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Naming Without Shaming: Effectiveness of the European Union's Blacklist in Deterring Corporate Tax Avoidance

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Abstract

In December 2017, the European Union (EU) published the first iteration of its tax blacklist. The EU's blacklist aims to be a policy tool to fight tax avoidance by naming countries that fail to comply with good tax governance criteria. This paper uses a difference-in-differences model with staggered treatment to evaluate the effectiveness of the EU's blacklist on curbing corporate tax avoidance. I use the creation and operation of subsidiaries by multinational corporations as a proxy for corporate tax avoidance to estimate the causal effects of the blacklist. The model estimates reveal that while a jurisdiction being named on the blacklist has statistically insignificant effects, the implementation of policy reforms by a blacklisted jurisdiction has significant negative effects on the number of subsidiaries created and operated in that jurisdiction. As such, the results suggest that the EU should focus on ensuring that adding a country to the blacklist leads to policy changes rather than relying on reputational pressure to motivate changes in behavior.

Table of Contents

Introduction

In November 2020, a petition was presented to the German Minister of Justice and Consumer Protection. The petition demanded that the German Presidency of the European Union Council add the issue of tax transparency to the Council's agenda (Corporate Europe Observatory 2021). 230,000 signatories felt that corporations should be required to disclose their profits and taxes to stop multinational tax avoidance. This petition was well-founded—European Union member states are the biggest losers of profit shifting through tax avoidance. Between 2015 and 2020, Germany alone lost $17 billion in revenue due to tax avoidance by multinational corporations. Absent this shifting, Germany would have earned 26% more in corporate taxes (Schuinski 2023). Germany is far from an isolated case. Each year, countries lose about $347 billion to cross-border tax abuse by multinational corporations (Tax Justice Network 2024).

This petition was not the first time tax avoidance was brought to the forefront. In the fall of 2015, the Organisation for Economic Co-operation and Development (OECD) introduced a new set of proposed rules addressing tax avoidance by multinational corporations (MNCs) (Nevius 2015). In response to these rules, the European Union (EU) published its first tax blacklist two years later in December 2017. The EU list of non-cooperative tax jurisdictions, or the EU blacklist, is a list of countries that "have failed to fulfill their commitments to comply with good tax governance criteria within a specific timeframe, and countries which have refused to do so" (EU 2024). Countries are blacklisted to "encourage positive change in their tax legislation and practices through cooperation" so that tax evasion, avoidance, and fraud can be more effectively fought; for a country to be removed from the blacklist, it must commit to changing its tax policy to align with global standards of good tax governance (Ibid). Yet it is unclear how effective this blacklist is at achieving its intended goal of curbing tax avoidance.

As mentioned, the bulk of the monetary loss from global tax avoidance comes from corporate tax abuse. Thus, it is critical to understand how the EU blacklist impacts corporate tax avoidance. Since subsidiaries are commonly used to shift profits, a useful proxy for evaluating the tax-evading behaviors of MNCs is the creation and operation of subsidiaries (Mazerov 2024; Tørsløv, Weir, and Zucman 2020; Akhtar et al. 2019).

There is anecdotal evidence that a jurisdiction's blacklist status influences MNC decision-making regarding its foreign subsidiaries. In February 2018, the EU added the Cayman Islands to its blacklist. Only four months later, Anglian Water, a water company operating in England, lowered the amount of capital in its Cayman Islands subsidiary from £300 million to just £1, intending to close the subsidiary (Silva 2018). Anglian Water stated that this decision resulted from pressure from the U.K. government and water regulatory authorities due to concerns over "the use by some water companies of opaque financial structures based in tax havens" (Ibid). Was this subsidiary closure an isolated incident or indicative of a broader trend among MNCs?

Using data on subsidiary creation and activity in blacklisted and non-blacklisted tax havens, this paper will explore how the addition of a tax haven to the EU blacklist impacts corporate tax avoidance. Specifically, I seek to understand how blacklist status influences whether an MNC chooses to establish or operate a subsidiary in a given jurisdiction.

Answering this question requires an understanding of how blacklists impact tax-avoiding behavior. However, given that this area is largely unexplored, it is difficult to know if the EU blacklist is having the intended effect on behavior beyond the tax haven. Thus, it is unclear how effective the blacklist is as a policy tool to fight tax avoidance. If being added to the blacklist does not impact subsidiary creation and operation, that suggests that international organizations

and states looking for a tool that can effectively combat tax avoidance need an alternative. Curbing tax avoidance is becoming increasingly critical. It is projected that if tax avoidance persists at the current rate, $4.92 trillion will be lost globally in the next ten years (Tax Justice Network 2024).

This paper aims to evaluate how effective the EU's tax blacklist is at fighting corporate tax avoidance. I begin by providing a background on the two precursors to the EU blacklist, the EU blacklist itself, and the process of subsidiary creation and closure. Next, I provide a brief overview of the literature, which is divided into the impact of blacklists on tax haven behavior and the impact on corporate behavior, and build my theoretical argument. After describing the data collection and methodology, I analyze my results, which indicate that the policy reforms implemented by a jurisdiction as a result of being blacklisted are more important than whether or not the country is simply named on the blacklist. Finally, I offer recommendations and discuss the EU's path to addressing corporate tax avoidance.

Background

Per the OECD, a tax haven is a jurisdiction with "no or only nominal taxes, lack of effective exchange of information, lack of transparency, [and] no substantial activities" (1998, 23). While there is some debate over what caused their emergence, it is generally accepted that tax havens began to appear in large numbers during the seventies, with the most popular explanations for this proliferation being decolonization and financial flow liberalization (Laffitte 2024, 17; Ogle 2017, 1433). Smaller jurisdictions near major financial markets began establishing "bank-oriented financial structures that legally located transactions outside UK and US domestic regulation" (Morriss and Ku 2020, 3). Despite actions like the 1988 Basel Accord, designed to fix the international financial order, the expansion of tax havens continued into the

seventies and eighties as the Bretton Woods framework collapsed and capital and exchange controls were terminated. Offshore jurisdictions began to expand infrastructure to create independent regulatory bodies that recruited experts from outside the jurisdiction (Ibid).

OECD Initiative Against Harmful Tax Competition

In 1998, the OECD began to label activities as "harmful tax practices" in an attempt to reduce competition from offshore jurisdictions, and in 2000, they introduced the first tax blacklist (Congressional Research Service 2022, 8). The OECD considered 47 jurisdictions for its blacklist and excluded 6 due to advance information-sharing commitments. They ultimately settled on 35 countries for the first iteration, which are listed below.

Table 1 OECD June 2000 Blacklist (Sullivan 2007)

OECD June 2000 Blacklist		
Andorra	Grenada	Niue
Anguilla	Guernsey	Panama
Antigua and Barbuda	Isle of Man	Samoa
Aruba	Jersey	Seychelles
Bahamas	Liberia	St. Lucia
Bahrain	Liechtenstein	St. Kitts & Nevis
Barbados	Maldives	St. Vincent and the Grenadines
Belize	Marshall Islands	Tonga
British Virgin Islands	Monaco	Turks & Caicos
Cook Islands	Montserrat	U.S. Virgin Islands
Dominica	Nauru	Vanuatu
Gibraltar	Netherlands Antilles	

The OECD maintained three lists: "a *white list* of countries implementing an agreed-upon standard, a *grey list* of countries that have committed to such a standard, and a *black list* of countries that have not committed"; notably, the countries on the grey list are not considered to be tax havens, but rather "other financial centers" (Ibid, 6). As countries signed onto information-sharing agreements, they were removed from the blacklist until the only countries that remained were Andorra, Liechtenstein, and Monaco (Ibid, 5). Some argue that the removal of countries does not indicate that the blacklist was successful, but rather that the U.S.' withdrawal of support in 2001 meant that the OECD did not require reforms for a country to be taken off the list (Ibid). The relevance of the OECD's blacklist has since declined, and the organization has shifted its focus to combating base erosion and profit shifting (BEPS).

FATF Anti-Money Laundering Blacklist

In 2000, the Financial Action Task Force (FATF) also introduced a blacklist. Three times a year, the FATF "identifies jurisdictions with weak measures to combat money laundering and terrorist financing (AML/CFT) in two FATF public documents" (Financial Action Task Force, n.d.). Since its creation to the present, there have been 139 jurisdictions reviewed and 114 publicly identified, and 86 of the 114 have been removed from the process after making reforms (Ibid). When a country is identified as high-risk in the public statement, the FATF urges other countries to increase due diligence and, for the most serious cases, "to apply counter-measures to protect the international financial system from the ongoing money laundering, terrorist financing, and proliferation financing risks emanating from the country" (Ibid). The original list included 15 countries, which are listed below.

Table 2 FATF June 2000 Blacklist (Financial Action Task Force on Money Laundering 2000)

FATF June 2000 Blacklist

Bahamas	Lebanon	Panama
Cayman Islands	Lichtenstein	Philippines
Cook Islands	Marshall Islands	Russia
Dominica	Nauru	St. Kitts & Nevis
Israel	Niue	St. Vincent and the Grenadines

Currently, there are only three countries on their high-risk jurisdiction list: the Democratic People's Republic of Korea, Iran, and Myanmar (Ibid).

The FATF also identifies jurisdictions under increased monitoring on its grey list. The countries listed on the grey list are "actively working with the FATF to address strategic deficiencies in their regimes to counter money laundering, terrorist financing, and proliferation financing" (Ibid). There are currently 25 jurisdictions on the grey list.

EU List of Non-Cooperative Jurisdictions for Tax Purposes

In 2016, the EU announced that they would be creating a blacklist of non-cooperative jurisdictions for tax purposes as part of the EU's initiatives targeting tax evasion and avoidance, returning to the motivation of the OECD blacklist rather than adopting the FATF blacklist's focus on financial crime. 92 countries were screened by the EU, selected based on "their economic ties with the EU," "their institutional stability," and "the importance of the country's financial sector" (EU 2024). Notably, the EU excludes its member states from consideration. The first iteration of the list, adopted on December 5, 2017, included 17 countries that "had not made sufficient commitments in response to the EU's concerns," specifically regarding "tax transparency," "fair taxation," and "measures against base erosion and profit shifting ('anti-BEPS measures')" (Ibid). The 17 countries are listed below.

Table 3 EU December 2017 Blacklist (Ibid)

EU December 2017 Blacklist		
American Samoa	Macao SAR	Saint Lucia
Bahrain	Marshall Islands	Samoa
Barbados	Mongolia	Trinidad and Tobago
Grenada	Namibia	Tunisia
Guam	Palau	United Arab Emirates
Korea (Republic of)	Panama	

Currently, the list is updated twice a year using a dynamic monitoring process of jurisdictions that includes updating blacklist criteria, screening countries, moving countries as reforms are made, and monitoring progress on commitments (Ibid).

When a country is added to the blacklist, EU member states implement both non-tax area and tax area defensive measures. The non-tax area defensive measures only suggest that member states take blacklist status into account when considering policy, cooperation, and economic relations. The only regulatory change bans funding from EU instruments, such as the European Fund for Sustainable Development, from going through entities in blacklisted countries (Ibid).

However, the tax area defensive measures do require administrative and legislative measures that were implemented in 2017 (at the time of blacklist creation) and 2019, respectively. The administrative measures primarily target individuals and include increased transaction monitoring and audits for taxpayers benefitting from or using tax schemes involving the listed jurisdiction (Ibid). However, the legislative measures are designed to address the issue of multinational tax avoidance more directly. EU member states are required to implement at least one of four measures: “non-deductibility costs incurred in a listed jurisdiction,” “controlled foreign company (CFC) rules, to limit artificial deferral of tax to offshore, low-taxed entities,”

"withholding tax (WHT) measures, to tackle improper exemptions or refunds," and "limitation of the participation exemption on shareholder dividends" (Ibid). 16 member states have implemented at least two measures (Ibid).

The EU also runs a "grey list," which it defines as a "document identifying cooperative jurisdictions which have made further improvements to their tax policies or related cooperation" (Ibid). Essentially, the grey list tracks countries that are not yet meeting global tax governance standards but that have committed to making reforms to comply. Initially, any jurisdictions on the original grey list in 2017 were expected to make the needed reforms by the end of 2018, with developing countries being given until the end of 2019. However, these deadlines have since passed, and being on the grey list now just indicates "cooperation" with the EU (Simmons + Simmons 2024). It is common for tax havens to bounce between the blacklist and the grey list, given that all a country needs to do to move from the blacklist to the grey list is agree to reforms. To be removed from the grey list entirely, a country must implement these reforms and be deemed compliant with global tax governance standards by the EU.

Subsidiary Creation and Closure

The life cycle of a foreign subsidiary begins with the decision of a business to begin operations in a different country. Which country the business picks is often motivated by tax benefits. Because a foreign subsidiary is a separate legal entity, the subsidiary is subject to the taxation rates of the jurisdiction in which it is located (Watson 2024). Therefore, multinational corporations often choose to locate their subsidiaries in tax havens to take advantage of the lower rates.

Once the parent company has settled on a location, there are two ways to form a foreign subsidiary. The first route is to form a new company. The exact procedure depends on the country in which the subsidiary will be located, but it generally involves registering the subsidiary with the government and paying the associated fees (Ibid). For the new company to be considered a subsidiary, the parent company is required to have more than 50% ownership. The second route is to acquire an existing foreign company. This is the substantially less popular option of the two.

When the parent company decides that its foreign subsidiary is no longer useful, it may decide to close its subsidiary. To stop doing business in a country, the subsidiary must enter into "withdrawal." Withdrawal consists of paying all fees and taxes, filing all reports, and submitting an application for withdrawal (Feldman 2024). As part of withdrawal, most countries require that the company provide proof that they are current on all tax payments in the form of a tax clearance. Depending on the country, obtaining a tax clearance can take anywhere from several weeks to months (Ibid). Once the withdrawal is effective, the foreign subsidiary is no longer required to comply with the country's laws, file annual reports, or pay taxes (Ibid).

Neither the opening nor the closing of a foreign subsidiary is a quick process. It can take up to several months to establish a foreign subsidiary, and it typically takes even longer to dissolve one (Velocity Global, n.d.). Additionally, both processes involve significant financial costs. The preparation for the creation of a foreign subsidiary alone requires a large upfront investment (Ibid).

Literature Review

Corporations, Tax Havens, and Tax Avoidance

Hüsecken, Overesch, and Tassius investigate the process through which firms decide whether or not to avoid taxes and explain that tax-avoiding behaviors only occur if the benefits are greater than the costs. The main benefit is increased after-tax profit, while costs include firm risks and negative reputational costs, with the reputational costs of disclosing tax avoidance enhanced for firms that are "more exposed to public attention" (Hüsecken 2017, 5; Hüsecken, Overesch, and Tassius 2018, 1). Hasan et al. identify an additional internal cost to tax avoidance: foreign institutional investors (FIIs) in a corporation. FIIs are entities (typically large companies) that make investments in foreign countries; for example, if a hedge fund headquartered in the U.S. invests in a company located in Italy, the hedge fund is considered an FII. When a firm engages in more aggressive tax avoidance, FIIs will vote against the management of firms, supporting the idea that FIIs "influence their invested firms' tax avoidance through voting power" (2022, 32).

Blacklists and Tax Haven Behavior

Much of the literature on blacklists focuses on how the addition of a tax haven to a blacklist changes that haven's behavior. Sharman investigates the relationship between being blacklisted and eventual compliance with the "good tax governance" being promoted by the organization disseminating the blacklist, specifically the OECD and FATF (2009, 573). He identifies two paths to compliance: pre-emptive and reactive. Pre-emptive compliance is when a tax haven commits just before it would have been included on a blacklist, and reactive compliance is when a commitment is made after being added (Ibid 584, 587). Both paths are caused by harm to a jurisdiction's reputations that manifest in economic pain (Ibid 593). Applying his definition of reputation as "how third parties perceive a particular jurisdiction," this

suggests that both the threat of being added to a blacklist and being added provide sufficient reputational damage to incentivize a tax haven to alter their behavior (2004).

Eggenberger extends the work on reputational and financial costs with a specific emphasis on the mechanisms that make blacklists effective. Using the concurrent blacklisting by the OECD and FATF of 10 tax havens in 2000, she identifies three factors that influence effectiveness: "the stigma attached to the act that led to the blacklisting, the nature of any sanctions that it imposes, and the blacklist's legitimacy" (2018, 483). She argues that the FATF blacklist was more effective at changing behavior than the OECD blacklist because it identified an act that carried more stigma ("money laundering" in comparison to "harmful preferential tax practices") and came with a credible threat of severe sanctions from banks, regulators, and international organizations (Ibid, 497-8). Given the similar nature of the OECD and EU blacklists, the lack of stigma and credible sanctions seems to be a potential weakness of the EU blacklist as well.

In contrast, Kudrle argues that the impact of the naming and shaming done by the OECD and FATF blacklists has been overstated. He models the relationship between blacklist status and the "volume of banking system-related tax haven fortunes" using data on tax haven financial inflows and outflows from the Bank for International Settlements (BIS) (2008, 6, 16). While there is less evidence of increased activity in the blacklisted jurisdictions, the results are inconsistent across both blacklists and jurisdictions. However, Kudrle does acknowledge that the blacklist may have delayed impacts that would not have been captured in his model since it only looks at the immediate impacts (Ibid).

Blacklists and Corporation Behavior

Another strand of research focuses on the relationship between the blacklisting of a jurisdiction and the behavior of corporations operating in that jurisdiction. Despite Eggenberger's argument that the OECD blacklist was ineffective at changing tax haven behavior, Grottke and Kittl find evidence that it was effective at changing corporation behavior due to the reputational costs. They measure the relationship between investment activities–whether or not a company "undertakes material activities" in a tax haven–and being blacklisted (2016, 14). Their results provide support for the hypothesis that "companies' activities in tax havens have indeed been negatively affected by the OECD's name-and-shame strategy," suggesting that the "stick" of being blacklisted has had the desired effect (Ibid, 32). Grottke and Kittl also acknowledge that the change in firm behavior has also changed tax haven behavior, as demonstrated by the willingness of blacklisted jurisdictions to work with the OECD (Ibid, 7).

Choy, Lai, and Ng find similar results from an analysis of ActionAid's publication of the locations of subsidiaries of the 100 firms of the Financial Times Stock Exchange (FTSE). While this report was not a blacklist, it was a way to name and shame corporations for tax avoidance. It led to a market reaction and increased costs for the firms since all held numerous subsidiaries in tax havens. Stock prices abnormally fell by 0.9% or approximately £9 billion in market capitalization. They find evidence supporting the explanation that "government scrutiny, reputation, and investor sentiment were plausible channels" for the negative impact (2017, 198).

While research on the EU blacklist itself is still relatively limited, a recent study from DePaul, Murphy, and Vernon analyzes tourism and foreign direct investment (FDI) flows between EU members and countries added to the EU blacklist (2024, 2). They find that while tourism to blacklisted jurisdictions decreases as a result of reputational costs, FDI actually increases, potentially offsetting the financial costs of reduced tourism. Unlike most of the

literature, this indicates a "lack of country reputational costs via a corporate response" (Ibid, 17). This finding is especially interesting in light of Rusina's work on the relationship between firm value and a country's EU blacklist status. She finds that "tax haven naming and shaming by the EU was associated with a negative stock price reaction of firms with tax haven subsidiaries," with the publication of the blacklist removing "$56 billion in market capitalization among the implicated firms" (2020, 1364). Taking the two results together, this suggests that although firms are financially hit by maintaining a relationship with a blacklisted jurisdiction, it is not significant enough for them to alter their behavior. However, it is worth noting that Rusina does not differentiate between firms with an ultimate owner headquartered in an EU member state and firms with an ultimate owner that is not headquartered in a member state.

Theory

As the most appropriate comparison to the EU blacklist, I focus on the OECD's list of blacklisted jurisdictions that fit the tax haven criteria. The OECD blacklist's inclusion criteria for states that had harmful tax practices is strikingly similar to the EU's inclusion criteria; in comparison, the FATF blacklist's inclusion criteria for money laundering carries different legal implications than being labeled a tax haven (Eggenberger 2018, 484). Given the comparative lack of work on the EU blacklist, the more developed literature on the OECD blacklist provides a foundation for understanding the effects of blacklisting.

Given Eggenberger's three factors that influence effectiveness, I argue that any consequences that materialize from a country being added to the OECD blacklist should be amplified when a country is placed on the EU blacklist due to an increase in two of the factors. First, while the OECD did threaten defensive measures targeted at the 35 jurisdictions, nothing

was imposed. Since the EU mandates that its member states implement at least one of their administrative tax area defensive measures, the EU blacklist's value would be higher for the "nature of the sanctions" factor. Second, multiple jurisdictions listed by the OECD, including Dominica, St. Kitts and Nevis, and the Grenadines, argued that their sovereignty prevented the OECD from having any legal standing through which to enforce their "good" tax rules, therefore rendering the list somewhat illegitimate (Ibid). On the other hand, countries regularly move from the EU's blacklist to the grey list, suggesting that these jurisdictions at least want to signal compliance with tax rules. Again, this signaling indicates that the EU blacklist would have a higher value for the legitimacy factor. The final factor, stigma, should be relatively consistent between the two since both lists highlight jurisdictions that enable tax avoidance. Thus, taking these factors into account, this implies that being added to the EU blacklist should impart a negative reputational cost that is at least equivalent to, if not greater than, the cost imparted by being blacklisted by the OECD.

Not only would the negative reputational cost of being blacklisted affect the jurisdiction, but it would also affect the MNCs that operate subsidiaries in the jurisdiction since it is perceived by stakeholders and other states. Consequently, the MNC's decision-making will be influenced by both internal and external sources.

Given Rusina's findings of an association between being on the blacklist and declining stock prices in response to firms with subsidiaries in tax havens, there seems to be substantial stakeholder backlash to the operation of a subsidiary that would likely be sufficient motivation for the MNC to shutter their operations in that jurisdiction. The closure of these subsidiaries would align with how the theory of organizational institutionalism characterizes MNC behavior. Lupton, Baulkaran, and No define organizational institutionalism as acknowledging that "the

firm is embedded within a social context that influences its behavior, performance, and survival," and MNC behaviors are "based on the need for gaining legitimacy and easing access to resources" (2022, 223). As declining stock prices serve as an indicator of shareholder disapproval of the actions of the MNC, this drop is a signal that the firm's legitimacy is decreasing in the eyes of the shareholders.

While organizational institutionalism explains how internal concerns impact the MNC's decision-making, isomorphism within organizations accounts for external pressures. DiMaggio and Powell define isomorphism as the process of organizations becoming more similar over time due to pressures to change. One such form is coercive isomorphism, which "results from both formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within which organizations function" (1983, 149-50). The negative reputational effect of operating in the blacklisted tax haven would likely manifest as other states cracking down on the operations of the MNC in their jurisdiction or pressure from regulatory bodies to come into compliance with good tax governance. The first is especially likely for those MNCs that are based in EU member states since the EU requires that member states implement defensive measures when a jurisdiction is added to the blacklist that can directly impact firms doing business in that tax haven. Therefore, I expect higher reputational costs to MNCs that are headquartered in an EU member state than to MNCs that are not headquartered in an EU member state.

A secondary question arises regarding whether the MNC will simply move its subsidiary from the blacklisted jurisdiction to another tax haven that is not blacklisted. In theory, this movement would be especially likely if the original jurisdiction implements substantive tax policy and regulatory changes. If significant, "subsidiary shifting" could indicate that even if the

number of subsidiaries in blacklisted jurisdictions is decreasing, the blacklist is not actually curbing tax evasion but just causing MNCs to favor non-blacklisted tax havens over blacklisted ones.

I argue that a shift in subsidiaries to non-blacklisted jurisdictions is highly unlikely for two reasons. First, lenient tax regulations typically are not the only reason why an MNC chooses to locate a subsidiary in a specific country; if that were the sole consideration of an MNC, there would never be a reason for an MNC to own a subsidiary in a jurisdiction that is not a tax haven. Falaster and Ferreira outline numerous other characteristics that influence subsidiary choice, including cultural traits that support innovation and how close a location is to a political and economic center (2020, 357-8). These other characteristics imply that an MNC would only have reason to shift its subsidiary to a different tax haven if it shares characteristics other than just tax benefits. Therefore, even if there is a subsidiary shift, it would likely be small and spread amongst the other countries that are considered by the OECD to be tax havens but are not blacklisted by the EU. Second, following the theory of isomorphism, the existence of an MNC's original subsidiary in a blacklisted tax haven would already increase scrutiny and attention on the MNC and its compliance with good tax governance. This attention would make it more difficult for the firm to simply move its subsidiary to another jurisdiction with the goal of continued tax evasion because the company is already facing increased scrutiny.

Data Collection

I use two firm-level data sets, a sample of the creation of new subsidiaries in selected jurisdictions and a sample of the number of active subsidiaries. These data sets are used to form a comprehensive data set at the country level. Both of the firm-level data sets were created using

Moody's Orbis database. Orbis provides firmographic, financial, and ownership information on over 550 million companies globally (Orbis, n.d.). The final selected samples contain a total of 14 unique tax havens. Additionally, of the 14 countries, some have moved on and off the blacklist, some were blacklisted upon creation, and two have been considered but never blacklisted. The countries and their blacklist status are outlined in Table 4 and visually represented in Figure 1.

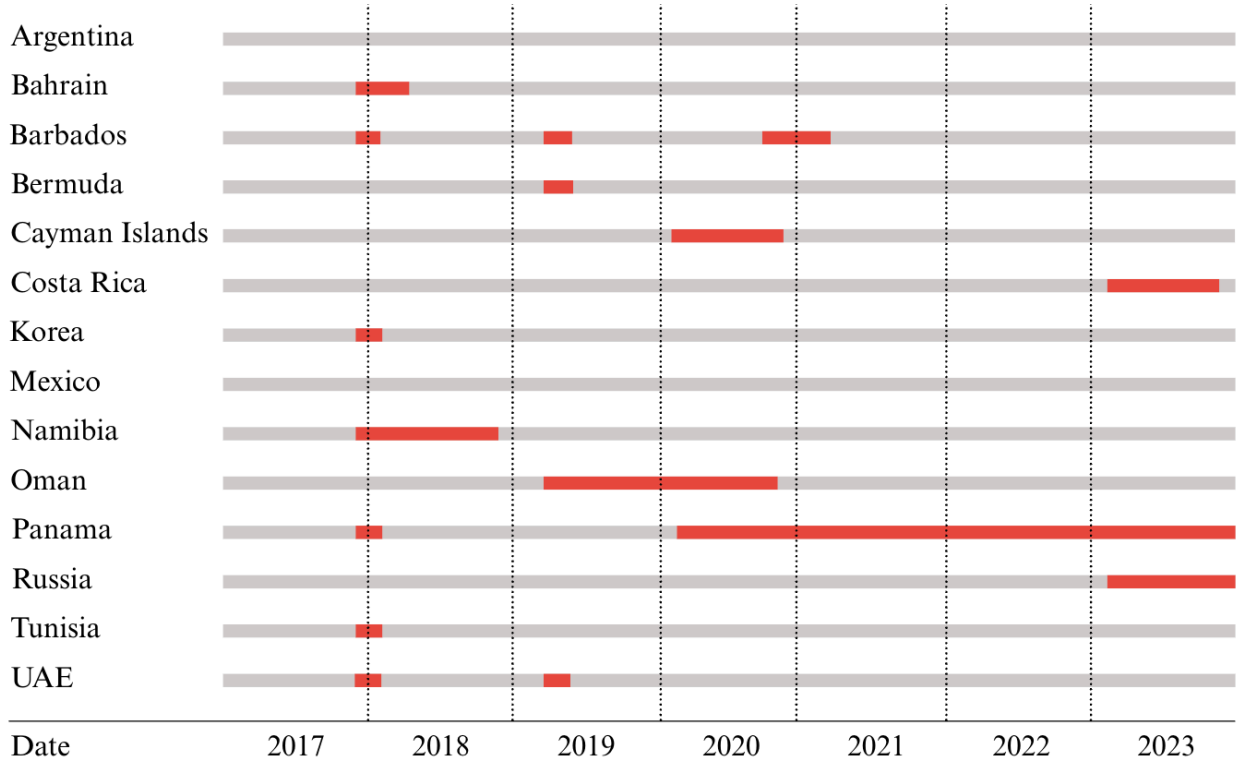
Table 4 Tax havens within the scope of this study, their time on the blacklist, and if they appeared at the time of publication of the EU blacklist (EU 2024)

Tax Haven	Time on Blacklist	Blacklisted at Creation
Argentina	*	
Bahrain	12/5/17 – 3/13/18	✓
Barbados	12/5/17 - 1/23/18, 3/12/19 - 5/17/19, 10/6/20 - 2/22/21	✓
Bermuda	3/12/19 - 5/17/19	
Cayman Islands	2/18/20 - 10/6/20	
Costa Rica	2/14/23 - 10/17/23	
Korea (Republic of)	12/5/17 - 1/23/18	✓
Mexico	*	
Namibia	12/5/17 - 11/6/18	✓
Oman	3/12/19 - 10/6/20	
Panama	12/5/17 - 1/23/18, 2/18/20 - Present	✓
Russia	2/14/23 - Present	
Tunisia	12/5/17 - 1/23/18	✓

United Arab Emirates	12/5/17 - 1/23/18, 3/12/19 - 6/14/19	✓

* indicates tax havens that were never added to the EU blacklist.

Figure 1 Timeline of EU blacklist status by country (EU 2024)



New Subsidiaries Sample

The new subsidiaries sample contains subsidiaries of multinational corporations for which an incorporation date is available in Orbis. The exact search parameters are outlined in Table A1 (Appendix A). Using these, I performed a Boolean search of the database: 1 and 2 and 3 and 4. This resulted in 7,646 companies that fit the criteria. The data was then cleaned in Excel to remove companies whose UO was located in the same country as the subsidiary and companies that are not large or very large to ensure that all subsidiaries in the sample are or were owned by multinationals. The final sample contains 5,750 companies.

The search parameters were selected to generate a comprehensive list of all subsidiaries in the 14 selected jurisdictions created by MNCs from the period from 2012 to 2022. To ensure that the set includes companies that are no longer operational, I include currently active companies or those with an unknown company status (parameter 1). I filter for location and incorporation date to pull only subsidiaries that are in the 14 jurisdictions of interest (parameter 3) and that were incorporated between 2012 and 2022 to include 5 years before and after the creation of the blacklist (parameter 4).

Since MNCs typically have to be larger companies to expand their operations globally, I use the Orbis categorization of large enterprises as a baseline for selecting companies (Corporate Finance Institute, n.d.). Orbis considers a large enterprise to be one with at least 10 million euros in operational revenue, at least 20 million euros in total assets, and at least 150 employees (Blažek et al. 2023, 4). Since the Orbis filtering function only allows one of these to be specified, I use the employee requirement to select only subsidiaries whose UO has at least 150 employees (parameter 2) and manually remove companies that do not meet either the operational revenue or total asset requirement.

Active Subsidiaries Sample

The active subsidiaries sample contains subsidiaries of multinational corporations for which reported activity is available on Orbis. The exact search parameters are outlined in Table A2 (Appendix A). Using these, I performed a Boolean search of the database: 1 and (2 or 3 or 4) and 5 and 6. This resulted in 9,033 companies that fit the criteria. The data was then cleaned following the same procedure used for the new subsidiaries sample. The final sample contains 5,130 companies.

The search parameters were selected to generate a comprehensive list of all active subsidiaries in the 14 selected jurisdictions owned by MNCs from the period from 2015 to 2022. The company status (parameter 1), UO profile (parameter 5), and location (parameter 6) criteria are the same as the new subsidiaries sample. I select companies that report either operating revenue (parameter 2), total assets (parameter 3), or number of employees (parameter 4) in any year from 2015 to 2022 to determine whether or not the subsidiary was active in that year. The time frame begins with 2015 instead of 2012 (as used for the new subsidiaries) since the Orbis database limits this selection criteria to the past 10 years.

Combined Data Sets[1]

After generating the two individual firm-level data sets, I then create combined data sets to perform the analysis at the country level. Using the new subsidiaries sample, I generate the counts of new subsidiaries in each of the individual countries in the sample for each year included. I do the same for the active subsidiaries sample. I repeat this process with both samples for the subsidiaries with a GUO located within the EU. This creates a panel data set with each country having a subsidiary value for each year in the sample. I also include each country's GDP and inflation in a given year as recorded by the World Bank as time-variant controls and a value that tracks the number of policy changes made as a result of the blacklist (n.d.).

Methodology

Hypothesis: The addition of a country to the EU tax blacklist will lead to a decrease in the number of subsidiaries created and operated in the blacklisted jurisdiction, with a proportionally

[1] All data sets used can be found here: https://www.kaggle.com/datasets/jennifercresap/thesis-datasets/data

greater decrease in the number of subsidiaries whose global ultimate owner (GUO) is based in an EU member state than for those whose GUO is not based in an EU member state.

Base Model

To analyze the relationship between blacklist status and the number of subsidiaries created and operated by MNCs, I will perform two regressions. The first will regress the number of new subsidiaries in a jurisdiction on inclusion on the EU tax blacklist, and the second will regress the number of active subsidiaries in a jurisdiction on inclusion on the EU tax blacklist. The independent variable for both regressions is inclusion on the blacklist, represented as *blacklist*. *Blacklist* is a binary variable that takes the value 1 if a tax haven is included on the blacklist and 0 if a tax haven is not included during a specified period of time. For the first regression, the dependent variable is the number of subsidiaries created in a jurisdiction, represented as *new subsidiaries*. For the second regression, the dependent variable is the number of active subsidiaries in a jurisdiction, represented as *active subsidiaries*. I include control variables for the country's GDP and inflation level, and country- and time-fixed effects. Subscripts *j* and *t* denote the jurisdiction and year, respectively.

I use the following difference-in-differences (DiD) estimation approach:

$$(1)\ new\ subsidiaries_{j,t} = \beta_0 + \beta_1 \cdot blacklist_{j,t} + \gamma \cdot GDP_{j,t} + \pi \cdot inflation_{j,t} + \delta_j + \delta_t + \varepsilon_{j,t}$$

$$(2)\ active\ subsidiaries_{j,t} = \beta_0 + \beta_1 \cdot blacklist_{j,t} + \gamma \cdot GDP_{j,t} + \pi \cdot inflation_{j,t} + \delta_i + \delta_t + \varepsilon_{j,t}$$

The analysis is done at the country level. The coefficient of interest, β_1, captures the differential effect of being blacklisted on the blacklisted jurisdictions compared to the non-blacklisted

jurisdictions. Confirmatory evidence of my hypothesis would be a negative and statistically significant β_1. For each model, I perform the basic regression twice–once with subsidiaries with an ultimate owner located anywhere and once with subsidiaries with an owner located in an EU member state–to test the second part of my hypothesis.

I also perform regressions with the inclusion of a lag variable to account for dynamic effects that would occur if the blacklist does not have an immediate effect on subsidiary creation and operation with the following equations:

$$(3)\ new\ subsidiaries_{j,t} = \beta_0 + \beta_1 \cdot blacklist_{j,t} + \beta_2 \cdot lag_{j,t-1} + \gamma \cdot GDP_{j,t} + \pi \cdot inflation_{j,t} + \delta_j + \delta_t + \varepsilon_{j,t}$$

$$(4)\ active\ subsidiaries_{j,t} = \beta_0 + \beta_1 \cdot blacklist_{j,t} + \beta_2 lag_{j,t-1} + \gamma \cdot GDP_{j,t} + \pi \cdot inflation_{j,t} + \delta_j + \delta_t + \varepsilon_{j,t}$$

Model Assumptions

There are two main assumptions involved with the DiD approach. The first assumption is that there was no change in the behavior of MNCs in anticipation of the blacklist being created. Given that all of the countries in the sample were being screened for inclusion, it is reasonable to assume that any anticipatory effects taken by MNCs would extend behavior changes in all the countries, not just the ones that were eventually blacklisted. Additionally, the EU announced that they would be creating a blacklist in 2016; given that it is not a simple process to close and open subsidiaries, it is reasonable that rather than close a subsidiary on the chance that a jurisdiction would be blacklisted, the MNC would wait until the publication of the blacklist to make any decisions.

The second is the parallel trends assumption, or that the difference in the number of subsidiaries created and operated in the non-blacklisted and blacklisted jurisdictions was constant before the implementation of the blacklist. I expect that the parallel trends assumption will be satisfied since trends in the subsidiary reaction should be consistent among tax havens absent a policy intervention like the blacklist. I check the parallel trends assumption for each of the four samples used, which are determined based on pre-trend similarities and data availability.

For the first sample, I plot the cumulative number of all new subsidiaries in the jurisdictions that were not immediately blacklisted and the cumulative number in the jurisdictions that were immediately blacklisted for the 5 years before creation (2012 to 2017) (Appendix A, Figure A1; Table A3). I perform the same procedure for the second sample using the cumulative number of all new subsidiaries with an EU-based GUO (Appendix A, Figure A2; Table A4). For the third sample, I plot the cumulative number of all active subsidiaries in the jurisdictions that were not immediately blacklisted and the cumulative number in the jurisdictions that were immediately blacklisted for the 2 years before creation (2015 to 2017) (Appendix A, Figure A3; Table A5); the data is limited by restrictions on the data available from Orbis. I perform the same procedure for the fourth sample using the cumulative number of all active subsidiaries with an EU-based GUO (Appendix A, Figure A4; Table A6). I also perform a statistical analysis of the pre-trends. The analysis provides support for the parallel trends assumption in all four cases (Appendix B1; B2; B11; B12).

The countries included in each sample are outlined in the table below.

Table 5 Tax havens included in and excluded from each sample

Sample	Included Countries	Excluded Countries
All new subsidiaries	Bahrain, Bermuda, Cayman Islands, Costa Rica, Korea,	Barbados, Mexico, Russia (inconsistent pre-trends)

	Namibia, Panama, Oman, Tunisia, UAE	
New subsidiaries with an EU-based GUO	Bahrain, Barbados, Bermuda, Cayman Islands, Costa Rica, Korea, Mexico, Namibia, Panama, Oman, Russia, Tunisia, UAE	Korea (inconsistent pre-trend)
All active subsidiaries	Argentina, Bermuda, Cayman Islands, Korea, Mexico, Russia, UAE	Bahrain, Barbados, Costa Rica, Namibia, Panama, Oman, Tunisia (insufficient data)
Active subsidiaries with an EU-based GUO	Argentina, Bermuda, Cayman Islands, Korea, Mexico, Russia, UAE	Bahrain, Barbados, Costa Rica, Namibia, Panama, Oman, Tunisia (insufficient data)

Extension: Policy Changes

To distinguish between the effects coming solely from the act of being blacklisted and the effect of blacklist-motivated policy reforms implemented by the jurisdiction, I extend the model to include a variable tracking the cumulative number of policy changes implemented by the jurisdiction as a result of blacklisting. For example, if Panama implements two policy reforms in 2020 and one policy reform in 2021, the policy variable takes the value 0 for 2019, 2 for 2020, and 3 for 2021. The same assumptions from above carry over to this extension.

The new models are as follows:

$$(1)\ new\ subsidiaries_{j,t} = \beta_0 + \beta_1 \cdot blacklist_{j,t} + \beta_2 \cdot policy_{j,t} + \gamma \cdot GDP_{j,t} + \pi \cdot inflation_{j,t} + \delta_j + \delta_t + \varepsilon_{j,t}$$

$$(2)\ active\ subsidiaries_{j,t} = \beta_0 + \beta_1 \cdot blacklist_{j,t} + \beta_2 \cdot policy_{j,t} + \gamma \cdot GDP_{j,t} + \pi \cdot inflation_{j,t} + \delta_j + \delta_t + \varepsilon_{j,t}$$

$$(3)\ new\ subsidiaries_{j,t} = \beta_0 + \beta_1 \cdot blacklist_{j,t} + \beta_2 \cdot policy_{j,t} + \beta_3 \cdot lag_{j,t-1} + \gamma \cdot GDP_{j,t} + \pi \cdot inflation_{j,t} + \delta_j + \delta_t + \varepsilon_{j,t}$$

$$(4)\ active\ subsidiaries_{j,t} = \beta_0 + \beta_1 \cdot blacklist_{j,t} + \beta_2 \cdot policy_{j,t} + \beta_3 \cdot lag_{j,t-1} + \gamma \cdot GDP_{j,t} + \pi \cdot inflation_{j,t} + \delta_j + \delta_t + \varepsilon_{j,t}$$

The policy changes included are listed below:

Table 6 Policy changes made by blacklisted tax havens in response to being blacklisted (PWC 2020, 2024, 2025; Mourant, n.d.; TPNews 2021; BDO 2021; OECD, n.d.; KPMG, n.d.)

Tax Haven	Policy Change	Date
Barbados	Overhauled tax system to come into compliance with OECD BEPS initiative	1/2019
Barbados	Made procedural changes at the Barbados Revenue Authority regarding information collection	2021
Bermuda	Amended Economic Substance Regulations	3/4/2019
Bermuda	Initiated certain exchanges-of-information relating to economic substance	12/2021
Cayman Islands	Reformed framework on Collective Investment Funds	9/2020
Namibia	Repealed export processing zones that offered tax incentives to companies located in Namibia	6/2020
Namibia	Signed BEPS multilateral instrument	9/30/2021
Oman	Implemented common reporting standards, country-by-country reporting, and activated exchange-of-information relationships	2020
Panama	Revised two special tax regimes to bring rules in line with international initiatives	2020
Panama	Created a new multinational headquarters regime	2020
Panama	Implemented Law No. 254, imposing additional requirements on accounting records	11/11/2021

Tunisia	Abolished preferential tax regimes that favored companies	2019
Tunisia	Began 3-year EU-funded technical assistance program to fight BEPS and financial crimes	2020
United Arab Emirates	Implemented Economic Substance Regulation	4/30/2019
United Arab Emirates	Amendment to comply with good tax governance commitment	9/1/2019

These policy reforms were selected based on two criteria. First, all listed reforms were implemented by the jurisdiction after it was added to the blacklist. Second, it was publicly announced that the reform was implemented to bring the jurisdiction in compliance with the global tax standards. Committing to reforms is a requirement for a country to be considered a "cooperative jurisdiction" by the EU, and a number of the reforms directly mention the blacklisting as a motivator. Since I am looking specifically at policy reforms implemented as a result of blacklisting, the policy variable being non-zero is conditional on a jurisdiction being blacklisted; I do not include any policy reforms made by countries that were not blacklisted. Additionally, there were some blacklisted countries, such as Korea, that are not present on this list due to a refusal to make policy changes.

Results

New Subsidiaries

Table 7 is the significance table from the basic DiD model applied to the new subsidiaries samples. The DiD estimators for the effect of blacklisting (the coefficient of blacklist, β_1) for test (1), the basic model applied to all new subsidiaries, and for test (2), which includes a lag

variable, both reveal that there is a decrease in the number of new subsidiaries formed in a jurisdiction when it is blacklisted, although neither result is statistically significant. For both, the decrease in the number of new subsidiaries when a country is blacklisted amounts to less than one subsidiary; test (1) estimates a decrease of 0.58, and test (2) estimates a decrease of 0.90. In test (2), the estimate for the coefficient of the lag term (β_2), indicates that being blacklisted in the previous year has a negative effect on subsidiary creation in the current year, but this effect is not statistically significant.

Between the two tests, the only relevant significant result comes from the positive estimate of the intercept (β_0) and the negative estimate of the coefficient of GDP (γ) in test (1), indicating that the number of new subsidiaries declines as a country's GDP increases, although by a small amount.

For test (3), the basic model applied to new subsidiaries with an EU-based GUO, the DiD estimator actually indicates that there is an increase in the number of new subsidiaries formed in a given jurisdiction by MNCs based in the EU when it is blacklisted; however, these results are not statistically significant. The result from test (4), which includes a lag term, is consistent with test (3). Both tests (3) and (4) suggest that the new subsidiary creation would increase by a little over 2 subsidiaries as a result of being blacklisted. For test (4), the estimate for the coefficient of the lag term is positive, suggesting that being blacklisted in the previous year increases subsidiary creation by EU-based MNCs in the current year, but this again is not statistically significant.

Across all four tests of the basic model on the samples of new subsidiaries, there is no significant evidence that the addition of a jurisdiction to the EU blacklist has an effect on the creation of subsidiaries in that country.

Table 7 New subsidiaries basic model significance table

	(1) All New Subsidiaries	(2) All New Subsidiaries, Lagged	(3) New Subsidiaries with an EU-Based GUO	(4) New Subsidiaries with an EU-Based GUO, Lagged
Intercept (β_0)	*12.475331 ** (3.888968)*	*-2.601035 (4.229279)*	*2.978764 (3.304185)*	*-5.566550 (3.675857)*
Blacklist (β_1)	*-0.581067 (3.317777)*	*-0.900183 (3.284644)*	*2.364303 (2.651532)*	*2.229921 (2.781269)*
1-Year Lag (β_2)		*-6.058683 (3.423059)*		*0.264342 (2.876350)*
GDP (γ)	*-0.040547 * (0.018467)*	*-0.025407 (0.022313)*	*-0.000271 (0.006590)*	*-0.002917 (0.007544)*
Inflation (π)	*0.135952 (0.205560)*	*0.071327 (0.207050)*	*0.150785 (0.170512)*	*0.142003 (0.180735)*
Adjusted R^2	*0.880061*	*0.881848*	*0.80815*	*0.798224*
Number of Observations	110	100	143	130

*Significance codes: 0 '***' 0.001 '**' 0.01'*'*

Table 8 is the significance table from the DiD model with the policy extension applied to the new subsidiaries samples. The DiD estimators for the effect of blacklisting (β_1) for all four tests of the policy extension model reveal that when accounting for policy changes, there is an increase in the number of new subsidiaries formed in a jurisdiction when blacklisted, although none of the results are statistically significant. For all tests, the increase is less than four subsidiaries when a country is blacklisted; test (5) estimates it to be 3.56, test (6) estimates it to be 2.52, test (7) estimates it to be 1.03, and test (8) estimates it to be 0.77. The estimates for the coefficient of the lag term in tests (6) and (8) indicate that being blacklisted in the previous year has a negative effect on subsidiary creation in the current year both for all new subsidiaries and for new subsidiaries with an EU-based GUO, but again neither effect is significant.

The DiD estimator for the effect of policy changes (the coefficient of policy, β_2) for test (5), the policy extension model applied to the sample for all new subsidiaries, and for test (6), which includes a lag variable, both reveal that there is a statistically significant decrease in the number of new subsidiaries formed in a jurisdiction when that jurisdiction implements policy changes as a result of being blacklisted. Test (5) estimates a decrease of 5.00 new subsidiaries at the 0.001 significance level, and test (6) estimates a decrease of 4.27 new subsidiaries at the 0.01 significance level. For test (7), the policy extension model applied to the sample for new subsidiaries with an EU-based GUO, and for test (8), which has a lag variable, the DiD estimator indicates an increase in the number of subsidiaries formed in a jurisdiction after policy changes; however, neither of these estimates are statistically significant. The only other significant results come again from the intercept and GDP estimator in test (5). These are consistent with the results from the basic model without the policy extension.

Across the four tests of the policy extension model, there is significant evidence that the policy reforms implemented by a jurisdiction as a result of blacklisting decrease the creation of new subsidiaries in that jurisdiction when considering all owners, but not when the sample is isolated to subsidiaries formed by EU-based MNCs. There is again no significant evidence that simply the addition of a jurisdiction to the EU blacklist has an effect on the creation of subsidiaries in that country.

Table 8 New subsidiaries policy extension significance table

	(5) All New Subsidiaries with Policy Changes	(6) All New Subsidiaries with Policy Changes, Lagged	(7) New Subsidiaries with an EU-Based GUO with Policy Changes	(8) New Subsidiaries with an EU-Based GUO with Policy Changes, Lagged
Intercept (β_0)	*10.497190 ** (3.773659)*	*1.993798 (4.559346)*	*3.490541 (3.318132)*	*-7.578023 (3.908286)*

Blacklist (β_1)	*3.565169* *(3.452265)*	*2.517880* *(3.513619)*	*1.030916* *(2.836651)*	*0.773014* *(2.941653)*
Policy (β_2)	*-4.997098 *** *(1.644598)*	*-4.266985 ** *(1.828547)*	*1.763809* *(1.359811)*	*2.265356* *(1.55523)*
1-Year Lag (β_3)		*-2.828036* *(3.604783)*		*-1.452976* *(3.094366)*
GDP (γ)	*-0.055324 *** *(0.018308)*	*-0.038829* *(0.022445)*	*0.001119* *(0.006658)*	*-0.000843* *(0.007638)*
Inflation (π)	*0.121526* *(0.196532)*	*0.091318* *(0.201502)*	*0.171729* *(0.170782)*	*0.151324* *(0.179882)*
Adjusted R^2	*0.890429*	*0.888297*	*0.809262*	*0.800377*
Number of Observations	110	100	143	130

*Significance codes: 0 '***' 0.001 '**' 0.01'*'*

Active Subsidiaries

Table 9 is the significance table from the basic DiD model applied to the active subsidiaries samples. The DiD estimators for the effect of blacklisting (β_1) for all four tests of the basic model reveal that there is a decrease in the number of new subsidiaries formed in a jurisdiction when it is blacklisted, although none of the results are statistically significant. Compared to the new subsidiaries samples, the decrease in the number of active subsidiaries when a country is blacklisted is higher: for the sample of all active subsidiaries, the decrease is 47.46 subsidiaries without a lag and 43.93 subsidiaries with a lag, and for the sample of active subsidiaries with an EU-based GUO, the decrease is 19.24 subsidiaries without a lag and 16.04 subsidiaries with a lag.

The estimates for the coefficient of the lag term in tests (2) and (4) indicate that being blacklisted in the previous year has a negative effect on subsidiary creation in the current year, but the effect is not statistically significant in either case. Across all four tests, the estimate of the

coefficient of GDP (γ) is positive and significant at the highest level of significance. This estimate indicates that, unlike the basic model for the new subsidiaries, the number of active subsidiaries increases as a country's GDP increases, although again by a small amount.

Again, across all four tests of the basic model on the samples of active subsidiaries, there is no significant evidence that the addition of a jurisdiction to the EU blacklist has an effect on the number of active subsidiaries in that country.

Table 9 Active subsidiaries base model significance table

	(1) All Active Subsidiaries	(2) All Active Subsidiaries, Lagged	(3) Active Subsidiaries with an EU-Based GUO	(4) Active Subsidiaries with an EU-Based GUO, Lagged
Intercept (β_0)	*-242.158493 ** (74.327946)*	*-101.099905 (103.149096)*	*-133.368480 *** (35.578625)*	*-85.940564 (49.256432)*
Blacklist (β_1)	*-47.455003 (33.535368)*	*-43.934784 (32.893053)*	*-19.239841 (16.052405)*	*-16.036141 (15.707306)*
1-Year Lag (β_2)		*-60.675318 (33.731103)*		*-21.621972 (16.107497)*
GDP (γ)	*0.502446 *** (0.077436)*	*0.439022 *** (0.081552)*	*0.255066 *** (0.037066)*	*0.226451 *** (0.038943)*
Inflation (π)	*-1.480329 (1.410648)*	*-1.785396 (1.617731)*	*-0.338236 (0.675236)*	*-0.476084 (0.772510)*
Adjusted R^2	*0.994688*	*0.995224*	*0.995553*	*0.996014*
Number of Observations	56	49	56	49

*Significance codes: 0 '***' 0.001 '**' 0.01'*'*

Table 10 is the significance table from the DiD model with the policy extension applied to the active subsidiaries samples. The DiD estimators for the effect of blacklisting (β_1) for all four tests of the policy extension model reveal that when accounting for policy changes, there is a decrease in the number of active subsidiaries formed in a jurisdiction when blacklisted, although none of the results are statistically significant. For all tests, the decrease is less than

nine subsidiaries when a country is blacklisted; test (5) estimates it to be 7.27, test (6) estimates it to be 8.27, test (7) estimates it to be 4.48, and test (8) estimates it to be 2.69. The estimates for the coefficient of the lag term in tests (6) and (8) also indicate that being blacklisted in the previous year has a negative effect on the number of active subsidiaries in the current year both for all active subsidiaries and for active subsidiaries with an EU-based GUO, but neither effect is significant.

The DiD estimators for the effect of policy changes (β_2) for all four tests reveal that there is a statistically significant decrease in the number of active subsidiaries in a jurisdiction when that jurisdiction implements policy changes as a result of being blacklisted. Tests (5) and (6) estimate a decrease of 102.53 and 94.34 active subsidiaries, respectively, at the highest significance level, test (7) estimates a decrease of 37.67 active subsidiaries at the 0.001 significance level, and test (8) estimates a decrease of 35.36 subsidiaries at the 0.01 significance level.

For four tests, the estimate of the coefficient of GDP (γ) is again positive and significant at the highest level of significance. This estimate indicates that even when accounting for policy changes implemented as a result of being blacklisted, the number of active subsidiaries still increases as a country's GDP increases, although by a small amount.

Across all four tests of the policy extension model, there is significant evidence that the policy reforms implemented by a jurisdiction as a result of blacklisting decreases the number of active subsidiaries in that jurisdiction, both for all active subsidiaries and for only active subsidiaries owned by an EU-based MNC. There is again no significant evidence that simply the addition of a jurisdiction to the EU blacklist has an effect on the creation of subsidiaries in that country.

Table 10 Active subsidiaries policy extension significance table

	(5) All Active Subsidiaries with Policy Changes	(6) All Active Subsidiaries with Policy Changes, Lagged	(7) Active Subsidiaries with an EU-Based GUO with Policy Changes	(8) Active Subsidiaries with an EU-Based GUO with Policy Changes, Lagged
Intercept (β_0)	-136.595407 * (66.690885)	90.581445 (101.683706)	-94.578121 * (34.919276)	-14.085684 (52.482047)
Blacklist (β_1)	-7.274882 (29.486003)	-8.274000 (25.590731)	-4.475197 (15.438839)	-2.668115 (15.224219)
Policy (β_2)	-102.524158 *** (24.042166)	-94.335627 *** (25.590731)	-37.673670 ** (12.588452)	-35.363248 * (13.208153)
1-Year Lag (β_3)		-38.220350 (29.217415)		-13.204361 (15.079995)
GDP (γ)	0.388995 *** (0.069786)	0.341317 *** (0.073997)	0.213377 *** (0.036540)	0.189825 *** (0.038192)
Inflation (π)	-3.364549 * (1.255597)	-3.534200 * (1.450252)	-1.030614 (0.657429)	-1.131652 (0.748519)
Adjusted R^2	0.996313	0.996572	0.996307	0.996658
Number of Observations	56	49	56	49

*Significance codes: 0 '***' 0.001 '**' 0.01'*'*

Discussion

My hypothesis was that the addition of a country to the EU tax blacklist would lead to a decrease in the number of new and active subsidiaries in the blacklisted jurisdiction, with a greater decrease in the number of new and active subsidiaries with an EU-based GUO than for those with a non-EU-based GUO. Contrary to my hypothesis, the results suggest that the act of naming a tax haven on the EU blacklist does not have a significant negative effect on the number of new or active subsidiaries in that jurisdiction. Across all 16 tests, only some of the DiD estimators for the effect of blacklisting on the number of new or active subsidiaries were

negative, and none were statistically significant. Additionally, in all but one case (the policy extension model applied to the new subsidiaries samples), the naming of a jurisdiction on the blacklist had a greater negative impact on the samples of all new and active subsidiaries than on the samples of only new and active subsidiaries with an EU-based GUO. In the case of the basic model applied to the new subsidiaries samples, being named on the blacklist led to a decrease in the number of all new subsidiaries. However, when isolating subsidiaries with an EU-based GUO, a jurisdiction being blacklisted actually led to an increase in the number of new subsidiaries.

Critically, the policy extension model reveals the omitted variable bias within the basic model. For almost all of the samples (the exception being the sample of new subsidiaries with an EU-based GUO), the DiD estimator for the effect of blacklisting on the number of new or active subsidiaries increased when the policy variable was included in the regression model. For example, when applied to the sample of new subsidiaries, the basic model returns an estimate of -0.58, while the policy extension model returns an estimate of 3.57. These results suggest that in the basic model, the coefficient for blacklist captures both the effects of being named on the blacklist (irrespective of any actions taken as a result) and of policy changes made as a result of blacklisting. However, in the policy extension model, the coefficient for blacklist only captures the effect of being named on the blacklist, while the coefficient for policy captures the effect of policy changes made as a result of blacklisting. Therefore, the policy extension model is likely providing a more accurate estimate of the effect of being named on the blacklist than the basic model.

If a jurisdiction's inclusion on the blacklist is a more important determinant of MNC behavior than the tax policy of that jurisdiction, the estimator for the effect of blacklisting would

be significant and more negative than the estimator for the effects of policy changes. However, the policy extension models reveal that the estimators for the effects of a policy change are negative and significant, while the estimators for the effect of blacklisting are not significant and, in some cases, non-negative. Based on these estimates, it is not the reputational costs of creating or operating a subsidiary in a jurisdiction that drive MNC decision-making, but rather the tangible tax benefits offered by the jurisdiction itself.

Indeed, major players like Google and Nike are striking examples of MNCs disregarding reputational impacts in favor of tax advantages. In 2017, it was revealed that Google had moved $22.7 billion in that year alone through a shell company in the Netherlands to the Bermuda-based subsidiary Google Ireland Holdings. Despite the backlash Google faced, they continued to use this "Double Irish, Dutch sandwich" tax loophole until 2020 when Ireland phased out the tax arrangement, thus decreasing Google's tax benefits (Helmore 2020). Similarly, the release of the Panama Papers exposed Nike's use of Nike International Ltd., a Bermudan subsidiary, to shift the profits generated from trademark royalty fees away from Europe and to Bermuda. Nike International Ltd. had no documented staff or offices in Bermuda yet had accumulated $12.2 billion in profit by May 2017 (Gardner 2021). Although Nike received substantial negative publicity as a result, their response was not to halt their use of tax haven subsidiaries but rather to contact media outlets reporting on the issue (Ibid).

It is also notable that any negative impact on the number of new or active subsidiaries is more pronounced when considering all subsidiaries regardless of GUO than when only looking at subsidiaries with a GUO based in the EU. Given that the blacklist is published by the EU and additions to the blacklist are made based on a unanimous vote from member states, I expected

that EU-based MNCs would be more concerned about the optics of operating a subsidiary in a jurisdiction that their home country had publicly condemned.

There are two possible explanations that could be working simultaneously. First, non-EU-based MNCs may be more motivated to follow the EU's recommendations to maintain a positive image, especially if the MNCs operate in EU markets. If the EU blacklists a jurisdiction, a non-EU-based MNC might feel that it is risky to have any association with that jurisdiction, fearing damage to its relationship with EU member states. In contrast, vEU-based MNCs will always have strong ties with the EU itself and its member states since it is based in the union. As such, they may not feel the pressure to change their behavior based on what jurisdictions are blacklisted because inaction carries a relatively lower risk due to their embeddedness in the EU.

Second, EU-based MNCs might have a preference for tax havens that are also EU member states, such as Luxembourg and Switzerland, over tax havens that are non-members. The actions of EU-based MNCs seem to support this explanation. The Spanish company Ferrovial chose to relocate its center of operations by transferring its holdings from Spain to the Netherlands to capitalize on "lower taxation and laxer financial rules, including the possibility of its managers avoiding wealth tax" (The Diplomat 2023). Similarly, the Italian company Fiat used their Luxembourg-based subsidiary Fiat Finance and Trade to exploit selective tax advantages that "artificially reduce a company's tax burden" (European Commission 2015). Yet despite the European Commission initially finding that Luxembourg's deal with Fiat was a breach of EU rules, the decision was overturned and the investigation into Fiat has since been closed with no punishment handed down (Luxembourg Times 2024). Given the tendency of the EU to disregard this behavior when it occurs within a member state, it is possible that the majority of the

subsidiaries operated by EU-based MNCs are not accounted for in this analysis because they are located within EU countries that cannot be blacklisted.

Limitations

While Orbis is a relatively comprehensive database, companies are not required to report their financial information to Orbis. This makes it difficult to assess how accurately the database captures the true number of new and active subsidiaries in the sampled countries. It is possible and likely that there are some MNCs who utilize subsidiaries to avoid taxes and simply do not report either the subsidiary or their financial information to Orbis. The incomplete data may help to explain why the effect of being named on the blacklist is insignificant in all cases since the companies willingly reporting subsidiary data to Orbis are the ones who are less likely to be using subsidiaries to engage in tax-avoiding activity. A more appropriate measurement would be to use data directly from the governments of these countries listing all registered subsidiaries in a given year and their parent company, but this data is not readily available.

Second, due to data constraints, the analysis is performed at the year level rather than at the month level. The data that Orbis maintains on subsidiary creation dates is only available on a more granular level for a minority of subsidiaries, and data on subsidiary activity is only available year-to-year in the form of financial statements. Because of this, even if a country was only on the blacklist for one month during a given year, it is treated as having been blacklisted for the entire year. If monthly data were available, the estimates would likely be more accurate since they would better reflect the timing and duration of the jurisdiction's blacklisting. More granular data would also allow for further tests of whether the amount of time that a jurisdiction spends on a blacklist impacts subsidiary creation and operation.

Recommendations

There are a number of policy recommendations that can be drawn from my empirical findings that focus on strengthening the effectiveness of the blacklist. First, jurisdictions should not be moved from the EU blacklist until after the desired reforms have been enacted. The EU currently allows a country to be moved from the blacklist to the grey list upon committing to policy reforms, even if it has not followed through. While the current blacklist criteria have had some effect on corporate tax avoidance via subsequent policy reforms, as evidenced by the significant negative results, there is still room for improvement. Notably, not every country that has been removed from the blacklist has made good on their policy commitments. Previous work supports this recommendation: Collin finds that as international commitments become more binding, the potential for blacklisting to improve tax governance increases (2020). To maximize the blacklist's effectiveness, the EU must ensure that being added to the blacklist results in some kind of tangible reform.

Following the above recommendation, the EU should lean more heavily into its administrative and legislative responses to a blacklisted country. Returning to Eggenberger's three factors that influence blacklist effectiveness, increasing these responses would improve the "nature of the sanctions" (2018, 483). Currently, EU member states are only required to apply one of four legislative measures against blacklisted jurisdictions. However, this minimum requirement limits the pressure that EU member states are required to put on these tax havens. If the EU instead mandated that its member states implement at least three out of the four legislative measures, the resulting sanctions would be more robust and more difficult for corporations and jurisdictions alike to circumvent. Not only would this strengthen the

effectiveness of the blacklist as a policy tool, but it would also reinforce the idea that failing to comply with good tax governance standards carries consequences.

A concern with this approach is that increasing legislative measures against the tax havens targeted by the EU may negatively impact the economic development of these jurisdictions. Given that the enforcement of many legislative measures would raise tax costs on corporations operating in a jurisdiction, they could discourage investment in legitimate activities, which would be especially harmful to smaller and developing economies (Saikia 2023, 62). To best reduce this possibility, the EU could offer assistance to these jurisdictions to ensure that their economic growth is not stunted as they implement the necessary reforms.

Finally, the EU should mark their member states as eligible for the blacklist review process. Economists, policy advisors, and businesspeople alike have critiqued the EU's selection criteria for inclusion, arguing that the list disproportionately targets "small, vulnerable, former colonies of European states," even though 36% of tax havens are EU countries (IFC 2023; Paez 2021; Oxfam 2022). Given this, a possible explanation for why the reputational costs stemming from the underlying naming and shaming effect of being added to the blacklist are not as powerful as hypothesized is that the EU undermines the legitimacy of the blacklist by refusing to police its members. By including EU member states in the review process, the EU could address these criticisms and begin to restore the blacklist's credibility, thus increasing the potential impact of the naming done by the blacklist.

One challenge with this recommendation is that all EU members need to approve the addition of a country to the blacklist (Paez 2021). Therefore, even if EU member states are included in the review process, it is unlikely that one would be blacklisted under the current approval mechanism. This suggests that if the EU is serious about fighting corporate tax

avoidance, it may need to consider reforming its review and approval process. Since not considering EU countries for the blacklist both decreases the external legitimacy of the list and weakens the EU's ability to address tax avoidance fully, the benefits of an overhaul would likely outweigh the political costs.

Conclusion

This paper evaluates the effectiveness of the European Union's tax blacklist at curbing corporate tax avoidance using the number of subsidiaries created and operated by multinational corporations as a proxy. I pulled information on subsidiaries incorporated between 2012 and 2022 and on subsidiaries active between 2015 and 2022 to analyze the outcome variables of the number of new subsidiaries and active subsidiaries. A basic differences-in-differences model with staggered treatment is used to compare the outcome variables for blacklisted and non-blacklisted jurisdictions. I also extend the basic model to include the effects of policy changes made by blacklisted jurisdictions to comply with good tax governance standards.

I found little evidence to support my initial hypothesis that adding jurisdictions to the blacklist would significantly decrease the number of new and active subsidiaries. However, my results revealed that while naming a country to the blacklist is not reason enough for MNCs to avoid operating there, policy reforms implemented as a result of a jurisdiction being blacklisted are sufficient to deter MNCs. Thus, I suggest that the EU prioritize stronger sanctions against blacklisted countries that are significant enough to motivate these countries to comply with good tax governance through policy reforms. Additionally, to begin to address the ineffectiveness of their naming and shaming strategy, I propose that the EU include their member states in the review process to increase the external legitimacy of the blacklist.

My research contributes to a growing body of work on the usage of tax blacklists as a policy tool and is the first to look at the impact of blacklisting on the creation and operation of subsidiaries by corporations. Given the limitations of my work, additional research on this topic is critical given the growing amount of money that is lost annually due to tax avoidance. Further work with more comprehensive and granular data is needed to develop more accurate estimates of how the EU's blacklist impacts corporation behavior. Future efforts should also include quantitative analyses of the mechanisms through which blacklisting affects the decision-making calculus of firms. Continued research efforts will be crucial in guiding how the blacklist evolves as a policy instrument. If the EU can seize the opportunity to use the blacklist as a motivator for tax reforms, the coming years could mark a significant turning point in the ongoing fight against tax avoidance.

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Appendix A: Tables and Figures

Table A1 Search process for generation of the new subsidiaries sample

Search Parameter	Number
Company Status	
1 Status: Active, inactive, unknown situation	577,009,544
Ultimate Owner (UO) Profile	
2 Subsidiaries with UO by profile: UO with a given number of employees of minimum 150	1,509,980
Location	
3 Country: Argentina, Bahrain, Barbados, Bermuda, Cayman Islands, Costa Rica, Korea (Republic of), Mexico, Namibia, Oman, Panama, Russian Federation, Tunisia, United Arab Emirates	45,803,879
Incorporation Date	
4 Year of incorporation: from 2012 to 2022	211,031,674
Sample	**7,646**

Table A2 Search process for generation of the active subsidiaries sample

Search Parameter	Number
Company Status	
1 Status: Active, inactive, unknown situation	577,009,544
Activity Details (2015-2022)	
2 Operating revenue (Turnover): All companies with a known value for at least one of the included years	40,997,904
3 Total assets: All companies with a known value for at least one of the included years	37,993,921
4 Number of employees: All companies with a known value for at least one of the included years	45,053,903
Ultimate Owner (UO) Profile	

5 Subsidiaries with UO by profile: UO with a given number of employees of minimum 150	1,509,980
Location	
6 Country: Argentina, Bahrain, Barbados, Bermuda, Cayman Islands, Costa Rica, Korea (Republic of), Mexico, Namibia, Oman, Panama, Russian Federation, Tunisia, United Arab Emirates	45,803,879
Sample	**9,033**

Figure A1 Cumulative number of new subsidiaries for initially blacklisted and initially non-blacklisted jurisdictions from 2012-17 for a 10-country sample

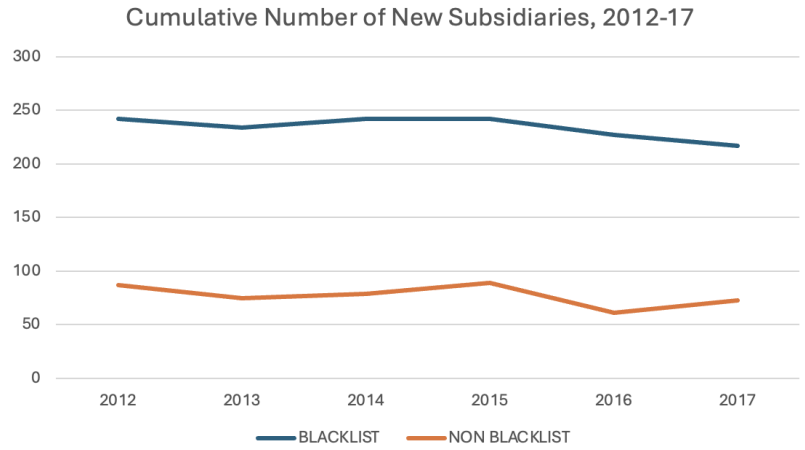

Table A3 Pre-trends in the cumulative number of new subsidiaries in initially blacklisted and initially non-blacklisted jurisdictions for a 10-country sample

Year	New Subsidiaries in Blacklisted Countries	New Subsidiaries in Non-blacklisted Countries
2012	242	87
2013	234	75
2014	242	79
2015	242	89
2016	227	61
2017	217	73

Figure A2 Cumulative number of new subsidiaries with an EU-based GUO for initially blacklisted and initially non-blacklisted jurisdictions from 2012-17 for a 13-country sample

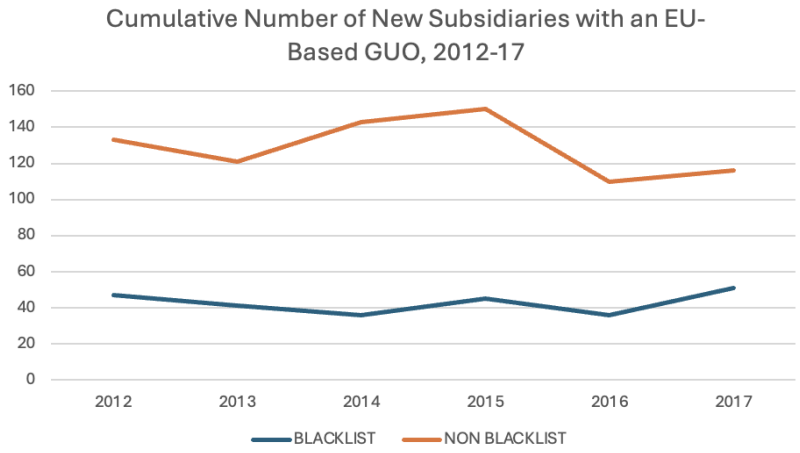

Table A4 Pre-trends in the cumulative number of new subsidiaries with an EU-based GUO in initially blacklisted and initially non-blacklisted jurisdictions for a 13-country sample

Year	New Subsidiaries in Blacklisted Countries	New Subsidiaries in Non-blacklisted Countries
2012	47	133
2013	41	121
2014	36	143
2015	45	150
2016	36	110
2017	51	116

Figure A3 Cumulative number of active subsidiaries for initially blacklisted and initially non-blacklisted jurisdictions from 2015-17 for a 7-country sample

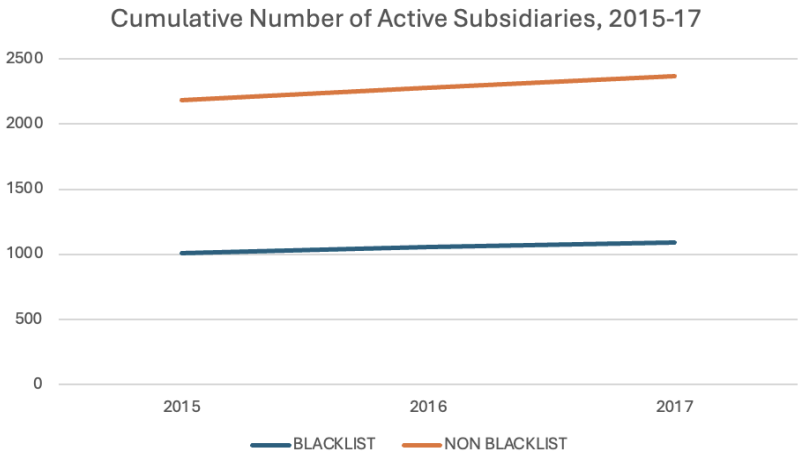

Table A5 Pre-trends in the cumulative number of active subsidiaries in initially blacklisted and initially non-blacklisted jurisdictions for a 7-country sample

Year	New Subsidiaries in Blacklisted Countries	New Subsidiaries in Non-blacklisted Countries
2015	237	1132
2016	247	1177
2017	258	1216

Figure A4 Cumulative number of active subsidiaries with an EU-based GUO for initially blacklisted and initially non-blacklisted jurisdictions from 2015-17 for a 7-country sample

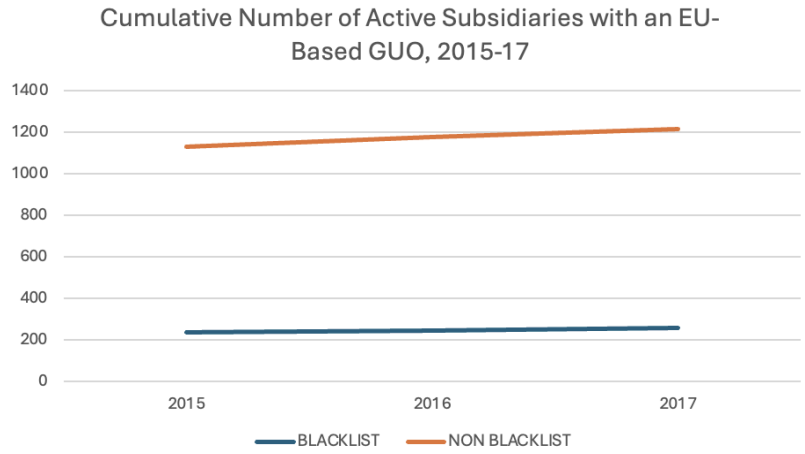

Table A6 Pre-trends in the cumulative number of active subsidiaries with an EU-based GUO in initially blacklisted and initially non-blacklisted jurisdictions for a 7-country sample

Year	New Subsidiaries in Blacklisted Countries	New Subsidiaries in Non-blacklisted Countries
2015	1012	2185
2016	1055	2279
2017	1092	2369

Appendix B: Code and Output

B1 Code and output for statistical pre-trends test for all new subsidiaries

```
pretrends_new_subs_all <- feols(Outcome ~ Year * Treatment, data =
PretrendsNewAll)
summary(pretrends_new_subs_all)
```

```
                 Estimate Std. Error   t value Pr(>|t|)
(Intercept)    1487.040476 6101.92669  0.243700  0.80835
Year             -0.728571    3.02900 -0.240532  0.81080
Treatment       -47.483333 7877.55348 -0.006028  0.99521
Year:Treatment    0.033333    3.91042  0.008524  0.99323
```

B2 Code and output for statistical pre-trends test for new subsidiaries with an EU-based GUO

```
pretrends_new_subs_eu <- feols(Outcome ~ Year * Treatment, data =
PretrendsNewEU)
summary(pretrends_new_subs_eu)
```

```
                  Estimate Std. Error   t value Pr(>|t|)
(Intercept)     1086.279366 4095.65136  0.265227  0.79164
Year              -0.528571    2.03309 -0.259985  0.79566
Treatment      -1213.468255 5792.12570 -0.209503  0.83468
Year:Treatment     0.595238    2.87522  0.207024  0.83661
```

B3 Code for basic difference-in-differences model for all new subsidiaries

```
new_subs_did <- feols(newsubs ~ blacklist + gdp + inflationdef +
factor(country) + factor(year), data = NewSubsData)
summary(new_subs_did)
```

B4 Code for basic difference-in-differences model for new subsidiaries with an EU-based GUO

```
new_subs_eu_did <- feols(newsubs ~ blacklist + gdp + inflationdef
+ factor(country) + factor(year), data = NewSubsEU)
summary(new_subs_eu_did)
```

B5 Code for basic difference-in-differences model for all new subsidiaries with a lag variable

```
NewSubsData <- NewSubsData %>%
   group_by(country) %>%
   arrange(year) %>%
   mutate(lagblacklist = lag(blacklist, order_by = year))
new_subs_did_lag <- feols(newsubs ~ blacklist + lagblacklist + gdp
+ inflationdef + factor(country) + factor(year), data =
NewSubsData)
summary(new_subs_did_lag)
```

B6 Code for basic difference-in-differences model for new subsidiaries with an EU-based GUO with a lag variable

```
NewSubsEU <- NewSubsEU %>%
   group_by(country) %>%
   arrange(year) %>%
   mutate(lagblacklist = lag(blacklist, order_by = year))
new_subs_eu_did_lag <- feols(newsubs ~ blacklist + lagblacklist +
gdp + inflationdef + factor(country) + factor(year), data =
NewSubsEU)
summary(new_subs_eu_did_lag)
```

B7 Code for policy extension model for all new subsidiaries

```
new_subs_policy <- feols(newsubs ~ blacklist + policy + gdp +
inflationdef + factor(country) + factor(year), data = NewSubsData)
summary(new_subs_policy
```

B8 Code for policy extension model for new subsidiaries with an EU-based GUO

```
new_subs_eu_policy <- feols(newsubs ~ blacklist + policy + gdp +
inflationdef + factor(country) + factor(year), data = NewSubsEU)
summary(new_subs_eu_policy)
```

B9 Code for policy extension model for all new subsidiaries with a lag variable

```
new_subs_policy_lag <- feols(newsubs ~ blacklist + policy +
lagblacklist + gdp + inflationdef + factor(country) +
factor(year), data = NewSubsData)
summary(new_subs_policy_lag)
```

B10 Code for policy extension model for new subsidiaries with an EU-based GUO with a lag variable

```
new_subs_eu_policy_lag <- feols(newsubs ~ blacklist + policy +
lagblacklist + gdp + inflationdef + factor(country) +
factor(year), data = NewSubsEU)
summary(new_subs_eu_policy_lag)
```

B11 Code and output for statistical pre-trends test for all active subsidiaries

```
pretrends_active_subs_all <- feols(Outcome ~ Year * Treatment,
data = PretrendsActiveAll)
summary(pretrends_active_subs_all)
```

```
                Estimate Std. Error   t value Pr(>|t|)
(Intercept)    -36638.867 522490.481 -0.070124  0.94491
Year              18.400    259.172  0.070995  0.94423
Treatment      -3154.633 977490.184 -0.003227  0.99746
Year:Treatment     1.600    484.866  0.003300  0.99741
```

B12 Code and output for statistical pre-trends test for active subsidiaries with an EU-based GUO

```
pretrends_active_subs_eu <- feols(Outcome ~ Year * Treatment, data
= pt_active_subs_eu)
summary(PretrendsActiveEU)
```

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	-16900.93	272604.300	-0.061998	0.95129
Year	8.50	135.220	0.062860	0.95061
Treatment	6440.60	509995.947	0.012629	0.99007
Year:Treatment	-3.25	252.974	-0.012847	0.98990

B13 Code for basic difference-in-differences model for all active subsidiaries

```
active_subs_did <- feols(active ~ blacklist + gdp + inflationdef +
factor(country) + factor(year), data = ActiveSubs)
summary(active_subs_did)
```

B14 Code for basic difference-in-differences model for active subsidiaries with an EU-based GUO

```
active_subs_eu_did <- feols(activesubs ~ blacklist + gdp +
inflationdef + factor(country) + factor(year), data =
ActiveSubsEU)
summary(active_subs_eu_did)
```

B15 Code for basic difference-in-differences model for all active subsidiaries with a lag variable

```
ActiveSubs <- ActiveSubs %>%
   group_by(country) %>%
   arrange(year) %>%
   mutate(lagblacklist = lag(blacklist, order_by = year))
active_subs_did_lag <- feols(activesubs ~ blacklist + lagblacklist
+ gdp + inflationdef + factor(country) + factor(year), data =
ActiveSubs)
summary(active_subs_did_lag)
```

B16 Code for basic difference-in-differences model for active subsidiaries with an EU-based GUO with a lag variable

```
active_subs_eu_did_lag <- feols(activesubs ~ blacklist +
lagblacklist + gdp + inflationdef + factor(country) +
factor(year), data = ActiveSubsEU)
summary(active_subs_eu_did_lag)
```

B17 Code for policy extension model for all active subsidiaries

```
active_subs_policy <- feols(activesubs ~ blacklist + policy + gdp
+ inflationdef + factor(country) + factor(year), data =
ActiveSubs)
summary(active_subs_policy)
```

B18 Code for policy extension model for new subsidiaries with an EU-based GUO

```
active_subs_eu_policy <- feols(activesubs ~ blacklist + policy +
gdp + inflationdef + factor(country) + factor(year), data =
ActiveSubsEU)
summary(active_subs_eu_policy)
```

B19 Code for policy extension for all active subsidiaries with a lag variable

```
active_subs_policy_lag <- feols(active ~ blacklist + policy +
lagblacklist + gdp + inflationdef + factor(country) +
factor(year), data = ActiveSubs)
summary(active_subs_policy_lag
```

B20 Code for policy extension for new subsidiaries with an EU-based GUO with a lag variable

```
active_subs_eu_policy_lag <- feols(activesubs ~ blacklist + policy
+ lagblacklist + gdp + inflationdef + factor(country) +
factor(year), data = ActiveSubsEU)
summary(active_subs_eu_policy_lag)
```