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FDI motives and the use of tax havens: Evidence from South Korea

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Abstract

Despite the recent attention in the media and focus in the academic literature on tax havens and tax mitigation strategies, we know very little about how the use of tax havens relates to a firm's internationalisation strategy. In this paper, we develop a conceptual model that explains how FDI into tax havens relates to the standard FDI motives identified in the literature. We subsequently use a novel dataset that allows us to empirically investigate how these motives impact upon tax haven FDI in the South Korean context, which has experienced very rapid economic development over the last few decades and is now considered an advanced economy. We find that tax haven FDI is strongly linked to market-seeking and efficiency-seeking FDI, whereas its link with resources-seeking FDI is only found with respect to the most secretive tax haven locations. Furthermore, we find no relationship between technology seeking FDI and tax haven use. We argue that as tax haven use increases over time, the economic proceeds of outward FDI leak out and remain offshore.

Keywords: South Korea, Outward FDI, FDI Motives, Tax Havens, Profit shifting.

1. Introduction

The use of tax havens by MNEs from both developed countries as well as emerging markets is now being recognised as a significant aspect of international business activity and outward FDI strategy (Beugelsdijk et al., 2010; Chari & Acikgoz, 2016; Jones & Temouri, 2016; Jones et al., 2018; Pereira et al., 2019; Kemme et al., 2020). Since the global financial crisis of 2008 many notable MNEs, such as Amazon, Google and Starbucks have received significant criticism in terms of tax avoidance and profit shifting. This criticism does not make MNEs look favourable to consumers and the general public, even though they account for significant flows in international trade (OECD, 2019), economic development (Lall & Narula, 2004; Jindra et al., 2009; Oetzel & Doh, 2009) and technology transfer (Eden et al., 1997; Xu, 2000; Cantwell, 2009).

The multidisciplinary literature on the impact of tax havens can be split up into two broad areas. The first area focuses on estimating the total amount of profit shifting that MNEs undertake in the world economy. Tørsløv et al. (2018) find that close to 40 percent of MNE profits are shifted to tax havens each year, whereas Cobham et al. (2015) report estimates that global tax revenue losses may amount to \$130 billion a year. Furthermore, Janský and Prats (2015) show that MNEs operating in India with tax havens reported lower profits and paid less tax per unit of assets than MNEs without links to tax havens. The second area of research investigates the underlying factors that determine tax haven use by MNEs across a number of specific domains (see Akamah et al., 2018; Haberly & Wójcik, 2015; Jones & Temouri, 2016; Jones et al., 2018; Sutherland & Anderson, 2015). What is less understood, however, is the possible complementarity of tax haven use with the other FDI motives identified in the literature and at what stage in a country's economic development does tax haven FDI become more pervasive?

Therefore, an important research gap exists in the literature where we lack a coherent understanding of how the mature debate on conventional FDI in the international business literature (Pak & Park, 2005; Kang & Jiang, 2012; Kolstad & Wiig, 2012) relates to tax haven use by MNEs. Previous research (see Jones & Temouri, 2016) focuses on firm specific and country specific factors that drive tax haven FDI. Jones & Temouri (2016) use country-specific factors focusing on home institutional drivers via the Varieties of Capitalism approach (Hall & Soskice, 2001) and host country characteristics specifically accessible in a tax haven location (i.e. low corporate tax rates and financial secrecy). However, the link between tax haven FDI and conventional FDI is not present in the theoretical framework and is not controlled for in the empirical analysis principally due to a lack of data on FDI motives. Indeed, this paper specifically accounts for that weakness.

There are two main reasons why it is important to investigate and explain the link between the standard FDI motives and tax haven FDI for an economy over time. The first reason is that emerging and developing countries have prioritised outward FDI as a source of innovation and productivity growth at home. In a recent exchange, Foss et al. (2019) and McGaughey and Raimondos (2019) discuss the extent to which tax differentials can impact on MNE location choice, and hence value chain productivity. We, however, seek to build on and extend this debate by exploring to what extent these FDI flows (be they market-seeking, resource-seeking, efficiency-seeking or technology seeking) lead to tax haven FDI. Indeed, if the economic rents from outward FDI remain offshore, then it is likely that the impact on the domestic economy, in terms of innovation and productivity growth, may be adversely affected.

The second reason is that foreign subsidiaries contribute significantly to government budgets in emerging countries and in the year 2012 amounted to \$730 billion annually (UNCTAD,

2015). However, developing countries lose significant revenues due to tax avoidance strategies, including tax haven investments by MNEs (both via domestic and foreign subsidiaries). For example, emerging markets in Asia have seen their exposure from tax havens reach 31% in 2012 (UNCTAD, 2015). Consequently, these flows represent significant leakages for emerging markets, in terms of financing development initiatives, which are argued to have a detrimental impact on innovation, investment and productivity growth, which ultimately hinders a country's sustainable growth prospects. Hence, tax haven use deprives both the home and host country governments of potential tax revenues that can be used to finance economic development and the purchase of public goods and services (see Ahmed et al., 2020 and Dharmapala, 2008 for a review of the literature). The purpose of this paper is to explore when MNEs start to engage in tax haven FDI and how these decisions relate to previous FDI projects that have different motives.

Our paper offers a number of important contributions. Overall, this paper aims to analyse the stage at which firms engage in different types of FDI, and in particular tax haven FDI. At present, the timing of the decision of MNEs to enter tax havens is not well understood and is typically explored in isolation from the economic development of the MNE's home country. Furthermore, there is no literature that investigates its use in parallel to the other, more standard FDI motivations identified in the literature (i.e. efficiency-; resource-; market-; and technology-seeking). Thus, the extant literature on tax havens exclusively focuses on the determinants of tax haven FDI without incorporating the other FDI motives that are certainly in the MNEs portfolio of FDI activities. We argue that this limitation leads to a partial understanding of FDI strategies by MNEs over time. Therefore, our first theoretical contribution to the international business literature is by extending a conceptual model based on the FSA/CSA framework (see Jones & Temouri, 2016) in order to extend our theoretical understanding of dynamic FDI strategies over

time by incorporating the use of tax haven FDI. The inclusion of all FDI motives in the theoretical framework and explanation of when certain FDI strategies occur over time fills a gap in the existing literature.

Our second contribution is empirical in nature. This is the first paper that quantifies different FDI motives, and subsequently links them to tax haven investments. We employ novel data collected from the Korean Export Import Bank, that report monetary values for the different FDI motives (i.e. efficiency-; resource-; market-; and technology-seeking) as well as tax haven FDI. It is important to emphasise that we are able to directly quantify the volume of financial flows into tax haven locations. This allows us to differentiate our research from previous studies that use the number of tax haven subsidiaries owned by an MNE to measure the degree of tax haven use – a method often used because data on financial flows into and out of tax havens is often missing (see Jones et al., 2018). We empirically analyse the impact of each FDI motive on subsequent tax haven use, over a 37-year period (i.e. 1980 to 2017). Our main findings are that market-seeking and efficiency-seeking FDI are both strongly related to the use of tax haven FDI using both a narrow and broad definition of what constitutes a tax haven. Whereas, resource-seeking FDI, which is commonly associated with rent-seeking, is positively correlated with tax haven use in the most secretive tax haven locations. In contrast, however, technology-seeking FDI does not appear to have a particularly strong relationship with tax haven use overtime.

Our third contribution is contextual in nature. We focus our analysis on South Korea, a country that has experienced considerable economic development over a relatively short period of time. South Korea has developed from being an emerging market economy to a technologically advanced developed economy. This means we are able to analyse how this Asian country has developed its outward FDI strategy (see Thurbon & Weiss, 2006; Kim & Rang, 1997) and how

this strategy may be undermined by the use of tax havens. According to our data, South Korean FDI into tax havens has increased dramatically from \$35 million in 1988 to \$1.3 billion in 2017, which represents a fascinating testing bed for our conceptual model. The Wall Street Journal reported in 2013 in an article, titled “South Korean Chaebols Ramp Up Units in Tax Havens”, that there was a “60% jump in the number of tax haven units set up by 40 of Korea’s largest family-run chaebols”. Indeed, much of this was driven by SK Group which operates businesses in areas such as energy, telecommunications, shipping and construction. Moreover, this context-specific research has important implications for policy makers in terms of boosting economic performance and designing a tax system that mitigates profit shifting. Furthermore, our results may be generalizable to other emerging markets and generate important lessons for other countries undergoing a similar economic transformation.

The remainder of this paper is set out as follows. The next section discusses the South Korean context and outlines the evolution and dynamics of Korean outward FDI over time. Section 3 develops a conceptual framework that explains how the standard FDI motives relate to tax haven FDI over time and derives a number of hypotheses from the model. In section 4, we discuss our research design, which includes the construction of our data and our empirical specification. In section 5, we show and discuss our results that test our hypotheses. Finally, we conclude by outlining the implications of our findings for research and policy as well as future avenues for research.

2. Changes in South Korea’s investment profile and use of tax havens

The nascent literature on FDI by Korean firms is largely concerned with the relationship between

outward FDI and the industrial development of Korea (see for example Kim et al. (2018)). This dates back to Kumar and Kim (1984). Developing a theme that has remained consistent in this literature, Kumar and Kim (1984) explore the relative importance of ownership-specific assets, location-specific factors, and government policies in explaining the internationalization of Korean firms in the manufacturing sector. When Korea started to industrialise, it began by making labour intensive products such as apparel and miscellaneous goods in the 1970s. After achieving this initial industrialisation, the Korean economy developed into heavier industrial areas, such as the manufacturing of steel products, vehicles and ships. These quickly evolved, and Korean firms have come to dominate some of the most technologically intensive manufacturing sectors, both in terms of trade and FDI.

Korean firms, prompted by Korea's rapid industrial development, expanded their operations overseas in order to consolidate their position at the technological frontier, and consequently the country's FDI motives over time have changed to reflect this. These motives are in a similar vein to asset exploitation and asset exploration (Makino et al., 2002; Buckley et al., 2007). At the start of the period, Korea was competitive in sectors such as wood and furniture, and by the end was a global leader in electronics and semiconductors (Kim et al., 2016; 2018). As we discuss in detail below, the data illustrate the huge growth in outward FDI from Korea, and also the changing nature of the FDI motives as the economy has developed. Many Korean firms may rely on the development of firm-specific assets (FSAs), taking advantage of liberalisation, and encouragement from the government to undertake FDI. This has had four objectives that map closely into the well-known "4M" framework, to secure new markets, to access technology, and to relocate lower value activities to cheaper locations, typically in Asia, and to access raw materials. Kim (2007) details this process, focussing particularly on efficiency-seeking and

market-seeking FDI. From the mid-1980s, Korean firms engaged intensely in FDI, due to the liberalization of world markets (Lee & Huh, 2009). Korean FDI policies were gradually relaxed as the Korean government started to perceive FDI as a way of reducing the technological gap between Korea and its developed country rivals (Kim & Seo, 2003).

Kim and Rhee (2009) analyse Korean outward FDI in this context highlighting the differences to and similarities with other countries. They conclude that Korean outward FDI to developed countries and to developing countries have differing factor endowments in terms of efficiency-seeking FDI, market-seeking, and technology-seeking motives. Yang et al. (2012) for example highlight the recent changes in FDI motive from efficiency-seeking to market-seeking, while Kim et al. (2016) detail similar patterns for Korean FDI in to China, also detailing the change in emphasis from efficiency-seeking FDI to technology-sourcing FDI over the time period (Kang & Lee, 2007).

South Korea's historical outward FDI profile can be seen in Figures 1, which also shows the volume of FDI into tax havens. Although there was moderate growth in outward FDI during the 1990's, outward FDI really began to rapidly increase during the early to mid-2000s. Prior to the 2000s, as South Korea developed economically, inward FDI was the major feature of the South Korean economy. During this early phase, South Korean firms were developing their firm specific capabilities but focusing on the domestic market. As domestic productivity grew, these advantages boosted productivity and South Korean firms were thus in an ideal position to exploit opportunities abroad. As can be seen from the figure, this exploitation began in the mid-2000s with a significant jump in outward FDI in 2006 and a rising upward trend thereafter. Figure 1 also illustrates the growth in outward investment into tax havens locations. South Korean FDI into tax havens has increased dramatically from \$35 million in 1988 to \$1.3 billion in 2017.

Defining whether a location is or is not a tax haven is not straightforward. However, the literature typically distinguishes between so-called ‘dot’ tax havens and the bigger tax havens where significant economic activity also occurs (see Hines & Rice, 1994). Table 1 shows the countries included across the two definitions for Korea. As can be seen, the ‘dot’ tax havens include countries such as the Cayman Islands and Luxemburg; whereas the Big 8 definition includes much larger countries such as Ireland and Switzerland. Interestingly, as outward FDI began to grow in the 2000’s, tax haven FDI, across both measures also increased and forms a significant part of South Korea’s outward capital flows. Indeed, it would appear that more outward FDI is concentrated in the so called ‘dot’ tax havens relative to the Big 8. Blanco and Rogers (2014) show that the geographical distance between tax havens and countries matter significantly in the case where the FDI will eventually flow to developing countries. This is particularly pertinent to Korea. According to Table 1, the primary destination of South Korean tax haven FDI is to the Cayman Islands, followed by Luxemburg, Bermuda and Cyprus. Furthermore, Hong Kong, Singapore and the Netherlands are also attractive destinations.

The growth of Korean investment in to tax havens, and in particular the scale of investments in to the Cayman Islands has received attention in the financial press and is also the subject of a great deal of discussion (see Banfield et al., 2019). While these authors note the stance taken by the Korean government in seeking to prevent tax abuse, and that Korea (along with India) has “aggressively challenged treaty benefits claimed by Cayman funds”, since the publication of the Panama Papers, the Cayman Islands still remains a popular destination. The Cayman Islands is also an attractive and tax efficient location for companies with business links to the UK and the US, something else that appeals to the largest Korean investors.

According to official figures, Korean investment in to the Cayman Islands increased by 30% in 2016. Hence, outward investment to the Cayman Island was bigger than those toward China - South Korea's largest trading partner, which recorded 4 billion USD of investment in 2016.

(Insert Figure 1 here)

(Insert Table 1 here)

Figure 2 offers more detailed information concerning the pattern of Korean outward FDI. Our data allows us to decompose outward FDI into the standard motives of FDI explored in the literature. This is unique and is due to the Korean reporting requirements that firms face if they choose to undertake outward FDI. Korean firms have to report their motives and this means it is uniquely possible to construct aggregate measures over time unlike for other countries. As can be seen, prior to the early 2000's, all of the motives showed similar trends –and there is no significant difference across outward FDI types. However, since the 2000's, the motives have grown and diverged from one another, such that there is significant heterogeneity in the data across each of the FDI motives. The most dominant form of outward FDI to the present day is in the form of market-seeking FDI, where South Korean firms are clearly seeking wider foreign markets to take advantage of their firm's competitive advantages as the South Korean economy has developed. In addition, one also notes the increase in resource-seeking FDI that appears to peak in 2012 but then falls steadily throughout the rest of the decade. Interestingly, technology-seeking FDI begins to pick up during the middle of the decade as South Korean MNEs seek to exploit technological advantages overseas and bring it back to the home market. Examples include, Bluehole through their subsidiary PUBG having investments in the US and Unitech Co., who opened an R&D centre in Germany, with links to local universities. In contrast, efficiency-seeking, appears to be fairly

stable, but shows an evolution across sectors, with first basic products, and subsequently more advanced activities having sought lower cost locations, with Lotte Chemicals for example recently locating in Vietnam. These investors, including several well-known firms such as Lotte and Bluehole, who can also be identified as having engaged in the cycle of FDI through market-seeking and efficiency-seeking, have subsequently invested in tax havens. In addition, firms such as LS Cable and Korean Midland have engaged in both efficiency-seeking and resource-seeking FDI, as well as having notable holdings in tax havens.

(Insert Figure 2 here)

Table 2 provides further disaggregated information by reporting outward FDI at the sectoral level. The above discussion focuses on aggregate FDI flows but as can be seen, there is significant variation across sectors. The most dominant outward FDI sectors include Manufacturing, Wholesale and Retail Trade and Financial Services and Insurance activities. However, in terms of tax haven FDI into the dot tax havens, Mining and Quarrying, Electricity and Gas and Real Estate are also prominent. Using the Big 8 definition, the pattern mirrors the overall FDI data where Finance and Manufacturing are notable. Also reported in Table 2 are financial flows into the dot tax havens in the years 1980, 2006 and 2017. As can be seen in 1980 there were only flows from the financial sector in to tax havens. However, by 2017, almost all of the sectors report financial flows in to dot tax havens, the exceptions being Agriculture, Sewerage and Construction. It is quite clear there is sector level growth overtime.

(Insert Table 2 here)

In order to illustrate this, it interesting to note that between 2014 and 2018, South Korea transferred over 760 billion USD into our list of tax haven locations, with 13 large companies

accounting for 66 offshore corporations in overseas tax havens. The SK Group alone which operates businesses in areas such as energy resources development, telecommunications, shipping and construction, set up 24 new units in 2014 across the 10 tax havens. Others include, Samsung Group (6), Hyundai (9), LG (4), Lotte Group (4), Mirae (4), and Korea Investment & Finance Corporation (3). Of these 41 are in in the Cayman Islands, 5 in Mauritius, with the remaining 20 spread across the other tax havens.

3. Conceptual Framework and Hypotheses

Our conceptual framework seeks to understand, explain and theorise the relationship between tax haven FDI and the other standard FDI motives outlined in the literature (i.e. efficiency-, resource, market- and technology-seeking FDI). In order to do this, we utilise Rugman's (1981) FSA-CSA framework. This framework is particularly useful as it allows us to focus on the firm-specific and country-specific factors that have driven the pattern of outward FDI in South Korea over the course of the country's economic development. Jones and Temouri (2016) utilise this framework to explain the determinants of tax haven FDI at the firm level and country level, and we extend this by exploring the complementary relationship between other motives for internationalisation and tax haven investment. Indeed, this model is particularly pertinent to the development of South Korea, as it details not only the changing patterns of outward investment that a country experiences as it develops, but also how the motivations for FDI change overtime. Indeed, Dunning and Narula (1996) posit that countries move away from labour or resource intensive assets to more capital or knowledge intensive assets, as countries develop economically. Athreye et al. (2021), for example, explore this in some detail for Indian and Chinese firms, whose current strategy is similar to Korea's of some twenty years previously. They argue that in the presence of strong FSAs, but

weak CSAs, then the focus of the firm's strategy is on exploiting the company's resources. We argue that this was the focus of Korean development in the early part of our time frame, but even as CSAs developed, FSAs continued to advance. However, even while CSAs developed, capital markets remained biased towards the established business groups, with other firms relying on internal resources for international expansion. As Athreye et al. (2021) argue, while this impacts on all types of FDI, state intervention encourages strategic asset seeking during this period, with firms seeking to engage in FDI for other motives more reliant on internal resources.

Throughout the 1990s, market-seeking FDI was South Korea's main FDI motive, this continued in to the 2000s and grew considerably from 2005 onwards. The selection of outward FDI from South Korea reflects both its international expansion strategy and the efforts to undertake value-adding activities through location preferences. Furthermore, South Korean MNEs have been notable for the speed with which they have engaged in technology-seeking FDI, MNEs such as Lotte or LS Cable have investments in other parts of SE Asia with this purpose

The basic framework is illustrated in Figure 3. Our framework is chosen to represent the development of the Korean economy over time, from an emerging economy at the start of the period, reliant on sectors such as woodworking and furniture, to a developed economy with GDP per capita above many EU countries and a world leader in electronics. In this context, the FSA-CSA matrix is analysed in a three dimensional model with three axes, such that: (1) the x axis shows the degree of firm specific advantage (FSAs); (2) the z axis shows the degree of country specific advantage (CSAs); and (3) the y axis show the degree of outward FDI. Indeed, the y axis in our theoretical model differs from Jones and Temouri (2016) in the sense that it encompasses all of the outward FDI motives instead of focusing specifically on the tax haven location. The essential premise of the FSA-CSA matrix, is that as FSAs and CSAs develop, the flow of FDI and

hence the stock of FDI increases overtime. Intuitively therefore, it is useful to think of the 3-d cube being filled with fluid, where the fluid represents the flow of FDI over time. The more fluid, the greater the stock and hence as a country develops, the outward stock of FDI increases overtime. This can be seen by the movement from a low equilibrium level of outward FDI at origin 1 (O_1) where FSAs and CSAs are non-existent to a high equilibrium level of outward FDI at origin 2 (O_2) where FSAs and CSAs are widespread. This, therefore, builds on the framework offered by the empirical analysis of Bhaumik et al. (2016) which explores an element of this, the relationship between FSAs, and a firm's ability to conduct knowledge seeking effectively (Driffield et al. 2016). This has recently been extended by Mukherjee et al. (2021) to incorporate company reputation. This is potentially important in the context of use of tax havens, though as we explore below, while Scalera et al. (2020) argue that legitimacy is important for EMNEs when seeking to engage in FDI, it is, hitherto, unclear whether the use of tax havens will diminish such reputations, given their widespread use by Western MNEs. Building on these arguments, Jones and Temouri (2016) argue, when FSAs and CSAs reach a critical point, FDI into tax havens really starts to take off. However, the work by Jones and Temouri (2016) and other international business research (see review by Cooper & Nguyen, 2020) lack the direct theoretical and empirical evidence for the temporal link between conventional FDI and tax haven FDI, which this paper attempt to bridge.

Overtime, it is likely that the composition of the outward FDI stock changes. Hence, the y-axis can be thought of as encompassing all of the different motives of FDI, including tax haven FDI. With this line of thought, we can apply this model to South Korea to explain its outward investment position over time and link it to the development of FSAs and CSAs.

(Insert Figure 3 here)

As Sutherland et al. (2020) outline, emerging market firms see expansion as a mechanism to better compete with established firms, and also to reduce their dependence on home country institutions. As Luo and Tung (2018) emphasize, it is to “fortify their home base” (p.131). Building on this, an important element of the springboard process is not merely the repatriation of strategic assets, in the form of knowledge or technology, but of financial resources to further fund innovation (Mukherjee et al., 2021). Building on Sutherland et al. (2020), and given that the fundamental rationale of internationalization is to increase profits, and that the purpose of tax havens is to shield those profits from taxation, then one may expect all types of FDI to generate and increase tax haven investment by MNEs. However, our focus is on the extent to which the different types of FDI generate differential usage of tax havens by MNEs from South Korea. Our hypotheses, therefore, seek to unpick these differentials. The type of FDI that has potentially the fastest return in terms of profitability, particularly for a country such as South Korea, is efficiency-seeking FDI. On the one hand, firms seeking to engage in efficiency-seeking FDI already have established markets, and are seeking to lower costs. At the same time, EMNEs start with lower levels of FSAs, and hence in order to upgrade the productivity of the labour force, low value added activities are outsourced to developing countries to generate efficiency savings. Efficiency-seeking in this context can be thought of as a result of FSAs on the part of the MNE, and CSAs in the host country (Rugman, 1981). The locations chosen are typically closer to home, certainly within the same region and where the liability of foreignness is low. This is typically not associated with seeking new markets but with lowering costs. One rationale for EMNEs to internationalize is to develop new FSAs. In this context, however, efficiency-seeking FDI does not lead to technological developments, although it may permit some re-focusing of activities at home towards higher value added activity. Athreye et al. (2021) explore this in a similar vein, examining the interaction

between FSAs, and CSAs, in particular the ability to raise finance, exploring the link between different motivations and different modes of finance. Athreye et al. (2021) seek to explore this in the context of exporting behavior for example, that income from exporting is an important driver of the financing of market seeking FDI. We seek to nuance this argument by considering this in the context of Korean development. Korean firms during this period were seeking to engage in efficiency seeking FDI, as a mechanism for relocating low value activities and upgrading at home, thus, the use of tax havens will be associated with the returns from efficiency seeking FDI. This is because, in terms of the framework discussed above, efficiency-seeking FDI may well encourage further FSAs at home, but this is an indirect process, as low value activities are moved abroad, hence it may free up resources at home. Sutherland et al. (2021) explore this in the context of the repatriation of assets via strategic asset seeking, but one can make a similar argument regarding efficiency seeking FDI. As Hennart (2012) and Petersen and Seifert (2014) outline, EMNEs may enjoy a degree of protection at home not enjoyed by Western MNEs, so the repatriation of resources from efficiency seeking FDI will generate quick returns. In the short term at least, this will be associated with moving at least some of these profits to tax havens. This leads to the following hypothesis:

Hypothesis 1: Efficiency-seeking FDI increases the level of tax haven FDI.

Market-seeking FDI is largely driven by a combination of home country ownership advantages and host country location advantages. This motive is about generating rents from newer markets. In both cases, these are finite – there are only so many places that one can lever such advantages – especially in high-technology sectors. Nevertheless, the availability of markets, and

especially large markets, means that MNEs are able to generate significant rents across the world. These rents can then be re-invested in host country locations and a proportion of the rents can return home to appease investors.

Nevertheless, at some point, markets become saturated in a manner similar to what Vernon (1966) said with respect to the life-cycle of products. At this stage therefore, there is no need to re-invest earnings, as MNEs who have engaged in large scale market-seeking FDI just run out of places to invest. They then engage in profit shifting via the use of tax havens, either for future investment or to enable the proceeds to be recycled throughout the financial system to avoid tax on mobile capital.

This can be seen in Figure 2, where the stock and flow of FDI is significant. MNEs have strong FSAs and CSAs from both home and host locations and, hence, tax haven FDI becomes more significant. As Mukherjee et al. (2021) outline, a typical feature of emerging markets is relatively low levels of investor protection, particularly in terms of the rights of smaller shareholders. Thus, returns from market seeking FDI for example may be subject to cash-flow rights that exceed ownership rights, such that firms may be more likely to utilise tax havens rather than pay dividends to small shareholders. At the same time, one could argue, that in a country such as South Korea, with high levels of government involvement in its outward FDI strategy, that the ability of firms to engage in tax haven FDI is itself a country level advantage, as it is de-facto a tax advantage over firms from other countries. This leads to the following hypothesis:

Hypothesis 2: Market-seeking FDI has a positive impact on the level of tax haven FDI.

While resource-seeking FDI may occur at a similar stage as efficiency- and market-seeking FDI, it is motivated by the desire to secure immediate rents, rather than gain from the reallocation or reorganisation of activity (Dunning, 1998). MNEs use their FSAs, in conjunction with host country location advantages to acquire new resources. This is solely a rent seeking activity, and unrelated to re-investment or technology upgrading at home and may even cause significant disruption in the host location (see Park 2011 for a discussion of a Korean FDI project in to India in the steel sector). In the policy setting of emerging economy governments encouraging or dictating certain investments and re-investments, there is then an incentive for MNEs to place this money offshore in order for it to be protected from host country expropriation.

There is recent evidence that FDI into other emerging countries, which includes resource-seeking FDI has a complementary relationship to tax havens FDI (see Cobham, 2012). The work by Ahmed et al. (2020) shows that developed country MNEs utilise tax havens to transfer rents from FDI out of developing countries and that this process is more pronounced in emerging markets characterised by a high degree of capital flight. This adds another important indirect way through which MNEs may channel their FDI revenues into tax havens.

In terms of our framework, another CSA of tax haven locations is secrecy. One therefore, also needs to make a distinction between the so called “dot tax havens” and the more general tax havens such as Switzerland and Ireland (Hines & Rice, 1994). Dot tax havens such as the Cayman Islands, the British Virgin Islands and Jersey represent essentially “letterbox” locations for company registrations. Furthermore, they have light-touch regulation and secrecy for non-resident entities and often their tax treaties, if they have them, create loopholes and mismatches that allow tax avoidance via profit shifting.

Hence, one would expect to observe a positive relationship between resource-seeking FDI and tax haven FDI. However, the impact is likely to be predominantly correlated with the so called “dot” tax havens such as the Cayman Islands. This can be seen in Figure 1 with reference to an increase in the flow of FDI but nevertheless, total flows into tax havens would be moderate. This leads to the following hypothesis:

Hypothesis 3: Resource-seeking FDI has a positive impact upon the level of FDI into the most secretive tax havens.

In terms of our framework, the most obvious way for MNEs to enhance or augment their stock of FSAs is through technology (or strategic asset) seeking. However, as Bhaumik et al. (2016) demonstrate, in order to gain from technology-seeking FDI, the MNE must have, not merely a set of CSAs, but also FSAs. Shi et al. (2021) extend this argument, considering the nature of strategic asset seeking. They argue that while in the first instance strategic asset seeking may be concerned with augmenting existing capability, they also argue that countries with a concentration of business groups may seek to engage in diversified knowledge or technology sourcing FDI. Such upgrading may be relatively mundane, or linked for example to the ability to raise finance or acquire the necessary skills to manage the internationalisation process, but becoming more knowledge intensive over time. Therefore, the purpose of technology-seeking FDI is to augment these with technological competences, or innovation derived from internationalisation. In other words, not all EMNEs can leverage CSAs equally and EMNEs are better than non-MNE counterparts in terms of exploiting their CSAs. This implies symmetrical interests between MNEs from developed and emerging countries. While a firm from an emerging country has the ability to

assimilate knowledge, another firm from a developed country can focus on efficiency. In this context, the function of technological capacity from EMNEs and the technology gap between host and home countries are key issues (Bhaumik et al., 2016). However, in the context of tax haven FDI, one needs to make an important distinction. In addition, technology-seeking FDI aims to develop FSAs for further exploitation, and stimulates further investment. As such, in terms of tax haven investments there are two considerations here. The first is that any increase in profitability from technology-seeking is indirect (Driffield et al., 2016) and achieved either through further investments or by allowing MNEs to overcome liability of foreignness in richer markets. The second consideration is that technology-seeking FDI may encourage further FDI, but it will be in the real economy rather than in tax havens. This leads to the following hypothesis:

Hypothesis 4: Technology-seeking FDI has a no impact on the level of tax haven investment.

(Insert Figure 4 here)

4. Research Design

One of the main reasons for our limited understanding and evidence about the determinants and effects of tax haven investments has been the lack of data availability that allows any explicit analysis of the different types of FDI and its underlying motivations. Hitherto, collecting data on financial flows in and out of tax haven locations has been notoriously difficult. These jurisdictions are characterised by a high degree of secrecy (Murphy, 2011) and hence getting accurate measures of the financial flows in to and out of tax havens is notoriously difficult. Previous studies measure tax haven use by simply determining whether a firm has a subsidiary located in a tax haven location

or not (see Jones & Temouri, 2016; Jones et al., 2018). This is done by tracking the ownership of subsidiaries using firm level annual data provided by financial databases, such as Orbis, which are increasingly being used in international business research. Although it is possible to track ownership, financial variables are often missing in the data. Hence, this paper addresses this weakness by using unique FDI data that includes explicit disaggregated information on types and motives of outward FDI.

This paper has access to unique sector-level data, which allows a detailed analysis of this kind. Exploring the drivers of a firm's decision to invest in tax havens, based on previous FDI decisions necessitates an empirical research design that incorporates a few important aspects. First, an econometric model needs to describe a process by which different types of FDI evolve and affect tax haven FDI, as derived in our hypotheses. Second, the model needs to include a set of control variables, which are essential to rule out any spurious relationship between FDI motives and tax haven FDI. Third, our modelling strategy involves a series of robustness checks, including various definitions of tax havens that could potentially alter our main findings. We, therefore, develop a model that employs a lag structure within a panel setting, linking tax haven investments to previous South Korean outward FDI by motive.

4.1 Model specification

In order to establish a baseline, we build on the analysis of Jones and Temouri (2016) and Jones et al. (2018) who model the decision of firms to invest in a tax haven, but here we apply it to sectoral data and the subsequent investment flows. As we seek to effectively model outward FDI flows from South Korea in the form of tax haven FDI, we start with a basic model, relating tax

haven investments (TH) to previous levels of FDI, and a series of country level controls, as well as sectoral controls, where the data are stratified by sector and time, as follows:

$$TH_{st} = f(FDI_{st-1}, FDI \text{ Motives}_{st-1}, Controls_t)$$

where the controls include indicators of macroeconomic performance, openness, bureaucratic quality and country level risk, as well as controls for sectoral differences.

There are a number of statistical considerations we have to account for with respect to estimating the above model. The first is due to the long time-series nature of the data and whether one can assume that the estimated coefficients are stable over time. The second is the extent to which one needs to consider the nature of intertemporal dynamics, as we are employing a model with lags. It is important therefore that any apparent effects are appropriately assigned to the lagged variables, rather than occurring because of a high degree of persistence in these variables. We therefore, checked intertemporal versus cross sectional correlation for time series of cross-sections, and the intertemporal correlation in the FDI terms is low (the average value is around 0.3), so one can be confident that any apparent relation between the dependent variable and the lag of the FDI term, is due to the lag, rather than simply the persistence in the variable. Thirdly, there is the question of endogeneity, not only of the FDI terms, but also, where some recipient countries are very small, the country level variables. It is possible, for example, that both GDP of small tax havens, and their institutional quality are in part driven by investment decisions by foreign firms. Lastly, it is possible to envisage a situation where firms plan FDI decisions, with subsequent tax haven activity in mind, so that the FDI terms that we seek to explore are pre-determined.

Given these considerations, our approach is to adopt a GMM instrumental variables approach, allowing for fixed effects, and treating the FDI terms as pre-determined, while treating the other variables as potentially endogenous. The use of such an approach is well understood, for the benefits, not merely of being able to allow for individual effects, but also to distinguish between variables that are endogenous, in this case determined through the same decision making process, and those that are pre-determined. The advantages of this approach for such models are discussed in detail in Baum et al. (2003) and Bond et al. (2001) as well as, more recently in an international business context by Li et al. (2021).

The default is that all available lags are used as instruments, though with longer time series this has been shown to be inefficient, as the correlation between the variable in question and the instruments becomes weak (Bound et al., 1995). After evaluating this, we limit the number of lags used as instruments to 6 years.

As a robustness test, we also carried out estimations that treated the control variables as exogenous, and the FDI terms as either endogenous or pre-determined, and also compared this with a more standard fixed effects approach that allows for panel-specific AR(1) processes in both the dependent variable and the residuals. All of these estimators generate results qualitatively similar to those reported here, though as one would expect, the less one seeks to control for endogeneity, the smaller the standard errors.

4.1.1 Dependent Variable

Our dependent variable is TH_{st} which represents monetary flows to tax havens by industrial sector s (20 sectors by SIC) and by year t (from 1980 to 2017). We measure tax haven locations based on two definitions, which have been identified in the literature. Table 1 shows the definitions

proposed by Hines and Rice (1994). As outlined above, Hines and Rice (1994) distinguish between ‘dot’ tax havens and the ‘Big 8’ jurisdictions. Dot tax havens are small island economies with little or no other economic activity. In some cases, tourism may play a small part but essentially these countries have decided to utilise a development strategy based on financial secrecy. In contrast, the Big 8 jurisdictions are much larger and it is more difficult to determine whether financial flows are specifically due to tax purposes. Hence, the dependent variable is either flows in to dot tax havens (the narrow measure) and flows in to dot tax havens + flows in to the Big 8 tax havens (the broad measure).¹

4.1.2 Independent Variables

The key independent variables we focus on are the measures of Korea’s outward FDI motives at the sectoral level. By virtue of our novel data set, and in order to test our hypotheses, we include in our model: (1) market-seeking FDI; (2) efficiency-seeking FDI; (3) resource-seeking FDI; and (4) technology-seeking FDI.

The other control variables included in the analysis are chosen based upon previous factors identified in the literature that study FDI at the macroeconomic level due to the sectoral nature of the data. We include GDP as a measure of economic size; openness in terms of the export to GDP ratio; the exchange rate and exchange rate stability to control for currency volatility; the rate of inflation to account for monetary volatility; and institutional quality proxied for by measures constructed by the Inter Country Risk Guide. These include the degree of corruption in Korea, a measure of investor protection and the quality of the bureaucracy. Table 3 shows each variable

¹ We acknowledge that the data we use does not track further flows of FDI that may emanate between the external subsidiaries of South Korean firms. This is a clear pitfall of using FDI data to measure MNE activity (see Sutherland & Anderson 2015).

with a definition and its source, while Table 4 shows a correlation table of all the variables used in the analysis. Given that our analysis is undertaken in differences, any seemingly higher correlations do not pose a problem for our analysis.

(Insert Table 3 here)

(Insert Table 4 here)

4.2 Data

We have unique data derived from official sources. The data collected is from the Korean Exporting Import Bank (EXIM), which manages international capital data from firms who participate in foreign direct investment. This provides detailed information, not only of the location of FDI, but also on the FDI motive of Korean firms for the period 1980 to 2017. These map directly onto the typology of Dunning (1990), but also include tax haven FDI as a distinct category.

The Korean Foreign Exchange Law enacted in 1968 to the present day, requires Korean firms to state the total volume of FDI, the corresponding location of FDI, and importantly (for the purposes of this study) the actual FDI motive.² The data is aggregated at the sectoral level due to anonymity, hence why it is not possible to estimate the above equation using firm-level data. This means we can uniquely identify Dunning's FDI motives: market seeking, resource-seeking, efficiency-seeking, and technology-seeking at the sectoral level across time. Furthermore, we can also calculate sectoral level FDI in to tax havens.

The companies making returns to the EXIM bank are self-categorised according to the classification system of the Standard Industrial Classification (SIC). Hence, there are 20 industrial sectors identified in the construction of our panel dataset. The main outward FDI sectors for Korea

² In Korea, if a company wants to engage in FDI, they must submit documents to the Korean Banks that include details of the exact location of their subsidiaries, their total amount of FDI, their investing motivations, their firm size, industrial area, and so on. It is important to note, however, that firms are not "refused permission" in any sense to engage in FDI, so they have no reason to lie about the motive of their FDI.

include: Manufacturing, Mining and Quarrying, Construction, the Wholesale and Retail trade, and Financial and Insurance activities (see Table 2 for detailed statistics).³

5. Results

As a baseline, we start with a model that seeks to link tax haven FDI to previous levels of FDI outflows. We subsequently divide previous FDI into the 4 motives, linked to Hypotheses 1 to 4 outlined above. The results for our analysis are reported in Table 5, reporting the results for both the “dot” and “dot + Big 8” definitions of a tax haven locations. In order to establish the baseline, the first two columns present the estimates using the four FDI motives summed together, in order to establish whether prior FDI leads to tax haven utilisation. Columns 3 and 4 subsequently show this disaggregated by motive. Importantly, the baseline results show that FDI by a given set of sectors, did lead to subsequent investment by these MNEs into tax havens.

Focussing now on the tests of our Hypotheses 1 to 4, and the extent to which previous motives can explain subsequent investment in tax havens, we find support for Hypotheses 1, 2 and 4, and partial support for Hypothesis 3. Overall, our results suggest that FDI, which is part of a strategy to increase profits directly, through reducing costs, seeking new markets or resources leads to tax haven FDI, while that which generates improved performance directly, through enhancing a firms FSAs, does not.

³ The 20 industrial sectors are: Agriculture, forestry and fishing/ Mining and quarrying/ Manufacturing/ Electricity, gas, steam and water supply/ Sewerage, waste management, materials recovery and remediation activities/ Construction/ Wholesale and retail trade/ Information and communications/ Transportation/ Accommodation and food service activities/ Real estate activities and renting and leasing/ Financial and insurance activities/ Professional, scientific and technical activities/ Business facilities management and business support services/ Public administration and defence; compulsory social security/ Education/ Human health and social work activities/ Membership organizations, repair and other personal services/ Arts, sports and recreation related services/ Activities of households as employers; undifferentiated goods- and services- producing activities of households for own use.

We have support for Hypothesis 1 in that efficiency-seeking FDI leads to a large increase in tax haven activity, this being particularly marked for the Big 8 tax haven definition. This is indicative of a set of MNEs who looked to offshore activity from South Korea, thus improving profitability, and have subsequently placed at least some of this money in tax havens. This in itself is an interesting finding. The narrative concerning the development of South Korea was that while efficiency-seeking was widespread, this was used by MNEs to support technological upgrading at home. This may well have been the case, but we also have evidence that some investment “leaked out” of the economy into tax havens.

The strongest results concern the relationship between tax haven FDI and previous market-seeking FDI. As one would expect, market-seeking FDI is strongly associated with rent seeking, and so leads to money being placed offshore as revenue is generated. The results reported in Table 5 also suggest that resource-seeking FDI is attracted to tax haven countries, but that one needs to nuance this further, so hence Hypothesis 3 is partially supported. While our results, indeed, suggest that resource-seeking FDI is concerned with subsequent tax avoidance, this is associated only with the “dots” – the most secretive tax havens. This is consistent with previous studies that have looked at the complementarity of tax haven use with natural resource use extraction (Ahmed et al., 2020). Indeed, this type of FDI has the potential to lead to significant economic rents – diverting profits from some of the most economically underdeveloped regions of the world economy and depriving those regions of the economic benefits of FDI. It is perhaps therefore not surprising that South Korean MNEs would wish to hide these resources in the most secretive tax haven jurisdictions.

Finally, we also have support for Hypothesis 4, such that our results show no significant relationship between technology-seeking FDI, and subsequent use of tax havens. As we suggest above, our rationale for this is that technology-seeking FDI generates FSAs, facilitating other

forms of investment and internationalisation and profitability, rather than generating profits directly.

Turning to the controls, across each definition of a tax haven, GDP is largely significant in explaining FDI into tax havens. The results suggest that growth of GDP is important overall for Korea's industrial sectors, though as one would expect "Korean economic development" as measured by GDP is significant for explaining FDI into tax havens. Furthermore, other measures of macro-economic stability offer interesting insights. Openness is strongly associated with tax haven use, consistent with the idea that greater internationalisation complements offshore activity. In addition, a stable exchange rate and low inflation both correlate positively with tax haven use presumably because both make the business environment at home more stable. This is somewhat counterintuitive, however, and may be specific to the South Korean case because one might expect a more volatile macro economy at home to drive firms offshore. We do not, however, see this in the data.

Other interesting findings are obtained by including the South Korean corporate tax rate. The evidence suggests that higher corporate tax rates at home drive MNEs offshore or conversely that lower home corporate tax rates reduce offshore activity. However, this relationship only holds when we utilise a broader measure of tax haven use that includes the Big 8. The effect is less sensitive to the narrower definition, hence it would appear that the home domestic tax rate has little impact upon the choice to use a destination like the Cayman Islands, which is line with the findings by Jones and Temouri (2016). Presumably it is the tax rates in other subsidiary locations that has a greater impact than the domestic rate of tax.

Lastly, the results also offer interesting insights with respect to institutional quality and its impact on tax haven use. It is interesting, however, that many of the usual variables that are

associated with institutional quality or bureaucratic quality have little impact on tax haven FDI, suggesting that firms rely on private contracts with financial institutions to overcome this, as well as well-known secrecy laws.

(Insert Table 5 here)

5.1 Robustness checks

In order to verify and add credibility to our results we conducted a number of robustness tests. Firstly, the development of Korean industries is not uniform, with some industries internationalising faster, and also reaching the technological frontier more quickly, while others have engaged in large-scale offshoring / outsourcing to cheaper parts of Asia. While sectoral differences in South Korean FDI is discussed in the literature, and is not a focus of this paper, we nevertheless estimated our model for various subsamples, based on technology or FDI intensity. The results remain robust across these subsamples. For the sake of brevity these results are not reported.

Secondly, despite the fact that we use lags, there is the possibility that the forms of FDI are endogenous, that is that the decision to engage in market seeking FDI, and subsequently tax haven FDI were taken simultaneously. Standard tests for endogeneity reject the existence of this econometric problem. However, we also experimented with other estimators, such as one stage and two stage GMM-IV, and different lag lengths for the instruments, but the results remain consistent. We also allow for the possibility of the dependent variable following an autoregressive process, such that this year's FDI is related to last years, or that the residuals follow a similar process. These results are reported variously in tables A3 – A5 in the Appendix.

Thirdly, we split the sample into three equal time periods, covering a low FDI period but very rapid economic growth, a period of high FDI growth but more modest growth in GDP, and

finally a period of lower GDP growth but high FDI volumes, as depicted by figure 2. We then ran the models for the three sub-samples separately. The models are robust to these changes, though of course there was little tax haven activity in the first period. These results are provided in tables A6-A8 in the Appendix.

Fourthly, we employ a series of institutional quality and bureaucratic quality measures as controls. These are known to be notoriously correlated, capturing overlapping concepts. We deliberately focused and included only institutional variables and indicators that are most common in the FDI literature. We experimented with removing some of these, and in some cases the t-values on the measures of institutional quality increase as the number included decline. As we have no priors regarding these institutional variables specifically in the context of tax haven FDI, and, as the inferences regarding the FDI motive terms do not change.

Finally, we use the EU blacklist of non-cooperative jurisdictions as another definition of tax havens. This list is much smaller than Hines and Rice (1994) and its aim is to encourage positive change in terms of abusive tax practices. However, this list is a function of significant lobbying pressure and it is notable that many of the most notable jurisdictions such as Switzerland are absent. Nevertheless, our essential findings are robust to this change, with the exception of the results concerning technology-sourcing FDI. Again, for the sake of brevity these results are not reported.

6. Discussion and Conclusions

The purpose of this paper has been to explore how the evolution of South Korean MNEs relates to their decisions to locate in tax havens, and the nature of the link between this decision and the other more standard types of FDI investments. To the best of our knowledge, this is the first attempt to link standard FDI motives to tax haven FDI both theoretically and empirically. We show that market-seeking FDI generates high levels of subsequent tax haven FDI. Theoretically, this is explained using Vernon's life-cycle model, such that markets become saturated, resulting in limited additional locations for firms to re-invest. Hence, the proceeds of FDI are located in to tax havens to avoid corporate taxation. We also show that resource-seeking FDI also encourages tax haven investments, but focussed on more secretive locations. This is explained theoretically based on the idea that rents can accrue quickly in under-developed or emerging economies with weaker institutions, hence there is limited incentives for the proceeds to be re-invested in the host economy and there is a limited transfer of knowledge to the investor's home location. Hence, the proceeds of this type of FDI can be locked away in to tax havens to protect them from the host countries revenue authority. Furthermore, efficiency-seeking FDI also seems to correlate strongly with tax haven use based on theoretical rationale that Korean firms outsource low-value added activity abroad enabling them to make fast economic returns that can be funnelled in to tax havens. However, technology-seeking FDI appears to have no impact on tax haven FDI. This type of FDI aims to develop firm FSAs for further exploitation, and stimulates further investment in the home and host location. Hence, the returns from technology seeking FDI are unlikely to be locked away in to tax havens.

Overall, our explanation for our findings is that South Korea's development has followed a particular path, whereby South Korean MNEs were strongly encouraged to engage in both market-seeking and efficiency-seeking FDI as a way of generating profits for further innovation,

upscaling and upgrading the economy. At the same time, South Korean MNEs have taken advantage of offshore networks and secrecy to protect some of these returns, perhaps for more discretionary investments later on. In this regard, tax havens can act as capital providers for the MNEs group of companies (see Altshuler & Grubert, 2003; Hines & Hubbard, 1990) or as captive insurance companies to provide cover for risks not normally insurable on-shore (Hampton & Christensen, 2002).

This potentially has undermined (or at least slowed) South Korea's development, reducing the rate at which the returns to internationalisation were reinvested into the real economy. For example, in the case of China, Sutherland and Anderson (2015) show evidence for how Chinese MNEs route large amounts of FDI to and via tax havens and offshore financial centres. They importantly highlight the various issues that come from such activity as well as the methodological implications and biases from any aggregate FDI analysis (see also Buckley et al., 2015).

As such, we build on the arguments made by Foss et al. (2019) that current corporate taxation rules lead to inefficient outcomes in terms of MNEs location decision abroad. They argue that such tax avoidance causes MNEs to make socially inefficient location decisions, rather than maximizing the value creation opportunities of their global networks of conventional subsidiaries. We, however, argue that the situation is more pressing than Foss et al. (2019) suggest. If one adopts their stance that tax differentials (either in terms of rates or treatment of income or assets) leads to inefficient location decisions in terms of either short-termism, or lower aggregate productivity and hence a waste of resources, then one can develop that further. Tax differentials in turn encourage suboptimal investment decisions, discouraging investment in physical capital, and encouraging the use of holdings in tax havens. We, therefore, argue that, for countries that are seeking to upscale their technology, or transition from developing to emerging economies, or in the case of South

Korea moving from an emerging economy to a developed one, capital is likely to have leaked out of the development cycle and into tax havens (see Ahmed et al., 2020). We also argue that this has implications for the wider region. South Korean MNEs have successfully upgraded their activities at home, in part by relocating certain efficiency-seeking activities to other, less prosperous countries of the region. Our results suggest that tax haven use detracts from the effectiveness of this, reducing the contribution that South Korean FDI makes to development in the region. One could argue that firms availing themselves of tax haven opportunities puts pressure on tax authorities in potential host countries to be more lenient, or for governments to offer greater incentives, to compete with the higher net returns offered by tax havens.

Furthermore, we also provide evidence that natural resource-seeking outward FDI is correlated with tax haven FDI in the most secretive tax haven locations, further reducing re-investment into the South Korean economy but also at the same time depriving other developing countries of the economic rents associated with this type of FDI. Lastly, we find that technology-seeking FDI correlates much more weakly with tax haven use in the South Korean context.

6.1 Implications for Research and Policy

The purpose of this paper has been to explore the use of tax havens as a country develops technologically and internationalises. There has been much comment and concern in both the academic literature, and the more popular financial press concerning the use of tax havens, by firms of all countries. To summarise, the three main concerns are these. Firstly, that investment which could generate employment, create or sustain value chains, are diverted away from the real economy and into tax havens. Secondly, this reduces the speed of catch up in the developing world, and reduces the speed at which such firms can exploit their resources. And thirdly, that

governments, particularly in Asia and Latin America, have encouraged outward FDI as part of their drive for technological development and the use of tax havens risks slowing this process considerably. In order to address this issue, this paper not only explores the changing use of tax havens over time, but also how this relates to changing motives for FDI.

The results reported here highlight how private decisions by firms regarding the use of tax havens, can hinder development at the national level. Hitherto, the focus of tax haven activity has been on Western firms, with the existing literature indicating that more technologically intensive MNEs are much more aggressive in terms of tax avoidance (Jones & Temouri, 2016). Indeed, these important findings explain why the OECD is currently focusing on ways to reform the international system of corporate taxation due to the problems of profit shifting linked to the domestic economy. For example, we are able to highlight that increases in FDI in general lead to greater use of tax havens, but specifically that market seeking FDI and efficiency-seeking cause this to a far greater extent than resourcing seeking and technology sourcing FDI. If one considers this in the context of the relationships between FDI and development, then our conclusions become clear. Firstly, the Korean government, as part of its drive for both internationalisation and technological upgrading, encouraged both market seeking FDI and efficiency seeking, in order to generate funds for greater investment in both physical and knowledge capital at home, but also to move lower value added activities offshore, freeing up resources for more high tech investments at home. We suggest, that use of tax havens takes investment funds out of this investment cycle, thus slowing the pace of development.

Our results indicate that future research should focus on the nexus of these two ideas, seeking to understand whether productivity gains from technology sourcing FDI for example, are translated to profits growth due to tax haven investment. Since intangible assets (often digital), are

associated with technologically intensive MNEs, there are significant opportunities available to such MNEs to under-price transactions in high tax environments and thus shift profits into tax havens. Indeed, Seabrooke and Wigan (2014) discuss tax avoidance within the context of what they call ‘wealth chains’ and the problems associated with collecting tax from MNEs that have a strong digital presence (see also Dischinger & Riedel, 2011; Taylor et al., 2015). This has implications for wider aspects of tax policy, including the treatment of R&D spending for tax purposes, and the tax treatment of patents, brands and trademarks. In the context of emerging economies, investment in such intellectual property is a crucial element of overcoming liability of foreignness, so an interesting question is whether tax haven investments encourage or deter this.

Another area for future research would be to use more disaggregated data (when it becomes available) to address some of the pitfalls of using data on tax havens that are more aggregated (see Sutherland & Anderson’s 2015 discussion on this). Our paper measures tax haven activity that is recorded from the MNEs country of origin, which should cover the majority of tax haven decisions. However, it could be that certain tax haven investments come from and originate from subsidiaries of Korean MNEs that are located outside of South Korea, which is worthy of investigation with more disaggregated datasets.

What is so interesting about the South Korean case is that the country has developed economically very quickly. Hence, we can track the FDI motives and the tax haven motive as South Korea has developed, unlike many other emerging markets. The analysis clearly suggests that when outward FDI begins to encompass rapid growth, then tax haven FDI also exhibits a similar path. The important lesson for policy-makers from these findings is that tax haven FDI will continue to increase as the developing world emerges and aims to converge to higher levels of

development. Unless a multilateral framework is constructed to reform the international tax regime, then the use of tax havens by MNEs will remain pervasive.

Recent work by Foss et al. (2019) argue that the international corporate tax system needs fundamental reform, such that MNEs are incentivized to pay for their consumption of local public goods. This change may necessitate a focus on taxation based on dividends and consumption instead of corporate profits in order to reduce the distortions that we see in the global tax system. However, McGaughey and Raimondos (2019) argue that basing taxation on dividends is unlikely to solve the issue of MNEs being incentivised to move dividend payments to countries where dividend taxes are low. Thus, they argue for a system based on so-called *Formula Apportionment*, where MNEs profits are taxed based upon the location of real economic activity such as production and employment. Formula Apportionment would be a significant step towards solving the inefficiencies, however it might make real FDI more sensitive to tax differentials. Nevertheless, this latter approach may yield greater success compared to countries signing enhanced tax information exchange agreements (TIEAS) with one another. Indeed, Kemme, Parikh and Steigner (2017) find very little evidence that OECD TIEAS reduce tax evasion. Several other Asian and South American countries are seeking to follow South Korea's example in terms of using FDI to generate technological upgrading, and our findings here suggest that they need to be wary of funds, that can contribute to this process, being diverted into tax havens as firms develop.

Although, there does appear to be some action on this front, with the OECD encouraging tax reform using its *Inclusive Framework*, as of yet, reform seems politically challenging. Hence, we would expect the use of tax havens by MNEs to continue for the foreseeable future and that South Korean MNEs will play an increasing role in this type of activity. Our results, however, suggest the changes advocated by Foss et al. (2019) are unlikely to solve the problem of tax havens

causing a reduction in production efficiency, as the problem is deeper than simply re-aligning value chains. Our results indicate that at key stages of a country's development, firms' internationalisation leads not only to the re-investment of funds in to the value chain at home and abroad, but also a shift of resources in to tax havens where minimal real economic activity occurs.

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