Do Private Country-by-Country Disclosures to Foreign Tax Authorities Influence U.S. Multinational Firms' Public Financial Statement Disclosures about Foreign Operations?

Brian Grant
Ph.D. Candidate
Kelley School of Business
Indiana University

Sonja Rego
KPMG Professor of Accounting
Kelley School of Business
Indiana University

January 2024

Abstract: We investigate whether U.S. multinational corporations (MNCs) that are required to provide private country-level financial disclosures to foreign tax authorities subsequently change their public financial statement disclosures about foreign operations. Given differing incentives to provide information about operations in tax haven and non-tax haven countries, we separately examine changes in financial statement disclosures about operations in haven vs. non-haven countries. We also investigate whether tax audit risk moderates U.S. MNCs' public disclosure responses to an increase in required, private disclosures to foreign tax authorities. We use the implementation of country-by-country reporting (CbCR) as our research setting and we measure public financial statement disclosures about foreign operations via text analysis tools that identify offshore words that appear in the same sentence as nation words ("foreign offshore sentences"), using Hoberg and Moon's (2017) dictionary. We provide evidence that affected U.S. MNCs significantly reduced the number of foreign offshore sentences that appear in their financial statements after the implementation of CbCR, relative to U.S. MNCs not affected by CbCR. This reduction is driven by decreases in foreign offshore sentences about operations in non-haven countries and by firms subject to higher tax audit risk. We interpret our findings as consistent with U.S. MNCs striving to downplay the significance of operations in higher tax rate countries so that public financial statement disclosures are more closely aligned with private CbCR disclosures to foreign tax authorities.

Keywords: country-by-country-reporting, income shifting, tax disclosure, foreign offshore words

We are grateful for helpful comments from Andrew Belnap, Lisa De Simone, Michelle Hutchens, Saskia Kohlhase, Yijun Li, Erik Peek, Jochen Pierk, Cynthia Valle Ruiz, Dirk Schindler, Jeroen Suijs, Aruhn Venkat, Anthony Welsch, Brady Williams, participants at the University of Illinois Tax Doctoral Consortium, and workshop participants at Erasmus University and the University of Texas at Austin. The authors gratefully acknowledge funding from the Kelley School of Business. Professor Rego also appreciates the generous funding provided by the KPMG Professorship.

1. Introduction

We investigate whether U.S. multinational corporations (MNCs) that are required to provide *private* country-level financial disclosures to foreign tax authorities subsequently change their *public* financial statement disclosures about foreign operations. In 2016, 40 countries adopted the first globally coordinated transparency initiative, Country-by-Country Reporting (CbCR). Before CbCR, most non-U.S. tax authorities only required MNCs to provide financial data pertaining to their local tax jurisdictions.[1] The lack of financial data regarding other jurisdictions impeded local tax authority investigations (OECD, 2022). For example, the National Tax Agency of Japan (NTA) cited difficulties evaluating transfer pricing positions before CbCR because it could not confirm details for operations located in other countries (NTA, 2019). Recognizing this issue, regulators designed CbCR to provide tax authorities with data to assess transfer pricing risks, deploy audit resources, and target audit inquiries (OECD, 2015). Specifically, CbCR provides tax authorities with country-level data, including profits, taxes paid, and business activities, for each tax jurisdiction where an MNC operates (OECD, 2015a). Thus, CbCR provides foreign tax authorities with unprecedented new data on the global operations of MNCs (OECD, 2020).

It is important to understand whether MNCs change the amount they publicly disclose about foreign operations after CbCR because corporate stakeholders have increasingly called for more public country-level tax disclosures. For example, 50 asset management funds with investments totaling more than $1 trillion signed a Financial Accounting Standards Board (FASB) comment letter supporting mandated public CbCR disclosures to help them assess the location of business activities and the presence of aggressive tax strategies (FASB Comment Letter 33, 2019). Recent shareholder proposals have urged prominent firms, such as Amazon, Microsoft, and Cisco,

[1] The IRS has historically had access to other information sources regarding MNCs' foreign operations and profitability, including Forms 5471 and 8858 and Schedule M-3.

to publicly disclose CbCR to understand firm tax risks, including the risk of audits by foreign tax authorities (Tax Notes, 2022). Additionally, in September 2023 the FASB approved enhancements to public financial statement disclosures that will require firms to provide more detailed tax information for foreign jurisdictions that account for more than five percent of total tax expense or taxes paid.[2] Thus, investors and regulators alike are demanding increased public disclosures about MNCs' foreign operations and income taxes, and our study provides new insights into how U.S. MNCs could respond to such demands.

Although firms have incentives to disclose value-relevant information to capital market participants, firm-level costs prevent them from providing complete disclosures (e.g., Verrecchia 1983; Grossman and Hart 1980). In a tax setting, a critical cost of complete (public) disclosure is scrutiny from various tax authorities, many of which publish guidelines recommending their agents assess publicly available data sources when examining a taxpayer's private transfer pricing positions (Australian Tax Office, 2023; HMRC, 2022; Internal Revenue Manual, 2022). Indeed, a recent study shows that at least 36 foreign tax authorities monitor U.S. MNCs by downloading their public 10-K filings (Chi, Persson, Shevlin, and Urcan, 2023). We expect the implementation of (private) CbCR to increase the net costs of (public) financial statement disclosures about foreign operations. The net costs of (public) disclosure likely increase because CbCR provides foreign tax authorities with private information they did not previously possess: namely, in which countries U.S. MNCs report profits. The availability of this new, country-level financial data should increase the likelihood that foreign tax authorities initiate transfer pricing audits of U.S. MNCs, which we refer to as increasing U.S. MNCs' "tax audit risk." In anticipation of the increased tax audit risk,

[2] Public companies will be required to report tax information in accordance with "Proposed Accounting Standards Update (ASU) NO. 2023-ED100, Income Taxes (Topic 740) Improvements to Income Tax Disclosures" for fiscal years beginning after December 15, 2024.

we predict that U.S. MNCs preemptively reduce their (public) financial statement disclosures about foreign operations to avoid the increased costs of such disclosure.

We consider two related mechanisms for U.S. MNCs' increased tax audit risk. First, we generally expect the implementation of CbCR to *increase foreign tax authorities' scrutiny of U.S. MNCs*. This heightened scrutiny should increase U.S. MNCs' expected costs of transfer pricing audits by foreign tax authorities. Consistent with this argument, Hanlon (2018) notes that U.S. MNCs were deeply concerned that CbCR would increase tax challenges by foreign tax authorities and increase the costs of defending against such actions. Given these concerns, we predict that U.S. MNCs anticipated this increased scrutiny by foreign tax authorities and preemptively reduce their financial statement disclosures about operations in foreign countries. This reduction would be consistent with arguments that public disclosure is costly in a litigation context (e.g., Rogers and Van Buskirk 2009). In this case, public disclosure could be costly for transfer pricing audits.

The second mechanism we consider for increased tax audit risk after CbCR is *inconsistencies between where U.S. MNCs report profits and the locations of their assets and employees*. It is well known that MNCs frequently adopt transfer pricing positions such that more (less) profit is reported in haven (non-haven) countries, while the bulk of their assets and employees are located in non-haven countries.[3] This tax planning strategy, often referred to as "income shifting," reduces a firm's global tax burden. The implementation of CbCR reveals to foreign tax authorities – in many cases for the very first time –discrepancies between *where U.S. MNCs report profits* (e.g., havens) as compared to the *locations of assets and employees* (e.g., non-havens). Because firms are required to allocate profits based on the location and importance of

[3] We classify a country as a tax haven if it is included on any haven list in De Simone and Olbert (2021). These countries include preferential tax regimes (e.g., Ireland, Puerto Rico, Singapore) and "dot havens" (e.g., Bermuda, the Cayman Islands). Non-haven countries include all other foreign countries (e.g., Australia, Japan, Germany) with moderate to high tax rates.

three value drivers, i.e., where functions are performed, risks assumed, and assets maintained (IRC Section 482; OECD Transfer Pricing Guidelines), we predict that U.S. MNCs increase financial statement disclosures about operations in haven countries and reduce such disclosures about operations in non-haven countries. By doing so, the value drivers discussed in a U.S. MNC's financial statements (e.g., less emphasis on operations in non-haven countries) would be more aligned with the global profit allocations in its CbCR reports (e.g., low profits in non-haven countries), thereby reducing the risk of audit by foreign tax authorities.

We also conduct several cross-sectional tests of factors that could moderate our proposed mechanisms for U.S. MNCs' increased tax audit risk. First, we expect the increased scrutiny by foreign tax authorities to be more intense for *countries with stronger enforcement of transfer pricing rules*. In this case, U.S. MNCs with operations in these countries would face even higher tax audit risk than U.S. MNCs with operations in weaker enforcement countries. Thus, we conduct cross-sectional tests that examine whether *country-level* tax enforcement strength moderates our primary findings. Second, we expect foreign tax authorities' scrutiny of global profit allocations to be more intense for *U.S. MNCs already subject to higher firm-specific tax audit risk*. Many tax authorities require audit teams to develop risk assessments before deciding whether to audit a particular firm, and some tax authorities publish the criteria they use to develop risk assessments. We use these criteria and results from prior research to identify U.S. MNCs that we expect to be subject to higher risk of audit by foreign tax authorities. Specifically, we classify U.S. MNCs with higher unrecognized tax benefits, larger research and development (R&D) expenditures, higher percentages of foreign sales, and lower effective tax rates as having higher (*firm-specific*) tax audit risk. We then examine whether the level of (firm-specific) tax audit risk moderates U.S. MNCs' disclosure responses following CbCR.

To measure U.S. MNCs' financial statement disclosures about foreign operations we use text analysis tools. Specifically, we first identify "offshore words" using Hoberg and Moon's (2017) dictionary, which includes words commonly used by MNCs to discuss offshore activities, such as sales, imports, exports, suppliers, customers, distribution, and subsidiaries. We then require an offshore word to be in the same sentence as a "nation word," i.e., the name of a foreign country. We count the number of "foreign offshore sentences" included in U.S. MNCs' financial statements each year during our sample period and use this number as our proxy for the amount of financial statement disclosures about foreign operations. We also modify this measure to capture the number of foreign offshore sentences referring to operations in *specific country groups*, e.g., havens vs. non-havens, as we expect U.S. MNCs' disclosure responses to vary with proxies for tax audit risk.

The results from our primary analyses reveal that U.S. MNCs required to file CbCR reports (hereinafter, "affected U.S. MNCs") reduce the number of foreign offshore sentences by seven to 11.6 percent after the implementation of CbCR, relative to U.S. MNCs not affected by CbCR.[4] These results are consistent with CbCR prompting affected U.S. MNCs to significantly reduce their public disclosures about foreign operations in general, relative to unaffected U.S. MNCs. The results from tests that separately examine changes in U.S. MNCs' financial statement disclosures about operations in haven vs. non-haven countries indicate that compared to unaffected firms, affected U.S. MNCs reduce their public disclosures about operations in *non-haven* countries by 8.6 to 11.8 percent after CbCR. In contrast, they do *not* significantly change the amount of public disclosures about operations in *haven* countries. We also conduct regression discontinuity design (RDD) tests to evaluate whether these results are robust to an alternative research design. We find

[4] We conduct these tests using the full Compustat sample (without controls for the presence of assets and employees in foreign countries) and a smaller Orbis sample (with controls for the presence of assets and employees in foreign countries). The economic significance of our results is larger for tests that control for real foreign activities.

that after the implementation of CbCR, U.S. MNCs with revenues just above the CbCR threshold significantly reduce (do not change) the amount of public disclosures about operations in non-haven (haven) countries compared to U.S. MNCs with revenues just below the threshold.

The results for cross-sectional tests that separately examine changes in public disclosures about operations in countries classified by transfer pricing enforcement strength indicate that compared to unaffected firms, affected U.S. MNCs with operations in high- (medium-) enforcement countries reduce public disclosures about operations in these countries by 19.0 (8.6) percent after CbCR. In contrast, affected U.S. MNCs operating in low-enforcement countries did *not* significantly reduce public disclosures about their operations in low-enforcement countries, relative to unaffected U.S. MNCs. These results are consistent with country-level tax enforcement strength moderating U.S. MNCs' tax audit risk, and thus their disclosure responses to CbCR.

The results for cross-sectional tests that partition the sample based on proxies for *firm-specific* tax audit risk provide similar inferences. Specifically, they indicate that compared to unaffected firms, affected U.S. MNCs subject to higher tax audit risk reduce the amount of public disclosure about operations in non-haven countries by a substantial 16.3 to 32.1 percent after the implementation of CbCR. In contrast, affected U.S. MNCs subject to *lower* tax audit risk do *not* significantly reduce public disclosures about operations in non-haven countries after CbCR. Additionally, we find no evidence that U.S. MNCs affected by CbCR change the amount of financial statement disclosures about operations in haven countries, regardless of the level of tax audit risk to which they are subject. Altogether, our results are consistent with U.S. MNCs modifying their financial statement disclosures about operations in non-haven countries to more closely align their public disclosures to the profit allocations reported in private CbCR reports.

Our study responds to Hanlon's (2021) call for accountants to examine how global tax reforms could threaten financial reporting quality. CbCR was developed as part of the largest international collaboration designed to reform international tax policies, known as the OECD's base erosion and profit shifting (BEPS) initiative. Our results suggest that U.S. MNCs perceive financial statement disclosures about foreign operations as incrementally informative to global tax authorities, beyond the information provided by CbCR. While recent research understandably focuses on changes in tax avoidance and real activities in response to CbCR, our findings indicate that in specific circumstances, U.S. MNCs also change their financial statement disclosures in response to CbCR. This decrease in U.S. MNCs' public disclosures about operations in non-haven countries is not surprising, given that 73 percent of surveyed tax authorities use CbCR during tax risk assessments (International Tax Review, 2021). By reducing the amount of public financial statement disclosures about foreign operations, U.S. MNCs reduce the likelihood that tax authorities' public and private information about global operations and profit allocations conflict with each other and, thus, reduce the expected cost of future audits by foreign tax authorities.

Unfortunately, the reduction in expected tax costs is at least partially offset by investors' increasingly difficult task of valuing complex, global operations of multinational companies. Our findings are related to those in Balakrishnan, Blouin, and Guay (2019), which provides evidence that aggressive tax planning is associated with lower corporate transparency. In effect, our results suggest that mandating U.S. MNCs to provide detailed, private CbCR reports to foreign tax authorities prompts these firms to *further reduce their corporate transparency*, at least with respect to public disclosures about foreign operations. These findings should be of interest to both financial accounting and tax regulators around the world, as they implement regulations that require multinational firms to disclose new financial information about their foreign activities.

2. Background & Hypothesis Development

2.1 Research Setting and Institutional Details

The setting for our research is the implementation of country-by-country reporting (CbCR) requirements, also known as Action Item 13 of the OECD's Base Erosion and Profit Shifting (BEPS) initiative. Prior to CbCR, most foreign tax authorities required firms to provide tax and financial data *only for their local tax jurisdictions*. However, both U.S. and OECD transfer pricing guidelines require tax authorities to evaluate the value of local operations relative to the value creation of the MNC group (OECD, 2018). The OECD recognized that a lack of pertinent data from other tax jurisdictions impedes local tax authority investigations (OECD, 2022). Thus, it instituted CbCR to provide foreign tax authorities with country-level data to compare an MNC's local financial results to those in other tax jurisdictions. In 2016, approximately 40 countries adopted CbCR, and by 2022, nearly 100 countries had adopted the tax reporting requirement.[5]

Although foreign tax authorities had access to U.S. MNCs' consolidated worldwide financial statements (i.e., 10-Ks) before CbCR, they did not have complete *country-level data*. This lack of country-level data prevented them from identifying firms that report substantial profit in tax havens (i.e., countries that impose zero income tax) or preferential tax countries (i.e., jurisdictions blacklisted by the OECD for having "harmfully" low tax rates, including Switzerland, Cyprus, Ireland, Luxembourg, Malta, and the Netherlands) (OECD, 2019; OECD, 1998). In contrast, the IRS has long required U.S. MNCs to provide substantial information about controlled foreign affiliates in federal tax returns. Thus, we expect CbCR to be relatively more informative for foreign tax authorities (than the IRS) with respect to the foreign operations of U.S. MNCs.

[5] Action Item 13 also requires MNCs to submit two additional requirements: the Local File and the Master File. The Local File mimics previously mandated local transfer pricing documentation. The Master File was a new documentation requirement that provides an overview of an MNC's global operations and its overall transfer pricing policies, which place the MNC's transfer pricing positions in their economic, legal, and tax context (Deloitte, 2015).

We expect the implementation of CbCR to significantly affect the transfer pricing audits conducted by foreign tax authorities. For transfer pricing purposes, MNCs must support their global profit allocations based on the location and importance of three value drivers: the functions performed, risks assumed, and assets maintained (IRC Section 482; OECD Transfer Pricing Guidelines). When an MNC's global profit allocations (i.e., transfer pricing positions) do not comply with these transfer pricing regulations, tax authorities often refer to such noncompliance as "income shifting" (Australian Tax Office, 2022).

Transfer pricing audit teams aim to identify and challenge significant transfer pricing positions of MNCs that shift income out of their local jurisdiction. Before a formal transfer pricing audit begins, audit teams develop a business case that assesses the likelihood of a successful challenge (Australian Tax Office, 2022; Bundeszentralamt für Steuern, 2022; Internal Revenue Manual, 2022). When creating a business case, audit teams must review an MNC's tax returns, websites, and annual reports to obtain an overview of the taxpayer's business and organizational structure (HMRC, 2022; Internal Revenue Manual, 2022). Due to resource constraints, tax authorities cannot challenge every firm's transfer pricing practices. Thus, business cases often require a risk assessment that estimates the expected costs and benefits of conducting an audit.[6]

CbCR disclosures complement the data that most foreign tax authorities use to support their audit risk assessments. The OECD designed CbCR to provide tax administrations with helpful information to assess transfer pricing risks, deploy audit resources, and effectively target audit inquiries (OECD, 2015). U.S. MNCs with revenues that exceed $850 million in the firm's prior fiscal year must provide financial information to tax authorities for each country where the

[6] For example, before the UK tax authority (HMRC) approves a formal audit, an audit team must develop a risk assessment that considers an audit's costs and resource commitments relative to a projected tax benefit (HMRC Internal Manual, 2022). Similarly, the Australian Tax Office (ATO) states that MNCs are at the most significant risk of a transfer pricing assessment if they have substantial international operations or pay less tax than industry standards.

firm operates (IRS, 2015). Specifically, CbCR requires MNCs to disclose country-level financial metrics, including related and third-party revenue, profit, taxes paid, the number of employees, the value of assets held, and the primary business activities performed. The OECD also negotiated an information exchange mechanism among participating countries to ensure tax authorities receive consistent information. Generally, the MNC's headquarters file CbCR with the local tax authority, which then shares the report with other participating countries.[7] Thus, CbCR and the information exchange mechanism allow tax authorities to indirectly receive new financial information from high-tax, low-tax, or no-tax jurisdictions.

CbCR has become an essential aspect of transfer pricing audits by tax authorities since its adoption. Deloitte's transfer pricing controversy study shows that 73 percent of tax authorities surveyed use CbCR reports "frequently" or "sometimes" as part of risk assessment (International Tax Review, 2021). For example, audit teams in Australia, Germany, Spain, Japan, and the UK must review an MNC's CbCR as part of their risk assessments (Agencia Tributaria, 2022; ATO, 2022; Bundeszentralamt für Steuern, 2022; HMRC, 2022; NTA, 2022). Further, the Japanese NTA released a tax report showing it increased the number of field audits and income subject to transfer pricing audits by approximately 50 percent following the implementation of CbCR.

2.2 Related Literature

[7] Not every government has agreed to participate in the information exchange. However, most countries have implemented regulations requiring a local subsidiary to submit the MNC's CbCR disclosure if the information exchange does not cover a subsidiary's parent jurisdiction (KPMG, 2022). Indeed, the OECD (2015) states that the subsidiary of an MNCs may have to file CbCR directly with its local tax authority if "there is an international agreement permitting the automatic exchange of information between the jurisdictions of the UPE and the constituent entity but there is no competent authority agreement in effect providing for the automatic exchange." Per IRS Rev. Proc. 2014-64, the U.S. had an automatic agreement with almost all counties identified as having high or moderate risk tax enforcement per Klassen and Mescall (2018). Accordingly, the subsidiaries of U.S. MNCs operating in these countries could have been required to file CbCR directly with tax authorities before the implementation of the exchange mechanism.

Hanlon (2018) suggests that CbCR could contribute to several changes in tax outcomes, including: i) less income shifting (or more movement of real activities), ii) more data for tax authorities, potentially leading to more or less efficient audits, iii) more attempts by governments to claim taxing rights to a firm's income, and iv) increased conflicts between countries. Several studies have investigated whether CbCR affected income shifting and the movement of real activities. In the context of income shifting, prior studies generally find that firms affected by CbCR have higher effective tax rates after its implementation (Hugger, 2020; Overesch and Wolff, 2019). Joshi (2020) documents a one to two-percentage-point increase in effective tax rates for European firms affected by CbCR. De Simone and Olbert (2022) investigate whether CbCR affects the real activities of European MNCs. They provide evidence consistent with firms affected by CbCR substantiating their global profit allocations by increasing investments in countries with preferential tax regimes.

In contrast, evidence from Nessa, Persson, Song, Towery, and Vernon (2023) indicates that U.S. MNCs did *not* reduce cross-border income shifting or move real activities in response to CbCR. These findings suggest that U.S. MNCs did *not* expect CbCR to reduce the net benefits of income shifting, and thus, they continued to engage in such activities. Nonetheless, Hanlon (2018) notes that U.S. MNCs had serious concerns about increased foreign tax challenges after CbCR. Rather than decreasing their income shifting activities, we contend that U.S. MNCs could instead change their public financial statement disclosures to reduce the risk of audit by foreign tax authorities.

Following the implementation of CbCR, tax authorities receive significant information about MNCs' global operations, which was previously unavailable to them. We are not aware of studies that investigate how firms' public disclosures change following CbCR. However, MNCs'

concerns about CbCR providing helpful information to tax authorities could lead them to limit disclosures about foreign operations in public financial statements. For example, Herbert, Olligs, and Overesch (2016) conclude firms that reduce disclosures of foreign subsidiaries in Exhibit 21 avoid significantly more tax than firms that do not change their disclosures. Similarly, Hope, Ma, and Thomas (2013) find firms that do not disclose geographic earnings information have lower effective tax rates than firms that provide such information. They attribute their results to managers perceiving that non-disclosure of geographic earnings helps mask tax avoidance activities. Chi et al. (2023) provides evidence that foreign tax authorities monitor U.S. MNCs by downloading their public 10-K filings via the Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system. They find that when multiple foreign tax authorities start monitoring a U.S. MNC, the firm subsequently reduces its income shifting activity. Building on these studies, we examine whether U.S. MNCs alter public financial statement disclosures about foreign operations in response to the implementation of CbCR.

2.3 Hypotheses Development

2.3.1 Increased Scrutiny by Foreign Tax Authorities Increases Tax Audit Risk

We expect the implementation of (private) CbCR to increase the net costs of (public) disclosure, prompting U.S. MNCs to provide *less* information about foreign operations in their (public) financial statements. The net costs of (public) disclosure likely increase because CbCR provides foreign tax authorities with private information they did not previously possess: namely, in which countries U.S. MNCs report profits. We expect the availability of this new, country-level financial data to increase the likelihood that foreign tax authorities initiate transfer pricing audits of U.S. MNCs, which we refer to as increasing U.S. MNCs' "tax audit risk." In anticipation of the

increased tax audit risk, we predict that U.S. MNCs preemptively reduce (public) financial statement disclosures about foreign operations to avoid the increased costs of such disclosure.

We consider two related mechanisms for the increased tax audit risk. First, we generally expect CbCR to *increase foreign tax authorities' scrutiny* of U.S. MNCs. This heightened scrutiny should increase U.S. MNCs' expected costs of transfer pricing audits by foreign tax authorities. Consistent with this argument, Hanlon (2018) notes that U.S. MNCs were deeply concerned that CbCR would increase tax challenges by foreign tax authorities and increase the costs of defending against such actions. U.S. MNCs were specifically concerned that foreign tax authorities could interpret financial statement disclosures about foreign operations in their jurisdictions as signals that those operations are valuable and, thus, warrant significant profit allocations.

Given these concerns, we predict that U.S. MNCs preemptively reduce their financial statement disclosures about operations in foreign countries in conjunction with the OECD's initial implementation of CbCR. By disclosing less information about foreign operations, firms reduce the likelihood that foreign tax authorities can use public disclosures against them when conducting risk assessments or developing the scope of transfer pricing audits. This reduction in financial statement disclosures would be consistent with arguments that public disclosure is costly in a litigation context (e.g., Rogers and Van Buskirk 2009). However, in our setting, we expect U.S. MNCs to reduce the amount of public disclosures that could be used against them to initiate or conduct future transfer pricing audits. We state our first hypothesis as:

H1: The implementation of CbCR prompts U.S. MNCs to reduce the amount of information disclosed in their financial statements about foreign operations.

2.3.2 Increased Scrutiny of Discrepancies between Global Profit Allocations and Real Activities

The second mechanism we consider for increased tax audit risk after CbCR is *inconsistencies between where U.S. MNCs report profits and the locations of their assets and employees*. Prior to CbCR, it is well known that U.S. MNCs frequently reported more (less) profit in haven (non-haven) countries, while the bulk of their real operations were located in non-haven countries. This tax planning strategy, often referred to as "income shifting," reduces a firm's global tax burden. We predict that U.S. MNCs anticipate foreign tax authorities' increased scrutiny of firms whose global profit allocations are inconsistent with the locations of assets and employees, and preemptively modify their financial statement disclosures to be more closely aligned with the financial information reported in CbCR. Specifically, we expect U.S. MNCs to reduce (increase) the amount of financial statement information about operations in non-haven (haven) countries, to better support the global profit allocations in private CbCR reports.

Before CbCR, U.S. MNCs had incentives to limit disclosures about operations located in countries with very low tax rates, i.e., haven countries. By limiting public disclosures about these operations, firms could limit scrutiny by foreign tax authorities who view haven countries as providing opportunities for cross-border income shifting. After CbCR, foreign tax authorities have new (private) country-level data on the locations of U.S. MNCs' income, assets, and employees, including amounts located in haven countries. Thus, U.S. MNCs have incentives to *increase* the amount of (public) financial statement disclosures about operations in *haven* countries after CbCR, since disclosing information about operations in haven countries provides incremental insights on the relative importance of those operations for generating firm value. For example, suppose a U.S. MNC has critical employees developing intangible property in a haven country. If the intangible property creates significant value for the firm, transfer pricing guidelines permit the U.S. MNC to record substantial profit in that country. The firm could increase its financial statement disclosures

about research and development activities in the haven country to signal to tax authorities that its global profit allocations are aligned with its value drivers.

In contrast, U.S. MNCs' incentives to disclose information about operations in *non-haven* countries *decline* after CbCR, especially for firms that adopt transfer pricing policies that allow them to report more (less) income in haven (non-haven) countries. Two factors drive this reduced incentive to disclose. First, tax authorities for non-haven countries have greater incentives to audit MNCs than tax authorities in haven countries, since non-haven tax authorities have more tax revenues to gain from audit (given their higher tax rates). Second, when tax authorities examine transfer pricing positions, they evaluate whether a firm's global profit allocations align with the location and importance of its value drivers (ATO, 2022; HMRC, 2022). As a result, MNCs that report more (less) income in haven (non-haven) countries have incentives to publicly disclose information about non-haven operations that is consistent with the global profit allocations in private CbCR reports. That is, they are incentivized to downplay the importance of operations in non-haven locations since U.S. MNCs typically shift income out of those countries.

It is also important to mention that the OECD urges tax authorities not to audit firms based on CbCR disclosures alone (OECD, 2015). Instead, audit teams should look for other indications, including qualitative evidence, that an MNC creates substantial value in its local jurisdiction and shifts that income to another country. MNCs can signal to tax authorities that their operations in specific countries are insignificant by limiting public disclosures of offshore activities performed there. For example, before CbCR, Bristol Myers Squibb's 2014 10-K states, "its manufacturing facilities are located in the U.S., Puerto Rico, France, Italy, Ireland, Japan, Mexico, and China." Then after CbCR, its 2019 10-K highlights operations in haven countries by including an additional haven country and excluding mentions of non-haven countries, stating, "the firm has significant

biologics and pharmaceutical manufacturing facilities located in the U.S., Puerto Rico, Ireland, and Switzerland." By excluding non-haven countries, Bristol Myers Squibb no longer appears to have material manufacturing operations in those countries. Accordingly, audit teams in France, Italy, Japan, Mexico, or China would lack the information they could use to corroborate the importance of local operations before a formal transfer pricing audit begins.

Based on the discussion above, we expect U.S. MNCs affected by CbCR to reduce (increase) the amount of financial statement disclosures about operations in non-haven (haven) countries, to better support the global profit allocations reported in private CbCR reports. We state our second and third hypotheses as follows:

H2: The implementation of CbCR prompts U.S. MNCs to ***reduce*** *the amount of information disclosed in their financial statements about operations in* ***non-haven*** *countries.*

H3: The implementation of CbCR prompts U.S. MNCs to ***increase*** *the amount of information disclosed in their financial statements about operations in* ***haven*** *countries.*

2.3.3 Cross-Sectional Tests of Impact of CbCR on U.S. MNCs' Disclosure Responses

We next examine whether two factors moderate our proposed mechanisms for increased tax audit risk, and thus moderate U.S. MNCs' public disclosure responses to CbCR. First, we expect the increased scrutiny by foreign tax authorities to be more intense for *countries with stronger enforcement of transfer pricing rules*. U.S. MNCs with operations in strong tax enforcement countries have even greater incentives to change their public disclosures about operations in those countries after CbCR, since the expected costs of transfer pricing audits by tax authorities in strong enforcement countries is higher (relative to audits by tax authorities in countries with weaker tax enforcement). To the extent we find the predicted results for tests of H1,

we expect the results to be concentrated among U.S. MNCs with operations in countries with stronger enforcement of transfer pricing rules. Thus, we conduct cross-sectional tests that examine whether *country-level* tax enforcement strength moderates our primary findings.

Second, we expect foreign tax authorities' scrutiny of global profit allocations to be stronger for *U.S. MNCs already subject to higher firm-specific tax audit risk*. For example, we expect U.S. MNCs with higher proportions of foreign sales, greater R&D expenditures, and lower worldwide ETRs to be at greater risk of audit by foreign tax authorities than other firms. Further, U.S. MNCs with higher levels of tax audit risk have a greater incentive to change their public disclosures about foreign operations after CbCR, relative to U.S. MNCs with lower levels of tax audit risk. To the extent we find the predicted results for tests of H2 and H3, we expect the results to be concentrated among U.S. MNCs subject to higher (firm-specific) tax audit risk. Thus, we also conduct cross-sectional tests that examine whether (firm-specific) tax audit risk moderates our primary findings.

3. Research Design

3.1 Descriptive Data and Sample Selection

Using textual analysis tools, we count the number of sentences firms disclose about their foreign offshore activities in 10-Ks from 2012 to 2019.[8] We identify foreign offshore disclosures using the dictionary of Hoberg and Moon (2017), which includes terms commonly used by MNCs to discuss their foreign activities.[9] Broadly, the dictionary categorizes offshore activities into three types: the sale of output (e.g., customers, distribution), the purchase of input (e.g., suppliers,

[8] We end our sample period after 2019 to avoid potential confounds caused by the Covid-19 pandemic. However, all our analyses are robust to extending the sample period to 2022.

[9] Hoberg and Moon (2017) created the dictionary by compiling a list of neighbor words that appear within a 25-word window of a foreign country in firm 10-Ks. They then manually categorize all of the nearest neighbor words that are mentioned more than 100 times to determine whether the word refers to an offshore activity.

vendors), and the ownership of assets (e.g., subsidiary, factory). Appendix A provides the complete list of offshore words. We then require an offshore word to be included in the same sentence as a foreign country.[10] Our initial outcome variable is the natural log of the number of foreign offshore sentences (*#Foreign_Sentences*) in a firm's 10-K.[11, 12]

We then categorize our outcome variable based on whether the foreign offshore sentences relate to haven (*#Haven_Sentences*) or non-haven countries (*#Nonhaven_Sentences*). We classify a country as a haven if it is on any tax haven or preferential regime list used by Bennedsen and Zeume (2018) or De Simone and Olbert (2022). Thus, haven countries include "dot havens" (e.g., the Cayman Islands and the British Virgin Islands) and those considered preferential tax regimes or "Big 8" havens (i.e., Cyprus, Hong Kong, Ireland, Lebanon, Liberia, Luxembourg, Malta, Netherlands, Panama, Puerto Rico, Singapore, and Switzerland) (Hines and Rice, 1994). Non-haven countries are all other foreign countries (e.g., Australia, Japan, Germany).

To conduct cross-sectional tests that examine whether country-level tax enforcement strength moderates our primary findings, we also classify countries based on the rigor of their transfer pricing enforcement. Klassen and Mescall (2018) evaluate the rigor of countries' transfer pricing rules and tax enforcement based on transfer pricing risk assessments provided by global transfer pricing professionals. The authors then use the risk assessments to categorize countries into three tiers of risk levels.[13] We follow Klassen and Mescall (2018) and classify the nine foreign

[10] For robustness, we also measure whether a foreign country is disclosed 25 words before or after an offshoring word. All regression specifications provide statistically similar inferences regardless of how we measure foreign offshoring disclosures. The measurement of foreign offshoring disclosures within a 25-word window increases the average number of offshoring words disclosed in from 59 to 83 (37 to 53) for CbCR (non-CbCR) MNCs.

[11] We add one before taking the natural logarithm to circumvent the loss of observations with values equal to zero, which constitutes about 32 (2) percent the sample observations for haven (non-haven*)* offshoring sentences.

[12] All our results are robust to employing a Poisson estimator to examine the unlogged number of *Foreign*, *Nonhaven*, and *Haven* sentences as outcome variables (Cohn, Liu, and Wardlaw, 2022).

[13] Their sample selection excludes China and Korea, which have relatively high levels of transfer pricing risk. As such these two countries are currently not included in our identification of *High Enforcement Countries*. Our results are statistically and economically similar when China and Korea are classified as *High Enforcement Countries*.

countries with the highest transfer pricing risk as high-risk (*High Enforcement Countries*), the ten in the second tier as medium-risk (*Medium Enforcement Countries*), and the five countries in the bottom tier as low-risk (*Low Enforcement Countries*).[14] Table 2 presents the number of offshore sentences disclosed for each of the 25 countries with a transfer pricing risk assessment in Klassen and Mescall (2018), accounting for approximately 75 percent of our sample of foreign offshore sentences.

Table 1 presents our sample selection procedures. We initially select all firm-year observations that report pretax income (PI) in Compustat North America for fiscal years 2012 through 2019. We exclude observations that lack data necessary to calculate variables used in our multivariate tests. We exclude observations for foreign incorporated firms and also U.S. domestic firms that do not report either pretax foreign income or foreign sales in the Compustat Segment database.[15] This process generates 12,107 observations for 1,704 unique U.S. MNCs. We then classify firms as affected by CbCR based on regulations mandating that U.S. MNCs file CbCR for fiscal years starting on or after June 30th, 2016 (the effective date for U.S. MNCs), if the firm's prior year sales exceed $850 million.

For most tests, we also require our sample of U.S. MNCs to have a subsidiary in a non-haven or haven country that reports financial data for total assets and employees, per BvD's Orbis database. [16] While this restriction substantially reduces our sample size to 5,929 observations for 623 unique U.S. MNCs, it controls for the level of real activities that U.S. MNCs maintain in

[14] Four of the countries ranked by Klassen and Mescall (2018) are considered havens per Bennedsen and Zeume (2018). The Netherlands is classified as a *Medium Enforcement Country,* whereas Ireland, Hong Kong, and Singapore are classified as a *Low Enforcement Countries.*

[15] SEC regulations require listed MNCs to separately disclose sales in their country of incorporation separately from other sales. Thus, U.S. MNCs should separately report U.S. sales in their segment disclosures. If a firm only discloses U.S. sales, we treat that firm as a U.S. domestic firm.

[16] If a U.S. MNC reports any assets or employees in non-haven (haven) country but does not report financial data for a haven (non-haven) country, then haven (non-haven) is set equal to zero.

foreign countries. These controls are important in our research setting, since changes in disclosures about foreign operations could be driven by changes in real activities, rather than concerns about CbCR. Consistent with this possibility, De Simone and Olbert (2022) provide evidence that European MNCs changed their levels of assets and employees in foreign countries in response to CbCR. Thus, we control for U.S. MNCs' country-level assets and employees in most analyses, despite the substantial reduction in sample size.

Given that the treatment of CbCR is determined based on firm size, systematic differences likely exist between U.S. MNCs that are versus are not required to file CbCR (De Simone and Olbert, 2022). To address such concerns, we compile an additional subsample based on U.S. MNCs' revenues in the year before CbCR. Our restricted sample only includes U.S. MNCs that report total revenues that are within $500 million of the $850 million CbCR threshold (i.e., between $350 million and $1.35 billion) in the year before CbCR (Nessa et al. 2023). This restricted subsample consists of 1,465 observations for 83 CbCR firms and 158 non-CbCR firms.

3.2 Difference-in-Difference Design

We first examine the number of foreign offshore sentences included in the 10-Ks of U.S. MNCs required to file CbCR reports, before and after the implementation of CbCR, relative to U.S. MNCs not affected by CbCR. Specifically, we estimate the following difference-in-difference regression:

$$\#Offshore\_Sentences = \beta_0 + \beta_1 Post + \beta_2 CbCR + \beta_3 Post \times CbCR + FE + Controls \quad (1)$$

We measure the dependent variable in three ways. First, *#Foreign_Sentences* measures the amount of financial statement disclosures about a U.S. MNC's total foreign operations. Second, we classify every foreign offshore sentence as either related to haven (*#Haven_Sentences*) or non-haven countries (*#Nonhaven_Sentences*). Third, we classify every foreign offshore sentence

following Klassen and Mescall's (2018) classification of countries based on the rigor of transfer pricing enforcement, i.e., *High Enforcement*, *Medium Enforcement*, or *Low Enforcement*. *Post* is an indicator variable that equals one for fiscal years starting on or after June 30th, 2016, and zero otherwise, capturing fiscal years after the implementation of CbCR. *CbCR* is an indicator variable that equals one if the firm reported consolidated revenues of at least $850 million in the year prior to CbCR's effective date, and zero otherwise, which captures firms affected by CbCR.[17]

When we examine only firms included in the restricted bandwidth sample (i.e., within $500 million of the CbCR revenue threshold), we also perform entropy balancing of the treatment and control observations to account for observable differences between the samples. Specifically, we entropy balance treatment and control observations based on the amounts of assets and employees located in non-haven countries. Using the restricted sample, we also re-estimate Equation (1) using the stacked regression estimator, as discussed in Baker, Larker, and Wang (2022). This research design circumvents the problems introduced by staggered treatment timing and treatment effect heterogeneity, caused by U.S. MNCs being affected by CbCR in different years based on when their fiscal year begins. Figure 1 plots the results for estimations of the effect of CbCR on U.S. MNCs' financial statement disclosures about operations in non-haven and haven countries, using the stacked regression estimator. (These results are consistent with those in Table 7).

Equation (1) includes variables that we expect to be correlated with U.S. MNCs' disclosures about foreign operations and the implementation of CbCR.[18] Given our focus on foreign operations, we control for foreign financial performance, measured as pre-tax foreign income scaled by lagged assets (*For. ROA*), and the ratio of foreign sales to total sales (*For.*

[17] Although the first reporting year for CbCR begins in 2016, the revenue threshold for the mandate was based on a firm's fiscal year preceding the reporting year (i.e., 2015).
[18] All our results are also robust to including controls for the number for the number of foreign, non-haven, and haven countries disclosed in Exhibit 21 of their U.S. 10-K (Law and Mills, 2022).

Sales%) (Fox et al., 2022). We also control for the amounts of U.S. MNC's total assets and employees located in non-haven and haven countries (*Assets-Nonhavens, Employees-Nonhavens, Assets-Havens,* and *Employees-Havens*). We rely on recent tax research examining corporate tax disclosures to identify additional control variables (e.g., Brown et al., 2022; Balakrishnan et al., 2019; Chen et al., 2018). Specifically, we control for firm size, measured as the log of total assets (*Size*), and total financial performance, measured as pretax income scaled by assets (*ROA*). We also control for the number of geographic (*Num. Geo.)* and business segments (*Num. Seg)* disclosed by the firm to control for a firm's organizational complexity and geographic footprint. We include the log of the number of analysts following the firm (*# Analysts*) as a measure of a firm's information environment. We include sales growth (*Sales Growth*) to control for recent and future growth opportunities. Finally, we also control for research and development expenditures (*R&D)* and cash held (*Cash)*. We define all variables in Appendix A.

We estimate equation (1) with year-fixed effects to control for macroeconomic and foreign offshore disclosure trends over the sample period. We also include firm fixed effects to control for unobserved heterogeneity and time-invariant characteristics, such as the firm's general disclosure practices and its propensity to engage in tax avoidance. These firm fixed effects ensure our analysis captures the changes within a firm over time and absorbs the main effect of *CbCR.* We cluster standard errors by firm (Peterson, 2009).

3.3 Cross-sectional Tests: Exploiting Heterogeneity in Levels of Firm-Specific Tax Audit Risk

We expect firms that are subject to greater risk of an audit by foreign tax authorities to exhibit stronger public disclosure responses to the implementation of CbCR, as these firms likely have higher expected costs of public disclosure. We identify firms subject to higher transfer pricing audit risk based on measures cited by foreign tax authorities as a rationale for auditing firms and

some commonly used proxies in the tax literature. Specifically, we classify U.S. MNCs as facing a higher risk of audit based on whether a firm has a relatively high level of unrecognized tax benefits at year-end (*High UTB End*), a high level of R&D expenditures (*High RD*), a high percentage of foreign sales (*High Foreign Sales Percentage*), and firms that have *High Foreign Sales Percentage* and a *Low Three-Year GAAP* or *Cash ETR.*

We first classify firms as subject to a higher risk of audit by foreign tax authorities based on the ending balance of UTBs and the level of R&D expenditures. *High Audit Risk* equals one for firms with an ending balance of UTBs or R&D expenditures that exceed the median value of these measures in the year *before* the firm is required to file its first CbCR report (De Simone and Olbert, 2022). UTBs capture a firm's level of tax uncertainty and are correlated with tax authority monitoring (Finley and Stekelberg, 2022). Additionally, UTB-based proxies more accurately measure tax avoidance when samples include loss observations (De Simone, Nickerson, Seidman, and Stomberg, 2020). R&D expenditures proxy for a firm's ability to shift profits generated by intangible property to low-tax countries. Additionally, some foreign tax authorities have stated that MNCs are at an increased likelihood of audit if they have substantial intangible property.

We expect foreign tax authorities to audit profitable U.S. MNCs with substantial economic activities abroad and pay little in taxes. Accordingly, we also classify firms as subject to a higher risk of audit by foreign tax authorities based on whether a profitable firm has a high percentage of foreign sales (*High Foreign Sales Percentage)*, which could signal to tax authorities that the firm has a substantial economic presence in foreign jurisdictions. Further, we partition the sample into firms with *High Foreign Sales Percentage* and low three-year GAAP or cash ETRs, calculated over the years *t-3*, *t-2*, and *t-1*, where year *t* is the year the firm is required to file its first CbCR report. *High Audit Risk* equals one for firms with *High Foreign Sales Percentage* and three-year

ETRs that are below the median value.[19] *High Audit Risk* equals zero for firms with three-year ETRs above the median and for firms that incurred a cumulative loss over the years *t-3*, *t-2*, and *t-1*. We conduct our cross-sectional analyses by estimating equation (1) separately for firms with *Tax Audit Risk* equal to 1 vs. 0.

3.4 Regression Discontinuity Design

Following prior research examining the effects of CbCR, we employ a regression discontinuity design (RDD) to validate the difference-in-difference regression results (Nessa et al., 2023; De Simone and Olbert, 2022; Joshi, 2020). The key assumption of RDD is that firms just above and just below the treatment threshold are almost identical in the pre-treatment period (Lee and Lemieux, 2010). After confirming this assumption, researchers can employ the RDD by only examining outcome variables in the *post-treatment period*. Though RDDs exclude a substantial amount of data, which decreases the power of empirical tests, they provide researchers with a high level of internal validity (Joshi, 2020; Roberts and Whited, 2013).

We first explain why the loss of power from implementing RDD more substantially affects our sample relative to those in recent CbCR studies. Recent studies use data for European subsidiaries or U.S. affiliates (e.g., Form 5471), and thus rely on much larger samples (since MNCs typically maintain many affiliates and operate in many countries). Our study examines consolidated financial information for U.S. MNCs, which offers significantly fewer observations. For example, De Simone and Olbert's (2022) sample of European subsidiary-level data from 2012 to 2018 provides 687,406 observations, whereas our full sample of 10-Ks from 2012 to 2019, with corresponding BvD data, contains 5,929 observations. Additionally, Nessa et al. (2023) examine U.S.-controlled foreign affiliate data and, after limiting their sample to post-CbCR years, retain

[19] We winsorize the effective tax rate measures at 0 and 1 consistent with many prior studies.

35,969 observations. In stark contrast, our restricted sample provides 622 observations in the post-CbCR period. Thus, a limitation of RDD in our setting is that we lose substantial power to evaluate whether firms just above and below the CbCR treatment threshold are similar in the pre-treatment period or to examine observations in the post-CbCR period only.

We evaluate the number of non-haven and haven offshore sentences disclosed after CbCR by estimating a sharp regression discontinuity design around the U.S.'s CbCR revenue threshold of $850 million. Because the revenue threshold determines CbCR treatment, consolidated revenues are the "running" variable (*RV). RV* is measured as the difference between a firm's consolidated revenues in fiscal year 2016 and the CbCR threshold of $850 million, consistent with De Simone and Olbert (2022) and Joshi (2020). *P* denotes the number of polynomials included, with *P* set equal to three for third-order polynomials and one for the local linear regressions. Our initial design does not include covariates, relying on the regression discontinuity's assumptions (Lee and Lemieux, 2010). We also include control variables from equation (1) in alternative specifications.

$$Offshore\_Sentences = \alpha CbCR_i + \sum_{p=1}^{p} \beta_p RV_i^j + \sum_{p=1}^{p} \gamma_p RV_i^j \times CbCR_i \quad (4)$$

4. Empirical Results

4.1. *Primary Analyses*

Table 4 reports the main results for tests of our formal hypotheses, based on the full Compustat sample (Columns 1-3) and the sample with the requisite Orbis data necessary to control for U.S. MNCs' real activities in non-haven and haven countries (Columns 4-6). Specifically, the results in Columns (4)-(6) include country-level controls for the amounts of assets and employees located in haven and non-haven countries.

Columns (1) and (4) report results when the natural logarithm of the number of foreign offshore sentences (*#Foreign_Sentences*) is the dependent variable (H1); Columns (2) and (5)

when the natural logarithm of the number of non-haven offshore sentences (*#Nonhaven_Sentences*) is the dependent variable (H2), while Columns (3) and (6) report results when the natural logarithm of the number of non-haven offshore sentences (*#Haven_Sentences*) is the dependent variable (H3).

In Columns (1), (2), (4), and (5), we estimate negative and significant coefficients on *Post* × *CbCR*, consistent with affected U.S. MNCs reducing the amount of disclosure about foreign and non-haven operations after being required to provide CbCR to foreign tax authorities (H1 and H2). Because we measure our outcome variables as the natural logarithm of the number of sentences disclosed, we interpret the coefficient on *Post* × *CbCR* as the incremental percentage change in disclosures from the pre- to post-CbCR period for *CbCR* = 1 firms as compared to *CbCR* = 0 firms. Accordingly, the economic magnitude suggests that *CbCR* = 1 firms, relative to *CbCR* = 0 firms, decreased their disclosures about offshore activities in foreign countries by approximately 7.3 and 11.6 percent and non-haven countries by 8.6 to 11.8 percent after CbCR (with larger estimates obtained when requiring firms to have requisite Orbis data). Contrary to H2, we find no evidence that firms affected by CbCR significantly changed their disclosures about offshore activities in haven countries after CbCR differently than non-CbCR firms, since none of the coefficients on *Post* × *CbCR* are significant in Columns (3) and (6). These results suggest that U.S. MNCs are more concerned about the risk of audit by non-haven countries than haven countries, and they modify their financial statement disclosures about foreign operations to reduce their tax audit risk associated with these countries.

Table 5 presents results from cross-sectional tests that examine whether country-level tax enforcement strength moderates our primary findings in Table 4. The dependent variables in Table 5 are the number of offshore sentences related to operations in countries classified as having high,

medium, or low-enforcement of transfer pricing rules (Klassen and Mescall 2018). We also separately include controls for a U.S. MNC's total assets and employees located in each country-enforcement classification (e.g., *Assets-High Enforce. Countries, Employees-Medium Enforce. Countries*). We require firms to have operations in a particular country-enforcement group (e.g., *High Enforcement Country*) for its observations to be included in the corresponding country-enforcement regression (e.g., # *High Enforcement Sentences*). Column (1) reports results when the dependent variable is the number of offshore sentences that reference *any* of the countries with enforcement scores in Klassen and Mescall (2018) (# *K&M_Country_Sentences*), which overlaps with approximately 90 percent of our sample with requisite Orbis data. Similar to Table 4, we estimate a negative and significant coefficient on *Post* × *CbCR*, consistent with affected U.S. MNCs reducing financial statement disclosures about operations in foreign countries by 10.9 percent after CbCR, relative to non-affected U.S. MNCs.

Column (2) present results when the dependent variable is the number of offshore sentences that refer to operations in high enforcement countries (*#High Enforcement Sentences*). The coefficient on *Post* × *CbCR* is both negative and significant, consistent with U.S. MNCs reducing disclosures about their operations in high tax enforcement countries by 19.0 percent. Column (2) presents results when the dependent variable is the number of offshore sentences that refer to operations in medium enforcement countries (*#Medium Enforcement Sentences*). The coefficient on *Post* × *CbCR* is still negative and significant, indicating that firms reduced their disclosures about operations in medium tax enforcement countries by 8.6 percent, which is economically smaller than the reduced disclosure for high enforcement risk countries. In contrast, the coefficient on *Post* × *CbCR* in Column (4) is not significant when *#Low_Enforcement_Sentences* is the dependent variable. Together, these findings suggest that U.S. MNCs consider country-level tax

enforcement strength when deciding how much information to disclose about foreign operations in their financial statements.

Table 6 presents results from cross-sectional tests that examine whether firm-specific tax audit risk moderates U.S. MNCs' disclosure responses after CbCR. Our analyses focus on changes in financial statement disclosures about operations in non-haven and haven countries. Columns (1) and (3) [(2) and (4)] present results when *#Nonhaven Sentences* (*#Haven Sentences*) is the dependent variable. The proxies for firm-specific tax audit risk include: i) *High UTB End*, ii) *High R&D,* iii) *High Foreign Sales Percentage,* iv) *High Foreign Sales Percentage* and *Low GAAP ETR,* and v) *High Foreign Sales Percentage* and *Low Cash ETR.* We measure tax audit risk in the year before the firm was first required to file a CbCR report.

To conduct our cross-sectional analyses, we separately estimate equation (1) for firms classified as *High Audit Risk* = 1 vs. 0, for each dependent variable, and with alternating fixed effects specifications. We first focus on the results for specifications where *#Nonhaven_Sentences* is the dependent variable. Across all five Panels of Table 6, the coefficients on *Post* × *CbCR* are negative and significant for sub-samples where *High Audit Risk* = 1 [i.e., Column (1)], in five of five regression specifications. The coefficient magnitudes indicate that affected U.S. MNCs subject to higher risk of audit by foreign tax authorities reduce their financial statement disclosures about operations in non-haven countries by 16.3 to 32.1 percent, as compared to U.S. MNCs unaffected by CbCR. In contrast, none of the coefficients on *Post* × *CbCR* are significant for firms where *High Audit Risk* = 0. Similarly, in Columns (2) and (4), when we examine the results for specifications where *#Haven_Sentences* is the dependent variable, none of the coefficients on *Post* × *CbCR* are significant. Overall, the results in Table 6 suggest U.S. MNCs that are required to file

CbCR reports and are also subject to higher firm-specific tax audit risk reduce the amount of disclosure about operations in non-haven countries after CbCR, relative to unaffected firms.

4.2 *Supplemental Analyses*

4.2.1 *Restricted Sample & Entropy Balancing*

Table 7 presents the results for analyses based on a restricted sample of firms with revenues within $500m of the U.S.'s $850m CbCR revenue threshold. Columns (1) and (2) present results for estimations of Equation (1) based on unbalanced samples of U.S. MNCs with revenues above and below the threshold, whereas Columns (3) and (4) present results after we entropy balance the treatment (revenues above $850m) and control (revenues below $850m) observations based on *Assets-Nonhavens* and *Employees-Nonhavens.* We balance on these two characteristics to ensure that the treatment and control observations report similar amounts real activities in non-haven countries, as real activities should also influence public disclosures about foreign operations (Nessa et al., 2023; McMullin and Schonberger, 2022).

Column (1) reports results when examining *#Nonhaven_Sentences* with the non-entropy balanced, restricted sample, whereas Column (3) reports results with the entropy balanced, restricted sample. We obtain negative and significant coefficients on *Post* × *CbCR* in both specifications. The magnitudes of these coefficients are larger than those shown in Table 4 (based on unrestricted Orbis sample) and indicate that affected U.S. MNCs in the restricted sample decreased their disclosures about non-haven offshore activities by 13.2 to 15.4 percent after CbCR.

Columns (2) and (4) report results when examining *#Haven_Sentences* with the restricted sample, with and without entropy balancing, respectively. None of the coefficients on *Post* × *CbCR* are significant in these columns, consistent with affected U.S. MNCs in the restricted sample *not* changing their disclosures about operations in haven countries after CbCR. Overall, the Table

7 results based on the restricted and entropy balanced samples provide similar inferences, and support the results for tests of H2 and H3, presented in Table 4.

4.2.2 *Regression Discontinuity Design (RDD) Analyses*

Following Lee and Lemieux (2010), we begin the RDD analyses with a graphical presentation to provide visual evidence of any discontinuity in the percentage change in foreign offshore words disclosed by U.S. MNCs with revenues that are within $500 million of the U.S.'s CbCR threshold, both before and after CbCR's implementation (De Simone and Olbert, 2022; Joshi, 2020). Panel A of Figure 2 illustrates that, before CbCR (*Post* = 0), *#Nonhaven Sentences* was relatively similar for U.S. MNCs with revenues just above and below the U.S. threshold of $850 million. However, after CbCR (*Post* = 1), a large negative discontinuity exists, indicating that affected U.S. MNCs (*CbCR* = 1 firms) reduced the amount of financial statement disclosures about operations in non-haven countries after CbCR, whereas unaffected U.S. MNCs (*CbCR* = 0 firms) increase these disclosures. Panel B of Figure 2 reveals small discontinuities in the *#Haven_Sentences* for U.S. MNCs with revenues just above and below the U.S. CbCR threshold, in both the pre-and post-CbCR periods. Together, Figure 2 provides evidence supporting the validity of using RDD to examine the change in non-haven disclosures after CbCR.[20]

Table 8 presents results for RDD regressions that are based *only on the post-CbCR period*. Columns (1)-(3) present results for estimations examining *#Nonhaven_Sentences* in the restricted sample of firms. Column (1) excludes control variables, Column (2) includes control variables, and Column (3) includes firm fixed effects and control variables. The coefficients are negative and significant in all three specifications presented. These results are consistent with those in Table 6

[20] If we follow the research design in De Simone and Olbert (2022) and instead examine the *percentage change* in the number of non-haven and haven sentences, we find more robust evidence that RDD is a valid method for examining whether U.S. MNCs change their financial statement disclosures after CbCR.

and indicate that affected U.S. MNCs (with revenues that exceed the CbCR threshold by $500m or less) provide significantly fewer disclosures about operations in non-haven countries than unaffected U.S. MNCs (with revenues that fall below the CbCR threshold by $500m or less) after CbCR. Columns (4)-(6) similarly report results for estimations examining *#Haven_Sentences* in the restricted sample of firms. The estimated coefficients are not significant in any of the three specifications. We interpret these findings cautiously, given the relatively weak visual evidence in Figure 2 and the relatively low power we have when performing these analyses.

4.2.3. Alternative Outcome Variables

We conduct two additional analyses to better understand whether U.S. MNCs decrease their *voluntary* public disclosures related to their foreign operations after CbCR. First, we examine whether affected MNCs reduce the number of geographic segment disclosures after CbCR. It is important to understand whether affected U.S. MNCs reduce their geographic disclosures, as evidence suggests the number of geographic segments that a firm discloses is positively associated with the valuation of foreign earnings (Hope, Kang, Thomas, and Vasvari, 2009). The SEC does not define a materiality threshold for geographic segments, instead requiring firms to separately disclose country-level sales when "revenues from external customers attributed to an individual foreign country are *material*" (ASC 280-10-50-41).

We contend that foreign tax authorities could use the disclosure of material revenues from external customers in their tax jurisdiction as a signal that a U.S. MNC has developed a local "marketing intangible," which may include customer lists, customer relationships, and proprietary market or customer data, that should warrant significant profit allocations per OECD Guidelines (2014). The concept of marketing intangibles has become increasingly important in audits by foreign tax authorities, especially in Europe, India, and Latin America (International Tax Review,

2022 & 2023). As such, affected U.S. MNCs could have concerns that foreign tax authorities could interpret geographic segment disclosures about the sales in their tax jurisdiction as a signal that the firm has developed a local marketing intangible. Given these concerns, U.S. MNCs could reduce their geographic segment disclosures about external sales in foreign jurisdictions in conjunction with the initial implementation of CbCR. For example, in 2014, Abbot Labs disclosed sales in 15 countries, with approximately $5 billion in sales in "All Other Countries." In 2019, Abbot Labs only disclosed sales in seven countries, with approximately $11 billion in sales in "All Other Countries." Similarly, in 2014, Constellation Brands disclosed sales in Canada, New Zealand, and Italy. However, by 2019, the firm no longer disclosed sales in any foreign countries, instead separately disclosing "non-U.S. sales."

We provide evidence that affected U.S. MNCs reduce the number of geographic segments they disclose after CbCR. Table 9, Columns (1) and (5) present results when the dependent variable is the number of geographic segments (*Num. Geo.)* that a firm discloses. In both the Compustat sample (Column 1) and the sample with the requisite Orbis data (Column 5), we find the coefficients on *Post* × *CbCR* are both negative and significant. We interpret our findings as consistent with U.S. MNCs striving to downplay the role of sales or important customers in other countries to reduce scrutiny from relevant foreign tax authorities.

Next, we also examine whether affected U.S. MNCs reduce the number of countries they disclose in Exhibit 21 of their 10-K. Exhibit 21 is the most granular required public disclosure designed to provide investors with information on the scope of a firm's geographic footprint (Dyreng, Hoopes, Langetieg, and Wilde, 2020). Unlike geographic segment disclosures, the SEC provides three bright-line tests that require *mandatory* country-level disclosures. Specifically, firms must disclose the name and jurisdiction of incorporation of all significant subsidiaries, where

significance is defined as any subsidiary whose assets are greater than 10 percent of consolidated assets, whose income is greater than 10 percent of consolidated income, or if the subsidiary's parent's investment in the subsidiary exceed 10 percent of consolidated parent assets. However, the average firm in our sample discloses 15 unique foreign countries in Exhibit 21, suggesting MNCs may *voluntarily* disclose country-level subsidiaries that do not exceed the SEC's mandatory threshold. Further, Dyreng et al. (2020) provide evidence that some MNCs do not disclose significant subsidiaries located in tax havens, suggesting MNCs strategically determine whether to disclose certain subsidiaries. Accordingly, we expect that Exhibit 21 reflects both mandatory and voluntary disclosure choices.

Before CbCR's implementation, Exhibit 21 could provide incremental data to tax authorities considering auditing a U.S. MNC because, upon an initial audit, they can request financial statements related to specific subsidiaries. However, it is unclear what additional information foreign tax authorities could gain by examining an affected U.S. MNC's Exhibit 21 disclosures after CbCR. Notably, CbCR also mandates that affected MNCs report *each* operating subsidiary name and its primary business activities in every tax jurisdiction where the firm operates (Appendix C, Table 2). Despite the overlap in data included in Exhibit 21 and CbCR, U.S. MNCs have concerns that the disclosure of a *significant* subsidiary in Exhibit 21 could draw scrutiny from foreign tax authorities. In turn, these firms could reduce their voluntary disclosure of foreign countries included in Exhibit 21.

We find limited evidence that affected U.S. MNCs reduce the number of foreign countries they disclose in Exhibit 21 after CbCR. Table 9, Columns (2 – 4) and (6 – 8) present results when the outcome variable equals the natural log of the number of unique foreign countries (*# Countries in Ex 21)*, non-havens (*# Nonhavens in Ex 21)*, and havens (*# Havens in Ex 21)* that a firm discloses

in Exhibit 21.[21] We find the coefficients on *Post x CbCR* are insignificant in all Columns. Albeit the coefficients on *Post x CbCR* are negatively and marginally significant when the outcome variable is either # *Countries in Ex 21* or # *Havens in Ex 21.* Further, in untabulated analyses, when we employ a Poisson estimator to examine the unlogged number of foreign countries and haven countries in Exhibit 21 as outcome variables, we find the coefficients on *Post x CbCR* are negative and significant (Cohn et al., 2022).[22]

As such, our findings suggest that CbCR had a limited effect on the Exhibit 21 disclosures of affected U.S. MNCs. One explanation is that the mandatory element of Exhibit 21 may prevent affected U.S. MNCs from further reducing their country-level disclosures after CbCR. For example, some firms, including Microsoft, Google, and Oracle, publicly state they consistently apply the SEC's bright-line rules to disclose as few foreign countries as possible to reduce their disclosure costs (Holzer, 2013; Gramlich and Whiteaker, 2013). Further, academic evidence suggests that firms concerned about tax audit risk had already substantially reduced their Exhibit 21 disclosures *prior to* CbCR (Herbert et al., 2016). If U.S. MNCs concerned with tax audit risk had already limited their disclosures in Exhibit 21 to the mandatory minimum, then they would not have the ability to further reduce these disclosures after CbCR.

5. Conclusion

We investigate whether U.S. multinational corporations (MNCs) that are required to provide *private* country-level financial disclosures to foreign tax authorities subsequently change

[21] Our results are sensitive to how we treat observations that are missing Exhibit 21 data, and we plan to investigate this empirical issue further in future versions. For example, lululemon does not disclose Exhibit 21 data from 2016 to 2018. However, its 10-K disclosure directs users to its 2015 10-K to retrieve its subsidiary list. We exclude lululemon's Exhibit 21 outcome variables from 2016 to 2018. However, if we set observations missing Exhibit 21 equal to zero, the coefficients on *Post x CbCR* is negative and significant for all Exhibit 21 outcome variables in the sample with request Orbis data (Columns 6 – 8). Approximately 250 firms are missing Exhibit 21 for at least one year across the sample period, with most of those missing observations occurring pre-CbCR.

[22] This potentially suggests that affected U.S. MNCs decreased the use of some of their tax haven subsidiaries following CbCR.

their *public* financial statement disclosures about foreign operations. Given differing incentives to provide information about operations in tax haven and non-tax haven countries, we separately examine changes in financial statement disclosures about operations in haven vs. non-haven countries. We also investigate whether tax audit risk moderates U.S. MNCs' public disclosure responses to an increase in required, private disclosures to foreign tax authorities. We use the implementation of country-by-country reporting (CbCR) as our research setting and we measure public financial statement disclosures about foreign operations via text analysis tools that identify offshore words that appear in the same sentence as nation words ("foreign offshore sentences"), using Hoberg and Moon's (2017) dictionary.

We provide evidence that affected U.S. MNCs significantly reduced the number of foreign offshore sentences that appear in their financial statements after the implementation of CbCR, relative to U.S. MNCs not affected by CbCR. This reduction is driven by decreases in foreign offshore sentences about operations in non-haven countries and by firms subject to higher tax audit risk. We interpret our findings as consistent with U.S. MNCs striving to downplay the significance of operations in higher tax rate countries so that public financial statement disclosures are more closely aligned with private CbCR disclosures to foreign tax authorities. These findings should be of interest to both financial accounting and tax regulators around the world, as they implement new regulations that require multinational firms to disclose new financial information about their foreign activities.

References

Agencia Tributaria. 2022. Directrices del Plan Anual de Control Tributario. Available at: https://sede.agenciatributaria.gob.es/Sede/en_gb/La_Agencia_Tributaria_impulsara_el_uso_de_las_tecnicas_OCDE_de_analisis_del_comportamiento_del_contribuyente_para_el_fomento___ento_voluntario.html

Australian Tax Office (ATO). 2022. International transfer pricing –concepts and risk assessment. Available at: https://www.ato.gov.au/Business/International-tax-for-business/In-detail/Transfer-pricing/International-transfer-pricing---introduction-to-concepts-and-risk-assessment/

Akamah, H., Hope, O., and Thomas, W. 2018. Tax Havens and Disclosure Aggregation. *Journal of International Business Studies*, 49(1).

Balakrishnan, K., Blouin, J., and Guay, W. 2019. Tax aggressiveness and corporate transparency. *The Accounting Review*, 94(1), 45-69.

Bauer, A., Fang, X., and Pittman, J. 2021. The importance of IRS enforcement to stock price crash risk: The role of CEO power and incentives. *The Accounting Review,* 96(4), 81–109.

Bozanic, Z., Hoopes, J., Thornock, J., and Williams, B. 2017. IRS attention. *Journal of Accounting Research* 55(1), 79-114.

Brown, N., Hutchens, M., and Osswald, B. 2022. Do Local Country Reporting Requirements Affect Parent Company Disclosure of Subsidiary Operations? Working Paper.

Bundeszentralamt für Steuern (BZSt). 2022. Audit Guidance. Available at: https://www.bzst.de/EN/Businesses/businesses_node.html

Chen, C. W., Hepfer, B., Quinn, P., and Wilson, R. 2018a. The effect of income shifting on the information environment: Evidence from two-stage least squares and SFAS 131. *Review of Accounting Studies* 23(3), 958-1004.

Chi, S., Persson, A., Shevlin, T., Urcan, O. 2023. Deterrence Effect of Cross-Border Monitoring: Evidence from EDGAR Search Activity by Foreign Tax Authorities. Working Paper.

Cohn, J., Liu, Z., and Wardlaw, M. 2022. Count (and count-like) data in finance. *Journal of Financial Economics.* 146, 529-552.

Cutler, J., Davis, A., and Peterson, K. 2019. Disclosure and the outcome of securities litigation. *Review of Accounting Studies*, 24(1), 230-263.

De Simone, L., and Olbert, M. 2022. Real Effects of Private Country-by-Country Disclosure. *The Accounting Review,* 97(6), 201–232.

Dharmapala, D. 2014. What Do We Know about Base Erosion and Profit Shifting? A Review of the Empirical Literature. *Fiscal Studies*, 35 (4), 421–448.

Direction Générale des Finances Publiques (DGFiP). 2022. Tax control and the fight against fraud. Available at: https://www.economie.gouv.fr/dgfip/controle-fiscal-et-lutte-contre-fraude

Dye, R. 1985. Disclosure of nonproprietary information. *Journal of Accounting Research,* 23(1), 123-145.

Dyreng, D., and Lindsey, B. 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), 1283-1311.

Dyreng, S., Hoopes, J., Langetieg, P., and Wilde, J. 2020. Strategic Subsidiary Disclosure. *Journal of Accounting Research,* 58(3), 643-692.

FASB Comment Letter. 2021. File Reference No. 2021-004: Prioritize Disaggregation of Jurisdiction-by-Jurisdiction Tax Reporting. Available at: https://thefactcoalition.org/62-investors-with-2-9-trillion-in-assets-under-management-send-letter-to-fasb-in-support-of-tax-transparency/

Finley, A., and Stekelberg, J. 2022. Measuring Tax Authority Monitoring. *Journal of the American Taxation Association*, 44(1), 75–92.

Fox, Z., Jacob, M., Wilde, J., and Wilson, R. 2022. Beyond Borders: Uncertainty in Supragovernmental Tax Enforcement and Corporate Investment. *The Accounting Review,* 97(6), 233–261.

Gallemore, J., and Jacob, M. 2020. Corporate Tax Enforcement Externalities and the Banking Sector. *Journal of Accounting and Economics*, 58(5), 1117-1159.

Gupta, Mills, L., and Towery, E. 2014. The Effect of Mandatory Financial Statement Disclosures of Tax Uncertainty on Tax Reporting and Collections: The Case of FIN 48 and Multistate Tax Avoidance. *The Journal of the American Taxation Association*, 36(2), 203-229.

Hanlon, M. 2018. Country-by-Country Reporting and the International Allocation of Taxing Rights. *Bulletin for International Taxation,* 72(4/5).

Hanlon. 2021. The Possible Weakening of Financial Accounting from Tax Reforms. *The Accounting Review*, 96(5), 389–401.

Hanlon, M., Hoopes, J., and Shroff, N. 2014. The Effect of Tax Authority Monitoring and Enforcement on Financial Reporting Quality. *Journal of the American Taxation Association,* 36(2), 137–170.

Her Majesty's Revenue and Customs (HMRC). 2022. International Manual. Available at: https://www.gov.uk/hmrc-internal-manuals/international-manual

Hoberg, G., and Moon, K. 2017. Offshore Activities and Financial vs Operational Hedging. *Journal of Financial Economics,* 125(2), 217-244.

Hope, O., Kang, T., Thomas, W., Vasvari, F. 2009. The effects of SFAS 131 geographic segment disclosures by US multinational companies on the valuation of foreign earnings. *Journal of International Business Studies*, 40(3), 421-443.

Hope, O., Ma, M., and Thomas, W. 2013. Tax avoidance and geographic earnings disclosure. *Journal of Accounting and Economics,* 56(2), 170-189

Hugger, F. 2020. The impact of country-by-country reporting on corporate tax avoidance. Ifo Working Paper Series.

Internal Revenue Services (IRS). 2020. Transfer Pricing Examination Process. Publication 5300 (Rev 9-2020).

Japanese National Tax Agency. 2019. Proper and Fair Tax Collection. Available at: www.nta.go.jp/english/Report_pdf/2019e_06.pdf

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), 333-381

Korean National Tax Service. 2020. Tax Audit Guidebook. Available at: https://www.nts.go.kr/comm/ntsFileDown.do?filePath=/upload/english/03/0305/_eng_periodic_2020.pdf

KPMG. 2022. United States: SEC signals support for country-by-country reporting. Available at: https://home.kpmg/us/en/home/insights/2022/09/tnf-us-sec-signals-support-for-country-by-country-reporting.html

Law, K., and Mills, L. 2022. Taxes and Haven Activities: Evidence from Linguistic Cues. *The Accounting Review.* 97(5), 349–375.

Li, W., Pittman, J., and Wang, Z. 2019. The Determinants and Consequences of Tax Audits: Some Evidence from China. *Journal of the American Taxation Association*, 41(1), 91–122.

Maurer, M. 2022. U.S. Accounting Rule Maker Looks to Advance Projects on Tax, Crypto and Expenses in 2023. *Wall Street Journal.* Available at: https://www.wsj.com/articles/u-s-accounting-rule-maker-looks-to-advance-projects-on-tax-crypto-and-expenses-in-2023-11671742912

McMullin, J., and Schonberger, B. 2022. When Good Balance Goes Bad: A Discussion of Common Pitfalls When Using Entropy Balancing. *Journal of Financial Reporting.* 7(1), 167-196.

Mescal, D. and Klassen, K. 2018. How Does Transfer Pricing Risk Affect Premiums in Cross-Border Mergers and Acquisitions? *Contemporary Accounting Research,* 35(2), 830-865.

Mills, L. 2019. Pursuing Relevant (Tax) Research. *The Accounting Review*, 94(4), 437–446.

Mills, L., Robinson, L., and Sansing, R. 2010. FIN 48 and Tax Compliance. *The Accounting Review,* 85(5), 1721-1742.

Nessa, M., Persson, A., Song, J., Towery, E., and Vernon, M. 2022. The Effect of U.S. Country-by-Country Reporting on U.S. Multinationals' Tax-Motivated Income Shifting and Real Activities. Working Paper.

OECD, 2015. Country-by-Country Reporting: Handbook on Effective Implementation. https://www.oecd.org/tax/beps/country-by-country-reporting-handbook-on-effective-implementation.htm

OECD, 2017. Transfer pricing guidelines for multinational enterprises and tax administrations.

Overesch, M., and Wolff, H. 2019. Financial Transparency to the Rescue: Effects of Country-by-Country Reporting in the European Union Banking Sector on Tax Avoidance. *Contemporary Accounting Research,* 38(3), 1616-1642.

Perrson, A., Huang, J., and Jiang, J. 2021. Does Private CbCR Improve the Tax and Earnings Information Environment for Investors? Working Paper.

Petersen, M. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies 22* (1), 435-480.

Roberts, R., and Whited, T. 2013. Endogeneity in Empirical Corporate Finance. *Handbook of the Economics of Finance*, Amsterdam, the Netherlands: Elsevier, 2013: vol. 2, part A: 493–572.

Robinson, L., Stomberg, B., and Towery, E. 2016. One Size Does Not Fit All: How the Uniform Rules Affect the Relevance of Income Tax Accounting. *The Accounting Review*, 91(4), 1195-1217.

Rogers, J., Van Buskirk, A., and Zechman, S. 2011. Disclosure Tone and Shareholder Litigation. *The Accounting Review*, 86(6), 2155-2183.

Slemrod, J. 2001. A General Model of the Behavioral Response to Taxation. *International Tax and Public Finance*, 8, 119–128.

Slemrod, J., and Wilson, J. 2009. Tax competition with parasitic tax havens. *Journal of Public Economics*, 93(11-12), 1261-1270

Towery, E. M., 2017. Unintended consequences of linking tax return disclosures to financial reporting for income taxes: Evidence from Schedule UTP. *The Accounting Review*, 92(5), 201–226.

Verrecchia, R. 1983. Discretionary disclosure. *Journal of Accounting and Economics,* 5, 179-194.

WSJ Editorial Board. 2021. "Biden's Country-by-Country Tax Canard." *The Wall Street Journal*. https://www.wsj.com/articles/bidens-country-by-country-tax-canard-11618528445

Appendix A: Variable Definitions

CbCR Variables	Definitions
Post	Binary variable set equal to one for 10-Ks issued for fiscal years starting on or after June 30th, 2016, the effective date of Country-by-Country Reporting (CbCR) for U.S. MNCs.
CbCR	An indicator variable equal to one if the firm's sales exceed CbCR's revenue threshold of $850,000 the year before being subject to CbCR.
Tax-Country Classification Variables	
Haven	Any country listed on any tax haven list, including Bennedsen and Zeume (2018) and De Simone and Olbert (2022). These countries include preferential tax regimes or "Big" havens (e.g., Ireland and Singapore) and "dot haven" countries (e.g., Bermuda and the Cayman Islands).
Nonhaven	Any foreign country not considered a *Haven.*
K&M Countries	Any country with a enforcement ranking per Klassen and Mescall (2018).
High Enforcement Countries	The nine non-U.S. countries with the highest rigor of transfer pricing enforcement per Klassen and Mescall (2018). These countries include: Australia, Brazil, Canada, France, Germany, Japan, India, Italy, and Mexico.
Medium Enforcement Countries	The nine countries with the second tier of transfer pricing risk per Klassen and Mescall (2018). These countries include: Argentina, Denmark, Finland, Malaysia, New Zealand, Norway, Spain, South Africa, and the United Kingdom.
Low Enforcement Countries	The five countries with the third tier of transfer pricing risk per Klassen and Mescall (2018). These countries include: Austria, Ireland, Hong Kong, Singapore, and Sweden.
Outcome Variables	
# Foreign Sentences	The natural logarithm of the number of times a foreign country is mentioned in the same sentence as an offshore word on a firm's 10-K disclosure plus one. Offshore words are defined per Hoberg and Moon (2017).
# Nonhaven Sentences	The natural logarithm of the number of times a *Haven* country is mentioned in the same sentence as an offshore word plus one.
# Haven Sentences	The natural logarithm of the number of times a *Nonhaven* country is mentioned in the same sentence as an offshore word plus one.
# All K&M Country Sentences	The natural logarithm of the number of times a *K&M Countries* are mentioned in the same sentence as an offshore word plus one.
# High Enforcement Sentences	The natural logarithm of the number of times a *High Enforcement Countries* are mentioned in the same sentence as an offshore word plus one.
# Medium Enforcement Sentences	The natural logarithm of the number of times a *Medium Enforcement Countries* are mentioned in the same sentence as an offshore word plus one.
# Low Enforcement Sentences	The natural logarithm of the number of times a *Low Enforcement Countries* are mentioned in the same sentence as an offshore word plus one.
# Countries (Nonhavens, Havens) in Ex 21	The natural log of the number of unique foreign countries, *Nonhavens*, or *Havens,* that a firm discloses in Exhibit 21 of its 10-K plus one. If a firm-year observation is missing an Exhibit 21 data, then the outcome variable is set equal to zero
Independent Variables	
Size	log(AT).
For. Sales %	The ratio of foreign sales to total sales (REVT). Foreign sales are derived from the Compustat Segments database.

Num. Geo.	Number of geographical segments reported on a firm's 10-K. If a firm does not report any geographic segments, then *Num. Geo.* is set equal to zero.
Num. Seg.	Number of operating segments reported on a firm's 10-K. If a firm does not report any operational segments, then Num. Seg. is set equal to zero.
For. ROA	Pretax foreign income (PIFO) divided by total assets (AT).
ROA	Pretax book income (PI) divided by total assets (AT).
# Analysts	The natural logarithm of the average number of analyst estimates reported in each quarter of the fiscal year. The number of analyst estimates are derived from the I/B/E/S database.
R&D	R&D expense (XRD) divided by revenue (REVT), in which missing values are set equal to zero.
Cash	Cash holdings (CH) scaled by lagged total assets (AT).
Sales Growth	The difference between current-revenue and prior-year revenue divided by prior-year revenue.
Independent Variables – Derived from the Orbis Database	
Assets - Nonhaven (Haven)	The natural logarithm of the value of total assets (TOAS) reported by a U.S. MNC in *Nonhaven* (*Haven)* countries per Bureau van Dijk's ("BvD") Orbis database. If a firm has a *Nonhaven* (*Haven*) affiliate that reports assets, but no *Haven* (*Nonhaven*) assets, then *Assets - Nonhaven (Haven)* is set equal to zero.
Employees - Nonhaven (Haven)	The natural logarithm of the number of employees (EMPL) reported by U.S. MNCs in *Nonhaven* (H*aven*) countries per BvD's Orbis database. If a firm has *Nonhaven* (*Haven*) affiliate has employees, but no Haven (*Nonhaven*) assets, then *Employees - Nonhaven (Haven)* is set equal to zero.
Assets - K&M, High Enforce., Medium Enforce., or Low Enforce Countries	The natural logarithm of the value of total assets reported by a U.S. MNC in *K&M*, *High Enforcement, Medium Enforcement,* or *Low Enforcement Countries.*
Employees - K&M, High Enforce., Medium Enforce., or Low Enforce Countries	The natural logarithm of the number of employees reported by a U.S. MNC in *K&M*, *High Enforcement, Medium Enforcement,* or *Low Enforcement Countries.*
Cross-Sectional Variables – Tax Audit Risk	
High UTB End	An indicator variable equal to one for firms above the median level of unrecognized tax benefits at year-end scaled by assets (TXTUBEND / AT). The median is measured in year before the firm was required to file CbCR
High R&D	An indicator variable equal to one for firms above the median level of *R&D* in the year before the firm was required to file CbCR
High Foreign Sales Percentage	An indicator variable equal to one for firms with above the median level of *For. Sales* % in the year before the firm was required to file CbCR
Low Three-Year GAAP ETR	An indicator variable equal to one if the firm's three-year effective tax rate (ETR), calculated as the total tax expense (TXT) to pretax income (PI), is below the median rate in the year before the firm was required to file CbCR. Firms with cumulative losses over three years are allocated to the high ETR group.
Low Three-Year Cash ETR	An indicator variable equal to one if the firm's three-year cash effective tax rate, calculated as the total tax taxes paid (TXPD) to pretax income, is below the median rate below the median rate in the year before the firm was required to file CbCR. Firms with cumulative losses over three years are allocated to the high ETR group.

Appendix B: Dictionary of Foreign Offshore Words (Hoberg and Moon, 2017)

Output words: Sales, Markets, Customers, Distribution, Marketing, Revenues, Distributors, Revenue, Export, Customer, Distributor, Demand, Stores, Consumer, Marketed, Distribute, Distributes, Distributed, Shipments, Dealers, Clients, Wholesale, Exports, Store, Marketplace, Consumers, Dealer, Exported, Client, Distributing, Distributions, Demands, Distributorship, Exporting, Wholesalers, Receivable, Receivables

External input words: Suppliers, Import, Supplier, Imports, Imported, Importation, Vendors, Subcontractors, Subcontractor, Vendor, Importing, Subcontract, Purchase & From, Purchased & From

Internal input words: Subsidiaries, Subsidiary, Facilities, Facility, Venture, Plant, Exploration, Plants, Ventures, Warehouse, Storage, Factory, Subsidiaries, Warehouses, Warehousing, Factories

Appendix C: Templates for Country-by-Country Report per the OECD (2015)

Table 1. **Overview of allocation of income, taxes and business activities by tax jurisdiction**

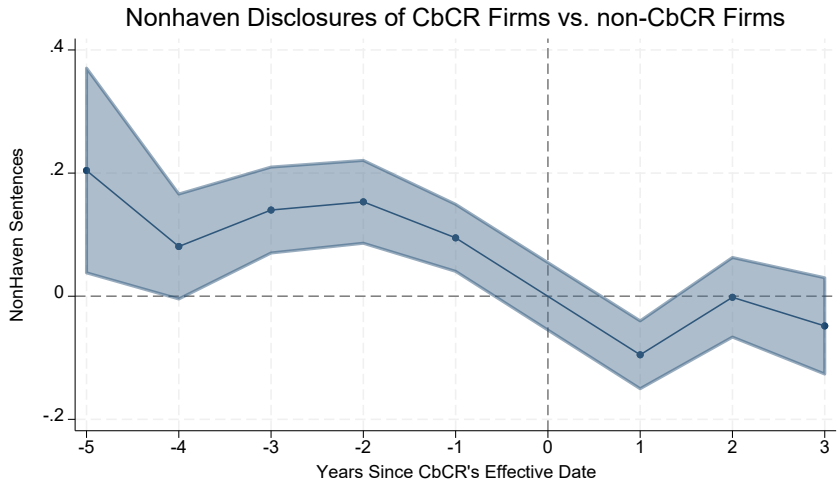
Name of the MNE group: Fiscal year concerned: Currency used:										
Tax Jurisdiction	Revenues			Profit (Loss) before Income Tax	Income Tax Paid (on Cash Basis)	Income Tax Accrued – Current Year	Stated Capital	Accumulated Earnings	Number of Employees	Tangible Assets other than Cash and Cash Equivalents
	Unrelated Party	Related Party	Total							

Table 2. **List of all the Constituent Entities of the MNE group included in each aggregation per tax jurisdiction**

Name of the MNE group: Fiscal year concerned:																
Tax Jurisdiction	Constituent Entities Resident in the Tax Jurisdiction	Tax Jurisdiction of Organisation or Incorporation if Different from Tax Jurisdiction of Residence	Main Business Activity(ies)													
			Research and Development	Holding or Managing Intellectual Property	Purchasing or Procurement	Manufacturing or Production	Sales, Marketing or Distribution	Administrative, Management or Support Services	Provision of Services to Unrelated Parties	Internal Group Finance	Regulated Financial Services	Insurance	Holding Shares or Other Equity Instruments	Dormant	Other[1]
	1.														
	2.														
	3.														
	1.														
	2.														
	3.														

Figure 1. Stacked Event Study Estimator

Panel A. Effect of CbCR on Disclosure of # *NonHaven Sentences*



Panel B. Effect of CbCR on Disclosure of # *Haven Sentences*

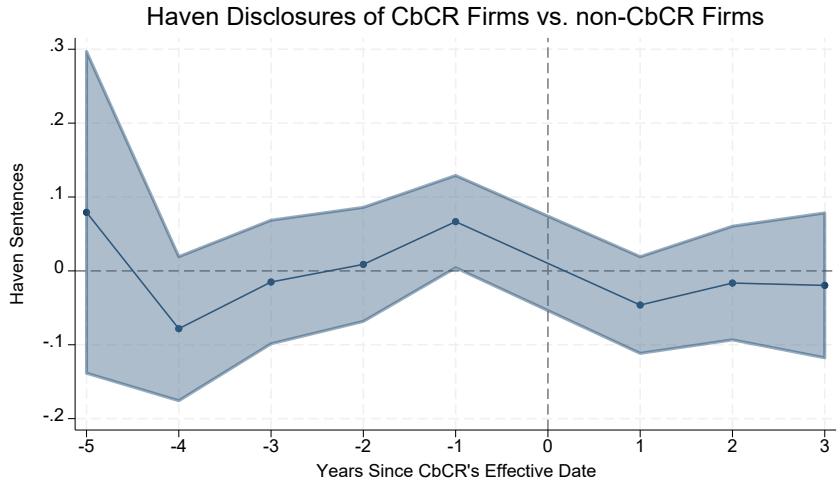
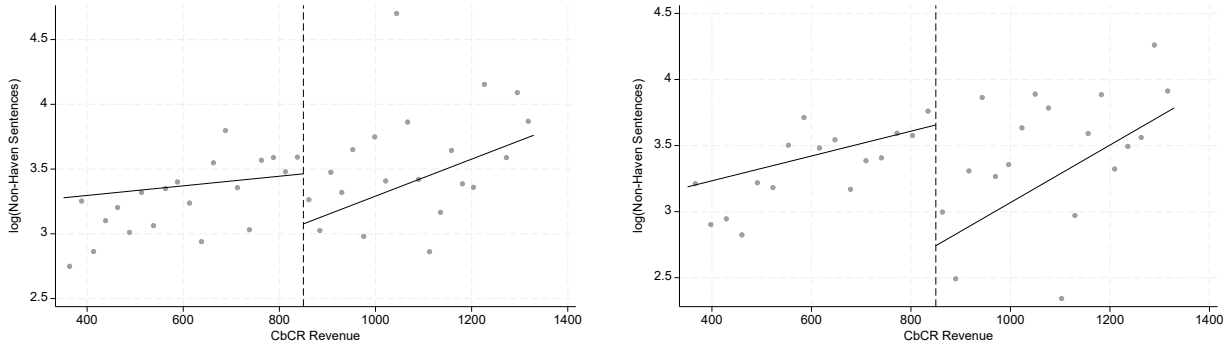


Figure 1 plots the results of estimating the effect of CbCR on public foreign disclosures of U.S. MNCs using the stacked regression estimator, as discussed in Baker, Larker, and Wang (2022). The sample is restricted to firms with revenues $500m above and below CbCR's revenue threshold of $850m in the year before CbCR's effective date. Panel A (B) plots the stacked DiD coefficients and their 90% confidence intervals from regressions of # *Nonhaven and Haven Sentences* on indicators for each period interacted with a treatment indicator taking on the value of 1 for *CbCR* firms. The base reference period (i.e., Year 0) is the year before a firm was subject to CbCR. The stacked regression estimates a separate DiD for each year of the sample period by comparing firms affected by CbCR to those never affected by CbCR. Regressions include firm fixed effects and all controls included in Table 8, which interact with each period, and standard errors clustering by firm.

Figure 2: Foreign Disclosures Discontinuities around the $850 Million Revenue Threshold

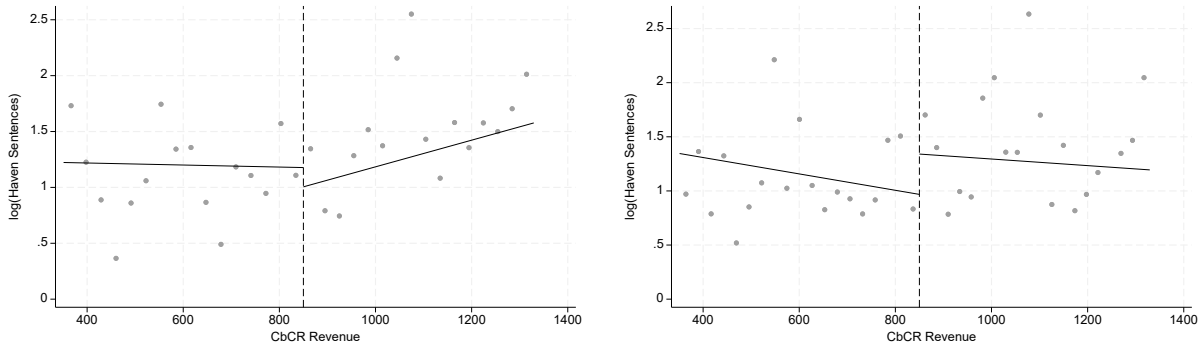
Panel A: log(Nonhaven Offshore Sentences)

Post = 0 **Post = 1**



Panel B: log(Haven Offshore Sentences)

Post = 0 **Post =1**



These graphs plot the average number of *Nonhaven* and *Haven Sentences* for evenly spaced bins, using a polynomial fit of order 1, based on a firm's revenue in the year before affected by CbCR. Panel A (Panel B) presents the graphs of the logged # *Nonhaven (Haven) Sentences* around CbCR's $850 million threshold in the period before and after a firm became subject to CbCR's private disclosure requirements.

TABLE 1
Sample Selection Procedures

	# Observations	# Firms
10-K disclosures linked to public companies from 2012 through 2019 that report profit (PI) in Compustat in any year of the sample	17,672	2,500
Less: Missing Size (AT)	*(418)*	*(20)*
Less: Missing revenue in the year before the firm would have been affected by CbCR	*(501)*	*(29)*
Less: Firms with non-U.S. HQs (i.e., FIC = USA)	*(1,064)*	*(171)*
Less: Missing Foreign Profit (PIFO)	*(2,008)*	*(273)*
Less: Missing Foreign Sales	*(1,990)*	*(303)*
Sample 1 – Full Compustat Sample	**12,107**	**1,704**
Less: Missing total foreign assets from any affiliate located in a foreign country per BvD	*(5,812)*	*(1,030)*
Less: Missing total number of foreign employees from any affiliate located in a foreign country per BvD	*(366)*	*(51)*
Sample 2 – Sample with Requisite Orbis Data	**5,929**	**623**
Less: Firms with 2015 revenues > $1.35 billion	*(3,512)*	(178)
Less: Firms with 2015 revenues < $350 million	*(953)*	(204)
Sample 3 – Restricted CbCR Revenue Sample	**1,465**	**241**
Less: 10-Ks from pre-CbCR	(845)	(5)
Sample 4 – Sample for Regression Discontinuity	**622**	**236**

Notes: This table presents the procedure for constructing the regression samples. Sample 1 relies on obtaining necessary information from Compustat and Compustat Segment Databases for U.S. MNCs and excludes foreign-headquartered MNCs and domestic firms. Sample 2 relies on obtaining an MNC's foreign subsidiaries data related to their total assets or total number of employees on a country-by-country basis from BvD's Orbis database. This sample includes all subsidiaries with necessary data that are greater than 50 percent owned by the U.S company. Sample 3 limits the treatment and control firms to U.S. MNCs just above and just below CbCR's $850 million dollar revenue threshold and ensures treatment and control firms have similar levels of non-haven assets. Sample 4 limits the treatment and control firms to U.S. MNCs after CbCR's implementation.

TABLE 2
Number of Foreign Offshore Sentences Disclosed by Country & Enforcement Risk Classification in Klassen and Mescall (2018)

	Post=0		*Post=1*	
	CbCR = 1 Mean	*CbCR = 0* Mean	*CbCR = 1* Mean	*CbCR = 0* Mean
Nonhaven Sentences	58.7	37.1	56.5	38.5
Haven Sentences	7.4	4.8	7.7	4.7
Total Foreign Sentences	**67.2**	**42.9**	**65.3**	**44.2**
Countries with Tax Enforcement Rankings in Klassen and Mescall (2018):				
High Risk Tax Enforcement				
Australia	3.4	2.2	3.3	2.0
Brazil	3.2	1.9	2.6	1.7
Canada	6.3	4.1	5.6	3.7
France	1.7	1.6	1.8	1.6
Germany	2.6	1.6	2.7	2.9
Japan	2.8	2.0	2.2	1.7
India	2.6	1.7	2.5	2.1
Italy	1.1	.9	.9	.7
Mexico	3.3	2.0	3.1	2.0
China*	6.4	4.8	7.4	6.6
South Korea*	.4	.4	.5	.5
Medium Risk Tax Enforcement				
Argentina	.7	.4	.8	.4
Denmark	.4	.2	.4	.2
Finland	.2	.1	.2	.1
Malaysia	.9	.5	.7	.4
New Zealand	.5	.5	.5	.5
Netherlands (Haven)	1.3	.7	1.2	.7
Norway	.3	.2	.3	.2
Spain	.9	.5	.7	.6
South Africa	.5	.3	.5	.3
UK	5.1	3.2	6.0	3.9
Low Risk Tax Enforcement				
Austria	.3	.2	.3	.2
Ireland (Haven)	1.1	.9	1.2	.8
Hong Kong (Haven)	.8	.5	.8	.6
Singapore (Haven)	1.1	1.3	1.1	.9
Sweden	.4	.5	.4	.4
Total K&M Tax Enforcement Country Sentences	**48.3**	**33.2**	**47.7**	**35.7**

Notes: *Excluded from the 25 rankings of Klassen and Mescall (2018) due to sample selection criteria or because experts did not provide a risk assessment. These countries are not included in regressions that examine changes in *# High Enforcement Sentences.*

TABLE 3
Descriptive Statistics for Sample with Orbis Data

	N	Mean	SD	p25	Median	p75
# Foreign Sentences	5929	3.71	0.95	3.18	3.83	4.37
# Nonhaven Sentences	5929	3.58	0.96	3.04	3.71	4.23
# Haven Sentences	5929	1.48	1.06	0.69	1.39	2.3
# High Enforce. Sentences	5929	2.78	1.01	2.2	2.89	3.5
# Medium Enforce. Sentences	5929	1.77	1.03	1.1	1.79	2.48
# Low Enforce. Sentences	5929	1.03	0.96	0	1.1	1.79
Post	5929	0.42	0.49	0	0	1
CbCR	5929	0.69	0.46	0	1	1
Size	5929	7.88	1.87	6.69	7.82	8.99
For. Sales %	5929	0.50	0.31	0.25	0.45	0.73
Num. Geo.	5929	4.37	2.64	2	4	5
Num. Seg.	5929	3.11	1.95	1	3	4
For. ROA	5929	0.03	0.05	0	0.02	0.05
ROA	5929	0.05	0.13	0.01	0.06	0.11
# Analysts	5929	9.83	8.82	2.75	7.58	15.52
R&D	5929	0.13	0.12	0.04	0.1	0.18
Cash	5929	0.06	0.1	0	0.02	0.08
Sales Growth	5929	0.08	0.19	-0.01	0.05	0.13
Three Year GAAP ETR	5929	0.38	0.32	0.18	0.28	0.38
Three Year Cash ETR	5929	0.35	0.31	0.16	0.25	0.36
UTB End	5929	0.01	0.02	0	0.01	0.01
Nonhaven Assets	5929	$161m	620m	$14m	$43m	$117m
Nonhaven Employees	5929	223	454	40	97	219
Haven Assets	5929	$2,181m	107b	$0	$45m	$296m
Haven Employees	5929	114	525	0	32	92
High Enforce. Assets	5319	$164m	627m	$15m	$45m	$119m
High Enforce. Emp	5319	230	459	45	103	224
Medium Enforce. Assets	4503	$194m	1.7 b	$14m	$42m	$111m
Medium Enforce. Emp	4503	292	585	47	120	270
Low Enforce. Assets	4901	$251m	1.5 b	$13m	$45m	$141m
Low Enforce. Emp	4901	224	610	38	87	200

Notes: This table presents summary descriptive statistics for all variables included in the regression analyses using the sample with Requisite Orbis Data. Assets and employee data from BvD Orbis are presented before taking the natural logarithm. If a U.S. MNC reports any assets or employees in nonhaven (haven) country but does not report financial data for a haven (nonhaven) country, then haven (nonhaven) values are set equal to zero.

TABLE 4
Difference-in-Differences Analyses: Impact of CbCR on the Total Number of Sentences about Foreign Offshore Activities

Dep Var =	(1) *# Foreign Sentences*	(2) *# Nonhaven Sentences*	(3) *# Haven Sentences*	(4) *# Foreign Sentences*	(5) *# Nonhaven Sentences*	(6) *# Haven Sentences*
Post × CbCR	**-0.073*****	**-0.086*****	**0.010**	**-0.116*****	**-0.118*****	**-0.044**
	(-2.70)	**(-3.11)**	**(0.32)**	**(-3.42)**	**(-3.39)**	**(-1.05)**
Post	-0.048	-0.042	-0.054	0.057	0.025	0.031
	(-1.47)	(-1.28)	(-1.51)	(1.22)	(0.56)	(0.60)
Assets - Nonhavens				0.016	0.018	-0.012
				(0.84)	(1.00)	(-0.58)
Employees - Nonhavens				0.001	0.010	-0.023
				(0.08)	(0.81)	(-1.30)
Assets - Havens				0.001	0.003	0.002
				(0.69)	(1.35)	(0.91)
Employees - Havens				0.000	-0.002	-0.011
				(0.05)	(-0.25)	(-0.99)
Size	0.137***	0.122***	0.160***	0.185***	0.176***	0.205***
	(4.94)	(4.29)	(5.61)	(4.67)	(4.55)	(5.06)
For. Sales %	0.198***	0.225***	-0.047	0.124*	0.135*	-0.147
	(3.34)	(3.63)	(-0.74)	(1.65)	(1.86)	(-1.47)
Geo. Segs	0.044***	0.046***	0.023***	0.040***	0.044***	0.022**
	(5.98)	(6.02)	(3.11)	(4.39)	(4.68)	(2.13)
Bus. Segs	0.041***	0.043***	0.002	0.029**	0.037***	-0.007
	(3.99)	(4.13)	(0.14)	(2.50)	(2.89)	(-0.46)
Foreign ROA	0.035	-0.024	0.133	-0.171	-0.252	0.420
	(0.22)	(-0.15)	(0.65)	(-0.61)	(-0.89)	(1.11)
ROA	-0.175***	-0.140**	-0.206***	0.040	0.067	-0.209
	(-2.59)	(-2.03)	(-3.33)	(0.32)	(0.54)	(-1.28)
# Analysts	-0.010***	-0.010***	-0.006*	-0.012***	-0.011***	-0.007
	(-3.89)	(-3.70)	(-1.88)	(-3.55)	(-3.15)	(-1.57)
R&D	-0.178**	-0.177**	-0.185**	-0.182	-0.140	-0.153
	(-1.96)	(-1.98)	(-1.97)	(-1.37)	(-1.09)	(-1.01)
Cash	-0.013	-0.016	-0.020	-0.037	-0.067	-0.487
	(-0.73)	(-0.86)	(-1.52)	(-0.15)	(-0.28)	(-1.11)
Sales Growth	0.043	0.039	0.030	-0.036	-0.035	0.038
	(1.58)	(1.50)	(1.48)	(-0.90)	(-0.86)	(0.73)
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year	Firm, Year
Observations	12,107	12,107	12,107	5,929	5,929	5,929
Adj.R-sq	0.863	0.863	0.810	0.830	0.827	0.777

Notes: This table presents the results of estimating the impact of CbCR on U.S. MNCs' financial statement disclosures about foreign operations. The outcome variables are the natural log of times the name of a foreign country is included in the same sentence as an offshore word, plus one. *Post* is a binary variable set equal to one on and after the year the firm was subject to CbCR. t-statistics, reported in parentheses, are calculated based on standard errors obtained by clustering at the firm. *** p<0.01, ** p<0.05, * p<0.10.

TABLE 5
Difference-in-Differences Analyses: Impact of CbCR on the Number of Sentences that Reference Countries Classified by the Rigor of Transfer Pricing Enforcement [Klassen and Mescall (2018)]

Dep Var =	(1) *All K&M Enforcement Sentences*	(2) *# High Enforcement Sentences*	(3) *# Medium Enforcement Sentences*	(4) *# Low Enforcement Sentences*
Post × CbCR	**-0.109*****	**-0.190*****	**-0.086***	**0.040**
	(-2.99)	**(-4.16)**	**(-1.66)**	**(0.61)**
Post	0.034	0.108*	0.064	0.035
	(0.69)	(1.82)	(1.04)	(0.46)
Assets - Havens	0.001	-0.000	0.003	0.001
	(0.51)	(-0.12)	(1.08)	(0.24)
Employees - Havens	-0.006	-0.011	0.007	-0.030
	(-0.61)	(-1.15)	(0.62)	(-1.24)
Assets - K&M Countries	0.039*			
	(1.70)			
Employees - K&M Countries	-0.001			
	(-0.17)			
Assets - High Enforce. Countries		0.002		
		(0.08)		
Employees - High Enforce. Countries		0.013		
		(1.05)		
Assets - Medium Enforce. Countries			0.028	
			(1.06)	
Employees - Medium Enforce. Countries			0.016	
			(0.63)	
Assets - Low Enforce. Countries				0.013
				(0.81)
Employees - Low Enforce. Countries				0.014
				(0.45)
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year
Observations	5,243	4,448	4,857	2,916
Adj R-squared	0.810	0.821	0.730	0.738

Notes: This table presents the results of estimating the impact of CbCR on U.S. MNCs' financial statement disclosures about foreign operations, based on the foreign country's tax enforcement strength per Klassen and Mescall (2018). The outcome variables are the log of the number of times a K*&M , High Enforcement, Medium Enforce*ment, or *Low Enforcement Country* is included in the same sentence as an offshore word, plus one. Columns (1) and (5) present results for the full sample of foreign tax authorities assessed by Klassen and Mescall (2018) that also have corresponding assets or employment data per BvD Orbis. Columns (2) and (6) present results for the *# High Enforcement Sentences* for firms that have affiliates with total assets or employees in those respective countries. Columns (3) and (7) present results for the *# Medium Enforcement Sentences* for firms that have affiliates with total assets or employees in those respective countries. Columns (4) and (8) present results for the *# Low Enforcement Sentences* for firms that have affiliates with total assets or employees in those respective countries. All other firm-level controls from Table 4 are included in these regressions. t-statistics, reported in parentheses, are calculated based on standard errors obtained by clustering at the firm. *** p<0.01, ** p<0.05, * p<0.10.

TABLE 6
Cross-Sectional Analyses of the Impact of CbCR on the Number of Sentences about Activities in Haven and Nonhaven Countries, by the Level of Tax Audit Risk

Panel A: Tax Audit Risk = *High UTB End*

	High Audit Risk =1		*High Audit Risk =0*	
Dep Var =	(1) *# Nonhaven Sentences*	(2) *# Haven Sentences*	(3) *# Nonhaven Sentences*	(4) *# Haven Sentences*
Post × CbCR	**-0.167*****	**-0.009**	**-0.067**	**-0.082**
	(-3.08)	**(-0.15)**	**(-1.53)**	**(-1.50)**
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year
Observations	2,763	2,763	2,900	2,900
Adj R-squared	0.831	0.773	0.822	0.781

Panel B: Tax Audit Risk = *High R&D*

	High Audit Risk =1		*High Audit Risk =0*	
Dep Var =	(1) *# Nonhaven Sentences*	(2) *# Haven Sentences*	(3) *# Nonhaven Sentences*	(4) *# Haven Sentences*
Post × CbCR	**-0.182*****	**-0.046**	**-0.043**	**-0.059**
	(-3.85)	**(-0.83)**	**(-0.85)**	**(-0.95)**
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year
Observations	2,763	2,763	2,900	2,900
Adj R-squared	0.831	0.773	0.822	0.781

Panel C: Tax Audit Risk = *High Foreign Sales %*

	High Audit Risk =1		*High Audit Risk =0*	
Dep Var =	(1) *# Nonhaven Sentences*	(2) *# Haven Sentences*	(3) *# Nonhaven Sentences*	(4) *# Haven Sentences*
Post × CbCR	**-0.197*****	**-0.057**	**-0.049**	**-0.051**
	(-3.96)	**(-0.78)**	**(-1.04)**	**(-0.89)**
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year
Observations	2,510	2,511	2,970	2,970
Adj R-squared	0.804	0.338	0.827	0.756

Panel D: Tax Audit Risk = *High Foreign Sales % = 1 & Low Three-Year GAAP ETR = 1*

	High Audit Risk =1		*High Audit Risk =0*	
Dep Var =	(1) *# Nonhaven Sentences*	(2) *# Haven Sentences*	(3) *# Nonhaven Sentences*	(4) *# Haven Sentences*
Post × CbCR	**-0.321*****	**-0.151**	**-0.005**	**-0.016**
	(-4.45)	**(-1.44)**	**(-0.08)**	**(-0.25)**
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year
Observations	1,492	1,492	2,082	2,082
Adj R-squared	0.763	0.386	0.818	0.751

Panel E: Tax Audit Risk = *High Foreign Sales % = 1 & Low Three-Year Cash ETR = 1*

	High Audit Risk =1		*High Audit Risk =0*	
Dep Var =	(1) *# Nonhaven Sentences*	(2) *# Haven Sentences*	(3) *# Nonhaven Sentences*	(4) *# Haven Sentences*
Post × CbCR	**-0.163****	**0.001**	**-0.042**	**-0.038**
	(-2.17)	**(0.01)**	**(-0.71)**	**(-0.55)**
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year
Observations	1,390	1,390	1,948	1,948
Adj R-squared	0.779	0.376	0.818	0.764

Notes: This table presents the results of estimating cross-sectional differences in the impact of CbCR on U.S. MNCs' financial statement disclosures about foreign operations. We measure Tax Audit Risk in the year before a firm is first required to file a CbCR report. We identify proxies for Tax Audit Risk based on firm characteristics that increase an MNC's likelihood of transfer pricing audits. In Panel A, we partition the sample based on median unrecognized tax benefits at year-end scaled by assets. In Panel B, we partition the sample based on median R&D expenditures scaled by assets. In Panel C, we partition the sample based on the median level of a U.S. MNC's foreign sales scaled by total sales. In Panel D (E), we partition the sample to examine firms with a high percentage of foreign sales and a low three-year GAAP (Cash) ETR. t-statistics, reported in parentheses, are calculated based on standard errors obtained by clustering at the firm. *** p<0.01, ** p<0.05, * p<0.10.

TABLE 7
Difference-in-Differences Analysis – Restricted CbCR Revenue Bandwidth Subsample, with and without Entropy Balancing

	Restricted CbCR Revenue Subsample Without Entropy Balancing		Restricted CbCR Revenue Subsample With Entropy Balancing	
	(1)	(2)	(3)	(4)
Dep Var =	*# Nonhaven Sentences*	*# Haven Sentences*	*# Nonhaven Sentences*	*# Haven Sentences*
Post × CbCR	**-0.154****	**-0.025**	**-0.132***	**-0.004**
	(-2.25)	**(-0.35)**	**(-1.95)**	**(-0.05)**
Post	-0.038	0.054	0.012	-0.003
	(-0.65)	(0.70)	(0.20)	(-0.04)
Assets - Nonhavens	0.012	-0.086**	-0.029	-0.102**
	(0.41)	(-2.13)	(-0.91)	(-2.47)
Employees - Nonhavens	0.002	0.003	0.004	0.004
	(0.60)	(0.50)	(0.84)	(0.85)
Assets - Havens	0.007	-0.016	0.001	-0.017
	(0.21)	(-0.37)	(0.02)	(-0.37)
Employees -Havens	-0.034**	-0.029	-0.035**	-0.053***
	(-2.15)	(-1.56)	(-1.98)	(-2.71)
Size	0.179**	0.154**	0.223**	0.214**
	(2.16)	(1.98)	(2.50)	(2.51)
For. Sales %	0.166	-0.157	0.159	-0.139
	(0.97)	(-0.72)	(0.88)	(-0.52)
Geo. Segs	0.086***	0.040	0.086***	0.025
	(3.96)	(1.18)	(3.60)	(0.72)
Bus. Segs	0.041	0.004	0.034	0.001
	(1.23)	(0.11)	(0.95)	(0.03)
Foreign ROA	-0.028	1.585*	0.046	1.633
	(-0.04)	(1.72)	(0.07)	(1.59)
ROA	0.299	-0.578	0.318	-0.667
	(1.06)	(-1.46)	(0.98)	(-1.54)
# Analysts	-0.011	-0.001	-0.019**	-0.011
	(-1.14)	(-0.04)	(-1.98)	(-0.99)
R&D	-0.265	-2.049	-0.174	-2.239
	(-0.35)	(-1.35)	(-0.22)	(-1.26)
Cash	-0.258	-0.892***	-0.343	-0.884**
	(-1.10)	(-2.70)	(-1.34)	(-2.30)
Sales Growth	-0.048	0.161	-0.120	0.103
	(-0.51)	(1.38)	(-1.23)	(0.84)
Fixed Effects	Firm, Yr	Firm, Yr	Firm, Yr	Firm, Yr
Observations	1,465	1,465	1,465	1,465
Adj R-squared	0.836	0.778	0.846	0.777

Notes: This table presents the results of estimating the impact of CbCR on U.S. MNCs' financial statement disclosures about foreign operations, for a sample of U.S. MNCs that report total revenues within $500 million of the CbCR revenue threshold (i.e., between $350 million and $1.350 billion). We entropy balance control and treatment observations based on *Assets - Nonhavens* and *Employees - Nonhavens* t-statistics, reported in parentheses, are calculated based on standard errors obtained by clustering at the firm. *** p<0.01, ** p<0.05, * p<0.10.

TABLE 8
Regression Discontinuity Analysis of Impact of CbCR on Nonhaven and Haven Sentences

Dep Var =	(1) # *Nonhaven Sentences*	(2) # *Nonhaven Sentences*	(3) # *Nonhaven Sentences*	(4) # *Haven Sentences*	(5) # *Haven Sentence*	(6) # *Haven Sentences*
RD Estimate	**-0.942*** **(-1.85)**	**-1.030**** **(-2.01)**	**-1.024***** **(-2.00)**	**.081** **(0.30)**	**-.009** **(0.05)**	**.015** **(0.30)**
Controls	No	Yes	Yes	No	Yes	Yes
Fixed	No	No	Firm	No	No	Firm
Obs.	622	622	622	622	622	622

Notes: This table presents the results from estimations of the impact of CbCR on U.S. MNCs' financial statement disclosures about foreign operations, using a regression discontinuity design. The sample includes U.S. MNCs that report total revenues within $500 million of the CbCR revenue threshold (i.e., between $350 million and $1.350 billion). The outcome variables are the logged number of *Nonhaven* and *Haven* sentences after the first year a firm was required to file CbCR. *Treated* is an indicator variable equal to one if the MNC reported revenues of at least $850 million in the year before CbCR's effective date. *RV* is the running variable, measured as the difference between a firm's consolidated revenues and the threshold of $850 million in the year before CbCR was effective. All estimates use nonparametric local linear regressions with mean-squared-error optimal bandwidths following Calonico et al. (2014). Columns (2), (3), (5), and (6) include controls from prior regressions. We calculate bias-corrected standard errors of the RD estimate using the robust variance estimator following Calonico et al. (2014). z-statistics, reported in parentheses, are calculated based on standard errors obtained by clustering at the firm. *** $p<0.01$, ** $p<0.05$, * $p<0.10$.

Table 9
Alternative Outcome Variables: Impact of CbCR on the Total Number of Geographic Segment and Exhibit 21 Disclosures

	No Controls for Haven and Nonhaven Assets and Employees				Includes Controls for Haven and Nonhaven Assets and Employees			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep Var =	*Geo. Segs*	*# Countries in Ex 21*	*# Nonhavens in Ex 21*	*# Havens in Ex 21*	*Geo. Segs*	*# Countries in Ex 21*	*# Nonhavens in Ex 21*	*# Havens in Ex 21*
Post × CbCR	**-0.100***	**0.020**	**0.026**	**0.008**	**-0.165***	**-0.045**	**-0.037**	**-0.036**
	(-1.77)	**(0.94)**	**(1.17)**	**(0.51)**	**(-1.88)**	**(-1.57)**	**(-1.29)**	**(-1.49)**
Post	0.134**	-0.026	-0.019	-0.025	0.163*	0.014	0.015	0.017
	(2.24)	(-1.32)	(-0.97)	(-1.54)	(1.90)	(0.49)	(0.51)	(0.73)
Assets - Nonhavens					-0.004	-0.004	-0.001	-0.006
					(-0.02)	(-0.74)	(-0.26)	(-1.18)
Employees - Nonhavens					0.060**	0.002	0.002	0.004
					(2.24)	(0.23)	(0.18)	(0.54)
Assets - Havens					-0.072	0.002	0.001	0.002
					(-0.99)	(1.00)	(0.74)	(1.16)
Employees - Havens					0.002	-0.002	-0.001	-0.001
					(0.17)	(-0.25)	(-0.12)	(-0.23)
Size	0.189***	0.212***	0.208***	0.139***	0.233***	0.219***	0.223***	0.158***
	(9.96)	(11.28)	(11.18)	(8.36)	(2.63)	(7.07)	(7.17)	(5.89)
For. Sales %	0.254***	0.256***	0.238***	0.158***	-0.428*	0.251***	0.237***	0.175***
	(4.97)	(4.67)	(4.16)	(3.87)	(-1.65)	(3.17)	(2.80)	(2.95)
Geo. Segs		0.016***	0.016***	0.011**		0.011	0.011	0.010*
		(2.70)	(2.73)	(2.57)		(1.50)	(1.56)	(1.77)
Bus. Segs	0.016*	0.016*	0.015*	0.007	-0.659	0.009	0.011	0.005
	(1.87)	(1.86)	(1.74)	(1.15)	(-0.62)	(0.85)	(0.95)	(0.61)
Foreign ROA	-0.353***	-0.357***	-0.401***	-0.129	-0.200	-0.391**	-0.495**	0.037
	(-2.74)	(-2.89)	(-3.24)	(-1.41)	(-0.48)	(-2.08)	(-2.49)	(0.27)
ROA	-0.186***	-0.176***	-0.152***	-0.152***	-0.001	-0.142*	-0.119	-0.195***
	(-4.10)	(-4.37)	(-3.74)	(-4.89)	(-0.09)	(-1.67)	(-1.33)	(-3.25)
# Analysts	0.002	-0.000	-0.001	-0.000	-0.034	0.001	-0.000	0.002
	(1.15)	(-0.23)	(-0.60)	(-0.05)	-0.659	(0.35)	(-0.19)	(0.87)
R&D	-0.162**	-0.158**	-0.118*	-0.151***	-0.067	-0.135	-0.107	-0.100
	(-2.56)	(-2.52)	(-1.92)	(-3.24)	(-0.90)	(-1.51)	(-1.20)	(-1.40)
Cash	0.012	-0.006	-0.016*	0.002	0.010	-0.023	-0.014	-0.021
	(0.86)	(-0.58)	(-1.87)	(0.25)	(0.49)	(-1.53)	(-0.85)	(-1.39)
Sales Growth	-0.005	-0.000	-0.000	0.003	-0.007	-0.002	0.004	0.003
	(-0.31)	(-0.02)	(-0.01)	(0.27)	(-0.27)	(-0.09)	(0.15)	(0.15)
Fixed Effects	Firm,	Firm,	Firm,	Firm,	Firm,	Firm,	Firm,	Firm,

	Year	Year	Year	Year	Year	Year	Year	Year
Observations	12,107	10,648	10,648	10,648	5,929	5,703	5,703	5,703
Adj R-squared	0.935	0.948	0.945	0.940	0.909	0.934	0.932	0.928

Notes: This table presents the results of estimating the impact of CbCR on U.S. MNCs' financial statement disclosures about the location of foreign sales and foreign subsidiaries. In Columns (1) and (5), the outcome variable (*Geo. Segs)* equals the number of geographic revenue segments that a firm discloses in its 10-K. In Columns (2 – 4) and (6 – 8), the outcome variable equals the natural log of the number of unique foreign countries *(# Countries in Ex 21*), nonhavens *(# Nonhavens in Ex 21*), and havens *(# Havens in Ex 21*) that a firm discloses in Exhibit 21, plus one. If a firm-year observation is missing an Exhibit 21 disclosure in a given year, then that observation is excluded from the sample. *Post* is a binary variable set equal to one on and after the fiscal year the firm was subject to CbCR. t-statistics, reported in parentheses, are calculated based on standard errors obtained by clustering at the firm. *** $p<0.01$, ** $p<0.05$, * $p<0.10$.