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Banks' tax disclosure, financial secrecy, and tax haven heterogeneity

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Abstract

This study investigates the impact of mandatory public country-by-country reporting (CbCR) on European banks' engagement in tax and regulatory havens characterized by financial secrecy. Employing a difference-in-differences approach, we find that following the introduction of CbCR, European banks reduced their number of tax haven subsidiaries by approximately one-third compared to insurers, which were exempt from the disclosure requirement. Further analysis reveals that this decline is primarily driven by withdrawals from economically insignificant "dot tax havens" and from countries that serve as both tax and regulatory havens. Additionally, we observe that banks with low exposure to reputational risk prior to the reform are more likely to reduce their presence in bank havens. These results reveal that public CbCR prompts withdrawals from low-tax locations but only under specific conditions. Public CbCR curtails tax haven presence when both financial secrecy and reputational concerns are at play, but on its own may not curb tax haven use. These insights contribute to ongoing tax policy debates by highlighting the limitations and conditional effectiveness of transparency-driven regulations.

Keywords: bank haven, financial secrecy, real effects, reputational risk, tax haven, tax disclosure

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1. Introduction

We study whether, to what extent, and under what conditions the mandatory disclosure of incremental information about tax and regulatory haven usage affects firms' organizational decisions. Specifically, we investigate whether costs related to the introduction of public country-by-country reporting (CbCR) increase the likelihood of multinational banks reducing their presence in tax and regulatory havens. Exploiting the heterogeneity of bank havens, we examine changes in bank presence in two distinct types of havens: low-tax countries (tax havens) and countries with high financial secrecy (regulatory havens). Using hand-collected data and a difference-in-differences (DiD) approach, we identify scenarios in which banks reduce their presence in havens after the introduction of public CbCR. Notably, these real effects arise when not only tax costs are high but also when regulatory and reputational costs are high.

Public CbCR,[1] implemented by the European Union (EU) in response to debates about aggressive tax planning, provides a per-country breakdown of key financial information, including turnover (revenue), number of employees, profit or loss before taxes, taxes on profit or loss, and public subsidies. It was first required for EU financial institutions in 2014, targeting banks due to concerns about their tax contributions during the financial crisis (Treanor, 2013; Dutt et al., 2019b). In contrast, public CbCR was not required until 2024 for other financial firms, such as insurers, or other industries.[2] The call for comprehensive bank disclosure relates to banks' business models and their access to tax avoidance channels. Because financial assets and liabilities can be relocated at low cost, banks may shift profits to low-tax countries (Langenmayr & Reiter, 2022). In addition, some banks may attract clients seeking low tax rates and high secrecy, as revealed in the Panama Papers (European Parliament, 2016).

[1] As opposed to private CbCR, in which per-country information is disclosed privately vis-à-vis tax authorities only.

[2] The following EU Directives affecting all large EU & European Economic Area (EEA) multinationals required private CbCR to fiscal authorities in 2016 and public CbCR disclosure in 2024: Council Directive (EU) 2016/881 of 25 May 2016 amending Directive 2011/16/EU as regards mandatory automatic exchange of information in the field of taxation; Directive (EU) 2021/2101 of the European Parliament and of the Council of 24 November 2021 amending Directive 2013/34/EU as regards disclosure of income tax information by certain undertakings and branches, implementation in member states.

Research (Joshi et al., 2020; Overesch & Wolff, 2021) suggests reduced tax avoidance in response to public CbCR, but the extent of real organizational changes and divestments from bank havens is still an open question. Our study addresses these real effects of public CbCR by examining bank havens and assessing changes in subsidiary presence. We further consider regulatory motives and reputational concerns for subsidiary presence in bank havens. Using a DiD design with multinational insurers as a control group, we analyze hand-collected pre- and post-CbCR data on bank havens. This approach extends Brown's (2020) study on tax avoidance of the largest European banks, which finds no decrease in tax haven use post CbCR (similar to Aliprandi et al. (2021)). In contrast, our findings indicate a significant reduction in bank haven presence under CbCR relative to insurers when coupled with additional regulatory benefits.

Our research relates to the work of De Simone and Olbert (2022), who study the effects of private CbCR that is only disclosed to tax authorities. Their analysis of non-financial multinational firms finds that private CbCR led to increased capital and labor expenditures in Europe. Also, it reduced organizational complexity due to a worldwide reduction in the number of subsidiaries in both haven and non-haven countries. However, in line with Joshi et al. (2020) and Overesch and Wolff (2021), the real effects may differ when private CbCR data become public. While, on average, we do not observe an overall reduction in organizational complexity for banks following public CbCR, our results show that banks do reduce subsidiaries in low-tax countries under specific conditions.

How CbCR might affect banks' presence in tax havens is unclear. Public CbCR increases the visibility of tax haven exposure. Banks may reduce their presence in tax havens to avoid reputational costs as well as increased scrutiny from tax authorities, which may lead to increased taxation, and bank supervisors, which arose after the financial crisis, Panama Papers, and FinCEN Files (International Consortium of Investigative Journalists (ICIJ), 2020). However, if banks perceive disclosure costs as minimal, they may maintain their haven subsidiaries. This expectation is consistent with evidence that nonfinancial multinationals often do not suffer significant reputational damage from tax shelter disclosures (Gallemore et al., 2014; Asay et al., 2024). Further, banks may not respond to CbCR if they perceive these disclosures as providing little new information to stakeholders (Lagarden et al., 2020). While CbCR provides detailed information on key tax variables at the intensive margin, information on

the extensive margin of subsidiary locations was already publicly available from segment reporting and from the disclosed lists of subsidiaries. Given the strategic value of tax havens in banks' profit shifting strategies (Alstadsæter et al., 2018; Fatica & Gregori, 2020; Aliprandi et al., 2021; Langenmayr & Reiter, 2022; Bouvatier et al., 2025), it is unclear whether the costs of tax transparency would outweigh the benefits of lower taxes and greater secrecy.

We examine three types of costs that may influence banks' decisions to reduce tax haven presence: tax, regulatory, and reputational. Increased *tax costs* may result from intensified audits prompted by CbCR data, leading to higher taxes. In the United States (US) setting, Hoopes et al. (2012) find that firms face higher effective tax rates (ETRs) under increased scrutiny by the Internal Revenue Service (IRS). Similarly, De Simone et al. (2013) suggest that firms' compliance may depend on the tax authority's ability to detect uncertain tax positions, with CbCR potentially aiding this process. Public CbCR disclosures that reveal significant use of tax havens may also attract costly political attention. For example, several EU governments announced that firms with subsidiaries based in tax havens may be excluded from COVID-19-specific tax subsidies (Financial Times Editorial Board, 2020; Hecking, 2020; Obermaier & Ott, 2020).

CbCR may lead to additional *regulatory costs* because tax havens often double as regulatory havens with strong bank secrecy laws that reinforce a "vow of silence" among financial institution employees (Leikvang, 2012). According to Zimmerman (1983), firms under increased government scrutiny face higher political costs due to stricter regulations or higher taxes. The European Central Bank, along with national banking supervisors, could increase scrutiny of haven use by enforcing know-your-customer and anti-money laundering regulations, as seen in response to the Panama Papers or the FinCEN Files (European Parliament, 2016; Holmes, 2020).

Reputational costs from public scrutiny around tax haven use can lead to adverse market reactions (Hanlon & Slemrod, 2009; Dyreng et al., 2016), negative consumer reactions (Hardeck et al., 2021), or reduced engagement in tax planning (Graham et al., 2014; Austin & Wilson, 2017). Joshi et al. (2020) find no reputational costs for European banks in the context of CbCR, and similar findings exist for nonbanks (Gallemore et al., 2014; Asay et al., 2024). However, reputational costs may be

severe for banks, potentially posing an existential threat. These combined tax, regulatory, and reputational costs might outweigh the benefits of lower taxes.

To investigate banks' organizational decisions in response to mandatory disclosure, we test three predictions. First, we test whether European banks reduce their presence in tax havens after the introduction of public CbCR using a cross-country panel of the largest EU-based financial institutions.[3] We hand-collect the number and location of banks' global subsidiaries from the list of shareholdings in their consolidated financial statements before and after the introduction of public CbCR. Using large European insurers[4] and their global subsidiaries as the control group for our DiD design, we collect 206,893 subsidiaries of 31 banks and 29 large insurance groups and their corresponding country locations for the years 2011 to 2019. We find that, on average, the banks reduce their number of tax haven subsidiaries by about 32.5% relative to the insurers, controlling for the number of non-haven subsidiaries and other firm characteristics. This effect holds for "dot tax havens" and "EU tax havens" but not for "big 7 tax havens" (low-tax countries with economic substance and relatively large population).

Second, we examine whether exposure to financial secrecy affects organizational decisions. Using the Financial Secrecy Index (Tax Justice Network, 2015), we find no evidence that banks reduce subsidiaries in these secrecy-focused regulatory havens. Further, we test whether banks reduce subsidiaries in countries that are both tax and regulatory havens and find that public CbCR does lead to reduced subsidiary presence in these low-tax, high-secrecy countries.

Third, we investigate how firm reputational risk affects the response of banks to increased tax transparency, distinguishing between banks with high and low reputational risk. We find that the reduction of subsidiaries in havens with no or low economic activity prevails among banks with low

[3] All banks in our study are under regulatory supervision from the European Central Bank and defined as Global Systemically Important Institutions (G-SIIs).

[4] All insurers in our study are under regulatory supervision from the European Insurance and Occupational Pension Authority. Using insurers as control group comports with the literature (Beatty et al., 1996; Bischof & Daske, 2013; Chircop & Novotny-Farkas, 2016; Overesch & Wolff, 2021) and helps identify the effect of public CbCR on financial institutions that are subject to CbCR (i.e., banks) relative to those not subject to CbCR (i.e., insurers).

reputational risk, suggesting that reputational damage matters to banks less exposed to pre-CbCR scrutiny. Our results are supported by a battery of robustness tests.

Overall, our study focuses on the response of financial institutions to increased tax transparency. We examine banks because only banks were subject to public CbCR, while insurers were not. Furthermore, banks face not only tax costs but also regulatory and reputational costs. Our results suggest that mandatory tax disclosure does not reduce banks' use of tax haven subsidiaries in general but only in specific cases, highlighting the importance of accounting for the heterogeneity of bank havens. The reduction in bank haven presence is mainly observed in countries with small economies, low taxes, and high financial secrecy, and particularly among banks with low reputational risk. This finding suggests that tax disclosure can deter banks from using tax and regulatory havens. However, this only occurs when disclosure costs are particularly high, as in the case of banks that were previously less exposed to scrutiny and now face heightened reputational risks.

Our study contributes to three strands of research. First, we contribute to the literature on the real effects of financial disclosure (Leuz & Wysocki, 2016; Christensen et al., 2017; Bischof et al., 2024) and on the global firm structure of multinationals (Kanodia & Sapra, 2016), and answer Dyreng and Maydew's (2018) call for more research on the effects of tax disclosure on real behavior. We extend the work of Joshi et al. (2020) and Overesch and Wolff (2021), who investigate the effect of CbCR on banks' tax avoidance (ETR) and profit shifting. We find that CbCR can induce real (divestment) effects, especially in countries with regulatory benefits beyond taxes, such as financial secrecy. In contrast to studies documenting tax haven reductions for *noncompliant* firms (Dyreng et al., 2016), we identify these real effects for *compliant* banks not subject to public shaming campaigns. In addition, De Simone and Olbert (2022) find a decrease in the presence in tax havens in their analysis of *nonfinancial* firms under *private* CbCR. In contrast, our study addresses *financial* institutions under *public* CbCR. Thus, we contribute to understanding of the impact of the introduction of public CbCR in a sector that was already subject to extensive private and public reporting obligations and public scrutiny. Public CbCR may, therefore, have distinct effects for financial institutions. Our results indicate that banks do not withdraw from tax havens under public CbCR unless incremental regulatory or reputational costs come

into play. Our study contributes not only to research on the real effect of increased tax disclosures but also on the cumulative costs of multiple layers of regulation.

Second, we contribute to the research on heterogeneity of tax havens by extending our analysis to regulatory havens. Our study is consistent with the literature on the economic consequences of variation in bank regulation across regions (Houston et al., 2012; Ongena et al., 2013; Agarwal et al., 2014; Bischof et al., 2022), which shows that the effect of public CbCR depends on both tax and regulatory costs in countries with strong financial secrecy.

Third, we extend the discussion of *reputational costs* in the financial sector (e.g., Hanlon & Slemrod, 2009; Gallemore et al., 2014; Graham et al., 2014; Asay et al., 2024). Banks face higher public scrutiny than most other industries, making them particularly vulnerable to reputational damage from tax avoidance (Brühne & Schanz, 2022).

Understanding the conditions that lead to changes in tax behavior is crucial for policymakers and other stakeholders advocating for increased tax disclosure requirements, especially as public CbCR now applies to all large multinationals in the EU as of 2024 (Directive (EU) 2021/2101). Our results suggest that mandatory tax disclosure alone may not reduce the use of tax havens. Public CbCR is likely to influence tax behavior only when combined with financial secrecy and high sensitivity to reputational risk. Therefore, our study highlights the limitations and conditional effectiveness of tax transparency regulation.

Our study proceeds as follows. After explaining the institutional background, Section 3 develops our hypotheses. Section 4 explains our data and our empirical approach, and Section 5 presents and discusses the main results, additional analyses, and robustness tests. Section 6 concludes.

2. Institutional background

In response to the financial crisis and the Basel III requirements and with the general aim of restoring public confidence in and the resilience of the financial sector (European Commission, 2013), the EU implemented the Capital Requirements Directive (CRD) IV. This regulatory package includes an enhanced transparency initiative regarding the international activities of banks and other financial firms

through mandatory public CbCR. Since the 2014 reporting year, financial institutions have been required to publish key financial information, including the geographical distribution of their business activities and tax payments. The largest banks already had to report some of this information to the European Commission on a confidential basis for the 2013 reporting year. Public CbCR represents an additional disclosure requirement of formerly private and potentially delicate financial and tax information that is seen as an unexpected shock for multinational financial institutions operating in the EU (Dutt et al., 2019a; Joshi et al., 2020). According to Article 89 of CRD IV, banks must "disclose annually, specifying by Member State and by the third country in which it has an *establishment*, the following information on a consolidated basis for the financial year: name(s), nature of activities and geographical location; turnover; number of employees on a full-time equivalent basis; profit or loss before tax; tax on profit or loss; public subsidies received."

In Article 89 of CRD IV, "establishment" includes subsidiaries, branches, and other relevant entities through which a bank has a presence in a given country (European Banking Authority, 2014). "Consolidated basis" refers to either the prudential scope of consolidation which is a less comprehensive consolidation, or to the scope of consolidation under accounting rules. However, the competent authorities of the countries where the majority of the banks in our sample are headquartered (France, Germany, and the United Kingdom (UK)) refer to the accounting scope of consolidation (Dutt et al., 2019b).

Public CbCR generally applies to banks as defined in the regulation, which includes banks headquartered in the EU with their subsidiaries both inside and outside the EU as well as EU subsidiaries of institutions headquartered outside the EU. As a result, banks that operate in the EU but are not headquartered in a member state are generally subject to fewer disclosure requirements than their EU headquartered counterparts. From a bank's perspective, Article 89 of CRD IV requires additional transparency from 2014 onward compared to merely disclosing their subsidiaries in terms of 1) detail (as listed above), 2) the entities included (subsidiaries, branches and "other relevant entities"), and 3) aggregation at the country level.

3. Hypothesis development

Stakeholders, such as activist groups (e.g., Oxfam, 2017) or the press (e.g., Austin, 2015; ICIJ, 2020), accuse banks of shifting profits to low-tax jurisdictions and laundering money through high-secrecy jurisdictions. Theoretical research on the real effects of taxation and disclosures suggests that targeted transparency regulation is likely to change the behavior of firms that are subject to disclosure regulation, which are assumed to maximize expected group payoffs by weighing costs and benefits (Slemrod, 1992; Fung et al., 2007; Kanodia & Sapra, 2016). This view complements the location choice theory (Luce, 1959; McFadden, 1978), which when applied to our setting suggests that the location choice of a utility-maximizing firm depends on a vector of country characteristics. For banks, the implementation of public CbCR increases the costs of presence in specific countries, thereby changing the utility, which, in turn, might affect banks' location choice. Consistent with location choice theory and with the evidence of Müller et al. (2024) that the reputational costs of public scrutiny and the proprietary costs of disclosing sensitive business information through CbCR outweigh the potential benefits, we expect that firms respond to the adoption of CbCR (Roychowdhury et al., 2019; Hanlon, 2021).

However, several studies on the impact of tax transparency on corporate behavior provide mixed evidence. Brown (2020), Joshi et al. (2020), and Overesch and Wolff (2021) all analyze the effect of public CbCR on the tax avoidance of European multinational banks, operationalized by ETR measures. While Joshi et al. (2020) find no robust increase in ETRs using insurers as a control group, Overesch and Wolff (2021) report significantly higher ETRs in the post-CbCR periods only for banks with tax haven operations. In contrast, Brown (2020) finds declining ETRs for European banks relative to EU insurers. While changes in ETRs may be due to many effects, including the introduction of additional bank levies in the aftermath of the financial crisis, we examine tax haven presence as one specific channel of aggressive tax strategies and whether higher levels of tax transparency spill over to organizational decisions about banks' global presence (real effects).

Surprisingly, the event study by Dutt et al. (2019a) finds no significant stock market reaction around the announcement dates of public CbCR in the financial sector. The introduction of the new

disclosure rule may have been perceived by the capital market as having a dual effect: it could lead to a reduction in tax avoidance opportunities and at the same time reduce information asymmetry, implying the possibility of both positive and negative effects on stock prices. This interpretation may explain why we do not observe a significant overall capital market reaction, while other studies examining ETRs show that banks did indeed change their tax avoidance strategies after the introduction of public CbCR.

We emphasize that a reduction in tax haven presence and a reduction in ETRs are not necessarily related. Multinational banks may decide to close tax haven subsidiaries and still use (other) tax planning strategies. Conversely, they may also decide to maintain their tax haven presence but not use it for tax planning purposes, such as shifting profits to the tax haven subsidiary. However, Langenmayr and Reiter (2022) study profit shifting in the financial sector and identify the relocation of proprietary trading units to low-tax jurisdictions as an important channel. While proprietary trading is highly mobile and profitable, it is also particularly sensitive changes in the corporate income tax rate. They find a tax semi-elasticity of -4.0 for fixed-income trading assets, which is well above other estimates in the literature. In contrast to our analysis, Langenmayr and Reiter (2022) abstract from specific disclosure regulations but take into account the importance of tax avoidance in the financial industry. Building on this evidence and studies on reputational risk, we expect multinational banks to be very sensitive to the disclosure of tax haven activities in the face of public CbCR.

Similarly, Bouvatier et al. (2025) analyze public CbCR for the 36 largest European banks and apply a standard gravity model to identify abnormal amounts of financial transactions in tax havens. In contrast, we use the number of subsidiaries of multinational banks as a proxy for the commercial presence in tax havens. This information is available before and after the introduction of public CbCR, thereby allowing us to observe adaptive behavior.

Dyreng et al. (2016) analyze the effects of a public shaming Non-Governmental Organization (NGO) campaign against FTSE 100 companies that were noncompliant with a transparency law that requires UK companies to disclose a full list of their subsidiaries, including their locations. The authors report that the NGO campaign not only pushed noncompliant firms to comply but also caused them to reduce the proportion of their subsidiaries located in low-tax jurisdictions relative to compliant firms.

Their analysis differs from ours because we are concerned with the effects of incremental mandatory tax transparency on *compliant* firms in the financial sector. Moreover, our theoretical channel relies on expected future reputational costs, increased tax administration scrutiny, and regulatory supervision rather than actual reputational costs due to an NGO campaign.

Consistent with choice theory, when applied to location choice (Luce, 1959; McFadden, 1978), and theories of regulation, such as transparency theory which examines regulation through disclosure (Fung et al., 2007), we expect banks to weigh the costs and the benefits of public CbCR when choosing to operate in a tax haven. On the one hand, public CbCR is likely to discourage haven presence. Before its introduction, stakeholders could access information about tax haven presence from the International Financial Reporting Standards (IFRS) required list of subsidiaries in consolidated financial statements. While this information remains available, public CbCR increases its visibility and provides more detail. As a result, stakeholders may better distinguish between activities that serve core business functions and those designed to avoid taxes or exploit financial secrecy. This increased transparency allows customers, the media, and policymakers to more easily identify multinational banks as "bad corporate citizens," leading to reputational costs (Hanlon & Slemrod, 2009).

The financial crisis of 2008 and the subsequent use of taxpayer funds for bailouts increased reputational concerns for financial institutions. In the face of this increased sensitivity to reputational issues and to avoid further reputational damage, banks may withdraw from tax and regulatory havens. Such a response is consistent with the institutional theory, which posits that firms adopt institutional norms to conform to institutional expectations, such as "reduce profit shifting", formed by policymakers or the media (Gramlich & Whiteaker-Poe, 2013). Mandatory tax-related disclosures may reinforce such policy adoption, consequently leading to a reduction in a bank's usage of havens. In addition, public CbCR may reduce tax aggressiveness by providing tax authorities with roadmaps for tax audits, such as guidance on which financial institutions and tax issues to challenge in their audit processes. Related research on the effectiveness of mandatory CSR disclosure suggests higher corporate tax contributions (Rauter, 2020) or increased CSR activities (Fiechter et al., 2020), indicating behavioral changes in affected firms. These findings corroborate the expectation that mandatory public disclosure (e.g., public CbCR) is likely to have real effects on affected firms.

Other costs may arise from increased regulatory scrutiny, which is consistent with the literature showing that increased regulatory attention to a firm's tax disclosures discourages tax aggressiveness. Kubick et al. (2016) document that firms receiving a tax-related comment letter from the US Securities and Exchange Commission (SEC) have higher ETRs in the years following the comment letter. In addition, many jurisdictions provide mechanisms that facilitate the concealment of economic activity. Therefore, we classify countries as regulatory havens if they have characteristics that indicate a high level of financial secrecy. These features may include strict banking secrecy laws, a lack of publicly accessible company registries, or minimal financial regulation (e.g., Hines & Rice, 1994; Cobham et al., 2015; Schjelderup, 2016). Thus, banks may be concerned about increased know-your-customer requests or anti-money laundering laws as a result of public CbCR (Dutt et al., 2019b). Expected regulatory costs may be particularly relevant for banks with a presence in regulatory havens.

On the other hand, public CbCR may not reduce the presence of multinational banks in tax havens, if the benefits from tax savings or business models outweigh the tax regulatory and reputational costs. Investors who do not care about or even appreciate compliant tax planning strategies are unlikely to change their attitudes under public CbCR. Gallemore et al. (2014) find that cumulative abnormal returns are short-lived following the disclosure of tax shelters. They find no evidence of other reputational costs to firms, including no effects in the employment of managers, client behavior, the firm's reputation in the public media, or any increase in IRS scrutiny. Asay et al. (2024) also find no reputational damage from potential customer's boycotts due to negative tax news. Furthermore, Evers et al. (2016) question the additional insights and benefits of public CbCR for tax authorities. These authors argue that tax authorities and regulators already have access to information about banks' common tax shelters, which reduces the relevance of the CbCR information and makes organizational adjustment unlikely.

Therefore, it is an empirical question whether the introduction of public CbCR affects the group structure of multinational banks and their presence in tax havens. We state the following null hypotheses:

H1: Following the introduction of public CbCR, European banks' tax haven presence remains unchanged relative to European insurers.

In addition, public CbCR may attract the attention of regulators and supervisors who might impose regulatory costs on banks operating in financially opaque jurisdictions. This prediction is consistent with Bozanic et al.'s (2016) evidence of increased IRS attention to tax disclosures and the resulting increased scrutiny and compliance costs for firms operating in low-tax jurisdictions. It is also consistent with Müller et al.'s (2024) evidence of increased media attention following the announcement of public CbCR. The expectation that increased transparency can reduce the real activity of multinationals has been theoretically derived for production in a game-theoretic analysis of the interaction between a multinational and two tax authorities, one from a (domestic) high-tax jurisdiction and one from a (foreign) low-tax jurisdiction in Diller et al. (2025). However, regulators and authorities may neither rely on nor benefit from public CbCR information, as they have full access to banks' internal information. Since the overall effect is unclear, we state:

H2: Following the introduction of public CbCR, European banks' regulatory haven presence remains unchanged relative to European insurers.

While we do not state directional hypotheses in H1 and H2 regarding the effect of either tax costs or regulatory costs, the cumulative effect of tax and reputational costs gives stronger indications that banks may respond to the introduction of public CbCR. It is likely they reduce their presence in havens, particularly in countries that exhibit multiple layers of public concern, such as countries with low or zero taxation *and* additionally high financial secrecy (tax and regulatory havens). To account for this heterogeneity (Leuz & Wysocki, 2016; Jacob 2021, Müller et al., 2024), we hypothesize:

H3: Following the introduction of public CbCR, European banks decrease their presence in countries that are both tax and regulatory havens more strongly than European insurers.

Reputational costs associated with tax haven presence are expected to increase with public CbCR, affecting the decision to use tax havens (Graham et al., 2014; Dyreng et al., 2016; Austin & Wilson, 2017). For banks with low reputational risk exposure prior to this reform, increased transparency may lead to organizational adjustments due to potentially higher reputational costs. In contrast, banks with high reputational risk may have already reduced their use of tax havens in the pre-CbCR years or may be less sensitive to reputational risk due to their overall increased exposure to public scrutiny. We posit:

H4: Following the introduction of public CbCR, European banks with low reputational risk decrease their presence in tax and regulatory havens more strongly than European insurers with low reputational risk.

4. Empirical analysis

4.1. Sample selection

We analyze the subsidiary location of the Global Systemically Important Institutions (G-SIIs) headquartered in the EU, as defined by the European Banking Authority (2015), for the years 2011 to 2019. As in previous studies, including Fatica and Gregori (2020) and Bouvatier et al. (2025), focusing on G-SIIs is useful because these institutions are more likely to have subsidiaries in tax and regulatory havens than smaller banks, due to differences in their size, complexity and significant cross-border activities. Of the 37 G-SIIs, we drop six banks due to lack of data, leaving 31 banks and their 135,469 subsidiaries in our analysis.

Following the standard approach (Beatty et al., 1996; Bischof & Daske, 2013; Chircop & Novotny-Farkas, 2016; Overesch & Wolff, 2021), we use multinational insurers headquartered in the EU as our control group. European insurers are not subject to the tax transparency requirements of public CbCR. The control sample consists of 29 European insurers subject to supervision by the European Insurance and Occupational Pensions Authority (European Insurance and Occupational Pensions Authority, 2015). These 29 insurers have a total of 71,424 subsidiaries.

Importantly, the unit of analysis in our empirical models is the firm-year, where each observation corresponds to the EU parent — the disclosing entity under public CbCR requirements in the banking sector. We aggregate subsidiary-level information to construct bank- and insurer-year level measures. This aggregation results in a final sample of 517 parent firm-year observations, composed of 31 banks and 29 insurers over the period 2011-2019.[5] The bank sample accounts for approximately 59%

[5] We have only 517 firm-year observations because subsidiary data is not available for all banks and insurers in every year. Additionally, some firm-years lack data for the control variables.

of total assets, 66% of pre-tax profits, and 58% of employees of all European multinational banks during the sample period.[6] Table 1 shows the sample selection process.

"Table 1 about here"

Table 2 provides an overview of headquarters locations of the banks and insurers in our sample. Our sample consists of firms headquartered in ten EU countries, with Germany and the UK hosting the most headquarters.

"Table 2 about here"

Country-specific disclosure of subsidiaries on a firm-by-firm basis (i.e., not aggregated by country) is required by both IFRS, the applicable accounting standard for all banks and most insurers in our sample, and German GAAP, which a few firms in the control sample use. We hand-collect data on the location of subsidiaries from the notes to the IFRS financial statements for three years before and six years after CbCR implementation (2011 to 2019). We collected a total of 206,893 subsidiaries of banks and insurance groups, including the country of each subsidiary. Therefore, our data is more granular than CbCR data, as we can identify the number of subsidiaries per country not only in the post-CbCR period but also in the pre-period. Consistent with other studies using financial reporting data, we rely on the accuracy of audited IFRS disclosures. Therefore, we attribute any disclosure or nondisclosure of tax haven subsidiaries to their respective presence or absence, not to misreporting.

We build on the literature to define a list of tax haven jurisdictions. Firms invest in tax havens not only because local income is taxed at low or zero rates but also because subsidiaries in tax havens can facilitate the avoidance of taxes that would otherwise be payable in high-tax countries (Dharmapala & Hines, 2009). Although tax haven countries share similar characteristics, there is no universally accepted list of tax havens. For our study, we choose the list of tax havens provided by Hines (2010), which includes 52 countries. Following Hines and Rice (1994) and Desai et al. (2006), we distinguish between the big 7 (big7) tax havens and all other tax haven countries, the so-called dot tax havens. Big 7 tax havens are low tax countries with relatively large economies and populations, and include Hong Kong, Ireland, Lebanon, Liberia, Panama, Singapore, and Switzerland. Economic substance, rather than

[6] The approximation is based on Overesch and Wolff (2021) and their online appendix, and on BankFocus data.

tax or banking secrecy, likely drives the presence of firms in these countries. Dot tax havens tend to be small island states with little economic substance. EU tax havens include only full EU member states listed by Hines (2010). Appendix B defines and shows our list of tax havens.

In addition, we use the Financial Secrecy Index (FSI) of the Tax Justice Network (2015) to proxy for the degree of financial secrecy at the country level. The FSI assesses the extent to which a jurisdiction's financial system facilitates the concealment of wealth and assets, and impedes tax authorities and regulators from accessing information (Cobham et al., 2015). More specifically, this index ranks countries according to their level of secrecy, with higher ranks indicating less financial transparency, less commitment to information sharing with other national authorities, and less compliance with international anti-money laundering norms. With the FSI, a lower numerical rank indicates greater financial secrecy.

We use the FSI to measure secrecy in two different ways. First, we split all countries where our sample subsidiaries are located into two groups based on the median rank of the FSI index, with countries below the median rank categorized as high financial secrecy countries and countries above the median rank categorized as low financial secrecy countries. Second, using the Hines (2010) list of tax havens, we consider a tax haven to also be a regulatory haven with high financial secrecy if that jurisdiction's FSI rank is below the median rank in the FSI. Otherwise it is considered a non-regulatory haven, meaning a tax havens with low financial secrecy.

4.2. Estimation and variables

To assess our main research question and isolate the effect of incremental tax transparency on banks' group structures and their presence in tax havens relative to insurers, which are unaffected by public CbCR, we apply a DiD research design.

$$\textbf{(I)} \qquad y_{i,t} = \beta_0 + \beta_1 Bank_i + \beta_2 PostCbCR_t + \beta_3 Bank_i * PostCbCR_t + \sum \beta_k \, Controls_{i,t} + \varepsilon_{i,t}$$

We estimate tax and/or regulatory haven presence as our dependent variable ($y_{i,t}$) by the number of tax and/regulator haven subsidiaries (log(1+ # subsidiaries)) per parent firm *i*, per year *t* to avoid losing observations with zero haven subsidiaries. In other words, we aggregate all tax and/or regulatory

haven subsidiaries at the level of the parent firm and run our estimation separately, depending on the tax and/or regulatory haven definition used in the particular regression. Given the careful hand-collection of subsidiary data for each parent firm and the small sample size, we refrain from any outlier treatment of the dependent variable in the form of winsorization or truncation.

For the independent variables, we include the indicator variable *Bank*, coded 1 for banks headquartered in Europe and 0 for insurers firms headquartered in Europe. The time indicator variable *PostCbCR*, is coded 1 for financial years 2014 to 2019 and 0 otherwise. The coefficient of interest in our model is β_3, which captures the relative change in tax haven subsidiaries of banks compared to insurers over the implementation of public CbCR.

We also include control variables to account for time-varying firm characteristics that may influence tax haven presence. Importantly, we control for the log of the number of non-haven subsidiaries (*Non-haven Subsidiaries*) to capture a general trend for banks to reduce the number of subsidiaries since the financial crisis. We control for the logarithm of a firm's total assets (*Total Assets*) to control for size and to account for the potential influence of larger firms, which may face distinct political costs or have greater tax planning opportunities, as highlighted by Zimmerman (1983) and Rego (2003). We include the return on assets (*ROA*) to control for profitability, as studies suggest that firm performance and tax haven use are related (Dyreng & Lindsey, 2009). We control for the equity ratio (*Equity Ratio*) to account for potential confounding factors related to firms' financial structure, regulatory constraints, and risk preferences. We add the age (*Age*) of the parent firm as an additional control variable to account for firm maturity. We include the share of institutional ownership (*Inst_Ownership*) as a proxy for the quality of corporate governance. This quality could influence tax planning strategies (e.g., Desai & Dharmapala, 2006; Khan et al., 2017). We cluster standard errors at the parent-firm level to account for possible serial correlation over time. We obtain financial data for our control variables from S&P Global Market Intelligence and ORBIS. The control variables of Equation (I) are winsorized at the 1% and 99% levels. Our results are robust to not winsorizing. Appendix A presents our variable definitions.

5. Empirical results

5.1. Main results

We present our results based on descriptive statistics and DiD specifications using a treatment and control sample for the years 2011 to 2019. Since public CbCR became mandatory in 2014, the pretreatment years are 2011, 2012, and 2013. Accordingly, the years 2014 to 2019 serve as the period in which mandatory tax transparency for banks was in effect.

Figure 1 Graphs (a) and (b) plot the development of the absolute number of tax haven, dot tax haven, big 7 tax haven, and EU tax haven subsidiaries over time. Banks decreased their number of tax haven subsidiaries after 2013, while insurers not subject to public CbCR show a positive slope over time. Taken together, the two lines for banks and insurers are similar in the pre-period, supporting the parallel trends assumption.

"Figure 1 around here"

Table 3 shows the summary statistics separately for the treatment (banks) and control (insurers) groups. On average, banks have about 66 tax haven subsidiaries per year, while insurers have about 34 per year. Similarly, banks have a higher average number of non-haven subsidiaries (427 versus 243). Banks are larger and less profitable but have a similar equity ratio to insurers. Panels C and D show the summary statistics for the treatment and control groups separately for the pre- and post-CbCR years (2011–2013 versus 2014–2019). In contrast to insurers, which increased both the total number of subsidiaries and the number of tax haven subsidiaries, banks show a decrease in both figures in the post-CbCR period. Both groups slightly increased their size over time as measured by total assets. Banks in the treatment group experienced an increase in ROA after the introduction of public CbCR, with the mean increasing from 0.2% to 0.4%. In comparison, insurers in the control group show a similar pattern, increasing their ROA from 0.6% to 0.8%. The level of capitalization for both groups remains unchanged over time. Finally, insurers are slightly older than banks in our sample and have a lower share of institutional ownership.

"Table 3 around here"

Table 4 displays the correlation matrix. While size, age, and the number of non-haven subsidiaries are significantly positively correlated with tax haven subsidiaries, profitability and

capitalization both show a significantly negative correlation with most haven types. Institutional ownership, as a proxy for governance, usually has a negative but non-significant correlation with haven subsidiaries.

"Table 4 around here"

Table 5 column (1) presents our results from the multivariate DiD analysis using an ordinary least squares (OLS) regression with the number of tax haven subsidiaries (log (1+ # subsidiaries)) as the dependent variable. Column (1) reports the results for all tax havens. Since we do not use fixed effects in this specification, the variables *Bank* and *PostCbCR* show the main effects of the indicator variables. The lack of significance of the *Bank* coefficient for all tax havens implies that there was no notable difference between banks and insurers in terms of their number of haven subsidiaries prior to the reform. Consistent with the graphical evidence of Figure 1, the positive coefficient of *PostCbCR* indicates that there is an increase over time in the number of tax haven subsidiaries for the control group of insurers in the absence of the CbCR reform. Our coefficient of interest is the interaction term *Bank*PostCbCR*, which estimates the change in banks' tax haven subsidiaries after the reform relative to a control group of unaffected insurers (Breuer & deHaan, 2024). β_3 is negative and statistically significant, indicating that the number of banks' tax haven subsidiaries decreased significantly compared to insurers' tax haven subsidiaries after the implementation of CbCR.[7]

"Table 5 around here"

To control for unobserved variation across firms and time, we include high-dimensional fixed effects into the multivariate analysis. We modify Equation (I) and follow Overesch and Wolff (2021) to estimate:

(II) $$y_{i,t} = \beta_0 + \beta_1 Bank_i * PostCbCR_t + \sum \beta_k Controls_{i,t} + \mu_i + \theta_t + \varepsilon_{i,t},$$

where μ_i and θ_t are firm and year fixed effects, respectively. The implementation of firm and year fixed effects results in the omission of the *Bank* and *PostCbCR* indicator variables from the

[7] We also estimate a pre-post model without the DiD interaction. Untabulated results show no significant overall decline in tax haven subsidiaries across the full sample of financial firms, ruling out a broad time trend. Additional cross-sectional tests reveal that banks have a negative but a non-significant post-reform coefficient, while insurers exhibit a positive and statistically significant coefficient, in line with our main analyses.

regression equation due to perfect collinearity.[8] All other variables are left unchanged. Our results in Table 5 column (2) support our findings from our first estimation in column (1).[9] They suggest that banks, on average, reduce their total number of tax haven subsidiaries by about -32.5% ($(e^{-0.393} - 1)\%$) relative to insurers, which are unaffected by public CbCR, while controlling for the increasing number of non-haven subsidiaries and other firm characteristics.

To further strengthen the parallel trends assumption of our model, we perform a placebo test by replacing *PostCbCR* in Equation (I) with year dummies. If the introduction of public CbCR is responsible for a reduction of tax haven presence, the coefficient of the interaction term should only load for financial years starting 2014. Figure 2 depicts the multivariate results. We use 2013, the year immediately prior to the reform, as a reference year to evaluate the timing of the effect of public CbCR and the parallel trends assumption. Thus, we constrain the coefficient to be zero in the year before the reform and test the annual coefficients for the other years in the sample relative to the year 2013. For the categories of all tax haven subs, dot tax haven subs, and EU tax haven subs, Figure 2 shows that the coefficient of interest is not significant in the pre-treatment years (2011 and 2012) and becomes significant only after the implementation of the transparency regime. Conversely, the coefficients of big 7 tax havens are never significant.

"Figure 2 around here"

Our results support the rejection of the null hypothesis in H1, and they are consistent with De Simone and Olbert's (2022) study on increased tax transparency through private CbCR, which reports a 17% to 24% reduction in tax haven subsidiaries. However, given the significant positive coefficient for non-haven subsidiaries, our results suggest a targeted reduction of tax haven presence relative to insurers rather than a more general organizational restructuring in the post-CbCR period. To illustrate the magnitude of the negative effect of public CbCR on tax haven presence, Intesa Sanpaolo serves as a case study. In the pre-CbCR period, Italy's second largest bank increased its number of tax haven

[8] Cp. footnote 24 of Overesch and Wolff (2021) and footnote 27 of Breuer and deHaan (2024).
[9] Our subsequent analyses follow Equation (II) for better model fit. Results hold when estimating Equation (I).

subsidiaries from 95 in 2011 to 101 in 2013. After the public CbCR requirement, the bank significantly reduced its tax haven presence to just 23 subsidiaries in 2019.

5.2. Tax haven heterogeneity

We also examine whether the reduction in tax haven subsidiaries depends on the type of tax haven country. Appendix B defines the different categories of tax and regulatory havens. Following Hines and Rice (1994) and Desai et al. (2006), and as discussed earlier, we distinguish between dot tax havens and big 7 tax havens. We expect that one reason banks reduce their presence in tax havens in response to public CbCR is reputational concerns. As a result, we expect that banks subject to increased tax transparency will reduce their number of dot tax haven subsidiaries more than subsidiaries located elsewhere, as involvement in dot tax haven jurisdictions may attract particularly negative publicity.

Table 6 reports a negative and significant relative reduction of the number of subsidiaries located in dot tax havens (column (1)) but not in big 7 tax havens (column (2)). In addition, we examine whether public CbCR is also associated with a relative reduction in the number of subsidiaries in EU tax havens. Table 6 column (3) shows a negative and statistically significant coefficient of the interaction term, indicating that EU tax haven presence is negatively associated with the adoption of public CbCR.

"Table 6 around here"

5.3. The role of regulatory costs

As mentioned above, regulatory concerns may play a role for managers when deciding on their global organizational structure. The literature shows that firms invest in tax havens not only for tax reasons but also because of the secrecy these countries offer (Braun & Weichenrieder, 2015; Karhunen et al., 2022). Opaque country structures can facilitate misdeeds, such as direct expropriation of shareholders (Bennedsen & Zeume, 2018), or obscure the beneficial ownership of assets (Schjelderup, 2016; Amberger et al., 2025). As discussed earlier, we use the FSI Index to assess and rank the degree of financial secrecy in jurisdictions. The FSI has been used in prior studies on tax havens (e.g., Ahrens et al., 2022; Karhunen et al., 2022).

We cannot reject H2 in the null form, as we find only weak evidence of a negative association ($p<0.1$) between the introduction of public CbCR and the presence of banks in financially opaque countries (Table 6 column (4)), and we observe no significant change in subsidiaries in financially transparent countries (column (5)). We take this as evidence that regulatory concerns about the presence of subsidiaries in financially opaque jurisdictions alone did not change the global subsidiary structure of banks.

In the next step, we consider the relationships of tax and dot tax havens with regulatory havens. As explained earlier, regulatory havens are tax havens (Hines, 2010) with an below median rank in the FSI, i.e., tax havens with high financial secrecy. Correspondingly, tax and nonregulatory havens are havens with an above median rank in the FSI, i.e., tax havens with low financial secrecy. Since public CbCR significantly increased financial transparency at the country level (Dutt et al., 2019b), we expect in H3 a larger reduction in subsidiaries located in opaque tax havens (tax and regulatory havens) than in transparent tax havens (tax and nonregulatory havens). The results in Table 6 columns (6), (7), (8), and (9) support our expectations. We find a strong significant negative effect of public CbCR on banks' presence in tax and regulatory havens relative to insurers in column (6) and in dot tax and regulatory havens in column (8). In contrast, we find no evidence that banks reduce their presence in more transparent jurisdictions, even if they are tax (dot tax) havens. Columns (7) and (9) show no significance for the same test based on a list of tax (dot tax) havens with low financial secrecy (tax and nonregulatory havens/dot tax and nonregulatory havens). Taken together, the tests presented in Table 6 columns (6) to (9) support H3, with EU banks reducing their presence in tax *and* regulatory havens more than insurers after the introduction of public CbCR.

Collectively, these results suggest that regulatory concerns play a role in banks' decisions about their corporate group structure in the face of increased financial transparency. However, this dynamic holds only for tax haven jurisdictions characterized by high financial secrecy.

5.4. The role of reputational costs

We next test the association between reputational risk and tax haven presence after the introduction of public CbCR. Following the literature (Hummel & Schlick, 2016; Asante-Appiah, 2020; Darendeli et

al., 2022; Preuss & Max, 2023), we measure reputational risk at the firm level using reputational risk ratings from the RepRisk database.

RepRisk evaluates companies based on their vulnerability to public scrutiny. This is determined by the presence of negative stakeholder sentiment as observed in various sources, such as the media, NGOs, and government agencies. The database relies on an automated daily collection of negative stakeholder sentiment against firms from publicly available sources worldwide, excluding self-reported information from firms that may be less reliable. This approach allows us to isolate reputational risk arising from the perception of the firm's conduct and practices. The RepRisk rating[10] is on a scale from AAA to D, with AAA representing no or very low risk and D representing high risk. The RepRisk rating in our sample ranges from AAA (e.g., Norddeutsche Landesbank) to CC (e.g., HSBC Holdings Plc), with an average between A and BBB.

We expect banks with a lower reputational risk (e.g., banks that were exposed to less negative public scrutiny prior to the introduction of public CbCR) to be more sensitive to increased tax transparency with respect to tax haven presence because banks with previously lower reputational risk may anticipate higher marginal reputational costs from public CbCR. This expectation is based on the notion that banks with a high level of reputational risk may have already factored substantial reputational costs into their strategic decisions, potentially leading to some resilience in the face of increased transparency. Using the average RepRisk rating for 2013, the year before public CbCR took effect, we divide our sample into firms above and below the median and create the indicator variable *Lowrisk*, coded 1 for firms with low reputational risk and 0 otherwise. For a few firms in our sample, RepRisk does not provide a rating. In accordance with the premise that these firms are subject to minimal or no public scrutiny, we categorize them as low risk. To directly test the role of reputational risk in our sample, we modify Equation (II) and interact the *Bank* and *PostCbCR* indicator variables

[10] RepRisk provides two key metrics. The RepRisk Indicator (RRI) is constructed by analyzing news regarding adverse environmental, social, and governance (ESG) related matters, with consideration given to the gravity of the event and its visibility. The RepRisk Rating (RRR), which extends the RRI, considers additional country and industry risk exposures. Regardless which metric is used, our results stay robust.

with the *Lowrisk* indicator variable, resulting in a triple differences test of Equation (III) that follows an identification strategy similar to that of Collins & Urban (2014).

$$\textbf{(III)} \quad y_{i,t} = \beta_0 + \beta_1 Bank_i * PostCbCR_t + \beta_2 Lowrisk_i * PostCbCR_t + \beta_3 Bank_i * PostCbCR_t * Lowrisk_i + \sum \beta_k Controls_{i,t} + \mu_i + \theta_t + \varepsilon_{i,t}.$$

As in Equation (II), we include firm and year fixed effects, which results in the omission of the *Bank*, *PostCbCR*, and *Lowrisk* indicator variables, and the interaction term *Bank*Lowrisk.* The coefficient of interest in our triple difference model is β_3, which captures how the effect of public CbCR varies for low-risk banks in the post-CbCR period relative to high-risk banks. The negative and significant coefficient β_3 in Table 7 together with the joint significance test of the interaction terms suggests that banks with lower reputational risk prior to the introduction of CbCR, i.e., those that are more vulnerable to reputational costs from increased tax transparency, reduce their presence in havens more than their high-risk counterparts. In other words, high-risk banks in the treatment group were less negatively affected in their use of tax havens relative to banks with low reputational risk, suggesting that their marginal reputational costs are low.

"Table 7 around here"

5.5. Robustness and additional analysis

Our main test suggests a negative effect of the introduction of mandatory public CbCR on the *number* of tax haven subsidiaries of banks. Based on Equation (II), we now replace the dependent variable and instead use an indicator variable coded 1 if parent firm *i* has *at least one* subsidiary in a tax haven country in year *t*. We use a linear probability model to assess the effect of public CbCR on banks' overall presence in tax havens via subsidiaries (Gumpert et al., 2016). Consistent with our main findings, the DiD results in Table 8 column (1) show a significantly lower probability of banks maintaining a haven presence relative to insurers. Our results also hold for dot tax havens (column (2)), EU havens (column (4)), and tax (dot tax) havens that are also regulatory havens (columns (5) and (7)). As in our main test, the presence in big 7 havens is unaffected.

"Table 8 around here"

In our main test, we follow a standard approach and use a log + 1 transformation for our dependent variable. This approach has been criticized for its potential to introduce bias in the estimators (Santos Silva & Tenreyro, 2006). To check the robustness of our analysis, we turn to the Poisson Pseudo-Maximum Likelihood (PPML) method, which is well suited for count data and addresses concerns about overdispersion commonly associated with count variables (Wooldridge, 2010; Baltagi et al., 2015). In Table 9, we present the main results of our study using PPML. Overall, we report similar coefficients, directions, and significance for tax havens in general and for tax haven heterogeneity. These results remain qualitatively similar and consistent with the results from the OLS estimation.

"Table 9 around here"

To further strengthen our results, we conduct a falsification test using *Non-haven Subsidiaries*, the (log) absolute number of non-haven subsidiaries as the dependent variable. *Non-haven Subsidiaries* are subsidiaries located in all countries not listed as tax haven by Hines (2010). This approach mitigates concerns that our findings are driven by a general reduction in banks' global subsidiary presence, such as declining balance sheets after the financial crisis. The results in Table 10 indicate that banks do not change their number of non-haven subsidiaries relative to insurers.

"Table 10 around here"

A possible concern regarding the validity of our results could be that the reduction in the number of subsidiaries in tax havens that we observe is due to a general organizational clean-up of large banks because of increased tax transparency rather than a targeted reduction in the number of tax havens. De Simone and Olbert (2022) indicate that firms under private CbCR reduce their organizational complexity, i.e., reduce their total number of subsidiaries and increase their capital and labor expenditures in Europe. However, our results do not indicate an overall decrease in organizational complexity in the banking industry. To validate our results, we control for the number of non-haven subsidiaries (*Non-haven Subsidiaries*) in our main analysis (Table 6). We repeat our analysis using the percentage of haven subsidiaries (i.e., number of haven subsidiaries/number of all subsidiaries) as the dependent variable, and our results hold (untabulated). Combined, the coefficients for our variable of interest, the coefficients for the control variable for the number of non-haven subsidiaries, and the

falsification test reported in Table 10 indicate that a targeted reduction in haven subsidiaries has materialized.

To further mitigate the concern that increased tax transparency leads to more efficient organizational structures rather than to a targeted reduction of country presence in tax havens, we use the variable *Tax-haven Countries* to examine whether the number of unique tax haven countries in which the banks operate changes between the periods before and after the introduction of public CbCR changes, relative to the control group of unaffected insurers. A decrease in the number of subsidiaries but not in the number of countries suggests an organizational clean-up rather than a targeted structural change in the use of tax havens. In this test, we control for the presence in tax haven countries (*Tax-haven Countries*) instead of the number of tax haven subsidiaries (*Haven Subsidiaries*). Table 11 presents evidence of a significant ($p<0.01$) relative reduction in the average number of tax haven countries, including firm control variables and fixed effects (column (2)). Taken together, these tests indicate a targeted reduction in the presence in tax havens in response to public CbCR rather than a general reduction in organizational complexity.

"Table 11 around here"

The small sample size of our study could raise concerns that the effect of public CbCR on banks' haven presence is driven by a few outliers of very large banks that disproportionately reduce their haven exposure. We repeat our main test several times, excluding one bank in each run, to mitigate such concerns. The untabulated results increase confidence that our results are not driven by outliers. We further validate our findings by using different tax haven lists from the literature for our analysis. The untabulated tests based on the tax haven lists by Hines & Rice (1994) and Dyreng & Lindsey (2009) show robust and qualitatively similar results.

6. Conclusion

We investigate the effect of public CbCR on the presence of subsidiaries of European multinational banks in haven jurisdictions. Although the information on the location of banks' subsidiaries was publicly available before the introduction of public CbCR, this regulation has significantly increased

country-specific transparency and public awareness. Therefore, the introduction of public CbCR may result in additional costs due to increased attention from tax administrations, regulators, and the public. Incremental transparency could be costly for banks in particular, as they are subject to various stringent regulations and face higher reputational risks, especially since the financial crisis.

Our results suggest that European multinational banks reduce their presence in specific tax havens after the introduction of public CbCR compared to unaffected insurers. When distinguishing between dot tax havens and big 7 havens, we find a negative effect only for dot tax havens. Furthermore, our results elucidate the crucial role of haven heterogeneity for the observed effects, as banks only show a relative reduction in their number of subsidiaries in opaque tax havens with high financial secrecy. We also show that the effect of reducing haven subsidiaries is dominant for banks with low reputational risk. Our results suggest that these banks are sensitive to the introduction of public CbCR and actively reduce their presence in tax havens to shield their yet unaffected reputation, possibly to avoid future negative public scrutiny related to their tax haven exposure. Our study contributes to the literature on the real effects of financial disclosure, on the reputational costs of firms' tax behavior, and on the importance of multiple layers of concerns, here financial opacity, for banks' decisions. We identify the conditions under which banks respond to CbCR through real adjustments in their international presence.

As in related studies, our focus on globally systemically important banks limits our sample size. While our results may not be generalizable to smaller banks, which are subject to less public and regulatory scrutiny, it allows us to use hand-collected details on a substantial number of subsidiaries, enabling us to conduct a detailed analysis of large institutions that have been the primary target of public CbCR. Our findings are particularly relevant for policymakers who debate tax transparency measures. We present evidence that banks respond to additional disclosure requirements, especially when multiple layers of regulation coincide in haven jurisdictions.

Declaration of generative AI and AI-assisted technologies in the writing process: During the preparation of this work the authors used ChatGPT 3.5 and 4.0 to support the hand-collection of data on subsidiary location from firms' financial statements. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

References

Agarwal, S., Lucca, D., Seru, A., & Trebbi, F. (2014). Inconsistent regulators: Evidence from banking. *The Quarterly Journal of Economics, 129*(2), 889–938. https://doi.org/10.1093/qje/qju003.

Ahrens, L., Hakelberg, L., & Rixen, T. (2022). A victim of regulatory arbitrage? Automatic exchange of information and the use of golden visas and corporate shells. *Regulation and Governance, 16*(3), 653–672. https://doi.org/10.1111/rego.12363.

Aliprandi, G., Barake, M., & Chouc, P. E. (2021). Have European banks left tax havens? Evidence from country-by-country data. *EU Tax Observatory*. Retrieved from https://shs.hal.science/halshs-03350725. Accessed June 5, 2025.

Alstadsæter, A., Johannesen, N., & Zucman, G. (2018). Who owns the wealth in tax havens? Macro evidence and implications for global inequality. *Journal of Public Economics, 162*, 89–100. https://doi.org/10.1016/j.jpubeco.2018.01.008.

Amberger, H., Wilde, J., & Wu, Y. (2025). *Cross-border investment, deterrence, and compliance effects of ownership transparency*. Journal of Accounting and Economics, in press. https://doi.org/10.1016/j.jacceco.2025.101809

Asante-Appiah, B. (2020). Does the severity of a client's negative environmental, social, and governance reputation affect audit effort and audit quality? *Journal of Accounting and Public Policy, 39*(3)*,* 106713. https://doi.org/10.1016/j.jaccpubpol.2019.106713.

Asay, H. S., Hoopes, J. L., Thornock, J. R., & Wilde, J. H. (2024). Tax boycotts. *The Accounting Review, 99*(1), 1–29. https://doi.org/10.2308/TAR-2021-0213.

Austin, C. R., & Wilson, R. J. (2017). An examination of reputational costs and tax avoidance: Evidence from firms with valuable consumer brands. *Journal of the American Taxation Association, 39*(1), 67–93. https://doi.org/10.2308/atax-51634.

Austin, H. (2015). Five of world's biggest investment banks pay no UK corporation tax. *The Independent*. Retrieved from https://www.independent.co.uk/news/business/news/five-of-world-s-biggest-investment-banks-pay-no-uk-corporation-tax-a6783716.html. Accessed June 5, 2025.

Baltagi, B. H., Cameron, A. C., & Trivedi, P. K. (2015). Count panel data. In B. H. Baltagi (Ed.), *The Oxford Handbook of Panel Data* (pp. 1-26). Oxford: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199940042.001.0001.

Beatty, A., Chamberlain, S., & Magliolo, J. (1996). An empirical analysis of the economic implications of fair value accounting for investment securities. *Journal of Accounting and Economics, 22*(1-3), 43–77. https://doi.org/10.1016/S0165-4101(96)00429-6.

Bischof, J., & Daske, H. (2013). Mandatory disclosure, voluntary disclosure, and stock market liquidity: Evidence from the EU bank stress tests. *Journal of Accounting Research, 51*(5), 997–1029. https://doi.org/10.1111/1475-679X.12029.

Bischof, J., Daske, H., Elfers, F., & Hail, L. (2022). A tale of two supervisors: Compliance with risk disclosure regulation in the banking sector. *Contemporary Accounting Research*, *39*(1), 498–536. https://doi.org/10.1111/1911-3846.12715.

Bischof, J., Gassen, J., Rohlfing-Bastian, A., Rostam-Afschar, D., Sureth-Sloane, C. (2024). Accounting for transparency: A framework and three applications in tax, managerial, and financial accounting, *Schmalenbach Journal of Business Research, 76*(4), 573–611. https://doi.org/10.1007/s41471-024-00200-7.

Bouvatier, V., Capelle-Blancard, G., & Delatte, A.-L. (2025). *Banks defy gravity in tax havens*. Oxford Economic Papers, gpaf003. https://doi.org/10.1093/oep/gpaf003.

Bozanic, Z., Hoopes, J. L., Thornock, J. R., & Williams, B. M. (2017). IRS attention. *Journal of Accounting Research, 55*(1), 79–114. https://doi.org/10.1111/1475-679X.12154.

Braun, J., & Weichenrieder, A. J. (2015). Does exchange of information between tax authorities influence multinationals' use of tax havens? *WU International Taxation Research Paper Series No. 2015 - 11*. https://dx.doi.org/10.2139/ssrn.2569624.

Breuer, M., & deHaan, E. (2024). Using and interpreting fixed effects models. *Journal of Accounting Research*, *62*(4), 1183-1226. https://doi.org/10.1111/1475-679X.12559.

Brown, R. J. (2020). The impact of increased tax transparency via public country-by-country reporting on corporate tax aggressiveness: Evidence from the European Union. *Australian Tax Forum, 35*(4), 596–637.

Brühne, A. I., & Schanz, D. (2022). Defining and managing corporate tax risk: Perceptions of tax risk experts. *Contemporary Accounting Research, 39*(4), 2861–2902. https://doi.org/10.1111/1911-3846.12785.

Chircop, J., & Novotny-Farkas, Z. (2016). The economic consequences of extending the use of fair value accounting in regulatory capital calculations. *Journal of Accounting and Economics, 62*(2–3), 183–203. https://doi.org/10.1016/j.jacceco.2016.10.004.

Christensen, H. B., Floyd, E., Liu, L. Y., & Maffett, M. (2017). The real effects of mandated information on social responsibility in financial reports: Evidence from mine-safety records. *Journal of Accounting and Economics, 64*(2–3), 284–304. https://doi.org/10.1016/j.jacceco.2017.08.001.

Cobham, A., Janský, P., & Meinzer, M. (2015). The Financial Secrecy Index: Shedding new light on the geography of secrecy. *Economic Geography, 91*(3), 281-303. https://doi.org/10.1111/ecge.12094.

Darendeli, A., Fiechter, P., Hitz, J. M., & Lehmann, N. (2022). The role of corporate social responsibility (CSR) information in supply-chain contracting: Evidence from the expansion of CSR rating coverage. *Journal of Accounting and Economics, 74*(2-3), 101525. https://doi.org/10.1016/j.jacceco.2022.101525.

De Simone, L., & Olbert, M. (2022). Real effects of private country-by-country disclosure. *The Accounting Review, 97*(6), 201–232. https://doi.org/10.2308/TAR-2020-0714.

De Simone, L., Sansing, R. C., & Seidman, J. K. (2013). When are enhanced relationship tax compliance programs mutually beneficial? *The Accounting Review, 88*(6), 1971–1991. https://doi.org/10.2308/accr-50525.

Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics, 79*(1), 145–179. https://doi.org/10.1016/j.jfineco.2005.02.002.

Desai, M. A., Foley, F. C., & Hines, J. R. (2006). The demand for tax haven operations. *Journal of Public Economics, 90*(3), 513-531. https://doi.org/10.1016/j.jpubeco.2005.04.004.

Dharmapala, D., & Hines, J. R. (2009). Which countries become tax havens? *Journal of Public Economics, 93*(9–10), 1058–1068. https://doi.org/10.1016/j.jpubeco.2009.07.005.

Diller, M., Lorenz, J., Schneider, G., & Sureth-Sloane, C. (2025): Is tax transfer pricing harmonization a panacea? Real effects of global tax transparency and standards consistency, *The Accounting Review*, *100*(2), 71-102. https://doi.org/10.2308/TAR-2021-0477.

Dutt, V. K., Ludwig, C. A., Nicolay, K., Vay, H., & Voget, J. (2019a). Increasing tax transparency: Investor reactions to the country-by-country reporting requirement for EU financial institutions. *International Tax and Public Finance, 26*(6), 1259–1290. https://doi.org/10.1007/s10797-019-09575-4.

Dutt, V. K., Nicolay, K., Vay, H., & Voget, J. (2019b). *Can European banks' country-by-country reports reveal profit shifting? An analysis of the information content of EU banks' disclosures*. TRR 266 Accounting for Transparency Working Paper No. 19. https://dx.doi.org/10.2139/ssrn.3472876.

Dyreng, S. D., Hoopes, J. L., & Wilde, J. H. (2016). Public pressure and corporate tax behavior. *Journal of Accounting Research, 54*(1), 147–186. https://doi.org/10.1111/1475-679X.12101.

Dyreng, S. D., & Lindsey, B. P. (2009). Using financial accounting data to examine the effect of foreign operations located in tax havens and other countries on U.S. multinational firms' tax rates. *Journal of Accounting Research, 47*(5), 1283–1316. https://doi.org/10.1111/j.1475-679X.2009.00346.x.

Dyreng, S. D., & Maydew, E. L. (2018). Virtual issue on tax research. *Journal of Accounting Research, 56*(2), 311-311. https://doi.org/10.1111/1475-679X.12213.

European Banking Authority. (2014). Definition of 'establishment' for the purposes of country-by-country reporting – Scope of consolidation. Retrieved from https://www.eba.europa.eu/single-rule-book-qa/-/qna/view/publicId/2014_1248. Accessed June 5, 2025.

European Banking Authority. (2015). Global systemically important institutions (G-SIIs). Retrieved from https://www.eba.europa.eu/risk-analysis-and-data/global-systemically-important-institutions. Accessed June 5, 2025.
European Commission. (2013). Capital requirements - CRD IV/CRR – Frequently asked questions. Retrieved from https://ec.europa.eu/commission/presscorner/detail/en/MEMO_13_690. Accessed June 5, 2025.
European Insurance and Occupational Pensions Authority. (2015). EIOPA list of identified insurance groups for which a college of supervisors is in place. Retrieved from https://www.nextdeal.gr/PDFS/eggrafa/List%20of%20groups%202015_Final_29012016.pdf.
European Parliament. (2016). 'Panama papers' in a nutshell. Retrieved from https://www.europarl.europa.eu/thinktank/en/document/EPRS_ATA(2016)580903. Accessed June 5, 2025.
Evers, M., Meier, I., & Spengel, C. (2017). *Country-by-country reporting: Tension between transparency and tax planning*. ZEW – Centre for European Economic Research Discussion Paper No. 17-008. https://dx.doi.org/10.2139/ssrn.2913474.
Fatica, S., & Gregori, W. D. (2020). How much profit shifting do European banks do? *Economic Modelling, 90*, 536-551. https://doi.org/10.1016/j.econmod.2020.01.026.
Fiechter, P., Hitz, J.M., & Lehmann, N. (2022). Real effects of a widespread CSR reporting mandate: Evidence from the European Union's CSR directive. *Journal of Accounting Research, 60*(4), 1499-1549. https://doi.org/10.1111/1475-679X.12424.
Financial Times Editorial Board. (2020, April 28). Corporate bailouts should come with strings. *Financial Times Online.* Retrieved from https://www.ft.com/content/7836c4ce-893e-11ea-a01c-a28a3e3fbd33. Accessed June 5, 2025.
Fung, A., Graham, M., & Weil, D. (2007). *Full disclosure: The perils and promise of transparency*. Cambridge: Cambridge University Press. https://doi.org/10.1017/9780521699617.
Gallemore, J., Maydew, E. L., & Thornock, J. R. (2014). The reputational costs of tax avoidance. *Contemporary Accounting Research, 31*(4), 1103–1133. https://doi.org/10.1111/1911-3846.12055.
Graham, J. R., Hanlon, M., Shevlin, T., & Shroff, N. (2014). Incentives for tax planning and avoidance: Evidence from the field. *The Accounting Review, 89*(3), 991–1023. https://doi.org/10.2308/accr-50678.
Gramlich, J., & Whiteaker-Poe, J. (2013). *Disappearing subsidiaries: The cases of Google and Oracle*. Working Paper. https://dx.doi.org/10.2139/ssrn.2229576.
Gumpert, A., Hines, J. R. Jr., & Schnitzer, M. (2016). Multinational firms and tax havens. *The Review of Economics and Statistics, 98*(4), 713–727. https://doi.org/10.1162/REST_a_00591.
Hanlon, M. (2021). The possible weakening of financial accounting from tax reforms. *The Accounting Review, 96*(5), 389–401. https://doi.org/10.2308/TAR-2021-0198.
Hanlon, M., & Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. *Journal of Public Economics, 93*(1–2), 126–141. https://doi.org/10.1016/j.jpubeco.2008.09.004.
Hardeck, I., Harden, J. W., & Upton, D. R. (2021). Consumer reactions to tax avoidance: Evidence from the United States and Germany. *Journal of Business Ethics, 170*, 75–96. https://doi.org/10.1007/s10551-019-04292-8.
Hecking, M. (2020). Dänemark schließt Firmen mit Sitz in Steueroasen von Staatshilfe aus. *Manager Magazin*. Retrieved from https://www.manager-magazin.de/politik/europa/coronavirus-firmen-in-steueroasen-kriegen-in-daenemark-nichts-a-1306396.html. Accessed June 5, 2025.
Hines, J. R. (2010). Treasure islands. *Journal of Economic Perspectives, 24*(4), 103–126. https://doi.org/10.1257/jep.24.4.103.
Hines, J. R., & Rice, E. M. (1994). Fiscal paradise: Foreign tax havens and American business. *The Quarterly Journal of Economics, 109*(1), 149–182. https://doi.org/10.2307/2118431.
Holmes, R. (2020). A powerful lawmaker is asking the British government hard questions about the FinCEN files revelations. *Buzzfeed News*. Retrieved from https://www.buzzfeednews.com/article/richholmes/fincen-files-britain-high-risk-parliament-questions. Accessed June 5, 2025.

Hoopes, J. L., Mescall, D., & Pittman, J. A. (2012). Do IRS audits deter corporate tax avoidance? *The Accounting Review, 87*(5), 1603–1639. https://doi.org/10.2308/accr-50187.
Houston, J. F., Lin, C., & Ma, Y. (2012). Regulatory arbitrage and international bank flows. *The Journal of Finance, 67*(5), 1845–1895. https://doi.org/10.1111/j.1540-6261.2012.01774.x.
Hummel, K., & Schlick, C. (2016). The relationship between sustainability performance and sustainability disclosure: Reconciling voluntary disclosure theory and legitimacy theory. *Journal of Accounting and Public Policy, 35*(5), 455–476. https://doi.org/10.1016/j.jaccpubpol.2016.06.001.
International Consortium of Investigative Journalists (ICIJ). (2020). FinCEN Files. Retrieved from https://www.icij.org/investigations/fincen-files/. Accessed June 5, 2025.
Jacob, M. (2021). Real effects of corporate taxation: A review. *European Accounting Review, 31*(1), 269–296. https://doi.org/10.1080/09638180.2021.1934055.
Joshi, P., Outslay, E., & Persson, A. (2020). Does public country-by-country reporting deter tax avoidance and income shifting? Evidence from the European banking industry. *Contemporary Accounting Research, 37*(4), 2357–2397. https://doi.org/10.1111/1911-3846.12601.
Kanodia, C., & Sapra, H. (2016). A real effects perspective to accounting measurement and disclosure: Implications and insights for future research. *Journal of Accounting Research, 54*(2), 623–676. https://doi.org/10.1111/1475-679X.12109.
Karhunen, P., Ledyaeva, S., & Brouthers, K. D. (2022). Capital round-tripping: Determinants of emerging market firm investments into offshore financial centers and their ethical implications. *Journal of Business Ethics, 181*(1), 117–137. https://doi.org/10.1007/s10551-021-04908-y.
Khan, M., Srinivasan, S., & Tan, L. (2017). Institutional ownership and corporate tax avoidance: New evidence. *The Accounting Review, 92*(2), 101-122. https://doi.org/10.2308/accr-51529.
Kubick, T. R., Lynch, D. P., Mayberry, M. A., & Omer, T. C. (2016). The effects of regulatory scrutiny on tax avoidance: An examination of SEC comment letters. *The Accounting Review, 91*(6), 1751–1780. https://doi.org/10.2308/accr-51433.
Lagarden, M., Schreiber, U., Simons, D., & Sureth-Sloane, C. (2020). Country-by-country reporting goes public – Cui bono? *International Transfer Pricing Journal, 27*(2), 1–7. https://doi.org/10.59403/3j16jk4.
Langenmayr, D., & Reiter, F. (2022). Trading offshore: Evidence on banks' tax avoidance. *The Scandinavian Journal of Economics, 124*(3), 797–837. https://doi.org/10.1111/sjoe.12507.
Leikvang, H. (2012). Piercing the veil of secrecy: Securing effective exchange of information to remedy the harmful effects of tax havens. *Vanderbilt Journal of Transnational Law, 45*(1), 293–342. Retrieved from https://scholarship.law.vanderbilt.edu/vjtl/vol45/iss1/6/. Accessed June 5, 2025.
Leuz, C., & Wysocki, P. D. (2016). The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. *Journal of Accounting Research, 54*(2), 525–622. https://doi.org/10.1111/1475-679X.12115.
Luce, R. D. (1959). Individual choice behavior. *Journal of the American Statistical Association*, *56* (293), 172-174. https://doi.org/10.2308/accr-51433.
McFadden, D. (1978). Modeling the choice of residential location. In K. Anders, L. Lundqvist, F. Snickars, & J. Weibull (Eds.), *Spatial interaction theory and planning models* (pp. 75-96). Amsterdam: North Holland. Retrieved from https://eml.berkeley.edu/reprints/mcfadden/location.pdf. Accessed June 5, 2025.
Müller, R., Spengel, C., & Weck, S. (2024). How do investors value the publication of tax information? Evidence from the European public country-by-country reporting. *Contemporary Accounting Research, 41*(3), 1893–1924. https://doi.org/10.1111/1911-3846.12965.
Obermaier, F., & Ott, K. (2020). Erst im Steuerparadies, dann vom Staat gerettet? *Süddeutsche Zeitung*. Retrieved from https://www.sueddeutsche.de/wirtschaft/corona-steueroase-1.4893770. Accessed June 5, 2025.
Ongena, S., Popov, A., & Udell, G. F. (2013). When the cat's away the mice will play: Does regulation at home affect bank risk-taking abroad? *Journal of Financial Economics, 108*(3), 727–750. https://doi.org/10.1016/j.jfineco.2013.01.006.

Overesch, M., & Wolff, H. (2021). Financial transparency to the rescue: Effects of public country-by-country reporting in the EU banking sector on tax avoidance. *Contemporary Accounting Research, 38*(3), 1616–1642. https://doi.org/10.1111/1911-3846.12669.

Oxfam. (2017). Opening the vaults: The use of tax havens by Europe's biggest banks. Retrieved from https://www-cdn.oxfam.org/s3fs-public/bp-opening-vaults-banks-tax-havens-270317-en_0.pdf. Accessed June 5, 2025.

Preuss, S., & Max, M. (2023). Do firms put their money where their mouth is? Sociopolitical claims and corporate political activity. *Accounting, Organizations and Society, 113*, 101510. https://doi.org/10.1016/j.aos.2023.101510.

Rauter, T. (2020). The effect of mandatory extraction payment disclosures on corporate payment and investment policies abroad. *Journal of Accounting Research, 58*(5), 1075–1116. https://doi.org/10.1111/1475-679X.12332.

Rego, S. (2003). Tax-avoidance activities of U.S. multinational corporations. *Contemporary Accounting Research, 20*(4), 805–833. https://doi.org/10.1506/VANN-B7UB-GMFA-9E6W.

Roychowdhury, S., Shroff, N., & Verdi, R. S. (2019). The effects of financial reporting and disclosure on corporate investment: A review. *Journal of Accounting and Economics, 68*(2–3), 101246. https://doi.org/10.1016/j.jacceco.2019.101246.

Santos Silva, J. M. C., & Tenreyro, S. (2006). The Log of gravity. *The Review of Economics and Statistics, 88*(4), 641–658. https://doi.org/10.1162/rest.88.4.641.

Schjelderup, G. (2016). Secrecy jurisdictions. *International Tax and Public Finance, 23*(1), 168–189. https://doi.org/10.1007/s10797-015-9350-7.

Slemrod, J. (1992). Do taxes matter? Lessons from the 1980's. *American Economic Review, 82*(2), 250-256. https://doi.org/10.3386/w4008.

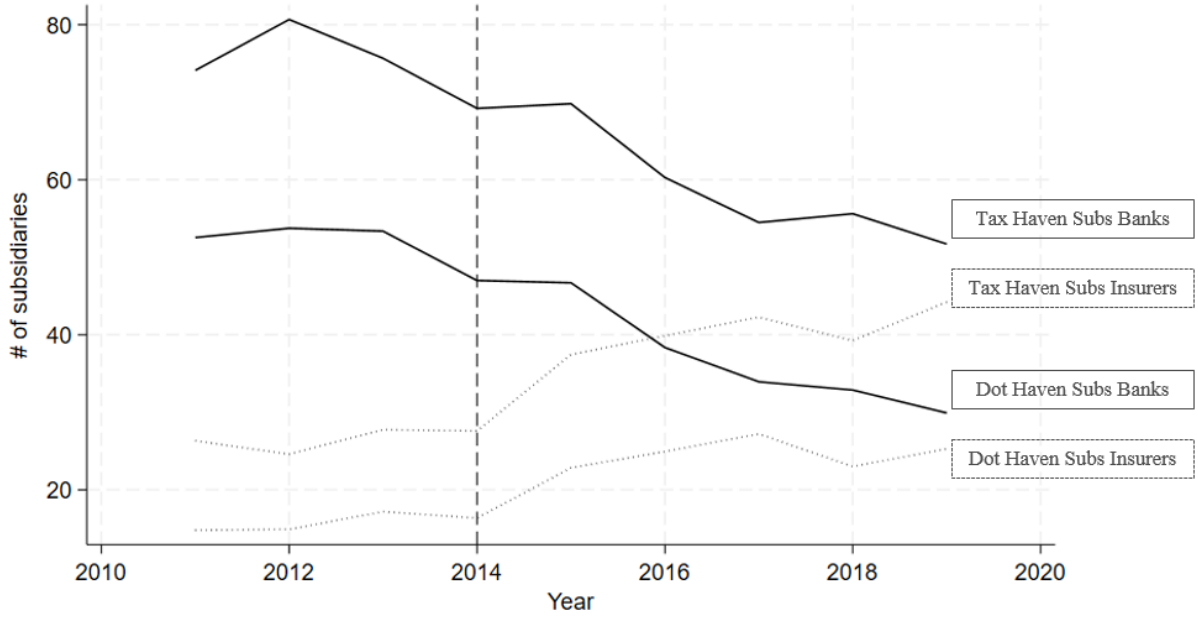
Tax Justice Network. (2015). Financial Secrecy Index 2015. Retrieved from https://taxjustice.net/2015/11/02/tjn-unveils-its-new-financial-secrecy-index/. Accessed June 5, 2025.

Treanor, J. (2013). Avaaz bank tax transparency petition attracts more than 200,000 signatures. *The Guardian online.* Retrieved from https://www.theguardian.com/business/2013/feb/27/eu-tax-transparency-avaaz-petition. Accessed June 5, 2025.

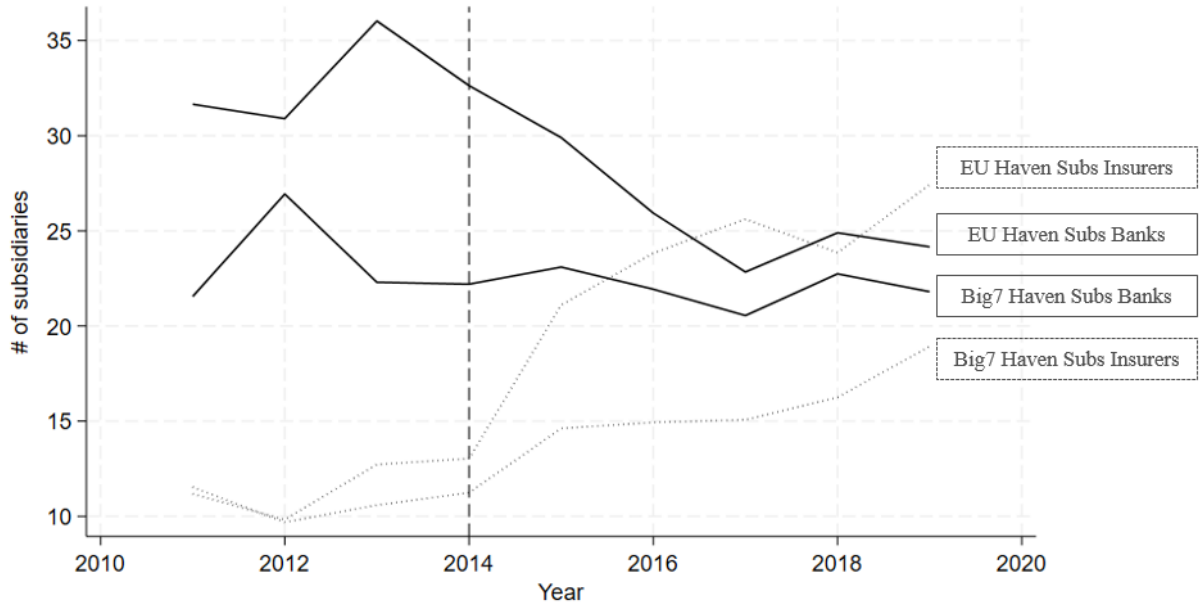
Woolridge, J. M. (2010). *Econometric analysis of cross section and panel data*. The MIT Press. Retrieved from *http://213.55.90.4/admin/home/Dmu%20Academic%20Resource/Postgraduate%20Studies/Accounting%20and%20finance/WOOLDRIDGE%20ECONOMETRIC%20ANALYSIS.PDF*. Accessed June 5, 2025.

Zimmerman, J. L. (1983). Taxes and firm size. *Journal of Accounting and Economics, 5*, 119–149. https://doi.org/10.1016/0165-4101(83)90008-3.

Figure 1. Haven presence of banks and insurers.



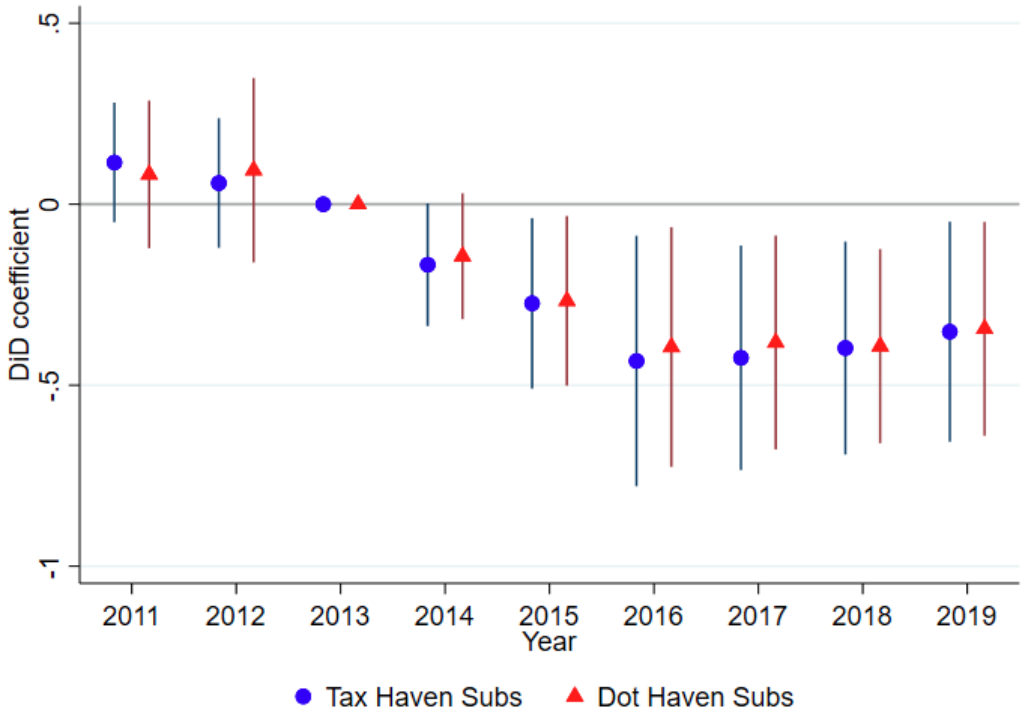
(a)



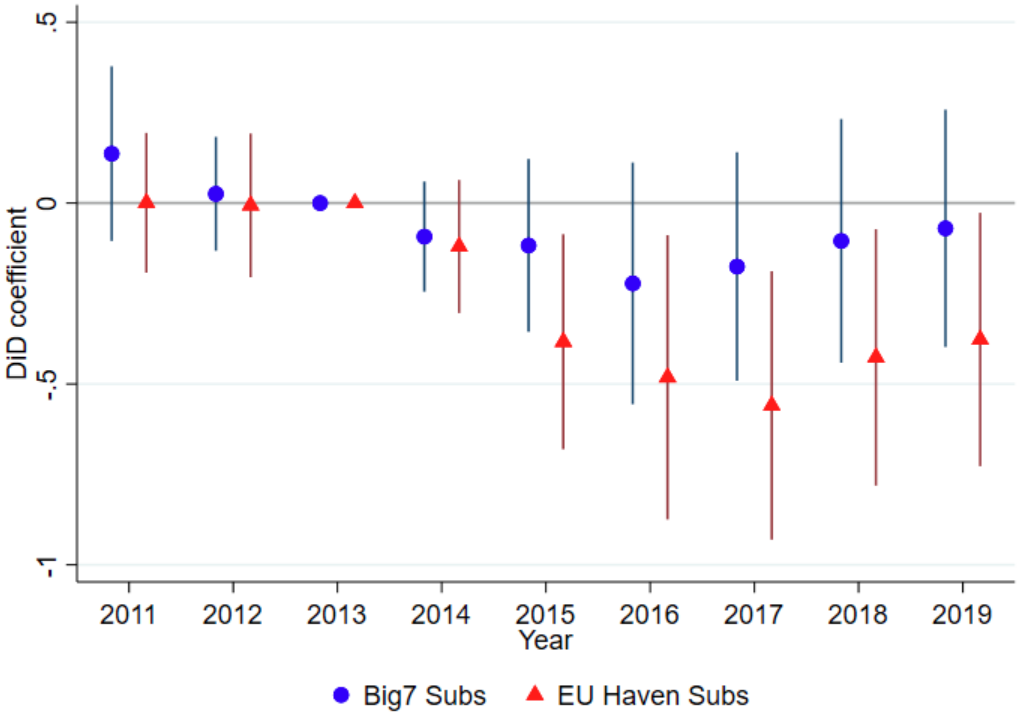
(b)

Notes: This figure illustrates the development of tax haven presence for banks (solid line) and insurers (dotted line) over time. Graph (a) plots the average absolute number of tax haven and dot tax haven subsidiaries on an annual basis. Graph (b) plots the average absolute number of big 7 tax haven and EU tax haven subsidiaries on an annual basis. Tax havens are defined in Appendix B.

Figure 2. DiD coefficients.



(a)



(b)

Notes: This figure illustrates the development of tax haven presence for banks and insurers over time. It displays difference-in-differences (DiD) coefficients (annual DiD estimates) relative to 2013 which is the year before the reform. Tax havens are defined in Appendix B.

Table 1
Sample selection for banks and insurers.

Panel A: Selection criteria European banks	Firms
European Banking Authority (EBA) list of global systemically important banks (G-SIB) as of 2015	37
Firm from Norway not subject to CBCR disclosure rules (DNB)	-1
Firms for which no consolidation scope could be obtained	-4
(ABN Amro, ING, Banca Monte Dei Paschi Di Siena, Nationwide)	
Purely domestic firm according to the consolidation scope (Banque Postale)	-1
Final sample	31

Panel B: Selection criteria European insurers	
European Insurance and Occupational Pensions Authority (EIOPA)	102
list of identified insurance groups for Supervision as at 2015	
Firms from EU countries not included in the primary sample of European banks, e.g., Bulgaria or Greece	-19
Firms for which no consolidation scope could be obtained	-17
Firms for which English language financial statements could not be obtained	-8
Firms domiciled in tax havens	-2
Firms part of an EU bank	-22
Bankruptcy or merger during the sample period	-3
Purely domestic firms according to the consolidation scope	-2
Final sample	29

Table 2
Composition by country of headquarters for sample European banks and insurers.

Country	**Banks**	**%**	**Insurers**	**%**
Austria	1	3.23%	2	6.90%
Belgium	1	3.23%	1	3.45%
Denmark	1	3.23%		
France	5	16.13%	4	13.79%
Germany	7	22.58%	9	31.03%
Italy	2	6.45%	3	10.34%
Netherlands	1	3.23%		
United Kingdom	5	16.13%	8	27.59%
Spain	4	12.90%	2	6.90%
Sweden	4	12.90%		
Total	**31**	**100.00%**	**29**	**100.00%**

Table 3

Summary statistics for banks and insurers.

Panel A. All banks.

Banks n=31	firm years	mean	sd	min	max	p25	p50	p75
Tax Haven Subs	275	65.6	84.6	0.0	401.0	5.0	25.0	102.0
Dot Tax Haven Subs	275	43.0	62.8	0.0	325.0	3.0	16.0	64.0
Big7 Tax Haven Subs	275	22.6	30.5	0.0	158.0	1.0	7.0	35.0
EU Tax Haven Subs	275	28.7	35.6	0.0	188.0	3.0	16.0	45.0
Tax & Reg. Haven Subs	275	52.9	73.3	0.0	356.0	5.0	20.0	80.0
Tax & Non-Reg. Haven Subs	275	12.4	16.7	0.0	97.0	0.0	5.0	21.0
Dot Tax & Reg. Haven Subs	275	41.5	61.1	0.0	321.0	3.0	15.0	58.0
Dot Tax & Non-Reg. Haven Subs	275	1.2	2.3	0.0	13.0	0.0	0.0	1.0
Total Assets	275	19.5	2.1	11.9	21.5	19.3	20.0	20.9
ROA	272	0.3	0.4	-1.5	1.5	0.2	0.3	0.5
Equity Ratio	275	0.1	0.0	0.0	0.1	0.0	0.1	0.1
Age	275	3.9	1.1	0.0	5.3	3.3	4.1	4.9
Inst_Ownership	271	0.6	0.3	0	1	0.3	0.5	0.9
Non-haven Subs	275	427.0	372.2	21.0	1,713.0	115.0	312.0	734.0

Panel B. All insurers.

Insurers n=29	firm years	mean	sd	min	max	p25	p50	p75
Tax Haven Subs	258	34.3	50.6	0.0	230.0	3.0	13.5	43.0
Dot Tax Haven Subs	258	20.7	31.7	0.0	171.0	1.0	8.0	23.0
Big7 Tax Haven Subs	258	13.6	23.8	0.0	168.0	1.0	5.0	15.0
EU Tax Haven Subs	258	18.7	33.3	0.0	178.0	1.0	6.5	17.0
Tax & Reg. Haven Subs	258	27.2	40.3	0.0	204.0	2.0	10.0	36.0
Tax & Non-Reg. Haven Subs	258	7.0	19.3	0.0	167.0	0.0	2.0	5.0
Dot Tax & Reg. Haven Subs	258	20.2	31.4	0.0	160.0	1.0	7.0	21.0
Dot Tax & Non-Reg. Haven Subs	258	0.4	1.0	0.0	8.0	0.0	0.0	0.0
Total Assets	258	18.0	1.6	14.9	20.7	16.7	17.9	19.4
ROA	257	0.7	0.7	-1.5	3.1	0.3	0.6	1.0
Equity Ratio	258	0.1	0.1	0.0	0.5	0.0	0.1	0.1
Age	258	4.0	1.2	0.0	5.3	3.4	4.1	4.9

Inst_Ownership	249	0.3	0.3	0	1	0.0	0.3	0.6
Non-haven Subs	258	242.5	275.3	6.0	1,256.0	51.0	147.5	287.0

Panel C. Banks before and after CbCR.

	Pre-CbCR								Post-CbCR							
Banks n=31	firm years	mean	sd	min	max	p25	p50	p75	firm years	mean	sd	min	max	p25	p50	p75
Tax Haven Subs	90	76.9	103.1	1.0	401.0	6.0	33.5	102.0	185	60.1	73.6	0.0	359.0	5.0	23.0	99.0
Dot Tax Haven Subs	90	53.2	79.6	0.0	325.0	3.0	18.0	65.0	185	38.1	52.3	0.0	286.0	3.0	14.0	55.0
Big7 Tax Haven Subs	90	23.7	31.4	0.0	158.0	1.0	9.5	41.0	185	22.1	30.1	0.0	140.0	1.0	7.0	35.0
EU Tax Haven Subs	90	32.9	41.9	0.0	188.0	3.0	19.0	50.0	185	26.7	32.0	0.0	168.0	3.0	16.0	40.0
Tax & Reg. Haven Subs	90	62.4	89.2	1.0	356.0	6.0	24.0	90.0	185	48.2	63.9	0.0	314.0	5.0	16.0	72.0
Tax & Non-Reg. Haven Subs	90	14.0	19.9	0.0	97.0	0.0	8.0	20.0	185	11.7	14.9	0.0	77.0	0.0	5.0	21.0
Dot Tax & Reg. Haven Subs	90	51.1	77.0	0.0	321.0	3.0	18.0	65.0	185	36.8	51.1	0.0	285.0	3.0	14.0	49.0
Dot Tax & Non-Reg. Haven Subs	90	1.4	2.6	0.0	13.0	0.0	0.0	1.0	185	1.0	2.1	0.0	13.0	0.0	0.0	1.0
Total Assets	90	19.5	2.2	11.9	21.5	19.4	20.0	20.8	185	19.6	2.1	11.9	21.5	19.3	20.1	20.9
ROA	88	0.2	0.4	-1.5	0.8	0.0	0.2	0.4	184	0.4	0.4	-1.5	1.5	0.2	0.3	0.6
Equity Ratio	90	0.1	0.0	0.0	0.1	0.0	0.0	0.1	185	0.1	0.0	0.0	0.1	0.1	0.1	0.1
Age	90	3.8	1.2	0.0	5.3	3.1	4.0	4.9	185	3.9	1.1	0.0	5.3	3.3	4.1	4.9
Inst_Ownership	86	0.6	0.3	0	1	0.4	0.5	0.8	185	0.5	0.3	0	1	0.3	0.5	0.9
Non-haven Subs	90	469.8	434.2	25.0	1,713.0	157.0	301.5	790.0	185	406.2	337.3	21.0	1,378.0	113.0	312.0	709.0

Panel D. Insurers before and after CbCR.

	Pre-CbCR								Post-CbCR							
Insurers n=29	firm years	mean	sd	min	Max	p25	p50	p75	firm years	mean	sd	min	max	p25	p50	p75
Tax Haven Subs	86	26.2	37.8	0.0	213.0	2.0	13.5	25.0	172	38.4	55.5	0.0	230.0	3.0	14.0	46.0
Dot Tax Haven Subs	86	15.6	23.2	0.0	129.0	1.0	6.0	19.0	172	23.3	35.0	0.0	171.0	1.0	9.5	29.0
Big7 Tax Haven Subs	86	10.6	16.5	0.0	88.0	1.0	5.0	14.0	172	15.1	26.6	0.0	168.0	1.0	5.0	15.5
EU Tax Haven Subs	86	11.2	19.1	0.0	129.0	1.0	4.0	12.0	172	22.4	38.0	0.0	178.0	1.0	7.0	20.0
Tax & Reg. Haven Subs	86	21.5	31.6	0.0	165.0	1.0	10.0	24.0	172	30.0	43.8	0.0	204.0	2.0	12.0	39.0
Tax & Non-Reg. Haven Subs	86	4.5	9.4	0.0	66.0	0.0	1.0	5.0	172	8.3	22.6	0.0	167.0	0.0	2.0	5.0
Dot Tax & Reg. Haven Subs	86	14.9	22.6	0.0	129.0	1.0	6.0	19.0	172	22.8	34.8	0.0	160.0	1.0	8.5	28.0
Dot Tax & Non-Reg. Haven Subs	86	0.5	1.4	0.0	8.0	0.0	0.0	0.0	172	0.3	0.8	0.0	6.0	0.0	0.0	0.0
Total Assets	86	17.9	1.6	14.9	20.5	16.7	17.8	19.4	172	18.0	1.6	15.1	20.7	16.7	17.9	19.5
ROA	86	0.6	0.8	-1.5	3.1	0.3	0.6	0.9	171	0.8	0.7	-1.3	3.1	0.4	0.6	1.0

Equity Ratio	86	0.1	0.1	0.0	0.5	0.0	0.1	0.1	172	0.1	0.1	0.0	0.5	0.1	0.1	0.1
Age	86	3.9	1.3	0.0	5.3	3.2	4.0	4.9	172	4.1	1.1	0.0	5.3	3.4	4.1	4.9
Inst_Ownership	81	0.3	0.3	0	1	0	0.3	0.6	168	0.4	0.3	0	1	0	0.3	0.6
Non-haven Subs	86	225.7	248.5	10.0	1,091.0	54.0	149.0	251.0	172	250.9	288.2	6.0	1,256.0	47.5	138.5	305.0

Note: All variables (tax havens) are defined in Appendix A (B).

Table 4

Matrix of correlations.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Tax Haven Subs	1													
Dot Tax Haven Subs	0.972*	1												
Big7 Tax Haven Subs	0.935*	0.846*	1											
EU Tax Haven Subs	0.942*	0.925*	0.869*	1										
Tax & Reg. Haven Subs	0.984*	0.984*	0.890*	0.913*	1									
Tax & Non-Reg. Haven Subs	0.854*	0.777*	0.915*	0.845*	0.774*	1								
Dot Tax & Reg. Haven Subs	0.968*	0.996*	0.841*	0.932*	0.983*	0.769*	1							
Dot Tax & Non-Reg. Haven Subs	0.499*	0.508*	0.483*	0.382*	0.499*	0.487*	0.470*	1						
Total Assets	0.387*	0.426*	0.328*	0.394*	0.407*	0.293*	0.432*	0.189*	1					
ROA	-0.126*	-0.162*	-0.068	-0.208*	-0.144*	-0.100*	-0.201*	0.078	-0.273*	1				
Equity Ratio	-0.065	-0.106*	-0.032	-0.193*	-0.068	-0.109*	-0.139*	0.100*	-0.340*	0.612*	1			
Age	0.107*	0.106*	0.069	0.103*	0.097*	0.041	0.095*	0.117*	0.061	0.118*	0.088*	1		
Inst_Ownership	-0.063	-0.05	-0.119*	-0.08	-0.065	-0.081	-0.07	0.055	0.072	-0.084	-0.153*	0.005	1	
Non-haven Subs	0.732*	0.750*	0.691*	0.727*	0.734*	0.685*	0.748*	0.433*	0.276*	-0.188*	-0.147*	0.110*	-0.132*	1

Notes: This table presents Pearson correlations between the variables used in the multivariate analysis. All variables (tax havens) are defined in Appendix B. * *p<0.05*

Table 5
DiD regression results on the effects of public CbCR on tax haven usage by banks vs. insurers.

Dependent variable: log (1+ the absolute number of subsidiaries) in:		
	(1)	(2)
VARIABLES	Tax Havens	Tax Havens
Bank	0.126	
	(0.253)	
PostCbCR	0.218**	
	(0.103)	
Bank*PostCbCR	**-0.339****	**-0.393*****
	(0.129)	**(0.115)**
Total Assets	0.0982*	-0.0561
	(0.0542)	(0.101)
ROA	0.199	0.0332
	(0.158)	(0.0516)
Equity Ratio	-0.839	-1.288
	(1.438)	(1.765)
Age	-0.00844	-0.0348
	(0.106)	(0.119)
Inst_Ownership	-0.384	0.270
	(0.297)	(0.266)
Non-haven Subs	1.009***	0.769***
	(0.0766)	(0.0934)
Constant	-4.133***	0.178
	(0.937)	(2.090)
Observations	517	517
Firm and Year Fixed Effects	no	yes
R-squared	0.660	0.958

Notes: This table presents DiD regression results using OLS on the effects of public CbCR on the subsidiary structure of multinational banks by comparing their tax haven presence in the period 2011-2019 with insurers. All variables (tax havens) are defined in Appendix A (B). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10

Table 6
DiD regression results on the effects of public CbCR on various kinds of tax haven usage by banks vs. insurers.

Dependent variable: log (1+ the absolute number of subsidiaries) in:

VARIABLES	(1) Dot Tax Havens	(2) Big7 Tax Havens	(3) EU Tax Havens	(4) High Financial Secrecy Countries (All Subs)	(5) Low Financial Secrecy Countries (All Subs)	(6) Tax & Regulatory Havens	(7) Tax & Non-Regulatory Havens	(8) Dot Tax & Regulatory Havens	(9) Dot Tax & Non-Regulatory Havens
Bank*PostCbCR	**-0.374*** **	**-0.181**	**-0.382*** **	**-0.112***	**-0.129**	**-0.418*** **	**-0.0914**	**-0.384*** **	**0.0255**
	(0.116)	**(0.117)**	**(0.135)**	**(0.0642)**	**(0.135)**	**(0.116)**	**(0.115)**	**(0.119)**	**(0.111)**
Total Assets	-0.101	0.0312	-0.0580	-0.0667*	0.182*	-0.0691	0.0688	-0.102	-0.137***
	(0.0979)	(0.0510)	(0.0690)	(0.0371)	(0.0928)	(0.106)	(0.0611)	(0.102)	(0.0501)
ROA	0.0365	0.0278	0.0407	0.000131	-0.0217	-0.0224	0.0989	0.0252	0.0658*
	(0.0586)	(0.0512)	(0.0592)	(0.0185)	(0.0479)	(0.0527)	(0.0622)	(0.0566)	(0.0341)
Equity Ratio	-1.289	-0.425	-0.934	-0.335	1.515	-0.906	-1.426**	-1.281	-1.344***
	(1.681)	(0.761)	(1.078)	(0.283)	(1.074)	(1.790)	(0.564)	(1.703)	(0.501)
Age	0.117	-0.01000	0.0925	-0.145	0.384**	0.0734	0.0588	0.197	0.0795
	(0.151)	(0.133)	(0.225)	(0.0942)	(0.175)	(0.140)	(0.149)	(0.200)	(0.128)
Inst_Ownership	0.285	0.469	0.569	0.592	0.752*	0.228	0.678*	0.273	0.0435
	(0.282)	(0.332)	(0.399)	(0.370)	(0.433)	(0.292)	(0.353)	(0.289)	(0.274)
Non-haven Subs	0.792***	0.632***	0.714***	0.946***	1.177***	0.736***	0.679***	0.745***	0.418***
	(0.0971)	(0.123)	(0.137)	(0.0678)	(0.130)	(0.0968)	(0.136)	(0.104)	(0.0985)
Constant	-0.141	-1.998	-0.764	1.383	-8.369***	-0.0272	-3.832**	-0.229	0.447
	(2.096)	(1.553)	(1.705)	(1.219)	(2.579)	(2.242)	(1.797)	(2.219)	(1.539)
Observations	517	517	517	517	517	517	517	517	517
Firm and Year Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes	yes
R-squared	0.950	0.941	0.925	0.978	0.934	0.956	0.926	0.949	0.787

Notes: This table presents DiD regression results using OLS on the effects of public CbCR on the subsidiary structure of multinational banks by comparing their tax haven presence in the period 2011-2019 with insurers. All variables (tax havens) are defined in Appendix A (B). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10

Table 7

Three-way interaction to test the role of reputational risk.

Dependent variable: log (1+ the absolute number of subsidiaries) in:

VARIABLES	(1) Tax Havens	(2) Dot Tax Havens	(3) Big7 Tax Havens	(4) EU Tax Havens	(5) Tax & Regulatory Havens	(6) Tax & Non-Regulatory Havens	(7) Dot Tax & Regulatory Havens	(8) Dot Tax & Non-Regulatory Havens
Bank*PostCbCR	-0.102	-0.190	0.0121	-0.0599	-0.235*	0.189	-0.224	0.213
	(0.107)	(0.149)	(0.112)	(0.187)	(0.121)	(0.151)	(0.157)	(0.204)
PostCbCR*Lowrisk	0.241	0.141	0.183	0.229	0.109	0.385**	0.0840	0.286*
	(0.155)	(0.180)	(0.162)	(0.220)	(0.153)	(0.173)	(0.184)	(0.155)
Bank*PostCbCR*Lowrisk	**-0.494****	**-0.315**	**-0.324**	**-0.558****	**-0.322**	**-0.441***	**-0.283**	**-0.289**
	(0.201)	**(0.234)**	**(0.212)**	**(0.269)**	**(0.217)**	**(0.225)**	**(0.241)**	**(0.218)**
Joint Significance (Chi²)	Prob > F = 0.004	Prob > F = 0.016	Prob > F = 0.379	Prob > F = 0.0101	Prob > F = 0.0026	Prob > F = 0.1772	Prob > F = 0.0139	Prob > F = 0.2920
Observations	517	517	517	517	517	517	517	517
Controls	yes	Yes	yes	yes	yes	yes	yes	yes
Firm and Year Fixed Effects	yes	Yes	yes	yes	yes	yes	yes	yes
R-squared	0.959	0.951	0.942	0.927	0.957	0.928	0.950	0.792

Notes: This table presents triple difference regression results using OLS on the effects of public CbCR on the firm structure of multinational banks with low/high reputational risk by comparing their tax haven presence with insurers with low/high reputational risk in the period 2011-2019. Lowrisk is an indicator variable equal to 1 for firms with low reputational risk and equal to 0 for firms with high reputational risk All variables (tax havens) are defined in Appendix A (B). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10

Table 8
Robustness test using linear probability model.

Dependent variable: Indicator variable (0/1) whether firms have a subsidiary in:

VARIABLES	(1) Tax Havens	(2) Dot Tax Havens	(3) Big7 Tax Havens	(4) EU Tax Havens	(5) Tax & Regulatory Havens	(6) Tax & Non-Regulatory Havens	(7) Dot Tax & Regulatory Havens	(8) Dot Tax & Non-Regulatory Havens
Bank*PostCbCR	**-0.0524****	**-0.0664****	**-0.0650**	**-0.0553***	**-0.0699****	**-0.0160**	**-0.0664****	**0.0281**
	(0.0260)	**(0.0295)**	**(0.0451)**	**(0.0285)**	**(0.0281)**	**(0.0562)**	**(0.0295)**	**(0.0719)**
Observations	517	517	517	517	517	517	517	517
Controls	yes	yes	yes	yes	yes	yes	yes	yes
Firm and Year Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes
R-squared	0.723	0.735	0.833	0.795	0.717	0.871	0.780	0.761

Notes: This table presents DiD regression results on the effects of public CbCR on the presence of multinational banks in tax havens (Hines, 2010) in the period 2011-2019 and comparing them with insurers using a linear probability model. All variables (tax havens) are defined in Appendix A (B). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10

Table 9
Robustness test using Pseudo-Poisson Maximum Likelihood (PPML).

Dependent variable: the absolute number of subsidiaries located in:

VARIABLES	(1) Tax Havens	(2) Dot Tax Havens	(3) Big7 Tax Havens	(4) EU Tax Havens	(5) High Secrecy Countries (All Subs)	(6) Low Secrecy Countries (All Subs)	(7) Tax & Regulatory Havens	(8) Tax & Non-Regulatory Havens	(9) Dot Tax & Regulatory Havens	(10) Dot Tax & Non-Regulatory Havens
Bank*PostCbCR	**-0.357*** **	**-0.441*** **	**-0.213**	**-0.518*** **	**-0.0724** **	**-0.0440**	**-0.362*** **	**-0.286**	**-0.467*** **	**0.679***
	(0.109)	**(0.0912)**	**(0.225)**	**(0.177)**	**(0.0350)**	**(0.0663)**	**(0.0993)**	**(0.377)**	**(0.0958)**	**(0.352)**
Observations	508	499	446	490	517	490	508	392	490	206
Controls	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Firm and Year Fixed Effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Notes: This table presents DiD regression results using PPML on the effects of public CbCR on the subsidiary structure of multinational banks by comparing their tax haven presence in the period 2011-2019 with insurers. All variables (tax havens) are defined in Appendix A (B). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10

Table 10

Falsification test where the dependent variable is *Non-haven Subsidiaries*.

VARIABLES	(1) *Non-haven Subsidiaries*	(2) *Non-haven Subsidiaries*
Bank	0.602	
	(0.414)	
Post	0.00254	
	(0.0684)	
Bank*PostCbCR	**-0.0948**	**-0.149**
	(0.134)	**(0.111)**
Observations	517	517
Controls	Yes	yes
Firm and Year Fixed Effects	No	yes
R-squared	0.255	0.952

Notes: This table presents DiD regression results on the effects of public CbCR on the firm structure of multinational banks by comparing their non-haven presence in the period 2011-2019 with insurers. All variables (tax havens) are defined in Appendix A (B). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10

Table 11

Public CbCR and tax haven country presence.

VARIABLES	(1) *Tax-haven Countries*	(2) *Tax-haven Countries*
Bank	0.0906	
	(0.170)	
PostCbCR	0.0837*	
	(0.0463)	
Bank*PostCbCR	**-0.166****	**-0.178*****
	(0.0676)	**(0.0648)**
Observations	517	517
Controls	yes	yes
Firm and Year Fixed Effects	no	yes
R-squared	0.514	0.926

Notes: This table presents DiD regression results on the effects of public CbCR on the presence of multinational banks in tax havens (Hines, 2010) in the period 2011-2019 and comparing them with insurers. All variables (tax havens) are defined in Appendix A (B). Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10

Appendix A.
Variable definitions.

Variables	*Definition*	*Source*
Haven Subsidiaries$_{,t}$	Natural logarithm of 1 + the absolute number of haven entities of parent firm *i* in year *t* following the definitions listed in Appendix B.	Hand-collected, supported by ChatGTP
Non-haven Subsidiaries$_{,t}$	Natural logarithm of 1 + the absolute number of entities in non-haven countries of parent firm *i* in year *t*. All countries are considered non-haven countries except for the 52 countries listed as tax havens by Hines (2010) in Appendix B.	Hand-collected, supported by ChatGTP
Tax-haven Countries$_{i,t}$	Natural logarithm of 1 + the absolute number of unique tax haven countries in which a bank or insurance parent firm *i* has at least one subsidiary in year *t*. Tax haven countries are the 52 countries per Hines (2010) listed in Appendix B	Hand-collected, supported by ChatGTP
Bank	Indicator variable coded 1 for bank parent firms and 0 for insurance parent firms.	
PostCbCR	Indicator variable coded 1 for observations for financial years 2014-2019 and 0 otherwise.	
Total Assets$_{it}$	Natural logarithm of total assets of parent firm *i* in year *t.*	S&P Global Market Intelligence
ROA$_{i,t}$	Return on assets of parent firm *i* in year *t*.	S&P Global Market Intelligence
Equity Ratio$_{i,t}$	Total equity divided by total assets of parent *i* in year *t.*	S&P Global Market Intelligence
Age$_{i,t}$	Natural logarithm of 1 + the age in years of the parent firm *i* in year *t*.	S&P Global Market Intelligence
Inst_Ownership$_{i,t}$	Percentage of ownership held by institutional investors of parent *i* in year *t.*	ORBIS
Non-haven Countries$_{i,t}$	Natural logarithm of 1 + the absolute number of unique non-haven countries in which a bank or insurance parent firm *i* has at least one subsidiary in year *t*.	Hand-collected, supported by ChatGTP
Lowrisk	Indicator variable coded 1 for firms with low reputational risk and 0 for firms with high reputational risk.	RepRisk

Appendix B.
Haven definitions and the list of tax havens.

Definitions of various kinds of tax and regulatory havens, including secrecy categorizations.

Tax Havens: Countries with low taxes, using the 52 countries listed by Hines (2010).

Dot Tax Havens: The 45 countries listed below with an asterisk, which is all 52 tax havens per Hines (2010) except those include as part of the big 7.

Big 7 Tax Havens: The seven largest low-tax countries with economic substance and a relatively large population: Hong Kong, Ireland, Lebanon, Liberia, Panama, Singapore, and Switzerland (Hines & Rice, 1994; Desai et al., 2006).

EU Tax Havens: Include only full EU member states listed in Hines (2010).

High Financial Secrecy Countries: All countries with subsidiaries in our sample that are below the median rank in the Financial Secrecy Index (FSI) of the Tax Justice Network (2015).

Low Financial Secrecy Countries: All countries with subsidiaries in our sample that are above the median rank of the FSI.

Regulatory Havens: Among the 52 tax havens per Hines (2010), a tax haven is also considered to be a regulatory haven if that jurisdiction's FSI rank is below the median rank.

Non-regulatory Havens: Among the 52 tax havens per Hines (2010), a tax haven is considered to be a non-regulatory haven if that jurisdiction's FSI rank is above the median rank.

List of tax havens used from Hines (2010).

1	Andorra*	19	Guernsey*	37	Nauru*
2	Anguilla*	20	Hong Kong	38	Netherlands Antilles*
3	Antigua and Barbuda*	21	Ireland	39	Niue*
4	Aruba*	22	Isle of Man*	40	Panama
5	Bahamas*	23	Jersey*	41	Samoa*
6	Bahrain*	24	Jordan*	42	San Marino*
7	Barbados*	25	Lebanon	43	Seychelles*
8	Belize*	26	Liberia	44	Singapore
9	Bermuda*	27	Liechtenstein*	45	Saint Kitts and Nevis*
10	British Virgin Islands*	28	Luxembourg*	46	Saint Lucia*
11	Cayman Islands*	29	Macao*	47	Saint Martin*
12	Cook Islands*	30	Maldives*	48	Saint Vincent and the Grenadines*
13	Costa Rica*	31	Malta*	49	Switzerland
14	Cyprus*	32	Marshall Islands*	50	Tonga*
15	Djibouti*	33	Mauritius*	51	Turks and Caicos Islands*
16	Dominica*	34	Micronesia*	52	Vanuatu*
17	Gibraltar*	35	Monaco*		
18	Grenada*	36	Montserrat*		

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