Tax haven networks and the role of the Big 4 accountancy firms

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\textbf{A B S T R A C T}

This paper investigates the association between the Big 4 accountancy firms and the extent to which multinational enterprises build, manage and maintain their networks of tax haven subsidiaries. We extend internalisation theory and derive a number of hypotheses that are tested using count models on firm-level data. Our key findings demonstrate that there is a strong correlation and causal link between the size of an MNE's tax haven network and their use of the Big 4. We therefore argue that public policy related to the role of auditors can have a significant impact on the tax avoidance behaviour of MNEs.

1. Introduction

Given the impact that the recent financial crisis of 2008 has had on the public finances of developed economies, the use of tax avoidance measures by multinational enterprises (MNEs) has come under increasing scrutiny from various governments and civil society organisations across the world. High profile cases, such as the tax affairs of Amazon, Facebook\textsuperscript{1} and Google have received widespread media attention. Zucman (2015)\textsuperscript{2} finds that 55 percent of the foreign profits of US firms are located in tax havens; whilst the Tax Justice Network estimates that around 25 percent of US firms' global profits are shifted out of jurisdictions where real economic activity takes place, resulting in a global revenue loss of around $130 billion a year\textsuperscript{3} (Cobham & Janský, 2015).

The 'Big 4' accountancy firms Deloitte, EY, KPMG and PwC, play an important role not only in the accounting services they provide for global MNEs, but in the wider provision of financial services ranging from tax advice to company formation. Recently, the leaked Panama Papers of 2016 revealed the details of thousands of anonymously owned companies across multiple jurisdictions. These included apparent PwC entities based in jurisdictions known as tax havens, including for example the Cayman Islands, Gibraltar, Luxembourg and Mauritius. Apparent KPMG entities were found based in Guernsey, Hong Kong, Jersey and Switzerland.\textsuperscript{4} In regards to the Big 4's role in the overall tax strategy of MNEs, it is the earlier 'LuxLeaks' of November 2014 which has provided a number of clear insights. These documents showed that PwC assisted MNEs to obtain at least 548 legal but secret tax rulings in Luxembourg from 2002 to 2010. The rulings allowed MNEs to channel hundreds of billions of dollars through Luxembourg, arising from economic activities that took place in other jurisdictions and with effective tax rates so low that they saved billions of dollars in taxes. Subsequent leaks showed that Deloitte, EY and KPMG had also brokered such tax rulings.

The Big 4 also frequently provide advice to governments on the design of tax policy – sometimes seconding staff to draft laws – and advocate publicly and privately for particular policy changes, nationally and internationally in fora such as the OECD. As such, they have both the expertise and influence by which they may be able to reduce the effective tax rates of their clients.

This paper therefore, examines the impact that the Big 4 accountancy firms have on the extent and complexity of MNEs tax haven activity for a sample of developed economies. We explain this phenomenon of managing and maintaining a network of tax haven subsidiaries by identifying a set of associated firm- and country-level determinants, which are based on our theoretical framework that adopts internalisation theory (Jones and Temouri, 2016; Rugman, 1980; , 2010). We test our hypotheses on a panel dataset that includes 5912 MNEs from 12 developed countries over the period 2005–2013. Importantly, our data uniquely identifies the number of tax haven subsidiaries each MNE owns annually. This means we can track the entire

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\textsuperscript{1} Stewart (2015) reports that Facebook paid UK based staff an average of £210,000 per annum in 2014 but had a corporate tax bill of £4327. Furthermore, in the UK, Facebook made an accounting loss of £28.5 million but at the same time reported global profits of £1.9 billion.

\textsuperscript{2} This scale is broadly consistent with an IMF estimate that the loss due to profit-shifting by all MNEs is around $600 billion a year (Crivelli, De Mooij, & Keen, 2015).

\textsuperscript{3} Data accessed via https://offshoreleaks.icij.org/(16 March 2017).
network of tax haven subsidiaries owned and used by each MNE over the sample period.

Our paper makes a number of key contributions to the literature both theoretically and empirically. In terms of theory, we extend internalisation theory to the context of tax havens by adapting Rugman’s (1981) country-specific advantage–firm-specific advantage (CSA–FSA) matrix and proposing a pyramid construct that illustrates how an entire industry develops which allows firms to avoid and mitigate their tax bill. We show that the tax services industry, propagated by the Big 4, is essentially the apex of this pyramid of factors that helps build, manage and maintain a network of tax haven subsidiaries. In terms of the empirics, our analysis is the first to quantify the impact of the Big 4 on MNEs’ tax avoidance behaviour by utilising a large firm-level dataset for a set of developed economies. \textsuperscript{7} Hence, we are able to show the extent to which the utilisation of the Big 4 is associated with MNEs utilising, managing and maintaining their vast networks of tax haven subsidiaries. Furthermore, our analysis investigates this phenomenon based on a heterogeneous group of developed countries, in contrast to previous studies which have mainly focused on US MNEs (Hines & Rice, 1994; Desai, Foley, & Hines, 2006a). This makes our findings much richer, more robust and allows us to extend findings by Jones and Temouri (2016) that analyses tax haven use within the context of the comparative capitalism literature.

The panel data we have allows us to estimate a number of econometric specifications using a count-data methodology to investigate the determinants of the incidence rate of tax haven use by MNEs. Furthermore, the dynamic nature of our data is used to analyse the causality between the use of a Big 4 accountancy firm and the extent to which MNEs utilise tax havens. This is made possible by estimating an instrumental variables poison model, using a novel instrument.

Our key finding is that there is a strong positive correlation between using a Big 4 accountancy firm for auditing purposes and the extent to which MNEs build, manage and maintain tax haven networks. As well as simple correlation, we also present evidence suggestive of causation, which is based on results demonstrating that MNEs which take on a Big 4 accountancy firm subsequently increase the size of their tax haven networks, relative to those firms which do not take on a Big 4 accountancy firm. Furthermore, we also control for endogeneity and show further evidence that the Big 4 play an important role in the extent of tax haven networks.

Highlighting the magnitude of this relationship, our results indicate that MNEs that utilise one of the Big 4 as their auditor, holding everything else constant (including firm size), have an incidence rate of tax haven use 1.12-1.14 times higher compared to those MNEs that do not use one of the Big 4 accountancy firms as their auditor. Furthermore, the growth rate of setting up tax haven subsidiaries is at least 2.9 percent higher for those MNEs that take on a Big 4 accountancy firm compared to those firms that do not use a Big 4 accountancy firm at all during the sample period.

The rest of this paper is organised as follows. In the next section, we present our theoretical framework from which we derive our hypotheses. The subsequent section describes the data, variables and methodology. The next section presents the results followed by a discussion that outlines how our findings impact on policy makers and the implications for managers of MNEs in terms of strategy. We conclude with avenues for future research in this area, which we argue is still an under-researched topic in both the strategic management and international business literature.

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\textsuperscript{7} Lisowksy (2010) using confidential tax shelter and tax return data obtained from the IRS show a positive relation between firms using a tax shelter and the use of a Big 5 auditor.

2. Theoretical framework and hypotheses

Internalisation theory (Buckley & Casson, 1976; Hennart, 1982; Rugman, 1981) is the dominant framework in the international business literature for explaining why MNEs expand abroad in order to add value both for themselves and in their host country locations via technology transfer (Liu & Wang, 2003; Xu, 2000). The key driver of this process is the existence of transaction costs (Coase, 1937) caused by market imperfections in both goods and factor markets which force encourage firms to create their own internal markets to escape the liability of foreignness (Zaheer, 1995). This line of thinking is directly transferable to imperfections in capital markets, where MNEs are able to overcome country-level regulations to create internal capital markets to finance their global operations.

The complexity of regulations creates loopholes and mismatches that enable firms to exploit differences across countries. This is exploited for tax purposes and other motivations for institutional arbitrage such as cross-listing activity of MNEs in multiple markets (Temouri et al., 2016). For example, Buckley, Sutherland, Voss and El-Gohari (2015) show how Chinese firms, using multiple holding company structures in places like the Cayman Islands, take advantage of tax haven locations for additional flexibility. Hence, firms can escape weak home country institutions. Nevertheless, institutional arbitrage is likely to be less significant for the MNEs included in this study because they all come from the OECD. We therefore focus on tax minimization as the key driver of tax haven activity.

The use of transfer pricing via tax havens is perhaps one of the best examples of this arbitrage opportunity. Tax havens allow MNEs to shift profits out of high tax locations into low tax locations (Eden, 2009). They are associated with extremely low (often zero) rates of tax on corporate profits for non-resident companies and offer a high degree of secrecy in terms of information exchange that could be used by revenue authorities to raise tax both at home and in foreign locations. Jones and Temouri (2016) utilise internalisation theory by applying Rugman’s (1981) the CSA–FSA matrix to the decision as to whether an MNE should set up a tax haven subsidiary. They distinguish between both FSAs and CSAs that enhance the likelihood of MNEs setting up tax haven subsidiaries. This paper builds on these insights by critically investigating, not merely the decision to set up subsidiaries in tax havens, but to analyse the extent to which MNEs undertake tax haven activity, as proxied by the size of tax haven networks.

It is widely known that Enron—a the notorious energy, commodities and services company that went into bankruptcy in 2001—had over 800 overseas subsidiaries. Enron is not a unique case. MNEs across the developed world operate vast and complex operations spanning the globe and many of these operations include subsidiaries specifically used for tax purposes. In this context therefore, tax havens allow MNEs to create what Oxelheim Randøy, and Stonehill (2001) call “financial specific advantages”. These advantages are certain non-location bound (Rugman & Verbeke, 1992) and can be used proactively by MNEs.

Fig. 1 shows our underlying conceptual framework which is represented by a pyramid and is based on what we call the “building blocks for tax haven intensity”. We argue that both FSAs and CSAs are critical if firms are to invest abroad and utilise tax haven subsidiaries (Jones & Temouri, 2016). Hence, at the base of the pyramid, we show that FSAs and CSAs are equally important to one other. Since all MNEs have some level of FSA which are non-financial in nature (Barney, 1991) and are non-location bound, these can be transferred abroad and recombined with location bound FSAs to create competitive advantage (Rugman & Verbeke, 1992). Ownership of these FSAs has to be transferred to tax haven locations in order for MNEs to avoid the market imperfections caused by the complex international tax code. At this point MNEs will begin to set up a strategy that aligns their tax haven subsidiaries with subsidiaries in non-tax haven locations for three reasons, the first of which creates much controversy: (1) in order to defer or escape corporate tax at home and abroad by creating a wall
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