,482
Adjusted R <sup>2</sup>		0.248	0.266	0.341	0.392
Fixed Effects		Firm, Year	Firm, Year	Firm, Year	Firm, Year
Cluster		Firm	Firm	Firm	Firm

Table 9 presents results of estimating equation (2) within the subsample of firms that are subject to the U.K. tax strategy disclosure (*Treat* = 1). The cross-sectional variable captures the firm's choice to not disclose its tax risk appetite (*NoDisc\_RiskAppt*). All continuous variables are winsorized at the 1<sup>st</sup> and the 99<sup>th</sup> percentiles. Firm and year fixed effects are included, and standard errors are clustered by firm. *t-stats* are reported in parentheses below the corresponding coefficient estimate. \*\*\*, \*\*, \* indicates statistical significance at one, five, and ten percent (two-tailed), respectively. Appendix B provides detailed variable definitions.