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Mona Barake

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Sorbonne en Sciences Economiques

Essays on Tax Havens and Tax Avoidance

par **Mona Barake**

Sous la direction du Professeur Gunther CAPELLE-BLANCARD

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To my parents and grand parents

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Abstract

This thesis contributes to the literature in Financial Economics and Public Economics that considers research about tax havens and tax avoidance. The first chapter is a literature review about the main studies that evolve around tax havens. The second chapter analyses the characteristics of tax havens. A new list is used and it consists of the countries that figure in the recent leaks of the Panama Papers and Paradise Papers. Using logit regressions, I find that Good governance is an important factor that characterize tax havens. These countries seem to either have very low international voice or very high one. We compare with other lists of tax havens and show that most existent lists are biased. The third chapter identifies profit shifting by the top European banks. Financial institutions as of 2014 started disclosing their activity on a country-by-country level, following the CRD IV EU directive. Using a sample from 2013 to 2019, I find that the banks' profits are sensitive to the tax rate suggesting that banks lower their tax burden through their subsidiaries. Profit shifting is estimated by using two approaches: tax differentials and profitability differentials. Depending on the method used, profit shifting by the top European banks is between 7 to 15 percent of the total profits booked abroad in 2017. Finally, the last chapter studies the relationship between CSR and tax aggressiveness. We use a sample of firms from 2008 to 2018 in a worldwide framework. The findings suggest that the more a firm is socially responsible, the more it avoids taxes. That is also true for firms with high level of employee satisfaction. Socially responsible firms engage as well in lobbying on tax issues. Overall, paying the fair share of taxes seems to be disassociated from the notion of the good corporate citizen.

Keywords: Tax havens, Tax avoidance, Profit Shifting, Tax aggressiveness

Résumé

Cette thèse contribue à la littérature en économie financière et en économie publique, plus spécifiquement la recherche sur les paradis fiscaux, l'évasion fiscale et la planification fiscale. Le premier chapitre est une revue de la littérature sur les principales études portant sur les paradis fiscaux, leurs définitions, rôles et conséquences. Le deuxième chapitre analyse les caractéristiques des paradis fiscaux. Une nouvelle liste est utilisée et contient les pays qui figurent dans les récentes fuites des Panama et Paradise Papers. En utilisant les régressions logit, les caractéristiques des paradis

fiscaux sont explorées. Les résultats montrent que la bonne gouvernance est un facteur important qui caractérise les paradis fiscaux. Ces territoires semblent avoir une voix internationale (poids du pays) très basse ou très élevée. En comparant avec d'autres listes de paradis fiscaux, on peut montrer que la plupart des listes existantes sont biaisées. Le troisième chapitre identifie le transfert de bénéfices des plus grandes banques européennes. A partir de 2014, les institutions financières ont commencé à divulguer leurs activités pays par pays, conformément à la directive européenne CRD IV. En utilisant un échantillon de 2013 à 2019, je trouve que les bénéfices des banques sont sensibles au taux d'imposition, ce qui suggère que les banques réduisent leur fardeau fiscal via leurs filiales. Le transfert de bénéfices est estimé en utilisant deux approches : les différences entre les taux d'imposition des pays et les différences entre la rentabilité par employé. Selon la méthode utilisée, les banques européennes arrivent à transférer environ 7 à 14% de leurs bénéfices à l'étranger en 2017. Enfin, le dernier chapitre étudie la relation entre la Responsabilité Sociétale de l'Entreprise (RSE) et son agressivité fiscale. On utilise un échantillon d'entreprises allant de 2008 à 2018 dans un cadre mondial. Les résultats suggèrent que plus une entreprise est socialement responsable, plus elle évite les impôts. Cela est également vrai pour les entreprises ayant un niveau élevé de satisfaction des employés. Les entreprises socialement responsables font également du lobbying sur les questions fiscales. Globalement, le paiement de la juste part des impôts semble être dissocié de la notion de l'entreprise responsable.

Mots-clés : Paradis fiscaux, Transfert des bénéfices, Evasion Fiscale

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Résumé

Introduction générale

Les paradis fiscaux existent depuis longtemps mais ce n'est que récemment que les spécialistes et chercheurs s'y sont intéressés. Ces Etats encouragent l'évasion fiscale, le contournement des règles ainsi que la dissimulation des flux financiers. Le développement continue des paradis fiscaux affaiblit les finances publiques des autres pays contribuant ainsi à alourdir les dettes des États, facilitent le blanchiment d'argent lié aux trafics ou au terrorisme, accentuent les inégalités et accroissent l'instabilité financière. L'existence de zones échappant à la régulation et à la fiscalité devient de plus en plus intolérable. La lutte contre les paradis fiscaux est au rang de priorité de certains gouvernements, institutions internationales et ONG. L'OCDE (Organisation de coopération et de développement économiques) est l'un des principaux leaders visant à lutter contre les paradis fiscaux et le transfert artificiel des profits (Base Erosion and Profit Shifting - BEPS). Nombreux sont les scandales qui ont choqué le monde, dévoilant l'ampleur des paradis fiscaux et leur utilisation par les multinationales et les plus riches. Les Panama Papers sont les fuites les plus connues qui ont bien marqué la prise de conscience contre ces trous noirs.

Cette thèse s'inscrit dans la littérature sur les paradis fiscaux et le transfert de bénéfices. Dans un premier temps, je m'intéresse à la définition, les caractéristiques et les listes des paradis fiscaux. Ensuite, la planification fiscale des banques européennes est identifiée et estimée. Dans une dernière étape, je vérifie le lien entre la planification

fiscale et la responsabilité sociale des entreprises.

Chapitre 1. Revue de littérature

Une première partie de la littérature examine les spécificités des pays ou juridictions considérés comme des paradis fiscaux ou des OFC (Centres Financiers Offshore). Dans leur article précurseur, Hines Jr and Rice (1994) créent une liste de 41 paradis fiscaux et estiment que les multinationales américaines y ont déclaré, au début des années 1980, près d'un tiers de leurs profits, ce qui est clairement disproportionné. Quelques articles ont, par la suite, cherché à identifier les caractéristiques principales des paradis fiscaux. Il apparaît d'abord que les paradis fiscaux sont toujours de petits pays (Hansen and Kessler, 2001), souvent moins d'un million d'habitants. Ce sont aussi des pays riches, dans la mesure où les activités financières transfrontalières sont très rentables en termes de croissance, d'emploi et même de recettes publiques (Hampton and Christensen, 2002). Masciandaro (2008) examine plus largement les principaux facteurs qui déterminent quels sont les pays qui deviennent des OFC. Il souligne l'importance d'une grande stabilité politique, d'un faible taux de criminalité et d'un système juridique de type "Common Law", combinés à un faible niveau en ressources. Dharmapala and Hines Jr (2009) examinent les caractéristiques des paradis fiscaux et confirment que ces pays sont dotés d'une meilleure gouvernance.

D'autre part, une partie de la littérature estime l'ampleur des paradis fiscaux. Selon Hampton and Christensen (2002), le montant total des dépôts bancaires dans les OFC était estimé à \$11 Md en 1968, \$385 Md en 1978, \$1000 Md au début des années 1990 et \$6000 Md à la fin des années 1990. La croissance est encore plus spectaculaire en proportion du PIB mondial : de 0,5% en 1968 à 5 % dans les années 1980, puis à 20% dans les années 1990. Plus récemment, la richesse financière globale des ménages détenus dans les paradis fiscaux est estimée d'être environ \$7600 Md en 2013 (Tørsløv et al., 2015; Zucman, 2013).

Les premières estimations de l'évasion fiscale se sont concentrées sur les États-Unis en raison de la disponibilité des données. Zucman (2014) révèle qu'en 2013, environ 20% des bénéfices des entreprises américaines étaient enregistrés dans les principaux paradis fiscaux, soit dix fois plus que dans les années 1980. Clausing (2016) estime que les transferts de bénéfices des entreprises ont coûté en 2012 à l'État américain entre \$ 77 Md et \$ 111 Md, sachant que les pertes fiscales ont probablement largement augmenté au cours des dernières années. Toujours selon ses estimations, les pertes de recettes s'élevaient à 279 Md\$ pour les pays à fiscalité élevée, soit environ 20% des recettes totales provenant de l'impôt sur les sociétés. Cobham and Janský (2017) montrent que jusqu'à un quart des bénéfices mondiaux des multinationales américaines peuvent être déplacés vers d'autres lieux que celui où se déroule l'activité économique sous-jacente. Leur estimation s'élève à quelque \$ 130 Md par an. Crivelli et al. (2015) estiment, eux, à environ \$ 600 Md américains les pertes mondiales liées à l'érosion de l'assiette fiscale des sociétés et aux transferts de bénéfices via les paradis fiscaux. En utilisant d'autres données, (Tørsløv et al., 2018) estiment que près de 40 % des bénéfices des multinationales sont transférés chaque année dans des paradis fiscaux dans le monde, soit plus de \$ 600 Md en 2015.

Chapitre 2. Les Caractéristiques des paradis fiscaux

Introduction

Dans cet article, j'examine les caractéristiques des paradis fiscaux en se basant sur la liste des pays impliquées dans les fuites des Panama Papers et les Paradise Papers. Puisqu'il n'y a pas de définition unique pour les paradis fiscaux, il est intéressant d'essayer de bien identifier certaines de leurs caractéristiques. À l'aide d'un modèle Logit, les deux caractéristiques que je teste sont : la gouvernance et la voix / poids international d'un pays. Une comparaison entre les principales listes des paradis

fiscaux est aussi fournie dans l'analyse.

Les listes

Tout comme les définitions, il existe de nombreuses listes de paradis fiscaux. Hines Jr and Rice (1994) ont signalé 40 pays comme paradis fiscaux. Plus tard, l'OCDE a fini par retirer tous les pays de la liste. En décembre 2017, l'Union européenne a publié sa première liste noire commune des paradis fiscaux. Cette liste comprend 17 pays dont aucun européen. Le FMI a publié plusieurs listes : une en 2000 qui comprenait 46 pays et une autre en 2008 qui en compte 26. D'autre part, une liste a été créée par un groupe d'universitaires (Garcia-Bernardo et al., 2017) à l'aide des réseaux de propriété des entreprises. Cette liste inclut 32 pays et différencie les paradis fiscaux en pays qui conduisent l'argent et d'autres qui le stockent. La nouvelle liste que j'ajoute dans ce travail est celle des "Fuites". Cette liste est basée sur les informations fournies par les fuites des Panama Papers et Paradise Papers. Ces scandales ont divulgué des documents confidentiels sur des entités offshores du cabinet d'avocats panaméen Mossack Fonseca en 2016 et d'Appleby en 2017. Les fuites offrent des informations précieuses puisqu'elles révèlent les pays qui ont été utilisés pour créer les entités offshores. Ces scandales constituent une opportunité pour vérifier les caractéristiques des paradis fiscaux. Une comparaison est également établie par rapport aux autres listes.

Méthodologie

L'analyse commence en comparant empiriquement 5 listes des paradis fiscaux : Hines-Rice (1994), OCDE (2000), FMI (2000) et Garcia-Bernardo (2017) et Leaks (Panama et Paradise Papers). le modèle logit suivant est estimé pour chacune des listes.

La variable dépendante est une variable indiquant si un pays figure sur une liste

spécifique (= 1) ou non (= 0). La liste principale considérée dans cette étude est celle des fuites "Leaks". Cette dernière comporte la liste des pays impliqués dans les Panama Papers et Paradise Papers. La récente liste de l'UE ne peut pas être prise en compte car elle comporte peu de pays ce qui peut fournir des résultats biaisés.

Les principales variables explicatives sont la voix internationale et la gouvernance. La voix internationale d'un pays se traduit par son poids par rapport au monde et cela peut être reflété par les quotas du FMI. Le FMI utilise une formule de quota pour évaluer la position relative d'un membre par rapport à la sphère internationale. Les données sur la gouvernance sont disponibles auprès de la Banque mondiale par Kauffman et al. Les auteurs construisent 6 indicateurs de gouvernance différents pour 215 pays : voix et responsabilité, stabilité politique, efficacité du gouvernement, état de droit, contrôle de la corruption et qualité de la réglementation. Chacune de ces mesures prend des valeurs de -2,5 à 2,5 (les valeurs élevées reflètent une meilleure gouvernance). Dans ce travail, l'indice de gouvernance est construit en se basant sur les 6 mesures pour chacun des pays en utilisant une moyenne non pondérée.

Les autres variables considérées sont le PIB par habitant, la population, les ressources naturelles et le taux d'imposition des sociétés. L'effet de la colonisation britannique et du système judiciaire "common law" sont aussi contrôlés.

La comparaison des listes fournit une image figée des caractéristiques. Pour avoir un modèle robuste, on introduit l'effet du temps en prenant les données sur les pays utilisés par Mossack Fonseca et Appleby entre les années 1996 et 2016. Le même modèle logit est testé en changeant la variable dépendante de "pays figurant sur une liste" en "pays utilisé par Mossack Fonseca et Appleby" et en prenant compte des effets du temps.

Résultats

Comparaison empirique des listes des paradis fiscaux

Les résultats des régressions montrent que le coefficient de la gouvernance pour la liste Leaks est positif et significatif. Cela indique que la gouvernance a un lien positif avec le statut des paradis fiscaux. Le coefficient pour l'indice de gouvernance est positif avec toutes les autres listes à l'exception de l'OCDE. Ce résultat peut sembler incompatible avec l'image des paradis fiscaux comme étant des pays hors-la-loi qui sont généralement mis sur les listes noires par les pays et les institutions.

Tout comme pour la gouvernance, le coefficient de common law est positif et très significatif. Cela indique que l'origine du système juridique est importante. La population avec son coefficient négatif suggère que la plupart des paradis fiscaux sont de petits pays. Cependant, la variable "Quota" du FMI différencie la liste des fuites des autres. Son coefficient étant positif et significatif avec la liste Leaks mais négatif avec les autres listes. Bien que beaucoup considèrent que les paradis fiscaux sont de petits territoires ou des îles, la liste des fuites montre que certains des pays utilisés sont des pays qui ont un fort poids international, voire de grands pays. Les paradis fiscaux semblent être soit des pays ayant presque pas de international ou des pays puissants avec une forte présence. Cela est expliqué par le fait que les petits pays s'échappent facilement aux réglementations et aux sanctions vu qu'ils sont presque invisibles. De même, les pays puissants sont immunisés contre les sanctions et peuvent en échapper.

Caractéristiques des paradis fiscaux à partir des fuites

Les régressions qui comparent les caractéristiques des différentes listes ne couvrent qu'une année car il n'y a pas de changement dans les listes. Pour surmonter cette limite et permettre une variation dans le temps, une autre variable dépendante est

utilisée. Au lieu de tester des listes de paradis fiscaux, je considère les pays qui ont été utilisés pour créer des entités offshore par Mossack Fonseca et Appleby sur une période de vingt ans allant de 1996 à 2016. Les résultats montrent que la gouvernance est positive et significative. La variable voix internationale ou quota du FMI est également positive et significative, ce qui indique que les pays utilisés ne sont pas tous de petits territoires.

Conclusion

Les résultats dans cette étude suggèrent que les paradis fiscaux sont des pays bien gouvernés. Les taux d'imposition ne suffisent pas pour qu'un pays soit considéré comme un paradis fiscal. Les paradis fiscaux ne sont pas seulement de petits pays à faible poids internationale. De nombreux pays développés ayant une voix internationale très élevée font partie des paradis fiscaux. Il existe de nombreuses listes de paradis fiscaux et les critères d'inclusion ne sont pas tout à fait les mêmes. Si la non-coopération en matière de paradis fiscaux conduit à être placé sur une liste, ce n'est pas toujours le cas lorsqu'il s'agit de pays puissants. Les récentes fuites et scandales révèlent que certains grands pays sont impliqués. Cela prouve que les listes institutionnelles sont politiquement biaisées. Il est important d'élaborer des listes de paradis fiscaux de manière objective pour pouvoir analyser leurs conséquences. Sans une liste adéquate, toutes les estimations concernant les paradis fiscaux ne donnent pas une image complète.

Chapitre 3. La planification fiscale des banques européennes

Introduction

Les dix dernières années ont vu de nombreux scandales liés à l'évasion et la fraude fiscales. La banque suisse UBS a été accusée d'avoir fourni une assistance à ses

clients américains pour cacher 20 milliards de dollars à l'étranger. Le groupe bancaire HSBC, a été soupçonné d'évasion fiscale et de blanchiment d'argent en 2015. Les banques jouent un rôle essentiel dans la création de sociétés écrans, de fondations et de trusts pour faciliter l'évasion fiscale et le blanchiment d'argent pour leurs clients. Cependant, peu de recherches se concentrent sur le transfert de bénéfices des banques pour leurs propres comptes. Avec la globalisation, les opportunités de transfert des profits ou de la richesse peuvent survenir en raison des différences entre les taux d'imposition des pays. Cela peut expliquer pourquoi les taux d'imposition sont en baisse un peu partout dans le monde. Les États-Unis ont réduit leur taux d'imposition de 35% à 21% en 2018, très probablement pour maintenir leur attractivité face au transfert de bénéfices. Après tout, les banquiers se concentrent sur la maximisation des profits pour leurs actionnaires et très probablement pour leur propre bénéfice. Dans ce chapitre, j'essaie de vérifier si les banques européennes sont impliquées dans la planification fiscale, de quantifier les profits transférés et le montant des recettes fiscales perdues.

Données

Cette étude est basée principalement sur les données de déclaration pays par pays des banques (CbCR). Le reporting CbCR a débuté récemment en 2014 conformément à l'article 89 de la directive européenne CRD IV (2013/36 / UE). Les banques opérant dans l'UE sont désormais obligées de divulguer annuellement, pour chaque pays dans lequel elles ont une filiale, les éléments suivants : chiffre d'affaires (produit net bancaire), nombre d'employés (à temps plein), résultat avant impôt, impôt sur le résultat et les subventions publiques reçues.

J'ai collecté à la main les données de CbCR à partir des rapports annuels des banques pour les années 2013-2019. La construction de la base de données se concentre sur les banques européennes les plus importantes voir systémiques. Les données

sur le CbCR proviennent soit des rapports annuels des banques, soit d'un rapport séparé déposé par la banque en ligne sous le nom de "reporting pays par pays". Pour chaque banque et pour chaque année, le rapport doit être trouvé et les variables suivantes sont récupérées : produit net bancaire, bénéfice avant impôt, taxes payées et le nombre d'employés à temps plein.

Dans l'ensemble, je collecte des données sur 34 banques européennes multinationales basées dans 11 pays européens (Autriche, Belgique, Danemark, Finlande, France, Allemagne, Italie, Pays-Bas, Espagne, Suède et Royaume-Uni) et opérant dans 90 pays à travers le monde. D'après cet échantillon, on peut dire que 25% des pays où les banques européennes s'implantent sont des paradis fiscaux. Parmi les dix premiers pays ayant le plus haut montant des bénéfices on trouve trois paradis fiscaux : Hong Kong, le Luxembourg et la Belgique. Les États-Unis et le Royaume-Uni sont également parmi les premiers pays avec des bénéfices élevés. Les États-Unis et le Royaume-Uni sont considérés comme des paradis fiscaux possibles selon le Tax Justice Network.

Méthodologie

Dans cette étude, deux approches principales sont utilisées pour estimer l'excès de bénéfices des banques à l'étranger ; ce qui peut refléter le transfert des profits. La première approche est une méthode courante dans la littérature pour calculer le transfert de bénéfices. La plupart des économistes utilisent une méthode indirecte basée sur les différences des taux d'imposition entre les pays (Clausing, 2016 ; OECD, 2015 ; Johansson et al., 2016). En premier lieu, les régressions servent à obtenir la semi-élasticité des impôts par rapport aux bénéfices des filiales des banques. Les régressions sont exécutées au niveau agrégé par pays (données de panel, effets fixes). Les régressions au niveau macro des filiales, dans l'équation (1), consistent à prendre le log des bénéfices avant impôt (EBT) des banques agrégées par chaque pays étranger

où les banques opèrent. La variable explicative à laquelle on est intéressé est le taux d'imposition.

$$\text{Log}(EBT)_{it} = \alpha_0 + \beta_1 \text{Tax}_{it} + \beta_2 \text{Controls} + \epsilon_{it} \quad (1)$$

La deuxième méthode consiste à mesurer le transfert des bénéfices à partir des différences entre les rentabilités des banques dans chaque pays plutôt que des différences entre les taux d'imposition. Cette approche est inspirée des travaux de Zucman, Torslov et Wier (2018). Les auteurs mesurent le transfert de bénéfices en comparant la rentabilité des entreprises étrangères à celle des entreprises locales dans un pays donné. La rentabilité des banques varie d'un pays à l'autre. Cependant, la rentabilité devrait être relativement comparable d'un pays à l'autre après prise en compte des actifs et des facteurs de travail ou de production. Partant du fait que les banques sont bien implantées dans leur marché local, les écarts par rapport à la rentabilité local suggèrent deux choses. Premièrement, cela peut indiquer une délocalisation des actifs et des bénéfices de la banque dans les paradis fiscaux ou dans les pays à faible taux d'imposition. Deuxièmement, ça peut refléter la demande de services de paradis fiscaux par les clients des banques. Les ratios de rentabilité des banques sont calculés pour chaque pays où les banques opèrent en divisant la productivité des salariés de ce pays par la productivité des salariés dans le marché local de la banque (voir équation 3).

$$\text{Profitability}_{it} = \frac{\sum EBT_{it} / \sum \text{Staff}_{it}}{\sum EBT_{ht} / \sum \text{Staff}_{ht}} \quad (2)$$

Le transfert de bénéfices est alors détecté lorsque le ratio de rentabilité dans un pays étranger dépasse le ratio de rentabilité local. On s'attend à ce que les ratios de rentabilité dans les paradis fiscaux soient beaucoup plus élevés que les ratios

de rentabilité des autres pays. Dans les deux méthodes, une fraction des bénéfices excédentaires estimés est considérée comme un transfert de bénéfices. Cette fraction prend en compte les transactions intra-groupes qui sont d'environ 30% pour certaines banques dans l'échantillon.

Résultats

Méthode différence taux d'imposition

Les résultats des régressions indiquent tous une relation négative et statistiquement significative entre les bénéfices avant impôt et les taux d'imposition. Les semi-élasticités sont entre - 0,6 et -1,5. Les estimations sont conformes aux résultats dans la littérature. Cela indique que les banques européennes ont tendance à opérer dans des pays à faible taux d'imposition. Cela suggère que les banques peuvent réduire leur charge fiscale en opérant à travers leurs filiales.

En se basant sur les estimations avec la méthode des différences entre les taux d'impositions, le montant des transferts de bénéfices par les banques européennes dans cet échantillon est d'environ 16 milliards de dollars par an. Le transfert de bénéfices des banques européennes représente donc environ 15% du total des bénéfices étrangers. Les trois premiers pays vers lesquels la plupart des bénéfices ont été transférés sont Hong Kong, le Royaume-Uni et le Luxembourg (voir tableau 0.4).

Les ratios de rentabilité montrent d'énormes écarts dans l'activité des banques d'un pays à l'autre. Les banques sont extrêmement rentables dans les paradis fiscaux. La rentabilité des banques dans les pays non- paradis fiscaux est d'environ 200% alors que la rentabilité dans les paradis fiscaux est beaucoup plus élevée. Les ratios de rentabilité les plus élevés se trouvent à Curaçao, aux îles Caymans et au Panama avec plus de 2000% de rentabilité. Les ratios qui dépassant le seuil de rentabilité local des

banques, reflètent une partie du transfert de bénéfices par les banques et indiquent aussi l'importance des paradis fiscaux en tant que destinations qui attirent les bénéfices. Les estimations du transfert de bénéfices dû aux différences de rentabilité sont présentées montrent que les principaux pays avec des bénéfices excédentaires sont le Luxembourg, l'Irlande et le Hong Kong. Le transfert de bénéfices est estimé à environ 7,3 milliards de dollars, soit environ 7% des bénéfices totaux des banques.

Le transfert des bénéfices a une conséquence directe sur les recettes fiscales des pays d'origine des banques. En utilisant leurs succursales et filiales à l'étranger, les banques parviennent à réduire leur charge fiscale. Les pertes de recettes fiscales sont estimées entre 1,5 et 3,5 milliards de dollars ou environ 7 à 14% du total des recettes fiscales sur une base annuelle selon la méthode d'estimation.

Conclusion

Le reporting pays par pays est une première étape dans l'exploration de l'activité des banques dans les paradis fiscaux. Davantage de réformes sont nécessaires pour plus de transparence sur l'activité des multinationales et des institutions financières. L'OCDE/G20 a lancé de nombreuses actions pour lutter contre l'érosion de la base d'imposition comme le projet BEPS.

Néanmoins, ces actions sont confrontées à de nombreux défis en raison du conflit d'intérêts à l'intérieur de l'UE. Certains pays de l'UE sont touchés par le transfert des bénéfices tandis que d'autres en bénéficient. L'argent est redistribué dans l'UE des pays dont les taux d'imposition sont élevés à ceux dont les taux d'imposition sont faibles. Les réformes devraient envisager la consolidation des profits à l'échelle mondiale. Une harmonisation des systèmes fiscaux des pays de l'UE est également très nécessaire.

Chapitre 4. Les entreprises responsables, de vrais bons citoyens ?

Introduction

L'évasion fiscale est de plus en plus comprise dans le mouvement de responsabilité sociale des entreprises (RSE), selon l'Organisation de coopération et de développement économiques (OCDE). Néanmoins, la relation entre les pratiques RSE et l'agressivité fiscale reste floue dans la littérature. Cet article cherche à répondre à cette question en examinant la performance RSE des entreprises opérant dans le monde et leurs pratiques fiscales.

La littérature existante sur la RSE et l'agressivité fiscale préconise différentes théories. Les entreprises engagées socialement sont censées agir en tant que bons citoyens et doivent par conséquent tenir compte des intérêts des différents acteurs dans la société. Par conséquent, les entreprises responsables devraient payer leur juste part d'impôts (Christensen et Murphy, 2004). Cependant, les théories économiques classiques considèrent que s'engager dans des activités responsables ne peut être justifié que dans la mesure où ces activités maximisent la richesse des actionnaires. Selon ce point de vue, les entreprises devraient se livrer à l'évasion fiscale tant qu'elle maximise la richesse des actionnaires.

Méthodologie

Nous estimons le modèle suivant pour examiner l'association entre l'agressivité fiscale et la RSE :

$$TaxAggressivness_{it} = \alpha_0 + \beta_1 ESG_{it} + \beta_2 Control_{it} + \epsilon_{ikt} \quad (3)$$

La variable dépendante "Agressivité fiscale" est mesurée par le taux d'imposition effectif (ETR) et le taux d'imposition moyen sur 5 ans. Le taux d'imposition effectif est calculé en divisant les impôts payés par le bénéfice avant impôts. Pour vérifier nos résultats, une mesure alternative pour l'agressivité fiscale est ajoutée : les dépenses engagées par une entreprise sur le lobbying concernant la taxation. La variable RSE reflète le score d'une entreprise allant jusqu'à 100. Les données proviennent principalement de Thomson Reuters ESG Research et Datastream. Le nombre de récompenses ESG reçues par l'entreprise est aussi ajouté comme une variable alternative pour la responsabilité sociétale. On construit aussi un score qui reflète la satisfaction des employés dans une entreprise en se basant sur le site Glassdoor.

Résultats

Les résultats des régressions Panel montrent que le score ESG est négativement lié au taux d'impôt effectif (ETR) et aux impôts moyens payés au cours des 5 dernières années. Pour vérifier la solidité des résultats, le nombre de récompenses ESG reçues par l'entreprise est utilisé comme variable explicative à la place du score RSE. Les données sur les récompenses ESG sont extraites de Thomson Reuters. Les résultats suggèrent à nouveau que plus une entreprise est récompensée pour sa responsabilité sociale, plus elle est fiscalement agressive. De plus, le lobbying fiscal est employé comme indicateur de l'agressivité fiscale. On collecte Les données de lobbying américain et européen pour les 1000 meilleures entreprises selon le classement Forbes. Les résultats montrent une relation positive et significative avec le score ESG, ce qui signifie que les entreprises responsables sont plus agressives en manière de lobbying.

Dans une autre étape, on considère la relation entre la RSE et l'agressivité fiscale en contrôlant la satisfaction des employés dans les différentes entreprises. On examine la liste Forbes des 100 meilleurs employeurs et collectons manuellement des données sur Glassdoor, un site Web en ligne sur lequel les employés actuels et anciens

évaluent d'une manière anonyme les entreprises.

Les résultats montrent que la relation entre le score RSE et le taux d'imposition est négative et significative uniquement pour les entreprises à forte satisfaction des salariés. Pour le sous-échantillon de faible satisfaction, le score RSE n'est pas significatif. Cela implique que les entreprises dont la satisfaction des employés est élevée sont beaucoup plus agressives sur le plan fiscal que les entreprises qui ont une faible satisfaction des employés.

Conclusion

Ce chapitre étudie la relation entre la responsabilité sociale des entreprises et l'agressivité fiscale d'un échantillon d'entreprises mondiale entre 2008 et 2018. On constate que plus une entreprise est socialement responsable, moins elle paie d'impôts. De plus, les résultats montrent que les entreprises socialement responsables s'engagent à faire du lobbying sur les questions fiscales. Ajoutant à cela, on documente que les entreprises dont les employés sont très satisfaits sont plus agressives fiscalement. Ces résultats suggèrent que la notion de RSE n'inclut pas le paiement de la juste part des impôts. Les entreprises socialement responsables peuvent utiliser leur bonne image pour couvrir leurs implications en matière d'évasion fiscale. Il est clair que les entreprises ne considèrent pas le paiement des impôts comme un acte social. Cela dit, les scores RSE doivent intégrer des mesures pour l'agressivité fiscale et l'évasion fiscale. Les entreprises socialement responsables sont bien gouvernées. Ils semblent également avoir réussi à instaurer la confiance de leurs salariés dans l'environnement social de l'entreprise. Cela rendrait plus difficile de remédier aux problèmes d'évasion ou de fraude fiscales causés par ces entreprises. La grande question qui reste est de savoir comment encourager les entreprises à considérer le paiement des impôts comme un élément essentiel d'une bonne entreprise citoyenne.

Conclusion Générale

Il est clair que beaucoup plus de recherche est encore nécessaire pour mieux comprendre les paradis fiscaux et leurs conséquences. Puisqu'il n'y a pas de définition claire des paradis fiscaux, j'ai utilisé les récentes fuites des "Panama et Paradise Papers" pour analyser les caractéristiques des paradis fiscaux. Les différentes listes de paradis fiscaux sont également comparées. Je trouve qu'outre le taux d'imposition, la gouvernance est une caractéristique importante d'un paradis fiscal. De plus, un paradis fiscal n'est pas nécessairement une petite île. Le poids international d'un pays joue un rôle important. Un poids très faible permet aux petits pays de passer inaperçus. Un poids international très élevé permet aussi de s'échapper aux sanctions. Cela étant dit, la plupart des listes de paradis fiscaux sont politiquement biaisées car elles ignorent les pays ayant un poids international élevé.

La littérature sur le transfert de bénéfices ou la planification fiscale porte seulement sur les multinationales et exclut les institutions financières. Je profite de la directive CRD IV et je construis la base de données de reporting pays par pays pour les plus grandes banques européennes. Je trouve que les banques peuvent transférer une partie de leurs bénéfices en utilisant leurs filiales. La planification fiscale est estimée à environ 26% du total des bénéfices à l'étranger. Les pertes fiscales subies par les gouvernements sont entre 8 et 14% du total des impôts.

Enfin, je vérifie le lien entre l'agressivité fiscale et la responsabilité sociale des entreprises. J'utilise les scores RSE de Thomson Reuters et je construis un indicateur de satisfaction des employés basé sur "Glassdoor". Des données de lobbying américain et européen sont également ajoutées à l'analyse. Je trouve que les entreprises socialement responsables sont agressives sur le plan fiscal et font du lobbying sur les

questions fiscales. Les entreprises dont les employés sont très satisfaits sont également agressives sur le plan fiscal.

Des recherches supplémentaires sont nécessaires pour évaluer la fraude fiscale et leur impact sur les économies mondiales et sur les inégalités. La recherche devrait fournir des listes de paradis fiscaux qui ne sont pas influencées politiquement. Les listes doivent être élaborées sur la base de critères objectifs. La recherche relative au transfert de bénéfices devrait également être élargie. Cela peut être possible à travers le reporting pays par pays que toutes les multinationales doivent appliquer. Le reporting devrait également inclure d'autres informations cruciales comme les actifs détenus dans chaque pays où l'entreprise opère. Récemment, la notion de RSE reçoit beaucoup d'attention. Les entreprises s'efforcent de gagner le respect social afin de préserver leur valeur envers leurs actionnaires et leurs clients. Cependant, des recherches supplémentaires sont nécessaires pour évaluer les entreprises qui prétendent d'être éthiques.

Pour atténuer les problèmes liés aux paradis fiscaux, il devrait y avoir des listes objectives de paradis fiscaux mises à jour régulièrement. Les mesures prises comme FATCA ou l'échange automatique d'informations en matière fiscale devraient couvrir tous les pays sans aucune exception. La fiscalité des multinationales devrait également être revue ; elles devraient être imposées sur leurs bénéfices globaux consolidés proportionnellement à l'endroit où elles réalisent leurs ventes. Il devrait y avoir plus de coopération internationale sur les taux d'imposition et l'assiette fiscale. En ce qui concerne l'UE, une plus grande intégration est nécessaire pour que les différents membres convergent vers le même taux d'imposition et la même assiette fiscale. Les entreprises peuvent toujours trouver des trous dans le système. La notion de RSE ne doit pas être détachée du paiement de la juste part des impôts. C'est pourquoi il est crucial de souligner l'importance d'être une entreprise citoyenne responsable.

Introduction

This thesis relates to the literature on Tax havens and profit shifting. It contributes to this literature by characterizing tax havens, estimating tax planning and the behavior of firms towards it. In a first step the definition, characteristics and lists of tax havens are explored. Then tax planning by banks is identified and estimated. In a last step, I check the behavior of firms towards tax planning.

The past few years have witnessed increased global awareness with respect to the existence and use of tax havens. A direction towards restricting the access to tax havens is raised by some governments and encouraged by NGO's and international institutions such as the Organization for Economic Cooperation and Development (OECD).

Tax havens are an escape card from taxes and regulations for multinational companies and the wealthy. While many of the activities are legal; however, tax havens are also conduits for illicit financial flows and money laundering. The use of tax havens has damaging consequences on other countries. It diverts tax revenues which has a direct consequence on government spending and on increasing inequality. Global losses of governments related to the erosion of the corporate tax base and the transfer of profits via tax havens is estimated to be \$600 billion (Crivelli et al.,2015). Around 40 percent of the profits of multinationals are estimated to be transferred each year to tax havens worldwide, more than 600 billion euros in 2015 (Tørsløv et al., 2018). For this, it is crucial to conduct research on tax havens in order to better understand its consequences and be able to attenuate from their use.

Defining tax havens and understanding their impact is of high relevance to policymakers. There is no clear definition for what exactly a tax haven is. The concept of tax havens is even considered to be the same as the Offshore Financial Center status by some researchers, while others argue they are distinct. International organizations such as the OECD and the IMF created tax haven's lists or blacklists for uncooperative countries. Hines and rice (1994) were one of the main researchers that analyzed tax havens characteristics. However, The identification of tax havens can suffer from political influence. The best example is the OECD tax havens' list that currently contains no country. The recent leaks of the Panama Papers and Paradise Papers revealed the creation of hidden offshore entities¹. I take advantage from the database of the ICIJ² that gathers the creation of offshore entities across time and use it to analyze the characteristics of the jurisdictions that were used. This not only gives an unbiased list but enables me to have several years in the analysis. The results suggest that tax havens are well governed countries but are not restricted to small jurisdictions. A country's international weight ,or political power, is an important factor: if it has no international presence it would facilitate the creation of a tax haven (no international blame) and if it has an important weight in the international sphere this will also imply that the country can escape international blame due to its power. This proves that many tax havens lists are politically biased and do not always follow objective criterions.

Elaborating tax havens lists is important in order to assess the consequences of these jurisdictions on the world economies. Most studies use a tax haven lists in order to estimate profit shifting and make comparisons between tax havens and other countries. Tax havens attract foreign capital from all over the world and many

¹Offshore entities are mostly shell companies, empty firms with no real economic activity. The beneficial owner's identity is hidden and it cannot be revealed

²International Consortium of Investigative Journalists

multinationals' profits are booked there through some well elaborated schemes. Profit shifting and tax planning of multinationals are documented in the literature. Financial institutions are always dropped from the analysis of profit shifting. However, there is some evidence that as multinationals, banking groups can evade taxes for their own account. In my third chapter, I consider tax planning by European banks. In 2014, the Capital Requirements Directive CRD IV obliged large European financial institutions to disclose on a country-by-country basis their profits, number of employees and taxes paid. I constructed a database covering the largest 34 European banks from 2013 to 2019. Using this database, I try to identify if banks engage in tax planning. Two different methodologies were followed in order to estimate the profit shifting: excess profits that stems from tax differences among countries and excess profits that is due to misalignment between the profits made and the real economic activity. The results suggest that banks engage in tax planning and it can be estimated as 17-26% of the profits made abroad. The tax losses are around 8-14% of total taxes.

Multinationals and financial institutions are being exposed for engaging in tax planning and tax evasion; however, some of these firms claim that they are good corporate citizens. It is interesting to check how firms perceive the payment of taxes and whether they consider it as part of the notion of CSR. If a firm is truly responsible, it should pay its fair share of tax. In case a firm is trying to avoid or minimize the payment of its taxes, it is detracting money from the tax base and from the society. In the last chapter, the relation between tax aggressiveness and corporate social responsibility is explored. We gather data from Thomson Reuters on CSR scores of firms from all over the world during the period 2008 to 2018. We construct a new variable that reflects employee satisfaction based on employees' ratings on Glassdoor. Data on lobbying on tax issues in the US and EU are gathered and matched to our data sample. The results suggest a negative relation between tax aggressiveness and CSR; meaning that firms that are socially responsible are more tax aggressive. Socially

responsible firms engage as well in lobbying on tax issues. This indicates that the notion of paying its fair share of tax is not necessarily considered by the firms as being part of the CSR.

Chapter 1

Tax Havens: A Review of the Literature

1

1.1 Introduction

Tax havens are a recent preoccupation of many countries. They reduce public revenues by encouraging tax evasion, bypass of rules and the flee of financial flows. As a result, tax havens increase the debts of States, facilitate money laundering, fuel inequalities and accentuate financial instability. However, from the time of ancient Rome to the dependencies of the British Crown, countries themselves have often strategically used these small territories for economic and political reasons. It is not by chance that all the great powers have in their sphere of immediate influence one or more havens.

Recently things seem to have changed. In response to the 2008 financial crisis, governments have put the fight against tax havens on the agenda of the second G20 summit in London in 2009. While the crisis was highlighting the dysfunction of the financial sphere and digging the public deficits of many countries, the existence of areas escaping regulation and taxation became increasingly intolerable. The fight

¹This Chapter is based on a joint paper : (Barake and Capelle-Blancard, 2019)

against tax havens has thus officially been made a priority, notably with the OECD initiative adopted in 2013 to combat the artificial profit transfer (BEPS).

In the past ten years, many scandals have occurred shedding light on schemes related to tax avoidance and tax evasion. In 2008, an FBI investigation uncovered the practices of the Swiss bank UBS, accused of providing technical assistance to its US customers to hide \$ 20 billion abroad. Subsequently, Germany and France launched similar investigations. In 2013, the International Consortium of Investigative Journalists (ICIJ) released a report, known as the Offshore Leaks, which shows the crucial role played by most international banks in offering services that facilitate tax evasion. In 2014, the ICIJ published another report, the Lux Leaks, based on confidential information on tax evasion systems in Luxembourg, reflecting that these kinds of schemes are taking place within the European Union itself. In 2015, the leaks exposed the HSBC banking group, suspected of tax evasion and money laundering. In 2016, the Panama papers revealed the activity of international banks in tax havens. Banks play a vital role in setting up front companies, foundations and trusts to facilitate tax evasion and money laundering for the benefit of their clients. Adding to that, in 2016 the Football Leaks showed how many well-known sports personalities relied on tax havens to avoid the tax authorities. Finally, in 2017, the Paradise Papers, unveiled the tax evasion practices of the richest fortunes.

The subject of tax havens regained attention in the economics literature after these scandals. Even if there is still no clear definition of tax havens, one can deny the existence of some countries that are taking advantage of financial globalization through non-cooperative strategies. The status of tax havens is sometimes associated with Offshore Financial Centers, while some researchers argue that they are different from one another. The use of tax havens is legal even though some consider it not ethical and sometimes it is illegal. In both cases, it has become clear that tax havens

have major consequences on the functioning of the world economy.

The key question when it comes to assess tax havens is the access to information. Other than low taxation and loose regulation, it is the opacity that best characterizes these countries. Nobody can deny today that tax havens are a transit point for very large cross-border capital flows, but proofs and studies are still not capturing the full picture. In recent years, as the demand for transparency have risen, especially after recent scandals, new data has gradually been made more accessible to researchers and the general public, thus lifting some of the veil on the issue. Access to data is essential in attempting to deepen our understanding of the roles and functions that tax havens and OFC occupy today in the international financial system. The lack of transparency might explains why there is few academic articles in economics² on tax havens because it results in a lack of data. Research in economics depends (more and more) on data³. This is understandable, but it leads to neglecting some essential questions. Taking into account the influence of tax havens in globalization is skewed downward, and academic research should shed light more on this issue.

In this chapter, we will give a brief overview of the main empirical studies dealing with tax havens. The literature on tax havens is classified in this chapter into six different categories. We start by presenting studies that explores tax havens and their characteristics. Then we move to the research that estimates the use of tax havens

²Most academic articles on tax havens have been published under categories like accounting (21 percent) and Public Economics/Political Economy (18 percent). Surprisingly, few articles have been published under International economics (8 percent), Development Economics (6 percent) or Financial economics (7 percent). If we limit our research to the major academic journals in economics, according to the global Ideas/RePEc ranking, we can cite only five articles on tax havens in the Top 10 (2 in the quarterly Journal of Economics and the Journal of Financial Economics and 1 in the Journal of Finance) and 13 in the Top 20 (2 in the Journal of Economic Perspectives, 1 in the Review of Economics and Statistics and the Journal of Banking Finance, and 4 in the Journal of International Economics)

³(Hamermesh, 2013): "The top journals are now publishing many fewer papers that represent pure theory, regardless of sub-field, somewhat less empirical work based on publicly available data sets, and many more empirical studies based on data assembled for the study by the author(s) or on laboratory or field experiments."

before focusing on the determinants of international flows into tax havens. The use of tax havens by multinationals is also analysed before moving to the financial intermediaries. Finally, studies dealing with assessing regulating tax havens are presented.

1.2 Characteristics of tax havens

A first part of the literature is based on macroeconomic aggregated data and examines the specificities of countries or jurisdictions considered as tax havens or OFCs. There is no definition for tax havens nor a common agreed list. Hines Jr and Rice (1994) were one of the pioneers in research about tax havens. In their article, the authors list 41 tax havens and estimate that US multinationals reported in the early 1980s about one-third of their profits abroad. This shows the disproportion in the generated profits. This article has been quoted over a thousand times and had a very large academic audience which is an exception in tax haven research.

Some articles subsequently sought to identify the main features of tax havens. It appears first that tax havens are small countries (Hansen and Kessler, 2001), often less than one million inhabitants. It can be questioned whether tax havens are only small countries since many of the recent scandals exposed big countries. Tax havens are also rich countries, as cross-border financial activities are very profitable in terms of growth, employment, and even government revenue (Hampton and Christensen, 2002). Hines Jr (2005)⁴ indicates that between 1982 and 1999, the real annual economic growth per capita was 3.3 percent on average for tax havens, compared to 1.4 percent for the rest of the world. More recently, (Hines, 2010) performs a similar analysis and shows that, from 1992 to 2006, this growth was 2.85 percent for tax havens, compared to 2.26 percent for OECD countries. Adding to that, tax havens are believed to be

⁴In Jersey for example, 90 percent of tax revenues come from offshore financial activities, this sector directly employs up to 20 percent of the local workforce (Hampton and Christensen, 2002)

well governed countries. Dharmapala and Hines Jr (2009) examine the characteristics of tax havens and confirm that countries with better governance (measured by World Bank indicators: "voice and responsibility", "political stability", "government effectiveness", "rule of law" and "control of corruption") are much more likely than others to become tax havens. Thus even though tax rates are what defines tax havens, but they are not enough alone to establish a haven.

Some other researchers focused on Offshore Financial Centers (OFC). Masciandaro (2006) looks more broadly at the main factors that determine which countries become OFC. It highlights the importance of high political stability, low crime rates and a common legal system, combined with a low level of resource endowment. Garcia-Bernardo et al., (2017) created a new OFC list using global corporate ownership networks. The list includes 32 countries. They distinguished between what they consider as conduits and sinks OFC.

Apart from academic work, there is also an abundant "gray literature", fed by the main intergovernmental organizations (OECD, IMF, BIS, FSB, FATF) and NGOs (Tax Justice Network, Oxfam). This literature tries to define and identify tax havens, OFCs and other non-cooperative countries and territories⁵.

1.3 The wealth in tax havens

Many studies provide tangible evidence of the increasing and disproportionate weight of tax havens. According to data collected by Hampton and Christensen (2002) from various sources, the total amount of bank deposits in OFCs was estimated at \$ 11 billion in 1968, \$ 385 billion in 1978, \$ 1000 billion at the beginning of the 1990s and \$ 6000 billion at the end of the 1990s. The growth is even more spectacular with respect to the world GDP: from 0.5 percent in 1968, to 5 percent in the 1980s, then

⁵See Johannesen and Pirttilä (2016) for a summary

to 20 percent in the 1990s. It seems that growth has not stopped in recent decades. More recently, Henry (2012) on behalf of the NGO "Tax Justice Network", reports that between \$ 21 and \$ 32 trillion of undeclared financial assets were held via tax havens in 2010, which accounts for more than 30 percent of global GDP. Finally, Tørsløv et al., (2015) and Zucman (2013) estimate that the overall financial wealth of households held in tax havens is 8 percent of the global financial wealth, about \$7.6 trillion at the end of 2013. This last estimate is much lower than the previous one but remains considerable. Tax havens cause great damage to other countries by diverting a large share of their tax revenues. With the financial crisis and the increase in public debt that followed, measuring these tax losses has become a key issue⁶. It should be noted that the damage caused is not only fiscal related. In addition to the banking secrecy, these countries have a very loose financial regulation of which the consequences (i.e. higher financial instability) are difficult to quantify (Palan et al., 2013). The first estimates of tax evasion have focused on the United States because of the data availability. Zucman (2014) showed that in 2013, about 20 percent of the profits of US companies were registered in the main tax havens⁷, ten times more than in the 1980s. Clausing (2016) estimates that profit shifting cost the US \$ 77 billion to \$ 111 billion in 2012, which likely have increased significantly during the last years. According to her estimates, revenue losses amounted to \$ 279 billion for high-tax countries, accounting for about 20 percent of total corporate tax revenues. Cobham and Janský (2017) show that up to a quarter of the global profits of US multinationals can be shifted to locations other than where the underlying economic activity takes place. Their estimate is about \$ 130 billion a year.

Crivelli et al. (2015) estimate global losses related to the erosion of the corporate

⁶Beyond the harm caused, some claim that the existence of tax havens can also have a positive impact by forcing States to be more rigorous in the management of public finances. See (Desai et al., 2006), (Slemrod and Wilson, 2009), , or (Johannesen, 2010) for theoretical approaches. See also (Rose and Spiegel, 2007).

⁷The list of tax havens considered in Zucman (2014) is limited to the Netherlands, Ireland, Switzerland, Singapore, Luxembourg, Bermuda and some Caribbean islands.

tax base and the transfer of profits via tax havens to be \$ 600 billion. Using other data, (Tørsløv et al., 2018) estimate that nearly 40 percent of the profits of multinationals are transferred each year to tax havens worldwide, more than 600 billion euros in 2015. Countries of the European Union seem to be the main losers of this evolution. For Cobham and Janský (2017), however, the erosion of the tax base and the transfer of benefits may be more important for developing countries than for developed countries.

It is interesting to note that the measure of tax evasion could also be useful for measuring inequality. The use of tax evasion is much more common among the last percentiles of the distribution of income and wealth. The share of wealth accruing to these top percentiles increases significantly when undeclared assets are taken into account. To properly measure inequality, tax evasion must be taken into account (Alstadsæter et al., 2019).

1.4 International capital flows and tax havens

A large part of the literature, based on aggregate data, focuses specifically on cross-border deposits and capital flows. The location of cross-border deposits seems to be influenced by banking secrecy (Grilli, 1989). The tax difference among countries is a key determinant of deposit flows (Alworth and Andresen, 1992). Similarly, Huizinga and Nicodème (2004) also suggest that the location of deposits is motivated by tax concerns and find that information-exchange agreements do not promote cross-border deposits. Buch (2005) studies the location of international assets and liabilities of commercial banks in five countries (France, Germany, Italy, the United Kingdom and the United States). She uses aggregated data from the BIS banking statistics and its sample is limited to 50 host countries, including most tax havens. As expected, findings suggest that banks hold significantly less assets in distant markets and that the distance has remained important over the 1983-1999 period.

Lane and Milesi-Ferretti (2011, 2018) collect data from various sources in order to provide estimates of the foreign assets and liabilities of major OFCs. They consider a group of around thirty OFCs (excluding major financial centers such as Hong Kong, Ireland, Luxembourg and Singapore). Although these countries represent only a very small proportion of the world's population and GDP, they represent between 8 percent and 10 percent of global cross-border investment positions, more than France, Germany or Japan. According to the authors, between 40% and 45% of foreign direct investment in the world pass through these offshore centers.

Zucman (2013) also attempts to assess tax havens using international macroeconomic statistics. Using a limited set of BIS data on cross-border banking combined with a public inquiry by the Swiss National Bank, he estimates that 10 percent of the financial wealth of European households is held abroad, which represents a loss of tax revenue of \$ 75 billion. Using the same BIS data, Johannesen (2014) takes advantage of the implementation of the European Savings Directive in 2005 to assess the extent to which cross-border deposits are induced by tax evasion. He finds that deposits held by EU residents in Swiss banks have fallen by 30-40 percent when the new law was introduced. Still with the same database, Andersen et al. (2016) show that an increase in oil rents leads to a significant increase in the amount of deposits in tax havens belonging to oil-rich autocracies.

1.5 Multinational firms and tax havens

The studies mentioned so far only used aggregated data. Recently, more and more micro level data is available. An important part of the literature now aims to assess the incentives for multinational corporations⁸ to invest in tax havens.

⁸Tax optimization is not only done in tax havens, but can be also found in the practice of "transfer pricing" (billing of goods or services to a company of the same group at advantageous prices) which gives companies a large freedom in how to allocate their costs

The first articles on tax havens confirm that they are used for tax evasion reasons, since low tax rates in these countries are associated with larger foreign investment and income transfers (Grubert and Slemrod, 1998; Harris et al., 1993; Hines Jr, 1996)⁹. Multinationals have incentives to move their profits in tax havens to benefit from the reduction of tax payments. For instance, US companies with Delaware subsidiaries reduce their tax burden by 15 to 24 percent (Dyregang et al., 2013). Recently, Wright and Zucman (2018) have established that the foreign tax rate of US multinationals has halved since the late 1990s and that half of this decline is attributable to location strategies for profits in OFCs with very low taxes. Desai et al. (2006) adopt a larger approach and look at which companies are setting up businesses in tax havens. In particular, it seems that the largest and most productive firms are the one involved. Adding to that, these companies are characterized by a high intensity of R & D. Hebous and Lipatov (2014) also show that companies' investments in corrupt countries are positively related to having subsidiaries in tax havens.

A study on European multinational companies by Schimanski (2017) confirm that tax-motivated income transfers are also relevant for European multinationals. Dischinger and Riedel (2011) offer evidence from a panel data set of European firms that MNEs prefer locating intangible assets in low-tax locations, arguably doing so because they are able to choose favorable transfer prices for intangible assets. Egger et al. (2010) compare the debt-to-asset ratios of domestically and foreign owned European firms and identify a gap in the ratios systematically related to corporate tax rates.

between the countries where they operate and gives them many opportunities to transfer profits where taxes are low. See, for example, (Clausing, 2003) and (Huizinga and Laeven, 2008) internationally. On Europe, see (Dischinger and Riedel, 2011), (Vicard, 2015).

⁹Differences in the international taxation of firms not only have an impact on the location of foreign direct investment, but also on transfer pricing, capital structure, dividend payments, royalties, and R&D.

Tørsløv et al.,(2018) compare the profitability of foreign companies with the profitability of local ones. They assume that the level of profitability of local firms in tax havens is not inflated by profit shifting. They consider that local firms in tax havens are as profitable as local firms in non-haven countries. Under these assumptions, within a given tax haven, any excess of profitability of foreign firms over the profitability of local firms reflects inward profit shifting. They find that affiliates of foreign multinational firms are an order of magnitude more profitable than local firms in low-tax countries. By contrast, affiliates of foreign multinationals are less profitable than local firms in high-tax countries. This leads the authors to estimate that 40 percent of multinational profits are shifted to tax havens globally.

Buettner and Wamser (2009) provide further evidence on tax-motivated choice of capital structure using a panel data set of German MNEs. Nevertheless, according to Gumpert et al., (2016) , who examined German firms from 2002 to 2008, the investment behavior of the German companies in tax havens is somewhat different. 80 percent of German multinational firms do not have affiliates in tax havens, reflecting that the available tax savings are less than the costs of establishing the affiliates. However, evidence of firms with tax motivations exists in particular for those larger firms with high level of research.

1.6 Financial intermediaries and tax havens

Banks play a fundamental role in tax evasion, which is hardly a surprise. However, there is little work that focuses on the financial or banking sector at the micro level. Demirgüç-Kunt and Huizinga (2001) are thus an exception, even if they do not specifically examine tax havens. They check the determinants of bank profitability while distinguishing between local and foreign banks. Using data on the taxation of domestic and foreign banks over the period 1988-1995 in 80 countries, including several well-known tax havens (Hong Kong, Luxembourg, Panama, etc.), they show

that the average tax rate is estimated to increase the banks' interest income but less so for foreign banks than domestic ones. This indicates that foreign banks are engaged in massive transfers of profits. More recently, Merz and Overesch (2016) show that banks practice profit shifting themselves, even more than non-financial multinational firms. While profit shifting activities are often associated with intangible assets and manipulation of transfer prices for firm specific goods, profit shifting activities of banks rely on manipulating intra-firm transactions (interest margin or services fees) and allocating certain functions and risks like credit management, investments analysis and the underwriting function. The authors find that reported earnings of multinational bank's subsidiaries significantly respond to host country tax incentives.

Langenmayr and Reiter (2017) confirm that banks that are present in OFCs can easily optimize their tax bills. In addition, these banks tend to have fewer traditional banking functions: by controlling their size, they make relatively fewer deposits and less loans to companies. The authors estimate that a 1 percentage point decrease in the corporate tax rate increases bank assets by 4 percent and their derivatives by 9 percent. This increase does not come from the relocation of real activities, but from the relocation of accounting profits. In addition, Chernykh and Mityakov (2017), based on a unique Russian data set, establish a strong link between the extraterritorial activities of banks and tax evasion of companies that do business with these banks. They find that offshore active banks facilitate the transfer of funds abroad for tax evading companies.

However, banks are not the only ones to blame for facilitating tax evasion abroad for companies and individuals. Consulting firms and the famous Big 4 also play a key role (Jones et al., 2018). There is a strong correlation and causal link between the size of MNEs tax haven network and their use of the Big four.

1.7 Regulations and tax havens

There is a growing view by international organisations that tax havens should be regulated. Recently, the OECD has launched the fight against tax havens through its BEPS initiative. Some studies have attempted to evaluate the impact of the existing initiatives to combat tax evasion. This can be done by looking at the effects of the regulations that targets tax havens such as the automatic exchange of information between tax administrations and blacklisting countries.

Numerous blacklists of tax havens or non-cooperative jurisdictions have been elaborated in order to fight against money laundering and terrorist financing. These lists exist everywhere, nationally by some governments and internationally by organizations and NGO's. This is the result of the Anglo-Saxon name and shame practice, relying on the fact that the designation of a jurisdiction on the blacklist will put pressure on companies and banks, forcing them to change their practices. The main problem with "blacklists" is that being classified as a tax haven is still a very unclear process. The lists of tax havens can be under political influence without necessarily some transparent criteria. There are proven cases of political interventions to influence the official lists of tax havens (Gravelle, 2014). As a result, these lists tend to identify smaller jurisdictions, while ignoring larger players (Cobham et al., 2015). The European Commission has, for example, published in 2018 its first common list of tax havens containing 17 jurisdictions. Lips and Cobham (2017), however, identify 60 non-EU jurisdictions and six EU Member States that do not meet the European Commission's criteria for blacklisted countries.

Some studies examine theoretically and empirically the impact of being blacklisted as a non-cooperative jurisdiction (Ferwerda and Unger, 2008; Masciandaro, 2005; Masciandaro and Balakina, 2016). These three studies get a very unexpected

result. Contrary to the desired effect of the "name and shame", it seems that being blacklisted is positively related to attracting international banking activities.

The BEPS plan by the OECD is trying to put in place an automatic data transfer between tax authorities. Currently, the tax authorities have no visibility on the foreign subsidiaries of a multinational group whose parent company resides in their country. This makes it impossible to examine any abusive transfer pricing practices. The aim of the OECD is to make each multinational company file a statement of its activity with its tax administration. Then, as part of the exchange agreement between countries, each jurisdiction in which the group is established would carry out an automatic exchange of information. In May 2017, there were bilateral agreements between 60 countries and the first exchanges are planned for September 2017. However, these bilateral treaties of automatic exchange of bank information suffer a major problem. Instead of repatriating deposits, according to Johannesen and Zucman (2014), the money will be transferred to other tax havens not covered by the treaties (see also Menkhoff and Miethe, 2018)¹⁰.

Johannesen and Larsen (2016) assess the impact of the new financial reporting legislation on the value of companies. The legislation was introduced by the European Commission for the extracting industry (oil, gas and mining) and consist of companies disclosing their tax payments on a country-by-country basis. The authors find that the firm value has dropped from 5 to 10 percent around the adoption of these new reporting rules, suggesting that such country-by-country information is actually a useful source of information.

Bennedsen and Zeume (2018) show that signing bilateral tax information exchange agreements with tax havens is associated with a 2.5 percent increase in the

¹⁰For a theoretical framework, see Elsayyad and Konrad (2012).

market value of the companies concerned. The results are stronger for companies with a more complex structure and weak governance. The authors conclude that tax havens are not sought by executives solely for reasons of tax evasion, but also to extract, for their purposes, a portion of the profits of the company.

Other authors believe that in order to crack down tax havens, we should start with the banks (Shaxson, 2018) and not to neglect the role that tax enforcement policies have on reducing the tax evasion by the wealthy (Alstadsæter et al., 2018). A positive effect can be however observed: the recent scandals seem to have curbed the use of offshore bank accounts because of the increased risk of detection (Johannesen and Stolper, 2017).

Finally, the regulatory measure that could be the most effective, and fully in line with the BEPS initiative of the OECD, is the one initiated by the European Commission in 2011 and relaunched in 2016: The Common Consolidated Corporate Tax Base (ACCIS). This method suggests that multinational companies operating in the European Union and whose turnover exceeds EUR 750 million a year would file one consolidated declaration for all their activities. Then, the taxable profits by country would be distributed according to the activity of the group in each country. In practice, the distribution could be made in proportion to the sales made, the number of employees or the assets held per country: if it is possible for a multinational to artificially locate its profits according to the tax rates, it is not the case of its customers. The OECD's objective is to tax profits where they are really made and not where taxation is most favorable. However, every time the Commission proposes to change the corporate tax system, some members strongly disagree. The most attractive fiscal countries, such as Ireland and Luxembourg, have no interest in this consolidation of profits.

1.8 Conclusion

The literature related to tax havens is still in its infancy. A big part of the literature uses macro level data and focus on tax havens definition, characteristics and impact. It should be noted that there is still no unique definition adopted nor a single common tax havens list. Secrecy is one of the key characteristics of tax havens along with low tax rates. This opacity makes tax evasion, money laundering and fiscal arbitrage easy because of the lack of information and difficulty of tracking. For the same reason, conducting research on tax havens is not straightforward.

With more and more pressure from the civil society and with new requirements of transparency, more data are made available. The very recent body of literature use micro level data to estimate the cost of tax havens and its weight in the world economy. The focus has been on MNEs tax evasion, but more researchers are also trying to assess the important role of banks and financial intermediaries in profit shifting.

Many organizations and governments are trying to fight tax havens. The battle can be subject to major political influence and this is why objective research is needed to reveal the countries that are acting as tax havens and their impact. Research by academics is necessary in order to have a better understanding of tax havens schemes and to improve the solutions so far suggested or implemented to attenuate these practices.

Chapter 2

Characteristics of Tax Havens: Evidence from the Leaks

2.1 Introduction

The issue of tax havens and offshore financial centers is high on the political agenda, particularly in the aftermath of the recent leaks. Tax havens attract foreign capitals due to its regulatory design, but it is not always straightforward to assess what makes tax havens different from non-havens. Until now there is no consensus on what a tax haven is.

When addressing tax havens, researchers usually refer to institutional lists (IMF or OECD lists). It is interesting to check other lists that consider a practical definition of tax havens. Few lists were based on micro data but even in that case, they might fail to give us the full image about tax havens because of the secrecy that surrounds these havens.

That being said, it is a great opportunity to consider the lists provided by the recent leaks in order to better characterize these jurisdictions. The Panama Papers¹

¹The Panama Papers are 11.5 million leaked documents for more than 214,488 offshore entities that detail financial and attorney client information. The documents leaked date from the creation of its service provider "Mossack Fonseca" in 1970s and were leaked in April 2016. Mossack Fonseca was a Panamanian law firm and corporate service provider. It was, at one

leaks from the law firm Mossack Fonseca raised the issue of tax havens and showed that tax havens activities are far from being a solved matter. Another major leak is the Paradise Papers² of the Appleby law firm. Even though these leaks constitute only the tip of an iceberg, they are a good anchor for research dealing with tax havens and offshore centers.

Hines and Rice (1994) were one of the first to characterize tax havens and to provide a list. Dharmapala and Hines Jr (2009) used Hines and Rice's list along with the OECD's. They found that governance plays an important role in the design of a tax havens. Usually most of the focus in research about tax havens turns around the tax rates. However, the design of these offshore entities is much more developed.

In this paper we try to examine the characteristics of tax havens based on the list of jurisdictions that were implicated in the Panama Papers and in the Paradise Papers. Using a Logit model, we check for two main characteristics: the governance and the international voice (blame sensitivity of a country). Governance is proxied by a set of variables: "rule of law", "voice and accountability", "government effectiveness", "political stability" and "regulatory quality". The international voice is proxied by the IMF quota and shows the weight of a country with respect to the rest of the world. Then, using data on entities created offshore through Mossack Fonseca and Appleby, we check the characteristics of those countries.

time, the world's fourth largest provider of offshore financial services. The law firm sat at the heart of the global offshore industry and acted for about 300,000 companies. Mossack Fonseca received worldwide attention in April 2016, when the International Consortium of Investigative Journalists (ICIJ) published information about its clients' financial dealings in the Panama Papers articles, following the release of an enormous secret documents from between 1970 and 2016 leaked to the news media.

²The Paradise Papers are a set of 13.4 million confidential electronic documents that relates to offshore investments that were leaked. The documents originate from the legal firm Appleby and covers the period between 1950 to 2016. This firm was as well one of a handful of major international offshore legal service providers. The business consists of helping clients, whether they are financial institutions, global corporations or wealthy individuals, to set up and register companies and trusts in overseas jurisdictions with low or zero tax rates and high financial secrecy.

2.2 Literature Review

There is very little academic research on tax havens. This is mainly explained by the fact that there's no sufficient data on the subject. The part of the literature that is related to this paper is the country level data work. It is based on macroeconomic (aggregated) data. There are different characteristics that are explored by researchers either through theoretical or empirical work. Institutions and governments also try to define tax havens by creating lists of uncooperative countries that falls into certain criteria. These lists are often criticized as being politically biased. The work in this chapter relies on theories developed in the literature and follows an empirical approach of identifying determinants of tax havens based on several lists of tax havens.

2.2.1 Characteristics of tax havens

Since there is no definition of tax havens, some researchers focused on trying to reveal some of the characteristics of tax havens. One of the main determinants is low or no taxation. Many researchers in the literature report negative tax elasticity of investment (Hines Jr, 1996, 1999) of asset ownership (Desai et al., 2004) and of capital ownership (Altshuler and Grubert, 2004). The population seems to play a crucial role as well. The benefits of being a tax haven cannot be spread over a large population (Slemrod and Wilson, 2009). Lowering taxes is more attractive for a small country rather than a large one. That is because the revenue losses on the home tax base are smaller in low population countries and the gains from foreigners or mobile capital are larger (Hansen and Kessler, 2001; Kanbur and Keen, 1993). Another characteristic is governance. Dharmapala and Hines Jr (2009) show that tax havens are well governed countries and argue that it would be costly for poorly governed countries to become tax havens. The judicial system or legal origins seem to matter as most tax havens follow the common law system.

Similarly, there is a literature that analyses the characteristics of offshore financial centers (OFCs). Since both tax havens and OFCs have no clear definitions, the differentiation between the two lays in the gray area. Some researchers believe that the two are distinct. Cobham et al. (2015) argue that both tax havens and OFCs have secrecy but that tax havens are specialized in offering shell companies while OFCs offer financial services to non-residents. OFCs are jurisdictions that have low or zero taxation scheme (Dufey and Giddy, 1978; Errico and Borrero, 1999; McCarthy, 1979; Zoromé, 2007). Second, OFCs primarily orientates business towards nonresidents (Dufey and Giddy, 1978; Errico and Borrero, 1999; McCarthy, 1979; Park, 1982). Third, they have favorable regulatory environment (Dufey Giddy, 1978; Errico Borrero, 1999; Masciandaro, 2008; McCarthy, 1979) and low international voice (Masciandaro, 2008). Finally, there's disproportion between the size of the financial sector and the domestic financing needs (Zoromé, 2007) and there's offshore banking activities (IMF, 2000; BIS, 2013).

It is also worth mentioning some of the definitions and characteristics provided by some governmental agencies or international organizations. The OECD defines tax havens as jurisdictions who imply the following 1) no or nominal taxes 2) lack of effective exchange of information 3) lack of transparency vis-a-vis tax authorities. The GAO (2008) was unable to find a satisfactory definition but gathered characteristics from various sources. The first 3 are the same as the OECD and the other 2 were 4) no requirement for a substantive local presence and 5) self-promotion as an offshore financial center. The European council based their selection on the following criteria: 1) advantages accorded only to non-residents, 2) advantages ring-fenced from domestic market, 3) no real economic activity and substantial economic presence, 4) rules for profit determination depart from internationally accepted principles, 5) lack of transparency at administrative level. It should be also noted that some websites that offer

offshore incorporation services reflect some of the criteria for being a tax haven/OFC: 1) low taxation, 2) no Local directors required, 3) inaccessible record of directors, 4) inaccessible record of members, 5) no Audit requirements, 6) no Requirement to file accounts.

2.2.2 Lists

Table 2.1: Main lists of tax havens

| | Hines- Rice | Garcia- Bernardo | OECD | IMF | EU | Leaks |
|-------------|----------------|----------------------------------|-----------------------------|----------------------------------|---------------------------|-------------------------------|
| Type | Academic | Academic | Institution | Institution | Institution | practice |
| Year | 1994 | 2017 | 2000 | 2000 | 2017 | 2016 |
| Countries | 40 | 32 | 35 | 46 | 17 | 41 |
| Description | Tax havens | Offshore Financial Centers | Uncooperative tax havens | Offshore Financial Centers | Common EU Blacklist | Panama /Paradise Papers |

This table presents the main tax havens lists that are considered in this study. The type, year and number of countries for each list is specified.

Just like the definitions, there are many lists of Tax havens. The main list that has been used in the literature is the one developed by Hines Jr and Rice (1994). They reported 40 countries as tax havens and divided their list into Big havens and dots referring to the size of the havens. Another main lists is the one of the OECD. In 2000, the OECD published a list of 35 non-cooperative countries, then the number of countries was diminished to 31 jurisdictions in 2009 and only 2 countries remained in 2012. Later on, the OECD eventually removed these 2 jurisdictions. Therefore, the OECD list is empty. In 2015, the European Commission released a tax havens blacklist that includes 30 countries (with some of them in Europe). In December 2017, the European Union published its first agreed on blacklist of tax havens. This list has 17 jurisdictions with no single European country. There is only one Caribbean territory, Saint Lucia, that is linked to the United Kingdom. Many countries that figured on this list were also removed later on. The US Government Accountability Office (GAO) did not produce its own list but considered the ones of OECD and Hines and Rice (1994). Another list that has been also composed of other lists is the one of Oxfam.

Oxfam's list combines different sources (FSI, EP, EC, IMF, BIS, EC, UNCTAD, OECD, GAO, FTSE) and some of them are Tax havens lists while some are OFCs lists. A new list by Oxfam was released in the end of 2017 that claim to correct the new common EU list.

Moving on to the OFC lists, the IMF published several lists: one in 2000 that consisted of 46 OFCs and another in 2008 that accounts for 26 OFCs. The BIS also created a list that has 26 jurisdictions based on banking services to non-residents. Another OFC list was created by a group of academics (Garcia-Bernardo et al., 2017) using global corporate ownership networks. The list includes 32 countries. They distinguished between what they consider as conduits and sinks OFC.

In this work a new list "Leaks" is constructed. This list is taken from the information provided by the leaks from the Panama Papers and Paradise Papers. The panama papers are 11.5 million leaked confidential documents about offshore entities from the Panamanian law firm Mossack Fonseca in 2016. The Paradise Papers took place a year later in 2017 and exposed the offshore legal service provider AppleBy. The leaks offer valuable information since it reveals the countries that were used in creating the offshore entities.

Most previous studies are based on old or biased lists which means they might not necessarily reflect the reality. These scandals constitute an opportunity to check which jurisdictions are truly engaged in offshore or havens matters and help to analyze their characteristics in an objective way. A comparison is also drawn with respect to the other lists of the OECD, IMF, Hines-Rice and Garcia-Bernardo. There is no study that compares empirically the different lists of tax havens. There is only a descriptive study on the European initiatives on eliminating tax havens and offshore financial transactions (European Parliament). The main lists used in this study are presented

in table 2.1.

2.3 Methodology

2.3.1 Data and Variable Construction

To design the key elements of our approach we shall use a simple model, in order to present the economic intuitions in a compact and consistent framework. The goal is to discuss the possible relationship between specific country features and the choice of becoming a tax haven. The empirical evidence that is provided in this paper is based on the theoretical framework and approach followed by Dharmapala and Hines (2009) and Masciandaro (2008). Each country is a unitary decision agent that may want to maximize the benefits from attracting foreign capital by becoming a tax haven. The policymaker of country i can decide to offer offshore services in order to collect foreign capital. In order to do so, the policymaker can use the regulation design, defining a regulatory gap with respect to the international standards and procedures. These countries, especially those who try to compete on tax related regulations-, are usually blacklisted as tax havens by international institutions like the OECD.

The benefits of being a tax haven are proportional to the attracted foreign capital. Naturally, the inflow of foreign capital will produce gross national revenues by increasing the activity of the financial industry. However, the benefits do not come without a cost or each country would want to try to change its status to a tax haven. The decision to be a tax haven is not cost free. The attractiveness of a tax haven can depend on specific country endowments like political, institutional or cultural endowments. Therefore, offering offshore services means to face costs related to the structure of the country, the risks to be faced with respect to the level of corruption and its international reputation and probable sanctions. The economic structure of the country matters since tax havens offers low tax rates. Not all countries will be able to

find it beneficial to maintain low tax rates. Adding to that, the country needs to have built up the necessary social capital especially for non-resident customers in order to establish commitment towards the foreign capital. The greater the sensitivity of a country to the benefits, and the lower its sensitivity to the related costs, the greater is the probability that it can be a tax haven. The tax haven country needs to consider the risk of sanctions if it engages in harmful competition.

In this study, institutional and academic lists are considered too and serve as a comparison for robustness check.

To perform the empirical analysis, a definition of tax havens is needed. Different international organizations, the IMF, the OECD, the BIS, provided tax havens lists based on different criteria. Other than the international organizations classifications, there is some lists elaborated by academics with Hines-Rice (1994) being among the most used. One limit of using lists of tax havens is that there's no variation in time. To address this, I collect data on the creation of entities in offshore countries from the ICIJ based on the Panama Papers and Paradise Papers leaks and create a new list. The leaked data made possible to track the creation of offshore entities through the years in the different countries used. The dependent variable is therefore a new list "Leaks" that tracks the countries used for the creation of offshore entities from 1996 to 2016.

The list of countries is collected from the ICIJ database. This list is very interesting because it delivers an objective view of countries used offshore and does not suffer from bias or omissions that the other lists might have. There are 41 countries that were used by the two law firms Mossack Fonseca and Appleby to help their clients escape the regulations and taxation. The dependent variable is the binary variable "tax haven status" equal to one for the 41 countries used and 0 otherwise.

For the other definitions, two institutional lists are taken into account the IMF and OECD lists as well as two academic lists by Hines Rice (1994) and Garcia-Bernardo

(2017). These lists are also binary variables that takes the value 1 if the country is listed as a tax havens and 0 otherwise. Table 2.1 summarizes the different lists considered in the empirical analysis of this study³.The EU and BIS lists cannot be considered because they have few countries which will deliver biased results.

The explanatory variables chosen in the model are macro features that relate to the benefits or costs of being a tax haven. First, the institutional endowment and the social capital endowment seem like an important feature that helps reinforcing the tax havens' commitments towards the foreign inflows. A good proxy for the institutional environment of a country is given by the governance indicators, the world governance index. The WGI consist of six composite indicators of broad dimensions of governance covering over 200 countries since 1996: Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of law, and Control of Corruption. These indicators are based on several hundred variables obtained from 31 different data sources, capturing governance perceptions as reported by survey respondents, nongovernmental organizations, commercial business information providers, and public sector organizations worldwide. The WGI data, relies on perceptions of governance from a wide variety of sources that are organized into six clusters corresponding to the six broad dimensions of governance. For each of these clusters, Kauffmann et al., (2010) adopt a statistical methodology known as an Unobserved Components Model to standardize the data from these very diverse sources into comparable units and construct an aggregate indicator of governance as a weighted average of the underlying source variables. Each of these six measures take values from -2.5 to 2.5 (high values reflect better governance).

In this paper, five of the six measures reported by Kaufmann et al., (2010) are aggregated into a composite governance index for each country using the unweighted

³Appendix B presents the lists of countries that figures on each of the lists used in this study

mean of the available measures. The regulatory quality measure is excluded in this aggregation since it is directly related to countries tax system and may be correlated with tax rates.

Similarly, a legal system or language matching those of capital exporting countries (such as the United States and the United Kingdom) may raise the returns from becoming a tax haven, and also be associated with better governance according to Dharmapala and Hines (2009). Therefore, common law is added as a dummy variable that takes the value 1 if the country has common law root and 0 otherwise.

A policymaker will probably consider being a tax haven if the country is relatively indifferent to the international reputation costs. The international reputation sensitivity is proxied by the participation of countries in the international community. Following Masciandaro (2008), the IMF quota is considered as a proxy for the country's weight in the international sphere. An individual member country's quota reflects its relative position in the world economy. Quotas are denominated in Special Drawing Rights (SDRs), the IMF's unit of account. The IMF quota is a weighted average of GDP (weight of 50 percent), openness (30 percent), economic variability (15 percent), and international reserves (5 percent). The quotas used in this study are in percentage and are set to zero if the country is not a member of the IMF.

Another explanatory variable is related to the economic structure of the country might play an important role for determining whether a country might shift its interests into being a tax haven. Countries with low natural resources might find it more attractive to design lax regulations to generate profits, therefore there might be a link between the natural resources and the decision of becoming a tax haven. Therefore, natural resources rent per GDP is considered as another explanatory variable and is obtained from the world bank.

Other variables considered are GDP per capita, population and corporate tax rate. GDP per capita PPP is obtained from the world bank. The corporate tax rate is taken from KPMG and British Colony is taken from the CEPII. An indicator for secrecy is also controlled for. Secrecy is proxied by a score taken from the FSI index elaborated by the Tax Justice Network. The Financial Secrecy Index (FSI) provides a secrecy score that is based on 20 key financial secrecy indicators that can be grouped around four dimensions of secrecy: ownership registration, legal entity transparency, integrity of tax and financial regulation, and international standards and cooperation .

2.3.2 Descriptive statistics

Table 2.2: Summary statistics for countries used to create entities offshore

| Entities=1 | | | | | |
|-------------------------|-------|-------|--------|-------|--------|
| Variable | Obs | Mean | St dev | Min | Max |
| Governance | 321 | 0.90 | 0.54 | -1.66 | 1.91 |
| Quota | 616 | 0.98 | 3.75 | 0 | 20.08 |
| Common law | 616 | 0.75 | 0.44 | 0 | 1 |
| Population (in million) | 608 | 15.4 | 59.4 | 0.002 | 321 |
| GDP/capita (000\$) | 536 | 38.5 | 68.13 | 0.236 | 792.5 |
| Ressources | 431 | 0.55 | 2.45 | 0 | 29.89 |
| Tax Rate | 287 | 18.41 | 14.64 | 0 | 40 |
| Entities=0 | | | | | |
| Variable | Obs | Mean | St dev | Min | Max |
| Governance | 3,397 | -0.07 | 0,90 | -2.45 | 1.97 |
| Quota | 6,824 | 0.35 | 0,95 | 0 | 20.04 |
| Common law | 6,824 | 0.30 | 0,46 | 0 | 1 |
| Population | 6,646 | 28 | 119 | 0.001 | 1 420 |
| Gdp/capita | 5,297 | 13.21 | 16.72 | 0.22 | 151.93 |
| Ressources | 5,342 | 7.57 | 11.57 | 0 | 86.45 |
| Tax rate | 1,298 | 24.50 | 10.49 | 0 | 51.61 |

This table presents summary statistics for countries used to open offshore entities (Entities=1) and those that were not used (Entities=0). Governance is an index from the world bank. Population is in million. GDP per capita is in thousands of US dollars. Natural resources, and the corporate tax rate are in percentage. International voice is proxied by IMF Quotas in percentage.

Table 2.2 presents the summary statistics for the countries used to create entities related to the leaks (entities=1) and the unused countries (entities=0). These data

cover the period 1996 to 2016. The countries used to create the offshore entities seem to be better governed than those not used. This suggest that governance has a positive impact on the tax haven status. Furthermore, the havens used have a high IMF quota, which signals the presence of countries with high international voice. The population is not as low as described in some studies in the literature, which indicates the presence of large countries. The countries used seem to be rich countries since they have a high GDP per capita with respect to the non used countries. Adding to that, these countries seem to have low natural resources. They seem also to have set low corporate tax rates. The countries used seem to be best described as having a common law legal system.

Table 2.3: Descriptive statistics of countries by lists of tax havens

| | Tax Havens | | | | | | | | | |
|-------------|------------|------------------|------------|------------------|------|------------------|-----------------|------------------|-----|------------------|
| | Leaks | | Hines-Rice | | OECD | | Garcia-Bernardo | | IMF | |
| | Obs | Mean (St Dev) | Obs | Mean (St Dev) | Obs | Mean (St Dev) | Obs | Mean (St Dev) | Obs | Mean (St Dev) |
| Governance | 34 | 0.79 (0.66) | 31 | 0.76 (0.66) | 35 | 0.53 (0.62) | 29 | 0.85 (0.68) | 38 | 0.73 (0.62) |
| Quota% | 41 | 0.63 (2.79) | 39 | 0.09 (0.25) | 44 | 0.02 (0.03) | 32 | 0.34 (0.85) | 46 | 0.10 (0.26) |
| Common law | 41 | 0.71 (0.46) | 39 | 0.67 (0.48) | 44 | 0.66 (0.48) | 32 | 0.63 (0.49) | 46 | 0.67 (0.47) |
| Population | 41 | 11.8 (51.4) | 39 | 1.094 (2.16) | 44 | 0.767 (1.94) | 32 | 5.001 (12.5) | 46 | 1.782 (4.94) |
| GDP/capita | 40 | 31 (27.4) | 38 | 35.8 (33.3) | 43 | 27.8 (29.2) | 32 | 38.8 (31.6) | 45 | 33.6 (31.1) |
| Ressources% | 29 | 1.45 (4.79) | 27 | 1.08 (4.57) | 30 | 1.03 (4.33) | 23 | 2.23 (7.00) | 34 | 0.38 (1.09) |
| Tax Rate% | 25 | 15.86 (13.5) | 26 | 13.44 (12.6) | 22 | 13.11 (13.8) | 24 | 16.77 (12.7) | 27 | 14.02 (12.8) |
| Secrecy | 38 | 68 (7.60) | 36 | 70(7.06) | 39 | 71(5.80) | 30 | 67 (8.98) | 42 | 69 (6.60) |
| | Non-Havens | | | | | | | | | |
| | Leaks | | Hines-Rice | | OECD | | Garcia-Bernardo | | IMF | |
| | Obs | Mean (St Dev) | Obs | Mean (St Dev) | Obs | Mean (St Dev) | Obs | Mean (St Dev) | Obs | Mean (St Dev) |
| Governance | 175 | -0.13 (0.89) | 178 | -0.11 (0.90) | 174 | -0.08 (0.94) | 180 | -0.11 (0.89) | 171 | -0.13 (0.91) |
| Quota% | 206 | 0.36 (0.92) | 208 | 0.46 (1.52) | 203 | 0.49 (1.54) | 215 | 0.41 (1.48) | 201 | 0.48 (1.55) |
| Common law | 206 | 0.26 (0.44) | 208 | 0.27 (0.45) | 203 | 0.27 (0.44) | 215 | 0.29 (0.46) | 201 | 0.26 (0.44) |
| Population | 194 | 36.4 (143) | 196 | 38.3 (144) | 191 | 39.3 (146) | 203 | 36.4 (142) | 189 | 39.5 (146) |
| GDP/capita | 177 | 17.4 (18.9) | 179 | 16.5 (16) | 174 | 18 (18.5) | 185 | 16.6 (17.1) | 172 | 16.3 (16.2) |
| Ressources% | 171 | 6.24 (8.28) | 173 | 6.25 (8.25) | 170 | 6.35 (8.29) | 177 | 5.98 (8.09) | 166 | 6.61 (8.44) |
| Tax Rate % | 69 | 22.63 (9.15) | 68 | 23.66 (8.59) | 72 | 23.19 (8.54) | 70 | 22.22 (9.83) | 67 | 23.58 (8.62) |
| Secrecy | 94 | 62 (10.60) | 96 | 62 (10.27) | 93 | 61 (10.10) | 102 | 63 (10.30) | 90 | 61 (10.60) |

This table presents summary statistics for countries by lists of tax havens. Governance is an index from the world bank. Population is in million. GDP per capita is in thousands of US dollars. Natural ressources, and the corporate tax rate are in percentage. Quota is proxied by IMF Quotas in percentage.

If we consider the other lists of tax havens (IMF, OECD, Hines-Rice and Garcia-Bernardo), they seem to follow the same pattern with the leaks list for some variables. Table 2.3 presents the summary statistics for the characteristics of tax havens and non-havens according to five different lists. The data cover the year 2018. All tax havens show better governance with the different lists with respect to non-havens.

Moreover, tax havens seem to have low natural resources and low tax rates. Tax havens also seem to follow the common law system and to be characterised by higher secrecy than other countries. However, the leaks list seem to differ from the other lists. The countries involved in the leaks seem to have a strong international voice and are not necessarily small countries; whereas tax havens with the other lists seem to be small countries.

2.4 Results

Table 2.4: Logit Regression Results for countries used in Leaks (1996-2016)

| | (1) | (2) | (3) | (4) |
|--|----------------------|----------------------|----------------------|---------------------|
| Dependent variable : The use of countries offshore | | | | |
| Governance | 0.978*** (0.142) | 1.133*** (0.108) | 0.747*** (0.207) | 1.404*** (0.089) |
| Quota | 0.330*** (0.036) | 0.214*** (0.028) | 0.467*** (0.059) | 0.054*** (0.020) |
| Common law | 1.149*** (0.229) | 0.617** (0.253) | 2.624*** (0.330) | 0.728*** (0.208) |
| Log population | -0.570*** (0.039) | -0.266*** (0.036) | -0.758*** (0.059) | |
| Log GDP/capita | 0.463*** (0.111) | | -0.329** (0.156) | |
| British Colony | 0.381* (0.224) | 0.980*** (0.255) | -0.531* (0.296) | 1.411*** (0.227) |
| Natural Ressources | | -0.142*** (0.055) | | |
| Corporate tax | | | -0.025*** (0.010) | |
| Years FE | Yes | Yes | Yes | Yes |
| PR2 | 0.41 | 0.34 | 0.43 | 0.29 |
| Obs. | 3,272 | 3,373 | 1,296 | 3576 |

This table reports estimated coefficients from logit models, in which the dependent variable equals one if the country was used to open an entity or 0 otherwise. These entities are obtained from the leaks of the Panama and Paradise Papers. The governance index is the mean of six governance measures constructed by Kauffman et al. The international voice is measured by taking the IMF Quota share of a country. GDP per capita is measured in thousands of US dollars in purchasing power parity terms. Common law is a dummy variable taking 1 if the country has British legal origins and 0 otherwise.

A logit model is used to characterize the determinants of tax havens based on the countries involved in the Panama Papers and Paradise Papers leaks. The basic

empirical specification used to model the determinants of tax havens includes the governance index along with the IMF quotas, the legal origins (common law and British colony) and natural resources. Variable controls such as log population and log governance are used. Table 2.4 reports logit results using robust standard errors. The results show that the probability of being a tax haven depends on specific country endowments. The governance index has a positive and highly significant association with the probability of being a tax haven. This result might appear inconsistent with the image of tax havens being outlaw countries. The coefficient for common law is positive and significant. Adding to that, the low resource endowment has a positive effect on the likelihood to be a tax haven. The IMF quota is positive and significant. This reflects that the probability to be a tax haven is not restricted to small islands that has no international voice as claimed in the literature. The coefficient for log population is negative and significant which reflects that the probability of being a tax haven is higher with low population.

To check the robustness of the results, the dependent variable is modified, using an institutional definition of tax havens (OECD and IMF lists) and an academic definition (Hines-Rice and Garcia-Bernardo lists). The results are presented in Table 2.5.

The governance index is positive and significant with all the different lists; except with the OECD list where it has the expected positive sign but is not statistically robust. The common law is positive and significant with all the lists. The IMF quota is negative with all the lists except with the leaks list where the coefficient is positive. The coefficient of IMF quota is larger with the institutional lists than the academic lists, suggesting that the institutional lists are ignoring countries who have a large international voice from its lists. The log population is negative and significant with all the lists, which indicates that the probability of being a tax haven rises with low population. The coefficient for log gdp per capita is not robust in any of the specifications. The regressions in table 2.5 are run each for the year of elaboration

Table 2.5: Logit Regressions Results for Lists

| | Leaks | Hines-Rice | Garcia-Bernardo | OECD | IMF |
|--------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
| Dependent variable: Tax Haven Status | | | | | |
| IMF Quota | 0.246*** (0.102) | -0.190 (0.726) | -0.042 (0.112) | -7.652* (4.160) | -0.886 (0.953) |
| common law | 1.320*** (0.484) | 1.050* (0.656) | 1.101** (0.510) | 1.136* (0.611) | 1.106* (0.598) |
| gov index | 1.232** (0.604) | 1.057* (0.605) | 1.347*** (0.523) | 0.025 (0.601) | 0.954* (0.590) |
| log pop | -0.489*** (0.143) | -0.909*** (0.235) | -0.293** (0.137) | -0.779*** (0.295) | -0.639*** (0.216) |
| log gdp | -0.0701 (0.476) | 0.153 (0.461) | 0.125 (0.484) | 0.434 (0.476) | 0.648 (0.431) |
| Log pseudo-likelihood | -53.66 | -33.52 | -51.33 | -35.69 | -41.16 |
| Pseudo R2 | 0.365 | 0.519 | 0.288 | 0.512 | 0.487 |
| Obs | 190 | 173 | 190 | 184 | 184 |
| Year | 2016 | 1994 | 2016 | 2000 | 2000 |

This table reports estimated coefficients from logit models, in which the dependent variable equals one for tax havens and zero otherwise. Tax havens are defined here as countries that figures in five selected lists. The governance index is the mean of six governance measures constructed by Kauffman et al. The international voice is measured by taking the IMF Quota share of a country. GDP per capita is measured in thousands of US dollars in PPP terms. Common law is a dummy variable taking 1 if the country has British legal origins and 0 otherwise.

of the list. Table B1 and table B2 in Appendix B, presents the same regressions but with recent data corresponding to the year 2018. The results are very similar as those presented in table 2.5 except with the coefficient natural resources having the expected negative sign but not significant. More control variables are added for robustness checks (see table B3 in Appendix B). Even when controlling for corporate tax rates and for secrecy, the governance coefficient is still positive and significant. The IMF Quota is still positively significant with the list leaks and negatively not significant with the other lists.

2.5 Discussion

2.5.1 Characteristics of tax havens

A country can become a tax haven and benefit from the foreign capital flow if it is able to manage the costs associated with financial no compliance, especially if it is able to build a trustworthy relationship with foreign capital. The ability to establish a

stable relationship will depend on several characteristics that will govern and foster the relationship.

Governance seem to be a major determinant of tax haven status. The countries where dirty money is hidden can be best described as good governed. It is not straightforward to say that governance is an attribute of tax havens. It can be thought that dirty money would be easier to stock in low governed countries. However, the policymaker must ensure that the foreign capital is being held in a credible way. When a person or a firm would like to hide money, they will do so in a stable country. For a country to be stable, laws and institutions should be well established and political stability must be somehow guaranteed. While corruption seem to be naturally linked to the acts of evading money; however, establishing dirty money in corrupted countries is costly. In many corrupted countries, bribes exist (African countries as an example) in a way that discourage tax evaders. Adding to that, corrupted and unstable countries can lead in some cases to the loss of the evaded capital. At the same time, policymakers must be cautious because there is a possibility that the foreign capital originates from criminal organizations. The high governance ensures that the actual or potential presence of criminal organizations are not taking place internally in the tax haven, which will preserve the tax haven status credibility.

It can be confusing whether good governance helps a country to become a tax haven or the tax haven status itself will eventually improve a country's governance. This is due to the fact that we cannot really observe when a tax havens is not a tax haven anymore. However, governance can actually make a country a tax haven. If we take the Swiss case as an example, we can clearly see that the excellent governance and high stability is what makes Switzerland one of the most attractive tax havens. Lebanon as well is an example of a country that lost its tax haven status because of bad governance even though it has low tax rates and high secrecy. Thus, there is a reason to believe that good governance makes a country a tax haven and not the way

around. Adding to that, the common law system seems to play a role. This can be explained by the fact that English law rules support the individual private operations, while the civil law rules have more State dominance. Therefore, a common law framework can be more consistent as it offers more investor protection (La Porta et al., 1997).

Furthermore, the dependence on income generated by the supply of offshore services is going to make the policymaker to try to preserve this source of income. This is true especially in countries with no natural resources and depend on offering services. Even though the result for natural resources is not robust but the sign suggests this relationship.

The results from the traditional tax havens lists suggest that tax havens are small territories with low international voice. It is true that countries with low population might find it easier to become tax havens as the benefits of being a tax haven would be distributed among less people. Adding to that, according to the traditional lists, a tax haven is a territory or a remote island that have little weight in the international sphere. This makes the tax havens less sensitive to international blame than countries that are part of the international organizations. Thus, it would be easier for them to turn their country into a tax haven in case they have good governance without being internationally blamed since they are too small.

However, not all tax havens are small countries with low international voice. According to the Leaks list, some tax havens are big and have a high international presence. The Netherlands, the UK and the US figure as countries used for creating offshore entities. If it is easier for small countries to get benefits from being tax havens, it does not mean that it cannot be the case for big countries. Any big country can overcome the cost of low tax rates on its national tax base by offering low tax rates based on some criteria (preferential treatment for non-residents) or by creating some regions in the country where entities are taxed at a lower rate than the rest of the

country (the city of London in the case of the UK, the state of Delaware, Wyoming and Nevada in the case of the US). The countries that have a very high international voice are not subject to international blame just like the super small countries. They escape the international blame by influencing lists or the measures taken to combat tax havens at their local market.

2.5.2 The bias in tax havens' lists

By comparing tax havens lists in this study, it is clear that the criteria for listing tax havens are not the same. It is possible that the countries figuring on most of the listings are not the only tax havens players and some countries have been omitted from the listings. This is what can be inferred from the comparison of lists of institutions and academics with the Leaks list. Some of the countries that were involved in the Panama and Paradise Papers were never included in institutional tax havens lists. It is the case, for instance, of the US and UK. These two countries were never considered as tax havens even though they appear to be key players in the offshore business. The results of table 2.4 show that the IMF quota is only positive with the list Leaks and negative with the other lists. This confirms that the process of listing is biased and that only small territories with low international voice are blacklisted.

Adding to that, there is no developed country that was blacklisted by the OECD (see Figure B1 in Appendix B). Institutional lists have zero or very few developed countries on their lists. The EU common list did not add any developed country. The European commission agreed on a common tax haven list on December 2017. The EU blacklisted 17 countries. No European country figured on this list. The UK and its territories were not included nor well known European tax havens such as the Luxembourg, Netherlands and Switzerland. The US as well was not listed even though it is uncooperative with respect to the EU actions concerning combating tax

havens. The US is refusing to abide by the CRS which logically would have led to it being listed by the European commission. However, political influence and the country's international weight clearly matter. Adding to that, from the 17 listed countries many were removed. This action reminds the one of the OECD that have an empty tax haven list today.

The US, through the Delaware, is the best example of how a country's power can bias tax havens listings. Actually, the FATCA regulation was imposed by the US to all other countries in order to have more transparency on US citizens abroad. This action shook many countries secrecy systems like the Swiss bank secrecy. However, considering FATCA a regulation that made the financial system more transparent and less secret is very misleading. This regulation only goes in a one-way direction. There is no mutual information sharing among countries. It is only one sided. The US gets information about its citizens and the governments of other nations do not get any information about their citizens in the US. The same applies for the Common Reporting Standard (CRS). The CRS was developed by the OECD so countries can exchange financial information with each other's. The US refused to take part in the CRS. This is making the US less transparent and even a secret country (it is ranked as one of the most secret countries in the world according to the secrecy index 2018 by the Tax Justice Network). Even though the US is non-compliant, it never has been listed by any institution most probably due to its huge international voice.

This explains why powerful countries will not appear on tax havens lists and will not suffer any reputation damage. Therefore, the listing process is fragile: countries can use politics to remove themselves from the lists. From here, we can see that the international voice of the country or its international weight is influencing the listings and making the lists politically biased.

2.6 Conclusion

This study tries to analyze tax havens' characteristics based on the leaks of Panama Papers and Paradise Papers. Based on the Leaks list, a comparison is also drawn with respect to other existing tax havens' lists.

The results suggest that tax havens are well governed countries. Tax rates are not enough for a country to be considered as a tax haven. Tax havens are not only small countries with low international voice. Many developed countries with very high international voice are part of tax havens.

There are many different lists of tax havens and the criteria of listing are not quite the same. If being uncooperative on tax avoidance issues leads to being listed, it is not always the case when it concerns powerful countries. Tax havens are not only small jurisdictions with low international voice, there exist big havens with very high international weight. The recent leaks and fiscal scandals are revealing that some big countries are also involved. This proves that the institutional lists are politically biased. It is important to elaborate tax havens' lists in an objective way in order to analyze the depth of tax havens. Without a proper list, all estimations regarding tax havens do not capture the full image.

Chapter 3

Tax Planning by European Banks

3.1 Introduction

Tax havens are a well-known and ongoing concern of many governments. In the past ten years, many scandals have occurred shedding light on schemes related to tax avoidance and evasion. The Swiss bank UBS was accused of providing technical assistance to its US customers to hide \$20 billion abroad; subsequently, Germany and France launched similar investigations. In 2015, the leaks exposed the HSBC banking group, suspected of tax evasion and money laundering. In 2016, the Panama papers revealed the activity of international banks in tax havens. Banks play a vital role in setting up front companies, foundations and trusts to facilitate tax evasion and money laundering for the benefit of their clients. However, little research focus on the profit shifting of the banks. That can be due to the fact that banks have a special business model. In a globalized world, opportunities for profit shifting may arise due to tax rates differences among countries. That may explain why the corporate tax rates are declining. The United States cut its tax rate from 35 percent to 21 percent in 2018 most probably to maintain its attractiveness in facing profit shifting.

Corporate tax base erosion due to profit shifting is a large and consequential problem that may cause lower governments spending, budget deficits and new forms of indirect or direct taxes to compensate the diminishing corporate tax revenues. In

this context, estimating the size of the profit shifting is of a great deal. Quantifying profit shifting gives an idea about the money escaping the tax system. It is as well of a great importance to check which countries are benefiting from profit shifting and which countries are suffering from its drawbacks. This can give more clarity on the direction of profit shifting among countries, which will help in the identification of the loopholes in the text laws. Big multinationals should also be assessed to check if some are more aggressive than some others in engaging in profit shifting. Most of prior studies focus on profit shifting by non-financial multinationals. Very little research focus on profit shifting by banks. However, Banks are heavily involved in many of the tax evasion and avoidance activity taking place. Other than helping multinationals evade taxes, banks can as well engage in tax planning for their own account. After all, bankers are focused on maximizing profits for their shareholders and most probably for their own benefit. In this paper, I try to check if European banks are involved in tax planning, quantify the profits shifted and estimate the tax losses.

When it comes to assess profit shifting, the main challenge is the access to data. Many researchers use the corporate financial and balance sheet micro-data from Orbis. It has been shown that these data suffer from many limitations because not all the profits are recorded (most of the profits in tax havens are missing). The data used in this paper do not suffer from these limitations, as the banks must report their activity in each country where they operate. As of 2014, the financial institutions in Europe started disclosing their activity on a country-by-country level, following an EU directive (Directive 2013/36/EU). The disclosures include the net banking income, the earnings before tax, the amount of taxes paid and the number of full-time employees for each country where the bank has an affiliate. The data were hand collected and cover the top 34 European banking groups between 2013 and 2019. This novel data permits to answer some very important questions: Do banks choose to

have affiliates in low tax locations? If all countries had the same corporate tax rate, which would gain or lose profits? What are the tax revenue losses? There are very limited studies that analyzed the Country-by-Country Reporting that was imposed on European banks (Bouvatier et al., 2019; Janský, 2020). (Janský, 2020) document misalignments of locations of profits and economic activity without estimating the profit shifting by the banks. The authors in Bouvatier et al.(2019) try to assess profit shifting by European banks by using a gravity model for the years 2015 and 2016 only and base their estimations on the banks' net income. In this paper, I implement a widely used approach in the literature that is adopted to estimate profit shifting.

Two methodologies are considered in this paper to evaluate profit shifting by European banks. The first approach is used widely in the literature. Clausing (2016) estimates the profit shifting by US multinationals by using the tax differential method. This approach consists of estimating the tax semi elasticity to profits. Then this elasticity will be used to compute the real profits, in each country where the firm operates, absent tax differences between the foreign country and the home country of the firm. This methodology is also similar to the one implemented by Johansson et al.(2017) when estimating the tax planning by multinationals. The second approach is inspired by the one employed in Tørsløv et al.(2018). Following their analyses, I compare the profitability of the foreign banks with the profitability of the local banks in each country where the bank operates. The results show that the bank's profits are sensitive to the tax rate and suggest that banks lower their tax burden through their affiliates. Depending on the method used, profit shifting by the top European banks is between 7 to 15 percent of the profits booked abroad. The tax revenue losses are estimated to be around 8-16 percent of the revenues collected from banks.

3.2 Literature review

In many countries, policy makers have raised increasing concerns about profit shifting and the implied corporate tax base losses. The empirical identification of the existence and magnitude of profit shifting is not straightforward. Most existing studies are using an indirect identification method that measures the impact of changes in corporate tax rates on the profits of multinational subsidiaries. Huizinga and Laeven (2008) use the weighted tax rate differential with all other subsidiaries. They find significant evidence of profit shifting between subsidiaries and their parent firms as well as among the subsidiaries themselves. Johannesen et al. (2019) implement the unweighted tax rate differential with other subsidiaries. They provide evidence that European MNEs shift profits to lower-tax rate countries and that large MNEs also exploit mismatches between tax systems and preferential tax treatments to reduce their tax burden. Lohse and Riedel (2013) use the simple corporate tax rate. They test for profit shifting behavior by assessing the hypothesis that the host country's corporate tax rate exerts a negative impact on the affiliate's reported profits. They also reassess the profit shifting hypothesis by testing for a negative effect of the affiliates' corporate tax rate difference with all other majority-owned entities within the multinational group (unweighted average) on reported operating profitability.

Using the BEA data, Clausing (2016) finds that taxable income is very sensitive to corporate tax rates. Estimates of tax sensitivity are used together with data on reported foreign income to calculate how much "extra" income is booked in low-tax countries due to profit shifting. Then the author estimates what the tax base would be in the United States without profit shifting. According to her estimates, profit shifting cost the US between \$77 billion to \$111 billion in 2012. Dyreng et al. (2013) focus on Delaware and find that US companies with Delaware subsidiaries reduce their tax burden by 15 to 24 percent. By using data about manufacturing plants in

Europe, Egger et al.(2010) find that multinationals earn significantly higher profits than comparable domestic units in low-tax countries but significantly lower ones in high-tax countries. Using macro data on foreign affiliates, Tørsløv et al.(2018) estimate profit shifting by comparing the profitability of local companies to those of the foreign ones. They find that nearly 40 percent of the profits of multinationals are transferred each year to tax havens worldwide (more than 600 billion euros in 2015). Countries of the European Union seem to be the main losers of this evolution.

The literature dealing with profit shifting focus on multinational companies with no particular focus on financial firms. Little work sheds the light on the financial or banking sector. This might be due to the special business model of banks. However, Banks play a fundamental role in tax havens, which is hardly a surprise. Demirgüç-Kunt and Huizinga (2001) check the determinants of bank profitability while distinguishing between local and foreign banks. Using data on the taxation of domestic and foreign banks over the period 1988-1995 in 80 countries, including several well-known tax havens (Hong Kong, Luxembourg, Panama, etc.); they find that taxes paid by foreign banks rise relatively little with the local statutory tax. This evidence supports the hypothesis that foreign banks engage in relatively extensive profit shifting. More recently, Merz and Overesch (2016) use the Bankscope database and show that banks practice profit shifting themselves, even more than non-financial multinational firms. While profit shifting activities are often associated with intangible assets and manipulation of transfer prices for firm specific goods, profit shifting activities of banks rely on manipulating intra-firm transactions (interest margin or services fees) and allocating certain functions and risks (credit management, investments analysis and the underwriting function). The authors find that reported earnings of multinational bank's subsidiaries significantly respond to host country tax incentives. Based on regulatory data from the German central bank, Langenmayr and Reiter (2017) confirm that banks that are present in OFCs can easily optimize their tax bills.

Chernykh and Mityakov (2017) establish a strong link between the extraterritorial activities of banks and the tax evasion of companies that do business with these banks, based on a unique Russian data set. They find that offshore active banks facilitate the transfer of funds abroad for tax evading companies. Based on BIS locational database, Barake et al.(2018) show that banks have higher intra-group activity in tax havens than non havens. This might suggest that banks shifts some of their activities offshore.

There is as well a narrow literature that deals with the Country-by-Country reporting (CbCR). Murphy (2016) argue that we need country-by-country reporting so that tax authorities would be able to undertake risk assessments on the corporate tax returns they receive to determine which ones they wish to investigate. Overesch and Wolff (2017) find that European multinational banks increased their tax expenses relative to unaffected other banks after Country-by-Country Reporting became mandatory. In another work, Janský (2020) explore the misalignment of location of profits and economic activity as well as the use of tax havens and present these findings as indirect evidence of profit shifting by European banks. Based on the individual country-by-country reporting published by the 36 largest European banks, Bouvatier et al.(2019) implement a gravity model to estimate profit shifting. They find that the tax savings for EU banks is estimated between 1 and 3.6 billion euros.

The contribution of the paper is first to assess the location of profits by European banks and to shed the light on the possibility of profit shifting by banks. The CbCR data had not been systematically used so far, mainly because the data must be hand collected. These data permits to have an idea about what fraction of European corporate profits are shifted to low tax locations and the locations used. The corporate tax revenue losses are as well estimated.

3.3 Data

The dataset in this study is based on different sources; the main one is the Country-by-Country Reporting data (CbCR). The CbCR reporting started recently in 2014 following the Article 89 of the CRD IV Directive 2013/36/EU. Banks that operate in the EU became obliged to disclose annually, for each country in which they have an establishment, the following items: turnover (net banking income), number of employees (on a full time basis), profit or loss before tax, tax on profit or loss and the public subsidies received. I hand collected the data of CbCR from the banks' annual reports for the years 2013-2019. The empirical analysis focuses on the largest and systemically relevant international banks based in Europe. The European Banking Authority (EBA) publish each year a list of systemic banks. I include the largest European banks that are listed as systemic by the EBA.

Overall, I gather data on 34 multinationals banks headquartered in 11 European countries (i.e. Austria, Belgium, Denmark, Finland, France, Germany, Italy, the Netherlands, Spain, Sweden and the United Kingdom), and operating in 90 jurisdictions worldwide. The full list is reported in Table C.1 in Appendix III. In the sample, some banks operate in as many as 79 countries while others have operations in only three countries other than their local market. Some banks do not operate in countries listed as tax havens¹, while some banks are implemented in 18 different tax haven countries. According to this sample, it can be said that 25 percent of the countries where the European banks locate themselves are tax haven countries. Among the top ten countries with the highest foreign profits, we can find three well documented tax

¹I consider as tax havens countries that are on the Hines and Rice (1994) list which includes: Andorra, Anguilla, Antigua and Barbuda, Bahamas, Bahrain, Barbados, Belize, Bermuda, British Virgin Islands, Caribbean Netherlands, Cayman Islands, Cook Islands, Cyprus, Dominica, Gibraltar, Grenada, Hong Kong, Ireland, Isle of Man, Jordan, Lebanon, Liberia, Liechtenstein, Luxembourg, Macao, Maldives, Malta, Marshall islands, Monaco, Montserrat, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Singapore, Switzerland, Turks and Caicos islands, Vanuatu. Belgium and the Netherlands are added as in Tørsløv et al.(2018).

havens: Hong Kong, Luxembourg and Belgium (Figure 3.1). The US and the UK are as well in the top locations with foreign profit. They are considered as possible tax havens according to the Tax Justice Network.

The data on CbCR is obtained either from the bank's annual report or from a separate report filed by the bank under "capital requirements" or "country-by-country reporting". For each bank and for each year, the report must be found, and the following variables are retrieved: Net Banking Income, Earnings before Tax, Taxes Paid, and the Number of Full-Time Staff. Generally, the reporting is homogeneous among the different banks. However, some banks report the business segments of their activities while others do not. A limited number of banks report the total assets. For the taxes paid, certain banks report total taxes paid, current taxes paid and deferred taxes. The current taxes paid are used in this work. As for the other variables, they are gathered from various sources. The GDP is taken from the World Bank. The GDP per capita is found in the CIA World Factbook. For the statutory tax rate (STR), the KPMG database on corporate tax rate is used. The effective tax rate (ETR) is calculated by using the CbCR data.

The data in Table 3.1 present country-by-country data of banks aggregated by coun-

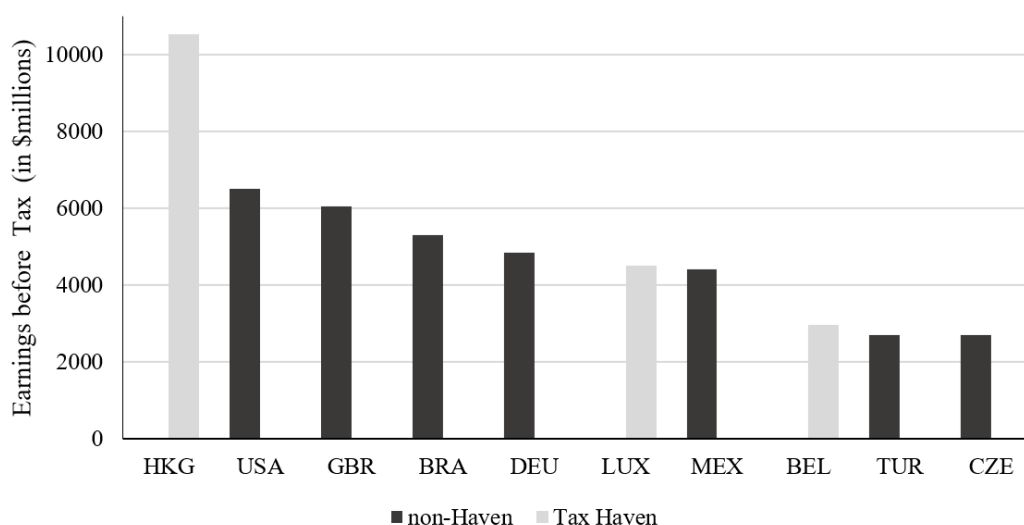
Table 3.1: Descriptive statistics country level data

| Variable | All Sample | | | Non Havens | | | Tax Havens | | |
|----------------|------------|---------|---------|------------|---------|---------|------------|---------|---------|
| | Obs | Mean | st dev | Obs | Mean | st dev | Obs | Mean | st dev |
| EBT | 874 | 890 | 5,190 | 703 | 895 | 5,679.2 | 171 | 870.7 | 2,263 |
| Taxes paid | 874 | 193 | 1,032 | 703 | 210 | 1,141.3 | 171 | 123.3 | 290 |
| Staff | 874 | 10,570 | 61,088 | 703 | 12,076 | 67,893 | 171 | 4,377 | 9,007 |
| Statutory rate | 870 | 22.33 | 9.04 | 701 | 24.056 | 7.39 | 169 | 15.14 | 11.44 |
| ETR | 848 | 19.84 | 23.48 | 692 | 22.12 | 24.42 | 156 | 9.71 | 15.09 |
| Productivity | 848 | 148,891 | 825,075 | 696 | 111,539 | 835,201 | 152 | 319,924 | 756,305 |

This table shows the descriptive statistics of the main variables in this study. The data are at the country level. The sample is split into tax havens and non-havens to highlight some of the differences between the two.

tries. The sample is restricted to observations related to profits made abroad. The profits that are made by the banks in their headquarters countries are dropped to

Figure 3.1: Highest profits abroad



This graph presents the 10 countries with the highest Earnings before tax. The figures are in millions of US dollars for the year 2017. (Source: Author’s calculations based on CbCR database)

focus on the activity of banks abroad at first. The descriptive statistics show clear discrepancies between tax havens and non-havens. On average, the earnings before tax in tax havens are \$895 million very close to the ones generated in tax havens \$870 million. The number of employees in tax havens is 4,377 much lower than the 12,076 in non-havens. The data shows that the banks manage to have high profits in tax havens with a small number of employees. This highlights the differences in productivity levels of employees: \$111,539 in non-havens against \$319,924 in tax havens, on average. The higher levels of productivity can be a clear sign of the different type of activities conducted by banks in tax havens, which also can reflect profit shifting by these banks. Another interesting variable is the amount of taxes paid. In tax haven countries, the taxes paid are \$123 million nearly the half of the taxes paid in non-havens \$210 million. The statutory tax rate is as expected lower in tax havens (15 percent) than in non-havens locations (24 percent). Similarly, the effective tax rate is 9.7 percent in tax havens against 22 percent in the other countries. A negative relation is expected between the level of EBT and tax rates.

3.4 Methodology

3.4.1 Tax differentials

In this study, two main approaches are implemented to assess the excess profits of banks abroad. The first approach is a common method in the literature to calculate profit shifting. Most of the economists use an indirect method that is based on the tax differences among countries (Clausing, 2016; Johansson et al., 2017). The analysis consists of regressions that relate affiliates' profits to tax rates. The regressions serve to obtain tax semi-elasticities of affiliates' profits. The regressions are run on a country-aggregated level (Panel data, fixed effects). The affiliate macro-level regressions, in equation (3.1), consist of taking the log of earnings before tax (EBT) of banks aggregated by each foreign country where the banks operate. For instance, the EBT in Hong Kong consists of aggregating the profits made by all the European banks that have an affiliate in Hong Kong for a given year t . Negative and positive values of EBT are considered. This gives a general image of the activity of banks abroad. All the profits made by the banks in their domestic market are dropped in order to focus on the activity of banks abroad.

$$\text{Log}(EBT)_{it} = \beta_0 + \beta_1 \text{Tax}_{it} + \beta_2 \text{Controls} + \epsilon_{it} \quad (3.1)$$

The panel regressions are run by using two different tax measures. The first measure is the statutory tax rate obtained from KPMG. The second measure is the effective tax rate. The effective tax rate is calculated as the sum of taxes paid by all foreign affiliates in country i divided by the sum of earnings before tax of affiliates in that same country (see equation 3.2).

$$\text{Log}(EBT)_{it} = \frac{\sum \text{Taxes Paid by all the affiliates in country } i, \text{ in year } t}{\sum \text{EBT by all the affiliates in country } i, \text{ in year } t} \quad (3.2)$$

Log (Staff)_{it} is the log of the sum of the number of Staff of all banks in country i for year t. Rule of law is used to control for the governance of countries. Macro controls such as GDP per capita and population are included. In another step, the semi-tax elasticity is used to calculate how the distribution of profits abroad would differ absent tax rate differences among countries. This consists of calculating the true profits that should be generated abroad. The true profits are therefore the profits absent tax differences among countries. The true profits in country i by the bank k are calculated by considering the tax semi-elasticity coefficient and the difference between the tax rate at the home country of the bank k and the tax rate in country i as presented in equation (3.3).

$$TrueProfits_{ikt} = e_{Tax}(Tax_H - Tax_F)EBT_{ikt} \quad (3.3)$$

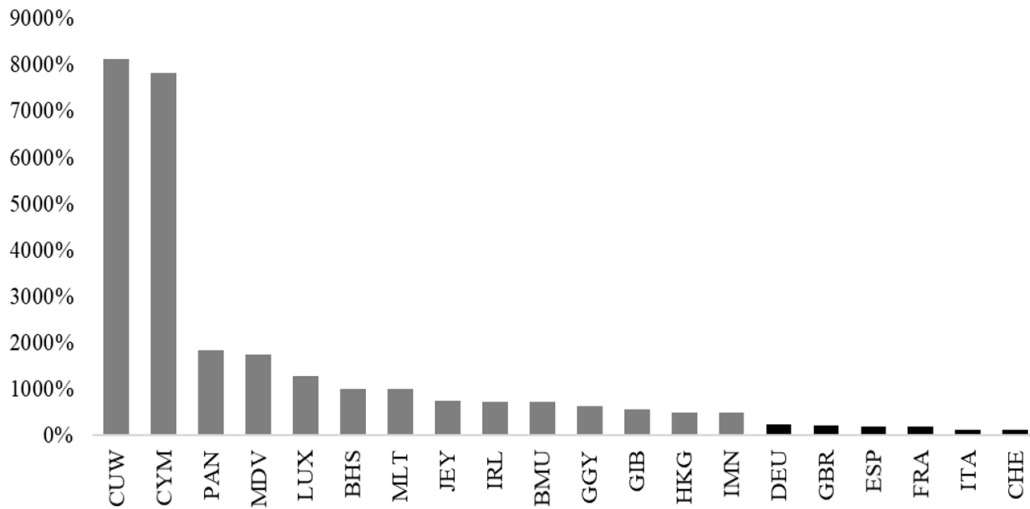
The excess profits are then calculated as the difference between the observed profits made abroad and the true estimated profits. It is important to note that not all these excess profits are due to profit shifting by the banks. Based on the intra-transactions within each bank, it is assumed that 30 percent of the excess profits can be linked to profit shifting.

3.4.2 Profitability Differentials

The second method consist of measuring profit shifting that stems from differences in profitability instead of differences in tax rates. The profitability approach is inspired by the work in Tørsløv et al.(2018). The authors measure profit shifting by setting the profitability of foreign companies equal to those of local companies in a given country.

The banks in the sample are well established ones in their local home market. The deviations from the home market profitability suggest two things. First, it can reflect

Figure 3.2: Profitability Ratios in selected countries



This figure presents profitability ratios in percent for selected countries where European banks are present. The profitability ratio is calculated as the employee productivity in country i with respect to the productivity in the different banks headquarters. (Source: Author's calculations based on CbCR database)

the demand on tax havens services by clients and firms through the bank. Second, it can indicate a delocalization of the bank's assets and profits for the own benefit of the bank into low tax countries.

In order to implement this approach, the data are first aggregated at the country level. Negative and positive values of EBT are used. The profitability ratios of banks are calculated for each country where the banks operate by dividing the productivity of employees in that country by the productivity of employees in the banks home countries (see equation 3.4).

$$Profitability_{it} = \frac{\sum EBT_{it} / \sum Staff_{it}}{\sum EBT_{ht} / \sum Staff_{ht}} \quad (3.4)$$

Profit shifting is then detected when the ratio of profitability in a foreign country exceeds the ratio of the local ones. It is expected that the profitability ratios in tax haven countries to be much higher than the profitability ratios in non-haven countries. If the earnings made by banks in their domestic markets were not considered in

method 1, they are crucial in the second approach. Local profits are used to calculate local banks profitability. The profitability ratios of local banks are used as a benchmark that will be compared with the profitability in country *i*. In both methods, a fraction of the excess profits estimated is considered as profit shifting. This fraction takes into consideration the intra-firm transactions that are around 30 percent for some banks in the sample.

3.5 Results

Table 3.2: Regressions Estimating Profits, 2013 – 2019

| | (1) | (2) | (3) | (4) |
|---|----------------------|----------------------|----------------------|----------------------|
| Dependent variable: Log Earnings Before Tax | | | | |
| ETR | -0.940*** (0.344) | -0.913*** (0.349) | -0.873*** (0.301) | -0.883*** (0.320) |
| Log GDP per capita | | 0.015 (0.098) | | 0.063 (0.067) |
| Log population | | -1.201** (0.604) | | -0.184 (0.504) |
| Log Staff | | | 0.627*** (0.080) | 0.482*** (0.095) |
| Rule of law | | 0.406 (0.495) | 0.364** (0.179) | 0.521 (0.410) |
| Obs | 770 | 689 | 753 | 689 |
| R2 | 0.035 | 0.066 | 0.54 | 0.35 |
| | (1) | (2) | (3) | (4) |
| Dependent variable: Log Earnings Before Tax | | | | |
| Statutory rate | -0.604 (0.880) | -1.445** (0.747) | -1.022* (0.666) | -0.817 (0.619) |
| Log GDP per capita | | -0.016 (0.095) | | 0.040 (0.055) |
| Log population | | -1.289** | | -0.235 (0.517) |
| Log staff | | | 0.626*** (0.076) | 0.483*** (0.089) |
| Rule of law | | 0.503 (0.479) | 0.383 (0.180) | 0.618* (0.393) |
| Obs | 768 | 689 | 753 | 689 |
| R2 | 0.0006 | 0.019 | 0.52 | 0.307 |

This table reports estimated coefficients from panel models, in which the dependent variable is log of earnings before tax. The main explanatory variable is the tax rate. The different specifications use two different measures for tax rates: statutory tax rate and effective tax rate (ETR).

Panel regressions are presented in Table 3.2. The dependent variable is the aggregated earnings of European banks in each country where they operate. For each

specification, two tax rate proxies are used: the statutory and effective tax rates. The estimates all indicate large, negative, and statistically significant relationship between the profits before tax and the tax rates (except for some specifications with the STR). The results indicate a negative and highly significant effect of the host country tax rate on reported profits. This finding confirms the expectation that reported profits of banks respond to host country taxes. The coefficients for semi-elasticity range from -0.6 to -1.5. Heckemeyer and Overesch (2013) suggest as a consensus estimate a tax semi-elasticity of subsidiary profits of about -0.8. This indicates that the estimates in table 3.2 are in line with the literature. European banks seem to operate in countries with low tax rates. That being said, European banks can reduce their tax burden by operating abroad. The coefficient for log of staff is positive and significant. The governance indicator "rule of law" is as well positive and significant, indicating that good governance affects the choice of banks operations.

3.5.1 Tax Differential Estimations

Banks have incentives to shift profits to low tax locations. The negative tax semi-elasticity shows that the profits of banks are tax sensitive. The excessive profits in low tax countries can reflect the activities conducted in tax havens and can reveal as well some of the profit shifting by banks. Based on the tax semi-elasticities in Table 3.2, the true profits are estimated for each country where the banks operate. The excess profits are calculated as the difference between the observed profits and the true profits. The profit shifting is considered to be a part of the excess profits. Based on the intra-transactions among each bank, we assume that 30 percent of the excess profits can be due to profit shifting.

On a country level, the top three countries where most of profits were shifted to are Hong Kong, the United Kingdom and Luxembourg (see Table 3.3). The amount of profit shifting by the European banks in the sample is around 16 billion dollars per year. The profit shifting by European banks is therefore around 15 percent of the total

Table 3.3: Excess profits (tax differentials method)

| Country | EBT reported | Excess | Adjusted Excess | % of Excess |
|------------------|--------------|-----------|-----------------|-------------|
| Hong Kong | 11,905.79 | 11,207.79 | 3,362.34 | 28.24% |
| United Kingdom | 6,847.35 | 5,872.18 | 1,761.65 | 25.73% |
| Luxembourg | 5,086.81 | 3,435 | 1,030.50 | 20.26% |
| Turkey | 3,060.28 | 2,746.26 | 823.88 | 26.92% |
| Poland | 2,459.67 | 2,127.87 | 638.36 | 25.95% |
| Ireland | 1,927.02 | 1,524.86 | 457.46 | 23.74% |
| Singapore | 805.03 | 1,305.52 | 391.66 | 48.65% |
| Netherlands | 255.37 | 472.51 | 141.75 | 55.51% |
| Jersey | 446.28 | 378,54 | 113.56 | 25.45% |
| Taiwan | 392.36 | 368,64 | 110.59 | 28.19% |
| Guernsey | 234.69 | 199.44 | 59.83 | 25.49% |
| Isle of man | 203.47 | 174.83 | 52.45 | 25.78% |
| Other | 51,319.89 | 23,850.55 | 7,155.17 | 13.94% |
| Total Tax havens | 21,257.80 | 19,039 | 5,711.70 | 26.87% |
| Total | 105,400 | 53,664 | 16,099.20 | 15.27% |

This table presents excess profits of banks in selected countries. The estimations are done using the tax differentials method, which consist of eliminating the tax differences among countries.

foreign profits.

3.5.2 Profitability Differentials Estimations

Table 3.4: Excess Profits (Profitability differentials method)

| Country | Income reported | Excess | Adjusted excess | Percentage of excess |
|------------------|-----------------|---------|-----------------|----------------------|
| Luxembourg | 5,069.3 | 4,282.4 | 1,284.7 | 25% |
| Malta | 351.4 | 281.3 | 84.4 | 24% |
| New Zealand | 180.9 | 138.4 | 41.5 | 23% |
| Jersey | 446.4 | 326.6 | 98 | 22% |
| Ireland | 1,829 | 1,331.4 | 399.4 | 22% |
| Bermuda | 249.4 | 181.1 | 54.3 | 22% |
| Guernsey | 234.7 | 161.8 | 48.5 | 21% |
| Hong Kong | 11,905.8 | 7,175.5 | 2,152.7 | 18% |
| Maldives | 9.4 | 8.3 | 2.5 | 27% |
| Bahamas | 6.8 | 5.4 | 1.6 | 24% |
| Total | 105,400 | 24,479 | 7,343.7 | 7% |
| Total tax havens | 26,801 | 15,187 | 4,556.1 | 17% |

This table presents excess profits of banks in selected countries. The estimations are done using the profitability differentials method, which consist of eliminating the excess profits with respect to the real economic activity.

The profitability ratios show that excess returns are generated in tax havens. This indicate that banks engage in tax havens in highly profitable activities and can also reflect that part of these excess profits are linked to profit shifting by the banks for their own account. Some profits are not generated by real economic activity and this

is what can help estimate profit shifting of these banks.

The profitability method compares the productivity per employee in a certain country by the productivity per employee in the local market of the bank. With this method, misalignment can be detected with respect to the real economic activity. The profits before tax in country i are divided by the number of employees in that country i to calculate the productivity per employees abroad. Then the profits before tax in all local markets are divided by the number of employees in the local markets of the banks (the local market is the country of headquarter of the bank) to calculate the productivity per employees locally. Then the profitability is calculated as the productivity abroad divided by the local productivity.

The profitability ratios show huge discrepancies in the activity of banks across countries. The banks are extremely profitable in tax havens countries. Figure 3.2 show that the bank profitability in non-havens countries is around 200 percent whereas the profitability in tax havens is much higher. The highest profitability ratios are found in Curaçao, Cayman Islands and Panama with over 2000 percent. The ratios exceeding the local profitability threshold reflect a part of the profit shifting by the banks and indicates the importance of tax havens as destinations that attract profits.

At this point, for each country we have a profitability ratio expressed in percentage. The ones in non-haven countries have profitability ratios much lower than tax haven countries. The profitability ratios in non-havens are much lower than in tax havens and are on average around 200% (see figure 3.2). Based on this, each ratio that exceeds the threshold 200% of profits per employee is considered as an excess profitability. Therefore, the real profits, that reflects real activity, are calculated as the profits before tax in that country divided by the difference between the profitability ratio in country i and the expected profitability (200%).

The estimations of profit shifting due to profitability differences are presented in Table 3.4 for selected countries. The main countries with excess profits are Luxembourg, Ireland and Hong Kong. The profit shifting is estimated to be around \$ 7.3 billion or around 7 percent of the total profits. Using the profitability approach gives a lower estimate than the one with the tax differentials method.

3.5.3 Effect on tax base

The profit shifting has a direct consequence on the tax revenues of the home countries of the banks. By using their branches and subsidiaries abroad, the banks manage to reduce their tax burden. Table 3.6 and Table 3.5 present the yearly profit shifting (adjusted excess profits) and the tax losses estimations by each year. The tax revenue losses are estimated to be between \$ 1.5 to \$ 3.5 billion or about 7 to 14 percent of the tax revenues on a yearly basis depending on the estimation method. These findings are comparable with the gravity model estimations in Bouvatier et al (2019), where tax losses of profit shifting by European banks are around 1 and 3.6 billion euros.

Table 3.5: Tax base losses (Tax differentials)

| Year | Total EBT | Excess Profits | Adjusted Excess | Tax Revenue | Tax loss | % Tax loss |
|------|-----------|----------------|-----------------|-------------|----------|------------|
| 2014 | 100 074 | 59 381 | 17 814.3 | 19 708 | 3 562.9 | 18.08% |
| 2015 | 83 729 | 50 663 | 15 198.9 | 21 595 | 3 039.8 | 14.08% |
| 2016 | 94 436 | 53 814 | 16 144.2 | 22 731 | 3 228.8 | 14.20% |
| 2017 | 105 418 | 53 664 | 16 099.2 | 21 780 | 3 219.8 | 14.78% |
| 2018 | 105 825 | 50 004 | 15 001.2 | 20 643 | 3 000.2 | 14.53% |

This table presents estimations of tax losses due to tax planning by banks. The estimations are based on calculations of profit shifting that uses profitability differential method.

Table 3.6: Tax base losses (Profitability differentials)

| Year | Total EBT | Excess profits | Adjusted Excess | Tax revenue | Tax loss | % Tax loss |
|------|-----------|----------------|-----------------|-------------|----------|------------|
| 2014 | 100,074.4 | 33,673 | 10,101.9 | 19,708.4 | 2,020.4 | 10.3% |
| 2015 | 83,728.9 | 28,964 | 8,689.2 | 21,595 | 1,737.8 | 8.0% |
| 2016 | 94,436.2 | 28,293 | 8,487.9 | 22,731.2 | 1,697.6 | 7.5% |
| 2017 | 105,417.8 | 24,480 | 7,344 | 21,780.5 | 1,468.8 | 6.7% |
| 2018 | 105,824.7 | 25,350 | 7,605 | 20,642.8 | 1,521 | 7.4% |

This table presents estimations of tax losses due to tax planning by banks. The estimations are based on calculations of profit shifting that uses tax differential method.

3.6 Discussion

It is still not clear in the literature which method is best suited for quantifying profit shifting especially concerning banks. Estimating tax avoidance by using the tax differential method is very common in the literature. However, it is not clear whether it is better to use the effective tax rates or the statutory tax rates. In this study, the effective and statutory tax rates are considered. The use of ETR can be preferred to the statutory tax rate in some cases. For instance, the ETR can capture if the firm make use of some tax schemes, has access to some preferential tax treatment or is implemented in an area or region with lower tax rate than the national statutory tax rate of the country.

Whether the statutory tax rate or the effective tax rate is better, the use of tax differential method can be criticized. A problem in the tax differential method is with the assumption that the firms are going to avoid taxes whenever they operate in a country that has a lower tax rate than their home country. While it can be true that some firms move abroad on purpose to reduce their tax payments, but in reality, they can be using a certain tax haven. Therefore, the tax planning can look like a corner solution if firms choose to avoid taxes in one country (or a limited number of countries); while this method considers all countries with lower tax rates than the home market as potential profit shifting location. Some tax havens characteristics push companies to choose them over some other tax haven countries because of preferential tax treatments, loose regulation, secrecy, distance, cultural distance, level of governance.

To account for this issue, the profitability differentials is used to assess tax planning. It consists of comparing the profitability of the foreign affiliates by the local profitability of banks. The amount of profit shifting is around \$ 7.3 billion, a lower estimate than the tax differential (\$ 16 billion). This method captures the abnormal

profitability and link part of it to tax planning. Following this logic, Figures C1 to C5 in Appendix C show that not all banks are implemented in the same way in tax havens. Most of the banks have affiliates in Luxembourg and in Ireland. The profitability ratios of banks in Ireland and Luxembourg are higher than the local profitability of banks. Not all the banks are using these two destinations in the same aggressiveness. German and British banks have higher profitability ratios in Ireland and Luxembourg than the French banks. However, among British banks for example, Barclays have a very high profitability ratio in Luxembourg and Santander have a very high profitability ratio in Ireland. Among the British banks, HSBC does not exhibit a similar behavior of having high profitability ratios in Luxembourg and Ireland. In contrast, the profitability ratio of HSBC in the Cayman Islands is extremely high (Figure C4). The same is true for Societe Generale that seems to be generating huge profits in Bermuda (Figure C5). These observations can suggest that each bank has a preferred tax haven where they operate from.

3.7 Conclusion

This paper undertakes a comprehensive analysis of tax planning by European banks. Using country-by-country data, profit shifting is estimated to be between 7.3 and 16 billion dollars or 17 to 26 percent of the total profits abroad. I find that tax planning is likely costing the EU governments more than 14 percent of the tax revenues paid by these banks. The tax losses are estimated to be between 1.5 to 3.5 billion dollars annually or around 8 to 14 percent of the tax revenues from these banks. The scale of the revenue loss is commensurate with several stylized facts about the size of the problem. In 2017, foreign affiliates of EU banks booked \$32 billion of income, or 30 percent of total foreign income, in countries with effective tax rates less than 15 percent. These estimates have the advantage of using comprehensive data that include operations in many tax haven countries, unlike many studies that rely on financial data. While all such estimates entail numerous assumptions, two methods

were used to estimate profit shifting. The first one is the tax differentials approach using statutory tax rates and effective tax rates. The second approach uses profitability ratios.

Even though the focus in the literature is mainly on profit shifting by multinational companies, however; there is a growing evidence that banks as well avoid taxes for their own account. The negative strong correlation between the profits abroad and the tax rates indicates that European banks can engage in tax planning by going into countries with lower tax rates. Moreover, the excessively high profitability ratios in tax havens are another indicator for the tax planning behavior of European banks. The top countries benefiting from profit shifting are Hong Kong and Luxembourg (and the United Kingdom to some extent).

The country-by-country reporting is a first step into mapping the activity of banks. More reforms should bring more transparency on the activity of multinationals and financial institutions. Policy action that address problems associated with tax competition and corporate tax base erosion can be very tricky to implement. The OECD/G20 BEPS launched many actions to combat this issue. Still, these actions face many challenges due to the conflict of interest inside of the EU. As was shown before, some EU countries are affected by profit shifting while others are benefiting. The money is being redistributed in the EU from the countries with high tax rates to the ones with low tax rates. Reforms should consider worldwide consolidation in an era of globally integrated economies. A harmonization in the fiscal systems of EU countries is as well highly needed in order for tax rates to converge which will reduce the incentives to shift profits from an EU country to another.

Chapter 4

Responsible Firms, True Corporate Citizens?

1

4.1 Introduction

Tax avoidance is now firmly on the agenda of corporate social responsibility (CSR) movement, according to the Organisation for Economic Cooperation and Development (OECD). Nevertheless, the relationship between tax aggressiveness and CSR practices remains not clear in the literature. This chapter seeks to answer this question by examining the relation between the tax behaviour of a company and its CSR performance.

Existing literature about CSR and tax aggressiveness advocates different theories. Firms engaging in CSR are expected to act as good citizens and should consequently consider the interests of all stakeholders. Therefore, high CSR companies should pay their fair share of taxes (Christensen and Murphy, 2004). However, classical economic theories consider that engaging in CSR activities can only be justified to the extent that these activities maximize shareholders' wealth. Lev et al.(2010), for instance, find a positive relationship between CSR and revenue growth. Thus, according to this

¹This chapter is joint work with Iva Koci (King's College London)

view, companies should engage in tax avoidance as long as it maximises shareholders' wealth.

Several factors can explain the conflicting results. First, most of the previous studies focus on a single market such as the US (Lanis and Richardson, 2012), or France (Laguir et al., 2015). We try to overcome this limitation by considering an international sample. Second, the proxies considered are very heterogeneous among the different studies. The authors employed different proxies for tax aggressiveness. This stems from the fact that there is no unified definition of tax aggressiveness. Different measures are employed such as the effective tax rate (Huseynov and Klamm, 2012; Lanis and Richardson, 2012), long-run cash ETR (Hoi et al., 2013), discretionary total and permanent BTDS (Desai and Dharmapala, 2005), and tax shelter (Lisowsky, 2010).

Similarly, there are many different measures employed for CSR. Some studies used a global index, while others restrict the definition of CSR to some specific dimensions. Moreover, some studies only consider firms with controversial scores, high rating or aim to create an index that takes into considerations the negative and positive scores of the firms. We rely on Thomson Reuter ESG Research to derive company level ESG score as well as run granular analysis by looking at specific measures. We create a variable that proxy for employee satisfaction based on the Glassdoor rankings so we can control for high or low employee satisfaction within each company.

4.2 Literature Review

The literature provides mixed evidence on the relation between tax aggressiveness and CSR. The classical view in finance on modern corporations takes a shareholder

value maximization perspective, which holds corporations accountable only to profit-maximising shareholder (Benabou and Tirole, 2010). In reality, corporations often focus on objectives beyond profit maximisation such as providing employee benefits, investing in environmentally friendly production processes, selecting suppliers that avoid child labour etc. Indeed, CSR has increasingly become a mainstream business activity as Business Roundtable stated in its latest meeting that the purpose of business is provide value to all its stakeholders: employees, clients, supplies as well as the government. When it come to the government, paying the fair share of tax is on top of the agenda.

The developed CSR theories suggest that firms have social obligations that goes beyond maximizing shareholder's wealth (Garriga and Melé, 2004). Based on a sample of 408 publicly listed Australian corporations, Lanis and Richardson, (2012) show that the higher the level of CSR disclosure of a firm, the lower is the level of corporate tax aggressiveness. More socially responsible firms are likely to be less tax aggressive. Using a sample of French publicly listed firms, Laguir et al.(2015) find that a firm's tax aggressiveness depends on the nature of its corporate social responsibility activities. Notably, the study demonstrates that the greater the activity in the social dimension of corporate social responsibility, the lower the level of corporate tax aggressiveness will be. Muller and Kolk (2009) explore whether CSR reputation affects the amount of tax payments between foreign MNE subsidiaries in India. The results show that MNE subsidiaries known for CSR pay more tax than do MNE subsidiaries less known for CSR. Hoi et al.(2013) consider a sample of firms with excessive irresponsible CSR activities. They find that the irresponsible firms have a higher likelihood of engaging in tax-sheltering activities and greater discretionary/permanent book-tax differences. Lanis Richardson (2015) employ a sample of tax-avoidant and non-tax avoidant firms. Their results show that the higher the level of CSR performance of a firm, the lower the likelihood of tax avoidance, indicating that more socially responsible firms

are likely to display less tax avoidance. Kim et al.(2012) find that socially responsible firms are less likely to manipulate real operating activities and less likely to be the subject of SEC investigations. Alsaadi et al. (2017) find that highly rated CSR firms are less likely to engage in earnings manipulation by using a sample of firms in ten European Union countries.

The other main theory in the literature is related to the shareholder value maximization perspective. Firms may view paying taxes as a mechanism that reduces their ability to engage in the society, whether by investing or engaging in CSR. Countries benefit from the reduction of taxes because the capital will be more internationally mobile (Hines, 2007). Therefore, in case taxation is high, the society will be losing capital and thus losing investment opportunities. Davis et al (2016) find that firms argue in their sustainability reports that high tax rates discourage innovation, investment and job creation which limits the ability of a firm to engage in social welfare. Corporations are giving promises of ethical conduct to the external audiences. These promises however are decoupled from the organizational practices which are geared to improving profits by avoiding or evading taxes. Some authors argue that some firms that claim to be socially responsible are engaged in tax avoidance (Carroll and Joulfaian, 2005; Preuss, 2010; Sikka, 2012). The socially responsible firms have been focusing up to now on environmental, labour and human rights issues rather than taxation that is rarely featured. Many multinational companies see no contradiction in engaging in CSR while at the same time seeking to minimize their tax liabilities, often through aggressive tax avoidance. Jenkins and Newell (2013) examine the CSR reports and code of conducts of 35 firms listed on FTSE4Good. These firms were taken as examples of leaders in terms of CSR to see what they had to say about tax. The authors find that only in 13 cases were there any mention of tax in the CSR report. This indicates that very few companies see their tax strategies as being in any way related to their CSR activities. Similarly, Hardeck and Kirn (2016) consider

a sample of firms listed in the U.S., the U.K., and Germany. They find that the level of tax disclosure was rather low in sustainability reports: around 50 percent of all corporations were silent on the issue of corporate taxation. They add as well that some corporations even depicted corporate tax payments as obstacles to economic growth that produce negative societal consequences. Davis et al.(2016) find consistent evidence, using a sample of US public firms, that corporate social responsibility is negatively related to five-year cash effective tax rates and positively related to tax lobbying expenditures. They state that corporate social responsibility and tax payments act as substitutes. According to Garcia (2016) firms that are more socially responsible get a higher return on their lobbying expenditures than firms that are less socially responsible, reflected in lower effective tax rates. Although many corporations have developed comprehensive corporate social responsibility (CSR) policies in the past years, most of these companies do not refer to ethical aspects of corporate lobbying in their business Slob and Weyzig (2010). Campbell and Helleloid (2016) analyse the case of Starbucks. They state that Starbucks in its 15 years of operations in the U.K. had paid U.K. corporate income taxes only once by using a combination of legal tax avoidance practices. Starbucks had been very public in its commitment to being socially responsible and a good citizen of the communities in which it operated. This included, among other aspects, paying fair wages to employees and paying fair prices to coffee growers in developing countries. However, the company not paying its fair share of taxes was inconsistent with the image it was portraying to consumers. Other existing research adds that the negative relation between tax payments and CSR stems from firms' image camouflage. Firms that builds a good CSR reputation may be less prone to the devaluation of the value of their shares in case of a negative event. Godfrey et al. (2009) find that the shares value of firms that engage in CSR did not decline as much as those who do not after a negative event. This suggests that firms can engage in CSR activities to create a favourable image and attenuate the risks of their implication in tax avoidance.

It is important to have in mind that how CSR and tax avoidance affect the firm value, determine if the company will engage in both activities or not. According to Jo and Harjoto (2011), CSR engagement positively influences firm value especially those that address internal social enhancement within the firm (such as employees' diversity, firm relationship with its employees, and product quality) more than other CSR subcategories for broader external social enhancement (such as community relation and environmental concerns). CSR expenditure may be consistent with firm value maximization if it is a response to changes in stakeholders' preferences (Barnea and Rubin, 2010). Edmans (2012) argue that CSR can improve stock returns and that job satisfaction is beneficial for firm value. In contrast, Gunther Capelle-Blancard and Petit (2019), find that on average firms facing negative CSR events experience a drop in their market value of 0.01 percent whereas companies gain nothing on average from positive CSR announcements. Similarly, it is not clear in what direction tax avoidance affects firm value. The simple view of corporate tax avoidance as a transfer of resources from the state to shareholders is incomplete given the agency problems characterizing shareholder-manager relations (Desai and Dharmapala, 2009). Johannesen and Stolper (2017) find a sharp decrease in the market value of banks known to be assisting with tax evasion. In contrast, Wang (2012) argues that managers engage in tax avoidance transactions mainly to enhance shareholder wealth. He finds that investors place a value premium on tax avoidance, but the premium decreases with the reduction in corporate opacity. This is consistent with the notion that corporate transparency facilitates the monitoring of managerial actions and thus alleviates outside investors' concern about the hidden agency costs associated with tax avoidance.

4.3 Methodology

4.3.1 Research design

In theory, a responsible firm is expected to be more cautious about undertaking tax aggressive activities because this would be inconsistent with its other CSR engagements and could potentially counteract the positive effects associated with its CSR activities. However, a corporation cares about profit maximization based on the shareholder value maximization perspective. Therefore, firms will try to minimise their tax payments while trying to be responsible. Our study thus empirically tests the following research hypothesis: All else being equal, the higher the level of CSR activity of a corporation, the higher is the level of tax aggressiveness. We empirically test our hypothesis based on a cross-section of all publicly listed corporations collected from the Thomson Reuters ESG Research for the 2008-2018 period, which represents all the available data on ESG. Our initial sample consisted of a total of 7,190 firms but was reduced because of some corporations with missing financial data.

We estimate the following model to examine the association between tax aggressiveness and CSR:

$$TaxAggressiveness_{it} = \alpha_0 + \beta_1 ESG_{it} + \beta_2 Control_{it} + \epsilon_{ikt} \quad (4.1)$$

The dependent variable Tax Aggressiveness represents the two most commonly used tax avoidance measures: Effective Tax Rate (ETR) and the average 5-year tax rate. The ETR is calculated as Taxes Paid divided by Earnings Before Taxes. To ascertain the robustness of our findings, we alternatively proxy for tax aggressiveness by lobbying expenses incurred by a firm. The lobbying expenses on tax issues is gathered and matched with the US firms in the sample. This data is available through the The Lobbying Disclosure Act on the US senate website. The log of lobbying is used. The data covers on average around 250 firms during the period 2009–2018. For

the EU companies in the sample, we used a binary indicator that is 1 if the company is lobbying on tax issues and 0 if it is lobbying but not on tax issues. The data on EU lobbying is obtained from the EU Transparency Register and covers around 360 firms for the period 2014–2018. We use different measures for both the dependent and independent variable as robustness checks. We employ country fixed effects to rule out alternative explanations based on other country-level factors such as ideologies, cultures, and social norms. We also add company fixed effects to account for unobserved discrepancies across companies and present robust standard errors.

Our data comes primarily from Thomson Reuters ESG Research and Datastream. We measure CSR activities via Thomson Reuters ESG score. Thomson Reuters ESG research provides one of the largest ESG content collections in the world with a coverage universe of more than 6,000 public companies globally. The sample consists of 7,190 firms in 83 different countries. Company level ESG measures are grouped into ten categories: resource use, emissions, innovation, workforce, human rights, community, product responsibility, management, shareholders and CSR strategy. We look at the number of ESG awards received as an alternative variable for company CSR level.

We also construct an indicator for employee satisfaction. This indicator is based on employees' feedback and ratings of companies they worked in. Employee satisfaction is also a good proxy for the social responsibility of a company. The company ratings are obtained from the Glassdoor website and matched with the 1000 largest companies in our sample. The employee satisfaction score is calculated by Glassdoor based on six different categories: culture and values, diversity and inclusion, work–life balance, direction, compensation and career opportunities. The score is based on a 5-point scale ranging from 0 to 5, higher values indicating higher employee satisfaction. We restrict the sample to the scores that are made by more

than 10 employees.

Following the literature, we control for a set of variables that could potentially affect tax avoidance. We control for size (market capitalization), leverage (total debt to total equity), liquidity (current ratio), intangible assets, property, plant and equipment (PPE), pre-tax ROA (profitability), Research & Development and number of employees. The market capitalisation, intangible assets and Property Plant and Equipment (PPE) are all divided by the total assets. The number of employees is specified in logs.

4.3.2 Summary Statistics

Table 4.1 provides a summary on the number of observations, average, mean, standard deviation, minimum and maximum values of the main variables in the database. The data covers companies from all around the world for the period 2008-2018. The sample consists of 7,190 firms in 83 different countries. The average firm has an average ESG score of 44.10 on a scale from 0 to 100. This indicates that the average firm falls behind on social responsibility. The effective tax rate is on average 26 percent ranging from 10 to 57 percent. If we consider only highly responsible firms, whose ESG score is higher than 60, the ETR is on average 24 percent. In contrast, the low responsible firms, whose ESG is lower than 40, have on average an ETR around 36 percent. This suggests that there might be a negative relation between the tax aggressiveness and the level of CSR.

4.4 Results

4.4.1 Baseline model

Our baseline model questions whether firms engaged in tax aggressiveness - i.e. firms recording lower ETR levels - might also record high CSR score. Table 4.2 presents

Table 4.1: Summary Statistics

| | Obs | Mean | Median | St Dev | Min | Max |
|-----------------------|--------|-----------|-----------|------------|--------|------------|
| ESG Score | 22,662 | 44.10 | 41.05 | 18.8 | 13.62 | 78.48 |
| Effective Tax Rate | 22,662 | 0.26 | 0.25 | 0.11 | 0.10 | 0.57 |
| Current Ratio | 22,662 | 1.31 | 1.34 | 0.57 | 0.17 | 2.69 |
| Market Cap (M) | 22,662 | 13,247 | 8,505 | 11,249 | 4,226 | 50,812 |
| Debt to Assets | 22,662 | 1.35 | 1.19 | 0.76 | 0.11 | 3.12 |
| Intangible Assets (M) | 22,662 | 2,492,302 | 952,831 | 5,894,599 | 599 | 27,441,858 |
| PPE (M) | 22,662 | 7,533,995 | 3,007,782 | 10,092,450 | 10,019 | 35,576,111 |
| Pre-tax RoA | 22,662 | 0.08 | 0.07 | 0.04 | 0.02 | 0.18 |
| R&D (M) | 22,662 | 24,913 | 6,945 | 36,858 | 627 | 109,825 |
| Nb. of Employees | 22,662 | 27,623 | 22,500 | 23,787 | 1,203 | 97,902 |

This table presents summary statistics for the main variables used in this study. Market capitalization, intangible assets, PPE and Research and development are in millions of US dollars.

panel data regression results on a global sample of firms. We find consistent results that ESG score is negatively related to both ETR and average taxes paid in the last 5 years. Accordingly, the higher the level of CSR activities of a corporation, the lower is the level of taxes paid. This result is consistent with our hypothesis that when a corporation engages in more CSR activities, it does not mean they are going to refrain from maximising their profits and trying to diminish their tax payments. Thus, where the corporation has a superior CSR profile, it is expected to be undertaking tax aggressive activities in parallel. This may seem inconsistent with the firm's other CSR engagements, but the firms seem to separate these two notions: being socially responsible and paying taxes.

To ascertain the robustness of our findings, we proxy for company CSR engagement by the number of ESG awards received. ESG rewards data is extracted from Thomson Reuters. Our results remain intact: the more a company receives awards for being socially responsible, the more it is tax aggressive as the relationship between the two measures is significantly negative (see D1 in Appendix D). We further employ "tax lobbying" as a proxy for tax aggressiveness. We match the top 1000 Forbes companies with data on US and EU lobbying. Table 4.3 presents the results related to lobbying by the firms on tax issues. The first column presents the results of a panel regression with the main dependent variable the natural logarithm of lobbying

Table 4.2: Regressions Results All sample

| All sample | ETR | Avg Tax | ETR | Avg Tax |
|--------------------------|----------------------|---------------------|---------------------|---------------------|
| ESG score | -0.033*** (0.014) | -0.005 (0.02) | -0.07*** (0.02) | -0.05** (0.02) |
| Total debt /Total equity | 0.014 (0.026) | 0.05 (0.05) | 0.02 (0.05) | 0.05** (0.03) |
| Current ratio | -0.195* (0.116) | -0.20 (0.19) | -0.56*** (0.19) | -0.26 (0.17) |
| Intangibles | -6.685** (2.871) | -9.83*** (2.97) | -14.54*** (4.85) | -10.73*** (4.05) |
| Market Cap | 0.061 (0.166) | 0.59** (0.27) | 0.03 (0.25) | 0.31 (0.24) |
| PPE | -1.899 (1.576) | -3.93** (2.06) | 0.05 (1.72) | -2.21 (1.99) |
| R&D | -23.96*** (7.773) | -25.78** (11.22) | -2.96 (6.07) | 9.82 (17.33) |
| Log of employees | 0.583*** (0.216) | 0.35 (0.24) | -0.45 (0.69) | -2.31*** (0.68) |
| Pre-tax ROA | -5.905 (3.851) | -23.68*** (4.86) | -25.75*** (5.41) | -34.15*** (4.10) |
| Industry fixed effects | Yes | Yes | No | No |
| HQ fixed effects | Yes | Yes | No | No |
| Company fixed effects | No | No | Yes | Yes |
| Nb of Obs. | 22,504 | 21,066 | 22,519 | 22,263 |
| R-sq | 0.0047 | 0.0118 | 0.0063 | 0.0202 |

This table shows panel regression results for all the sample. The dependent variables are Effective Tax Rate (ETR) and the average five-year tax rate (Avg Tax). The variable of interest is the ESG score.

expenses, which captures the amount of lobbying expenses by a US firm on tax issues. We find a positive and significant relationship with the ESG score. The results are in line with our hypothesis. The higher the level of CSR activities of a corporation, the higher the lobbying on tax issues.

The second specification presents the results of a logit regression, with the main dependent variable being EU lobbying interest. In this case, the dependent variable takes the value of 1 if the firm is lobbying on tax matters and 0 if it is not engaged in tax lobbying. As demonstrated in Table 4.3, we find a positive and significant relationship between firm ESG score and the engagement in tax lobbying activities. The results are in line with our hypothesis. The higher the level of CSR activities of a corporation, the higher is the probability that a European firm engage in lobbying on

tax issues. Thus socially responsible companies seem to lobby on tax issues, which suggest that they are tax aggressive.

In this study, we seek to provide evidence on association rather than on causation. We recognize that it is possible that CSR and corporate tax avoidance are endogenous. For that, we run GMM estimations as robustness checks. The results presented in Table D2 show that the results remain in line with our hypothesis.

Table 4.3: Lobbying and ESG

| | Lobby US | Lobby EU |
|-------------------------|--------------------|--------------------|
| ESG score | 0.0208*** (0.0055) | 0.0211*** (0.0083) |
| Total debt/total equity | -0.0047 (0.0036) | -0.0340 (0.0276) |
| Current ratio | 0.0592 (0.11) | -0.1199 (0.0882) |
| Intangibles | 0.7751 (1.614) | -0.1553 (0.9202) |
| Market Cap | -0.0496 (0.0855) | 0.2712*** (0.0933) |
| PPE | -0.8366* (0.4863) | -2.515*** (0.7825) |
| R&D | 4.792*** (0.8128) | -1.552 (2.132) |
| Log Of employees | 0.4875*** (0.103) | 0.4002*** (0.1097) |
| Pre-tax ROA | 1.5987 (1.1717) | -1.5250 (1.4448) |
| Industry fixed effects | Yes | Yes |
| HQ fixed effects | Yes | Yes |
| Nb of Obs. | 1 602 | 1 000 |
| R-sq | 0.193 | 0.175 |

This table shows regression results for the 1000 largest public companies. The first column presents results for panel regressions with the dependent variable log Lobby US (the amount of lobbying spent by a company in the US on tax issues). The second column presents logit regressions results with the dependent variable EU lobby interest (1 if the company is lobbying on tax issues and 0 if not). The variable of interest is the ESG score.

4.4.2 Importance of Employee Satisfaction

We further investigate the relationship between firm CSR and tax aggressiveness for firms with strong employee satisfaction. Edmans (2011) finds that employee satisfaction is positively correlated shareholders' returns as he finds evidence that a value-weighted portfolio of the "100 Best Companies to Work for in America" outperform the market. In a similar attempt, we manually collect data from Glassdoor, an online website where current and former employees anonymously review companies.

We run panel data regression splitting the data based on Glassdoor employee satisfaction score: high employee satisfaction for a score that is greater than 3.5,

Table 4.4: High and Low Employee Satisfaction

| | High Satisfaction (> 3.5) | | Low Satisfaction (< 2.5) | |
|-------------------------|---------------------------|------------------------|--------------------------|-----------------------|
| | ETR | Avg Tax | ETR | Avg Tax |
| ESG score | -0.001*** (0.0003) | -0.0005* (0.0003) | -0.00001 (0.0006) | 0.0004 (0.0005) |
| Total debt/total equity | 0.0006*** (0.0002) | 0.0004 (0.0003) | -0.0042*** (0.0012) | -0.0007 (0.0009) |
| Current ratio | -0.001 (0.0034) | -0.0037 (0.0027) | -0.0011 (0.002) | 0.0014 (0.0019) |
| Intangibles | -0.174* (0.0686) | -0.013 (0.0542) | 0.0562 (0.1619) | 0.0125 (0.1296) |
| Market Cap | 0.0029 (0.0021) | 0.0035 (0.0023) | -0.0058 (0.0042) | -0.0014 (.0027) |
| PPE | -0.0004 (0.0241) | -0.0102 (0.0324) | 0.0482 (0.0381) | -0.0214 (0.0324) |
| R&D | -0.0803 (0.101) | 0.0227 (0.2189) | -0.0101 (0.0339) | 0.0048 (0.4607) |
| Log of Employees | -0.0035 (0.0114) | -0.033*** (0.0106) | -0.0009 (0.0126) | -0.0158 (0.0117) |
| Pre-tax ROA | -0.2663*** (0.0683) | -0.2952*** (0.0538) | -0.3766*** (0.1049) | -0.413*** (0.0809) |
| Company fixed effects | yes | yes | yes | yes |
| Nb of Obs | 10,534 | 10,470 | 3,288 | 3,196 |
| R-sq | 0.0079 | 0.0188 | 0.0184 | 0.0318 |

This table shows panel regression results for two sub-samples: High Employee Satisfaction and Low Employee Satisfaction. The dependent variables are Effective Tax Rate (ETR) and the average five-year tax rate (Avg Tax). The variable of interest is the ESG score.

and low employee satisfaction for a score than is lower than 2.5. We find that the relation between the CSR score and tax level is negative and significant only for companies with high employee satisfaction (see Table 4.4). For the low satisfaction sub-sample, we find that the CSR score is not significantly related to ETR. However, we find a positive relationship between ESG score and the five-year average tax rate. This implies that the companies with high employee satisfaction are much more tax aggressive than companies that have low employee satisfaction.

4.5 Discussion

According to our results, socially responsible firms are engaging in tax avoidance. It would be much easier to imagine that irresponsible firms would be tax aggressive. However, there seem to be a disassociation between the notion of being socially

responsible and paying its fair share of taxes. The notion that prevails is the one of shareholders' profit maximization.

The lobbying results comes to strengthen these findings. Socially responsible firms are engaging in lobbying on tax matters. The fact that they are socially responsible did not stop them from minimizing their tax payments. Whether not paying their fair share of taxes is a responsible act or not to , but it sure means that the governments tax revenues would diminish.

Companies with high CSR scores that are well governed can probably engage more easily in tax avoidance than those with low CSR scores. Socially responsible companies have established a good corporate citizen image. This would make them less prone to being blamed for engaging in tax avoidance activities. Our results even suggest that firms with high employee satisfaction are more tax aggressive. Creating a good work environment makes the employees attached to the company and ready to defend its values. This might absorb the shock of engaging in a tax scheme for these companies. Creating the best work environment and being socially responsible enables firms to hide some of their social irresponsibility. Social responsibility would be adopted as long as it is serving the core purpose which is maximizing profits.

That being said, we believe this paper sheds the light on the fact that companies are tailoring CSR with respect to their needs. The concept of CSR is fragmented since socially responsible and award-winning companies are avoiding taxes. The notion of paying taxes is essential to becoming a true corporate citizen.

4.6 Conclusion

We studied in this paper the relation between corporate social responsibility and tax aggressiveness of a sample of companies globally. We find that the more a company is socially responsible, the less it is paying taxes. Adding to that, our results shows that socially responsible firms engage in lobbying on tax issues. Moreover, we document that firms with high employee satisfaction are tax aggressive.

These findings suggest that the notion of CSR does not include paying the fair share of taxes. Socially responsible firms may be using their good image to cover their implications in tax avoidance. These findings have important implications on the notion of a corporate citizen. It is clear that companies do not view paying taxes as a social act. That being said, the validity of the CSR scores and CSR awards must depend on incorporating an indicator on tax avoidance.

High socially responsible firms are well governed. They also seem to have succeeded in building the trust of their employees in the social environment of the company. This would make it harder for the policymaker to redress the issues of tax avoidance or evasion that arise from these companies for several reasons. First, these firms will continue to disassociate paying taxes from the notion of social responsibility. Second, they are providing satisfactory employment which is good for the social welfare that governments would not want to lose. The big question that remains is how to encourage companies on viewing the payment of taxes as an essential part of a good corporate citizen.

Conclusion

In this dissertation, I tried to shed light on important questions related to tax havens and profit shifting. In chapter 1, a literature review with the main work related to tax havens is presented. In chapter 2, I compare the main lists of tax havens and analyze tax havens characteristics. In chapter 3, I assess the tax planning by the largest European banks. In chapter 4, I check the relation between tax aggressiveness and social responsibility of firms.

Going through the literature review, it is clear much more research is still needed to have better understanding of tax havens and of their consequences. I tried to fill some gaps in the literature. Since there is no clear definition of tax havens, I make use of the recent Panama and Paradise Papers leaks to analyze tax havens characteristics. The different lists of tax havens are as well compared. I find that other than the tax rate, governance is an important characteristic of a tax haven. Moreover, a tax haven is not necessarily a small jurisdiction. The international weight of a country plays a role for whether the country can act as tax haven or not. That being said, most of tax havens lists are politically biased as they ignore the countries with high international weight.

Another gap in the literature is the profit shifting or tax planning by financial institutions. Most of the research of profit shifting focus on multinational companies and discard banks. I benefit from the CRD IV EU directive and construct the country by country reporting database for the largest European banks. I find that banks

can shift part of their profits by using their affiliates. The tax planning is estimated to be around 26 percent of the total profits abroad. The tax losses suffered by the governments is estimated to be around 8-14 percent of total assets.

Finally, in the recent years the concept of "good corporate citizen" emerged. I check whether socially responsible firms are tax aggressive. I use CSR scores from Thomson Reuters and I construct an indicator for employee satisfaction based on Glassdoor. Lobbying data in the US and Europe is also added to the analysis. I find that socially responsible firms are tax aggressive and engage in lobbying on tax issues. Firms with high employee satisfaction are as well tax aggressive.

While these chapters constitute an important step forward, I believe that research on tax havens and profit shifting is still in its infancy. There is a promising avenue and much still to do for further research about tax havens. More research is needed in assessing tax evasion and tax avoidance, their impact on the world economies and on inequality. The first step should be to identify tax havens and countries with harmful tax practices. Research should provide updated tax havens lists that do not suffer from political bias. The lists should be elaborated based on objective criteria. Only when harmful tax practices and preferential tax treatments are identified, that the consequences of tax havens can be truly measured and solutions can be effectively tailored. The research related to profit shifting should be also enlarged. This can be possible through the country by country reporting that all multinationals have to implement. The CbCR exercise should also include some other crucial information like the assets held in each country where the firm operates. The firms are including only their income, number of employees and taxes paid without any information on assets held per country. The research on profit shifting should be enlarged to cover multinationals from all over the world especially that there could be a different pattern between multinationals of developed countries and those of developing

countries. Profit shifting is usually done on a macro level. However, estimating profit shifting on micro level can also provide crucial indications on the degree of implication of each firm in profit shifting.

The notion of CSR is receiving a lot of attention. The companies are trying hard to gain social respect in order to preserve their value towards their shareholders, stakeholders and customers. However, more research is needed to expose the firms that are not as ethical as corporate citizens. It is true that using CSR scores is widely acceptable but it can sometimes be misleading and not necessarily reflect the reality. Other CSR indicators should be used. I tried to overcome this by constructing an indicator that reflects employee satisfaction. Another way to proceed to clarify the relation between tax aggressiveness and social responsibility is to gather data on as many firms that were exposed in scandals related to profit shifting, tax avoidance or tax evasion.

When it comes to policymakers, there is some key elements to implement in order to move forward with solutions concerning tax havens. There should be some objective lists of tax havens that are updated regularly. The measures taken like the FATCA or the automatic exchange of information on tax matters should cover all countries with no exceptions. The taxation of multinationals should also be reviewed. Multinationals should be taxed on their global consolidated profits proportionally to where they make their sales or where they have their users. There should be more international cooperation on tax rates and tax base. When it come to the EU, more integration is needed in order for the different members to converge towards the same tax rate and tax base. Firms can always find loopholes to the system. The notion of CSR should not be detached from paying the fair share of taxes. That is why it is crucial to stress on the importance of being a good corporate citizen for companies.

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Appendix A

Table A1: Overview of empirical studies about tax havens

| | General | Financial sector |
|--------------------------------|---|--|
| Macro level (countries) | | |
| First evidences | Hines & Rice (1994); Hampton & Christensen (2002) | Alworth & Andresen (1992) ; Huizinga & Nicodeme (2004) ; Buch (2005); Grilli (1989); |
| Which countries? | Dharmapala & Hines (2009); Lips & Cobham (2017) Masciandaro (2006); Lane & Milesi-Ferretti (2011, 2017) Cobham et al. (2015); Garcia-Bernardo (2017) Hansen & Kessler (2001) | |
| What impact? | Hines (2005, 2010); Rose & Spiegel (2007) Ferwerda & Unger (2008); Henry (2012) Alstadsaeter et al. (2017); Torslov et al. (2018) | Zucman (2013, 2015) Andersen et al. (2014) |
| What public policies? | Masciandaro (2005); Masciandaro & Balakina (2016) Zucman (2014, 2015); Johannesen & Stopler (2017) Alstadsaeter et al. (2018); Menkhoff & Miethe (2018) Gravelle (2015) | Johannesen (2014) Johannesen & Zucman (2014) |
| Micro level (firms) | | |
| First evidences | Harris et al. (1993); Grubert & Slemrod (1998) | Demirgüç-Kunt & Huizinga (2001) |
| Which firms? | Desai et al. (2006); Dharmapala & Riedel (2013); Dyreng et al. (2013); Hebous & Lipatov (2014) Gumpert et al. (2016) | Chernykh & Mikyatov (2017) Cobham et al. (2018) Bouvatier et al. (2017) |
| What impact? | Merz & Overesch (2016); Cobham & Jansky (2017) Wright & Zucman (2018); Crivelli et al. (2016) Clausing (2016) | Langenmayr & Reiter (2017) |
| What public policies? | Johannesen et al. (2016); Bennedsen & Zeume (2018) | Johannesen & Larsen (2016) |

This table summarizes some of the main empirical research on tax havens. The different studies are classified by several research questions and categories.

Appendix B

Lists of tax havens

Leaks list Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, Bermuda, Bonaire Sint Eustatius and Saba, Cayman Islands, Cook Islands, Costa Rica, Cyprus, Ghana, Gibraltar, Grenada, Guernsey, Hong Kong, Isle of Man, Jersey, Lebanon, Liberia, Liechtenstein, Luxembourg, Malta, Marshall Islands, Mauritius, Netherlands, New Zealand, Niue, Panama, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Samoa, Seychelles, Singapore, Turks and Caicos Islands, United Kingdom, United States, Uruguay, British Virgin Islands, US Virgin Islands.

Hines-Rice List (1994) Andorra, Anguilla, Antigua and Barbuda, Bahamas, Bahrain, Barbados, Belize, Bermuda, Bonaire, Sint Eustatius and Saba, Cayman Islands, Cook Islands, Cyprus, Dominica, Gibraltar, Grenada, Guernsey, Hong Kong, Ireland, Isle of Man, Jersey, Liberia, Liechtenstein, Luxembourg, Macao, Maldives, Malta, Marshall Islands, Monaco, Montserrat, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Singapore, Sint Maarten, Switzerland, Turks and Caicos Islands, Vanuatu, British Virgin Islands.

Garcia-Bernardo List (2017) Anguilla, Bahamas, Belgium, Belize, Bermuda, Cayman Islands, Curaçao, Cyprus, Gibraltar, Guernsey, Guyana, Hong Kong, Ireland, Jersey, Liberia, Liechtenstein, Luxembourg, Malta, Marshall Islands, Mauritius, Monaco, Nauru, Netherlands, Panama, Saint Vincent and the Grenadines, Samoa, Seychelles, Singapore, Switzerland, Taiwan, United Kingdom, British Virgin Islands.

OECD List (2000) Andorra, Anguilla, Antigua and Barbuda, Aruba, Bahamas, Bahrain, Barbados, Belize, Bonaire Sint Eustatius and Saba, Cook Islands, Dominica, Gibraltar, Grenada, Guernsey, Isle of Man, Jersey, Liberia, Liechtenstein, Maldives, Marshall Islands, Monaco, Montserrat, Nauru, Niue, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Seychelles, Sint Maarten, Tonga, Turks and Caicos Islands, Vanuatu, British Virgin Islands, US Virgin Islands.

IMF List (2000) Andorra, Anguilla, Antigua and Barbuda, Aruba, Bahamas, Bahrain, Barbados, Belize, Bermuda, Bonaire Sint Eustatius and Saba, Cayman Islands, Cook Islands, Costa Rica, Cyprus, Dominica, Gibraltar, Grenada, Guernsey, Hong Kong, Ireland, Isle of Man, Jersey, Lebanon, Liechtenstein, Luxembourg, Macao, Malaysia, Malta, Marshall Islands, Mauritius, Monaco, Montserrat, Nauru, Niue, Palau, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Seychelles, Singapore, Switzerland, Turks and Caicos Islands, Vanuatu, British Virgin Islands.

Table B1: Logit Regressions Results for Lists

| | Leaks | Hines-Rice | Garcia-Bernardo | OECD | IMF |
|--------------------------------------|-------------------|-------------------|-------------------|--------------------|-------------------|
| Dependent variable: Tax Haven Status | | | | | |
| Governance | 1.014 (0.337) | 1.132 (0.406) | 1.379 (0.384) | 0.375 (0.452) | 0.896 (0.441) |
| Quota | 0.004 (0.088) | -1.591 (0.748) | -0.190 (0.132) | -12.805 (4.471) | -1.464 (0.627) |
| Common law | 1.819 (0.495) | 1.787 (0.546) | 1.829 (0.550) | 1.282 (0.512) | 1.716 (0.535) |
| Ressources | -0.076 (0.095) | -0.101 (0.129) | -0.004 (0.067) | -0.157 (0.179) | -0.529 (0.348) |
| Obs. | 187 | 187 | 187 | 187 | 187 |
| Log likelihood | -57.69 | -48.80 | -49.41 | -46.567 | -48.18 |
| Pseudo R2 | 0.25 | 0.30 | 0.25 | 0.38 | 0.415 |

This table reports estimated coefficients from logit models, in which the dependent variable equals one for tax havens and zero otherwise. Tax havens are defined here as countries that figures in five selected lists. The governance index is the mean of six governance measures constructed by Kauffman et al. The international voice is measured by taking the IMF Quota share of a country. GDP per capita is measured in thousands of US dollars in PPP terms. Common law is a dummy variable taking 1 if the country has British legal origins and 0 otherwise.

Table B2: Logit Regressions Results for Lists

| | Leaks | Hines-Rice | Garcia-Bernardo | OECD | IMF |
|--------------------------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| Dependent variable: Tax Haven Status | | | | | |
| Governance | 1.357*** (0.573) | 1.056* (0.656) | 1.094** (0.473) | -0.046 (0.562) | 0.526 (0.538) |
| Quota | 0.176** (0.092) | -0.670 (0.648) | -0.044 (0.107) | -6.023** (2.906) | -0.397 (0.451) |
| Log (GDP/capita) | -0.134 (0.381) | 0.257 (0.426) | 0.360 (0.395) | 0.475 (0.391) | 0.674* (0.377) |
| Log (population) | -0.328*** (0.104) | -0.418*** (0.137) | -0.285*** (0.110) | -0.631*** (0.201) | -0.558 (0.140) |
| Common law | 1.488*** (0.466) | 1.237*** (0.488) | 1.251*** (0.478) | 0.944** (0.482) | 1.267*** (0.508) |
| PR2 | 0.328 | 0.382 | 0.308 | 0.477 | 0.438 |
| Obs | 204 | 204 | 204 | 204 | 204 |

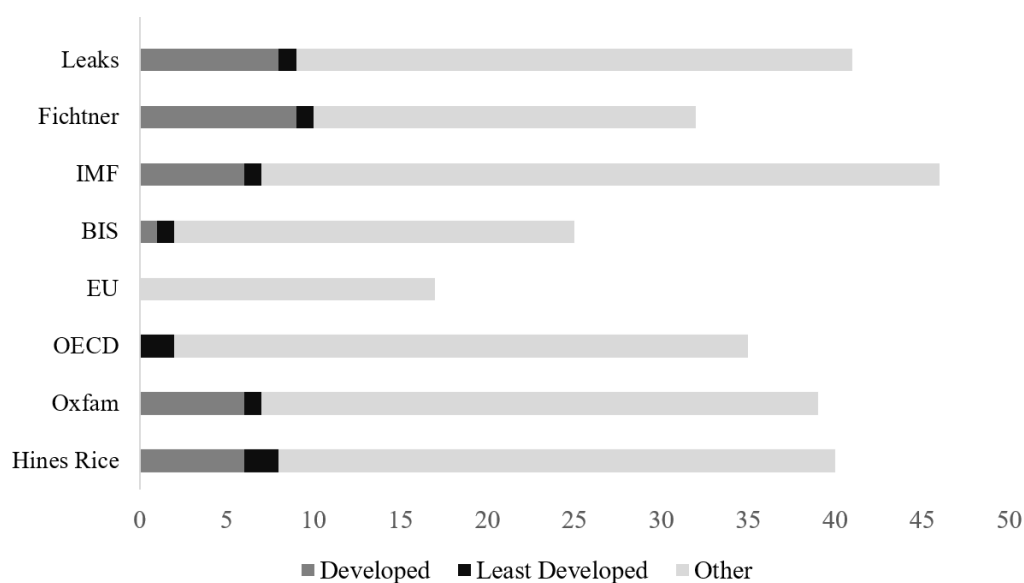
This table reports estimated coefficients from logit models, in which the dependent variable equals one for tax havens and zero otherwise. Tax havens are defined here as countries that figures in five selected lists. The governance index is the mean of six governance measures constructed by Kauffman et al. The international voice is measured by taking the IMF Quota share of a country. GDP per capita is measured in thousands of US dollars in PPP terms. Common law is a dummy variable taking 1 if the country has British legal origins and 0 otherwise.

Table B3: Logit Results for Lists - Robustness check

| | Hines-Rice | OECD | IMF | Garcia-Benardo | Leaks |
|--------------------------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
| Dependent variable: Tax haven status | | | | | |
| Governance | 1.195 (0.939) | -0.994 (1.528) | 1.027* (0.766) | 2.683*** (0.892) | 1.423** (0.802) |
| Quota | 0.073 (0.162) | -2.646 (3.412) | -0.100 (0.233) | -0.023 (0.111) | 0.249*** (0.110) |
| Log GDP/capita | 0.777 (0.659) | -0.327 (0.798) | 0.074 (0.507) | -0.043 (0.535) | -0.400 (0.516) |
| Log population | -1.044*** (0.334) | -1.364*** (0.402) | -0.742*** (0.207) | -0.237 (0.191) | -0.465*** (0.163) |
| Common law | 1.671* (1.008) | 0.013 (1.058) | 1.186 (0.831) | 0.754 (0.860) | 1.004 (0.691) |
| Tax Rate | -7.955* (5.087) | -2.119 (5.776) | -6.265* (3.890) | -5.076* (3.881) | 0.903 (3.234) |
| Secrecy | 0.070 (0.056) | 0.087 (0.077) | 0.093** (0.042) | 0.067* (0.047) | 0.041 (0.037) |
| Nb of Obs. | 106 | 106 | 106 | 106 | 106 |
| PR2 | 0.61 | 0.65 | 0.52 | 0.37 | 0.34 |

This table presents robustness checks results for logit regressions with 5 different lists of tax havens. The dependent variable is a dummy =1 if the country is listed as a tax haven or =0 if the country is not listed. The explanatory variables of interest are governance and Quota. Control variables such as GDP per capita, population and common law are added. For robustness checks we add secrecy (from the tax justice network) and corporate tax rate (from KPMG).

Figure B1: Country classification of tax havens



This figure presents 8 different list of tax havens and their corresponding type of countries listed.

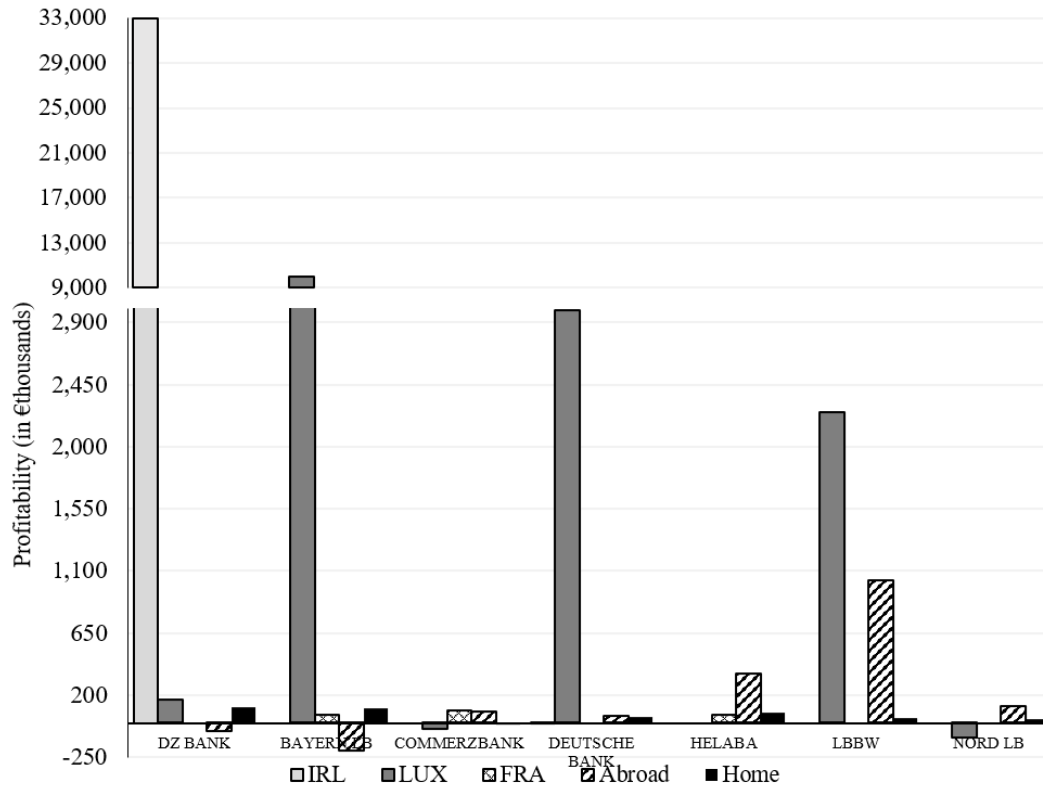
Appendix C

Table C1: List of banks in the sample and their international presence

| Bank name | Home country | All countries | Tax Havens | EU Tax Havens |
|--------------------|---------------------|----------------------|-------------------|----------------------|
| ERSTE | Austria | 6 | 0 | 0 |
| KBC | Belgium | 17 | 5 | 3 |
| BAYERN LB | Germany | 5 | 1 | 1 |
| COMMERZBANK | Germany | 10 | 4 | 2 |
| DEUTSCHE BANK | Germany | 59 | 13 | 5 |
| DZ BANK | Germany | 21 | 10 | 4 |
| HELABA | Germany | 7 | 3 | 2 |
| LBBW | Germany | 6 | 2 | 1 |
| NORD LB | Germany | 5 | 2 | 1 |
| BBVA | Spain | 34 | 11 | 6 |
| LA CAIXA | Spain | 7 | 1 | 0 |
| SANTANDER | Spain | 35 | 12 | 5 |
| BNP PARIBAS | France | 65 | 14 | 4 |
| BPCE | France | 61 | 12 | 4 |
| CREDIT AGRICOLE | France | 47 | 10 | 4 |
| CREDIT MUTUEL | France | 22 | 8 | 3 |
| SOCIETE GENERALE | France | 79 | 19 | 5 |
| BARCLAYS | United Kingdom | 35 | 9 | 2 |
| HSBC | United Kingdom | 61 | 18 | 5 |
| LLOYDS | United Kingdom | 6 | 4 | 1 |
| NATIONWIDE | United Kingdom | 3 | 3 | 2 |
| RBS | United Kingdom | 37 | 13 | 4 |
| STANDARD CHARTERED | United Kingdom | 58 | 14 | 3 |
| INTESA SAOPOALO | Italy | 28 | 4 | 2 |
| MONTE DI PASCHI | Italy | 14 | 2 | 2 |
| UNICREDIT | Italy | 35 | 9 | 4 |
| ABN AMRO | Netherlands | 16 | 6 | 2 |
| ING | Netherlands | 38 | 7 | 3 |
| RABOBANK | Netherlands | 37 | 6 | 2 |
| HANDELSBANKEN | Sweden | 17 | 3 | 2 |
| SEB BANK | Sweden | 16 | 3 | 2 |
| SWEDBANK | Sweden | 9 | 1 | 1 |
| DANSKE | Danemark /Finland | 14 | 2 | 2 |
| NORDEA | Sweden/Finland | 19 | 3 | 1 |
| Total | | 929 | 234 | 90 |

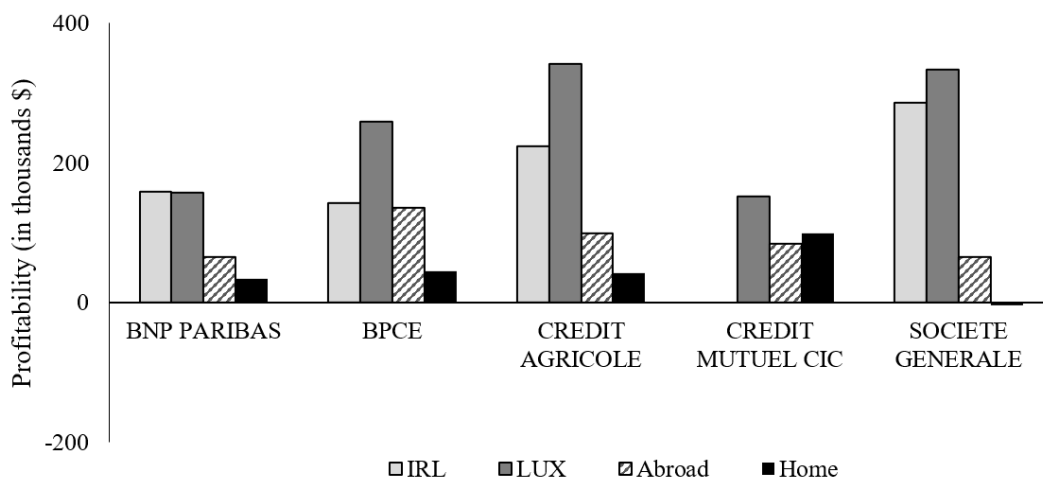
This table shows the list of banks included in the sample. The table describes the international implementation of the banks: the number of all countries where the bank is present, the number of tax havens countries and the number of European tax havens countries is indicated. For the classification of tax havens countries, see Table A2. This table is a snapshot of the banks' implementations in 2017.

Figure C1: Profitability of German Banks



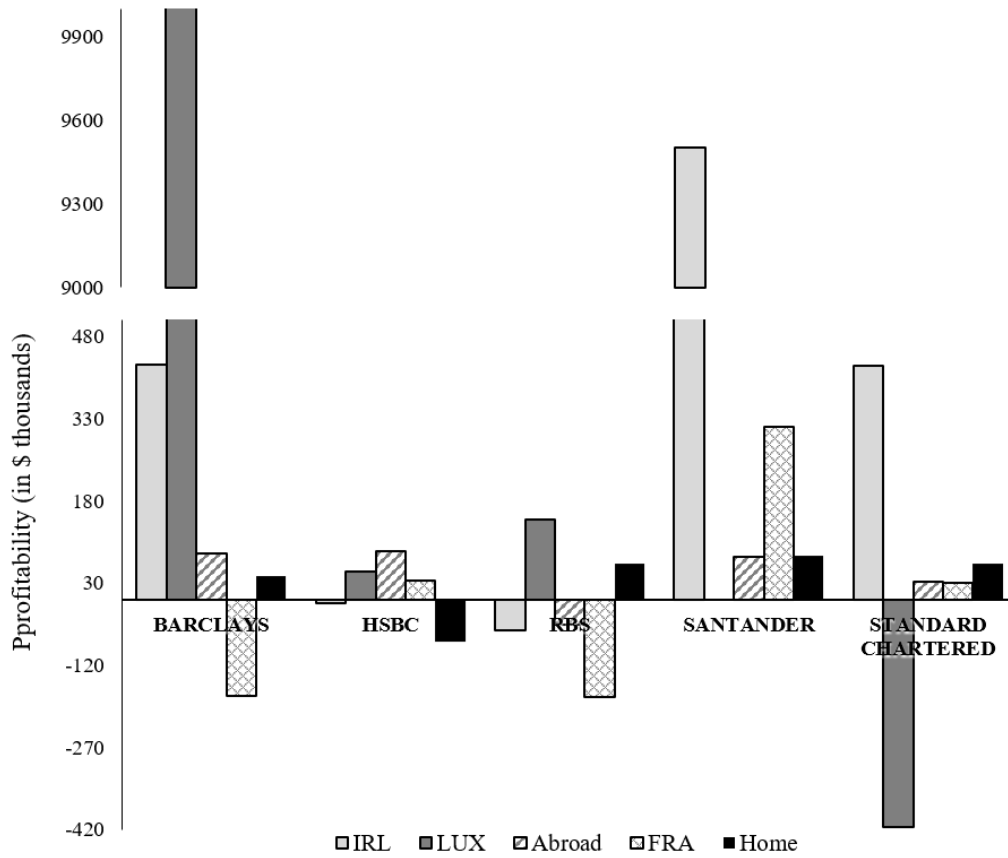
This graph shows the ratio of pre-tax corporate profits to the number of employees in 2017 of German banks locally in Germany, in Ireland, Luxembourg, France and abroad. Figures are in thousands of US dollars.

Figure C2: Profitability of French Banks



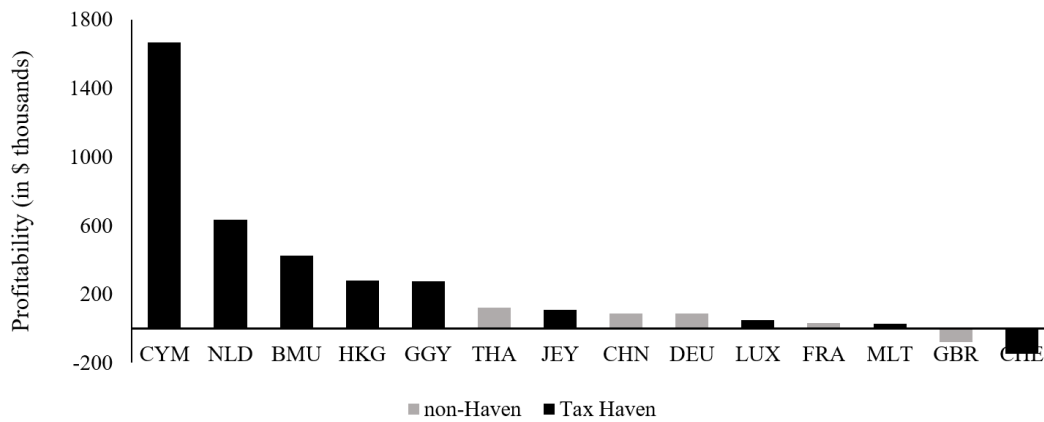
This graph shows the ratio of pre-tax corporate profits to the number of employees in 2017 of French banks locally in France, in Ireland, Luxembourg, and abroad. Figures are in thousands of US dollars.

Figure C3: Profitability of British Banks



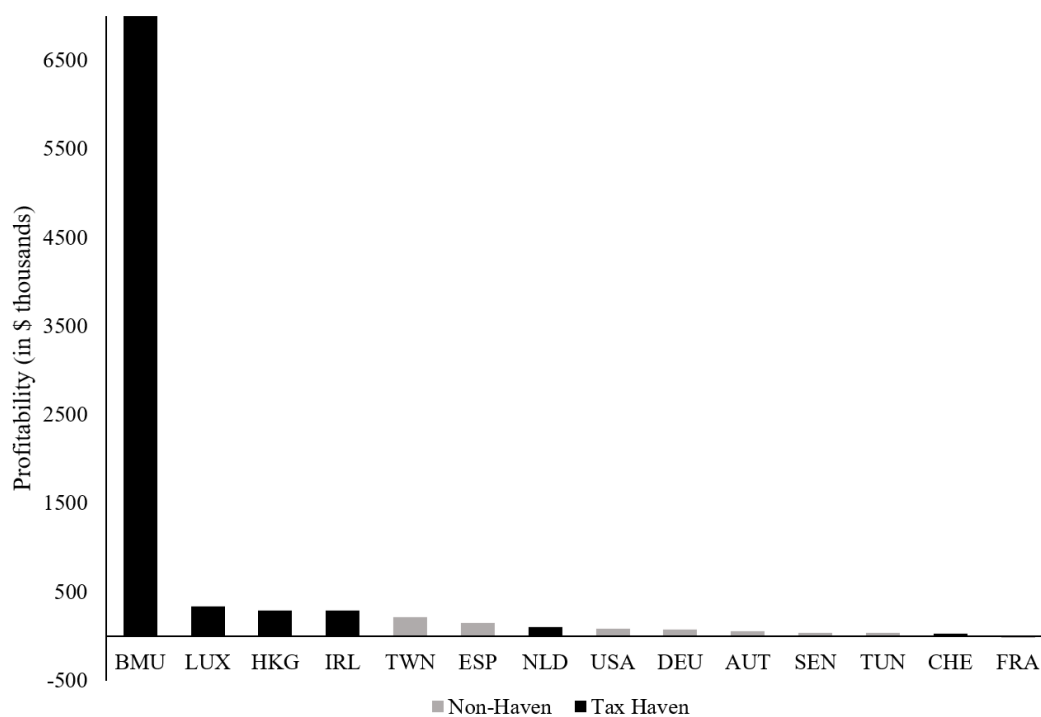
This graph shows the ratio of pre-tax corporate profits to the number of employees in 2017 of British banks locally in UK, in Ireland, Luxembourg, France and abroad. Figures are in thousands of US dollars.

Figure C4: Profitability of HSBC (in selected countries)



This graph shows the ratio of pre-tax corporate profits to the number of employees in 2017 for HSBC bank in some selected countries. Figures are in thousands of us dollars.

Figure C5: Profitability of Societe Generale (in selected countries)



This graph shows the ratio of pre-tax corporate profits to the number of employees in 2017 for Societe Generale bank in some selected countries. Figures are in thousands of us dollars.

Appendix D

Table D1: Regression Results with ESG awards

| All sample | ETR | ETR | Avg Tax | Avg Tax |
|-------------------------|---------------------|---------------------|---------------------|---------------------|
| ESG awards | -0.73** (0.39) | -0.20 (0.40) | -0.41 (0.44) | -0.27 (0.38) |
| Total debt/Total equity | 0.01 (0.03) | 0.02 (0.05) | 0.05 (0.05) | 0.05** (0.03) |
| Current ratio | -0.19* (0.11) | -0.61*** (0.19) | -0.24 (0.19) | -0.28* (0.18) |
| Intangibles | -6.74*** (2.85) | -15.54*** (4.88) | -10.11*** (2.84) | -11.59*** (4.05) |
| Market Cap | 0.03 (0.16) | 0.04 (0.25) | 0.57** (0.27) | 0.33 (0.23) |
| PPE | -1.84 (1.56) | 0.82 (1.72) | -3.69* (2.00) | -2.10 (1.99) |
| R&D | -25.19*** (7.90) | -4.53 (6.01) | -23.91** (10.93) | 7.20 (17.34) |
| Log employee | 0.47*** (0.20) | -0.86 (0.67) | 0.39* (0.24) | -2.55*** (0.67) |
| Pre-tax ROA | -5.71 (3.87) | -28.04 (4.79) | -23.75*** (4.61) | -35.96*** (3.73) |
| Industry fixed effects | Yes | No | Yes | No |
| HQ fixed effects | Yes | No | Yes | No |
| Company fixed effects | No | Yes | No | Yes |
| Nb Of Obs. | 22,534 | 22,551 | 22,269 | 22,289 |
| R-sq | 0.0046 | 0.0064 | 0.0121 | 0.0208 |

This table shows panel regression results for all the sample. The dependent variables are Effective Tax Rate (ETR) and the average five-year tax rate (Avg Tax). The variable of interest is the ESG awards (number of awards received by a company during a year).

Table D2: Robustness checks – GMM

| | ETR | Avg Tax |
|-------------------------|--------------------------|-------------------------|
| ESG score | -0.00121** (0.000537) | -0.00669** (0.00293) |
| Total debt/total equity | 0.000108 (0.000272) | -6.01e-05 (0.00112) |
| Intangibles | -0.0478** (0.0227) | -0.112 (0.106) |
| Market Cap | 6.83e-06 (0.00150) | 0.0108 (0.0120) |
| PPE | -0.0110 (0.0102) | -0.0507 (0.0433) |
| Log of employees | 0.0102*** (0.00301) | 0.0451*** (0.0175) |
| Current ratio | -0.00191* (0.00102) | -0.00572 (0.0101) |
| R&D | -0.222*** (0.0539) | 0.112 (0.407) |
| Pre-tax ROA | -0.101*** (0.0317) | -0.750*** (0.261) |
| Obs. | 22,519 | 22,263 |
| Nb. of companies | 3,913 | 3,729 |
| Hansen Test | 0.27 | 0.12 |

This table shows robustness checks results using GMM. The dependent variable is the Effective Tax Rate (ETR). The variable of interest is the ESG score.