Determinants of Tax Haven Utilization: Evidence from Australian Firms

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Abstract

This paper examines the major determinants of tax haven utilization based on a sample of 200 publicly-listed Australian firms, over the 2006–2010 period (1,000 firm-years). Our regression results show that variables relating to transfer pricing, intangible assets, an interaction term between transfer pricing and intangible assets, withholding taxes, performance-based management remuneration, and multinationality are positively associated with tax haven utilization. We also find that corporate governance structures are negatively associated with tax haven utilization. The magnitude and significance of the regression coefficients indicate that transfer pricing, withholding taxes, intangible assets, an interaction term between transfer pricing and intangible assets, corporate governance, and multinationality are the most important drivers of tax haven utilization.

Keywords: tax havens; tax avoidance; Australia.

1. Introduction

The purpose of this study is to examine the major determinants of tax haven[1] utilization by publicly-listed Australian firms. We analyze whether determinants relating to transfer pricing, intangible assets, an interaction term between transfer pricing and intangible assets, withholding taxes, performance-based management remuneration, and multinationality are significantly associated with tax haven utilization. Uniquely, there is a requirement for publicly-listed Australian firms to disclose the place of incorporation of any subsidiaries in their annual reports,[2] and these give us important insights into the nature and extent of the utilization of tax

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[1] Various governmental, international, and academic sources define tax havens on the basis of a number of similar characteristics (e.g., Hines and Rice, 1990; Wilson, 2009; Government Accountability Office (GAO), 2008a; GAO, 2008b; ATO, 2010; the Organisation for Economic Cooperation and Development (OECD), 2012). Tax havens are jurisdictions that offer beneficial financial, legal, and tax regimes in that they impose no or only nominal taxes, have laws or administrative practices that prevent the effective exchange of information, and lack transparency relating to financial and taxation arrangements, including regulatory, legal, and administrative provisions and access to financial records. The OECD (2006, 2012) has developed a list of 33 tax havens represented as follows: Anguilla, Antigua and Barbuda, Bahamas, Bahrain, Bermuda, Belize, British Virgin Islands, Cayman Islands, Cook Islands, Cyprus, Dominica, Gibraltar, Grenada, Guernsey, Isle of Man, Jersey, Liberia, Malta, Marshall Islands, Mauritius, Montserrat, Nauru, Netherlands Antilles, New Caledonia, Panama, Samoa, San Marino, Seychelles, St. Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Turks and Caicos Islands, and Vanuatu.

[2] It is a disclosure requirement for publicly-listed Australia firms to provide a list of their subsidiaries (including the country in which they are incorporated) under the Australian accounting standards AASB 124 *Related Party Transactions* (paragraph13.1) and AASB 127 *Consolidated and Separate Financial Statements* (paragraph 42b) in the annual report (AASB, 2007; 2008). We are therefore able to obtain the requisite data from annual reports to construct the tax haven measures used later in our study.

havens by these firms. Tax havens can be very important in reducing corporate taxes, but come under the careful scrutiny of the Australian Taxation Office (ATO, 2004; 2010) and other global tax authorities. However, subsidiaries incorporated in tax havens may be legitimate, and not used solely to facilitate tax avoidance, as they can assist in increasing the after-tax cash flows of a firm.[3] There can be a range of reasons why firms utilize tax havens, from legitimate financial or legal activities to the reduction of the global tax liabilities of the firm and concealing the flow of funds among group affiliates (Drucker, 2011; Womack and Drucker, 2011).

Our focus is on why publicly-listed Australian firms are compelled to incorporate subsidiaries in tax havens, and the use of particular locations as their economies, investment incentives, and tax benefits differ significantly. We are also interested in examining whether aggressive transfer pricing activity is empirically linked to tax haven utilization, because there is some evidence of this association in the literature (e.g., Hines and Rice, 1990; Department of the Treasury, 2007; GAO, 2008; Dharmapala, 2008; ATO, 2010; OECD, 2012), in case studies, and in the prosecution of firms (e.g., James Hardie Ltd in Australia) by tax authorities. In fact, tax authorities, treasury departments, and the broader government in many Western countries, such as Australia, Canada, the UK and the US, have documented the improper utilization of tax havens in conjunction with aggressive transfer pricing activity and structures, or transactions that lack economic substance. These authorities claim that tax havens are contributing to the progressive erosion of the taxation base (Department of the Treasury, 2007; ATO, 2010; OECD, 2012), as demonstrated by the decline in corporate effective tax rates (ETRs) above the decline in official statutory rates, and an increasing number of firms reporting a zero tax liability

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[3] For instance, the Cayman Islands is a major financial and insurance center, with substantial flow-through transactions for equity and hedge funds. This jurisdiction has the largest number of investment funds globally with very few obligations to disclose information relating to these funds, and is also one of the few countries where mutual fund administration is carried out. The Cayman Islands also has no corporate taxes (International Monetary Fund (IMF), 2009).

(Department of the Treasury, 2007; GAO, 2008a; GAO 2008b; ATO, 2010; OECD, 2012).[4] For Australian firms, we also focus on the determinants of tax haven utilization in response to the increased audit and risk assessment activity undertaken by the ATO (2004; 2011) on tax havens in recent years.[5]

Based on a sample of 200 publicly-listed Australian firms over the 2006–2010 period (1,000 firm-years), our regression results show that variables pertaining to transfer pricing, intangible assets, an interaction term between transfer pricing and intangible assets, withholding taxes, performance-based management remuneration, and multinationality, are positively associated with tax haven utilization. We also observe that corporate governance structures are negatively associated with tax haven utilization. The magnitude and significance of the regression coefficients suggest that transfer pricing, withholding taxes, intangible assets, an interaction term between transfer pricing and intangible assets, corporate governance structures, and multinationality represent the key determinants of tax haven utilization.

This study contributes to the literature in several important ways. First, it is one of the first to provide detailed empirical evidence of the major determinants of tax haven utilization. Given that publicly-listed Australian firms must disclose the place of incorporation of subsidiaries in their annual reports, we can gain insights into how these firms use tax havens. Second, this study examines the association between aggressive transfer pricing activity and tax haven utilization, which to the best of our knowledge, has not been tested empirically before. The requirement for publicly-listed Australian firms to provide information on the terms and conditions of intragroup

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[4] In fact, a great deal of evidence is provided by the Australian and US treasuries and tax authorities (i.e., the ATO and IRS) of the substantial flow of funds to/from tax haven incorporated entities, so they are economically very significant (Department of the Treasury, 2007; ATO, 2010; OECD, 2012). However, it is possible that firms may incorporate an entity in a tax haven for reasons other than or in addition to reducing corporate taxes.

[5] Moreover, it should be noted that a community perceptions survey undertaken by the ATO (2007) shows that tax authority audit activity is seen as being largely ineffective in reducing corporate tax avoidance, especially in terms of the utilization of tax havens.

transactions in their annual reports, in accordance with AASB 124 *Related Party Transactions,* allows us to examine whether aggressive transfer pricing is actually associated with tax haven utilization. Third, this study also provides empirical evidence of the joint effect of aggressive transfer pricing and intangible assets on tax haven utilization, which according to the ATO (2010), is the most significant tax compliance risk facing corporate Australia. Fourth, this study also investigates the association between the strength of a corporate governance structure and tax haven utilization, which has not been previously examined in the literature. In studying these factors, we can gain a better understanding of the role that corporate governance mechanisms play in terms of tax haven utilization.

The remainder of the paper is organized as follows. Section 2 considers the background of the study and develops the hypotheses. Section 3 reports the research design, while Section 4 summarizes the empirical results. Finally, Section 5 concludes the paper.

2. Background and hypotheses development

Australia taxes a firm's total global income. Similar to the US, an Australian parent firm is taxed on its subsidiaries' foreign income only when it is repatriated to the parent firm, and receives tax credits for foreign income taxes paid by subsidiaries on income subsequently received as dividends. Australian firms may also locate operations in jurisdictions subject to territorial tax regimes (e.g., Hong Kong) where only domestic profits are taxed. This helps to reduce the global tax liabilities of multinational corporate groups.

Transactions in multinational firms are undertaken for financial (including taxation), operational, and investment purposes. Tax haven incorporated subsidiaries therefore potentially play an important role in a firm's insurance, legal, and treasury functions, not solely to reduce

their global corporate tax liabilities (Desai et al., 2006a). We note that in assessing tax haven utilization, it is difficult to separate transactions or events into those that adhere to the underlying business purpose, and those motivated solely or largely by obtaining a tax benefit for the firm (ATO, 2004; 2005).[6] However, the ATO (2011) increased its scrutiny of tax haven activity in the 2007–2009 period after a perceived increase in the use of tax havens to significantly reduce corporate taxes. The ATO (2011) emphasized that the tremendous growth of the offshore sector over the previous decade contributed to the erosion of Australia's corporate taxation base.

Tax haven incorporated firms may facilitate the tax efficient transfer of funds between group members. For example, the flow of funds to/from tax havens in Australia has been substantial. In the period from 2005–2006, around A$8.3 billion (A$4.9 billion) flowed from (to) tax havens to (from) Australia, up from around A$3.5 billion (A$2.2 billion) in 2002 (Australian National Audit Office (ANAO), 2008; ATO, 2011). Australia was a net recipient of funds flowing through tax havens over that period, except in 2003. The ATO (2011) analysis of Australian Transaction Reports and Analysis Centre (AUSTRAC)[7] data for this period show that total direct transfers to/from tax havens increased by more than 230%, from A$5.8 billion to A$13.7 billion. Evidence provided by the ATO (2011) suggests that recent successes in tracking funds to/from tax havens and in identifying tax avoidance in the utilization of tax havens, have contributed towards a net flow of funds from tax havens to Australia.

Although there was a net flow of funds to Australia from tax havens between 2001 and 2006, the source of those funds is unknown and may have originated from entities operating in other

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[6] For instance, the majority of transactions between the parent firm and any tax haven incorporated subsidiaries are likely to be lawful international dealings, in the sense that they exploit the tax benefits available in those jurisdictions (ATO, 2004). Moreover, not all research on tax havens shows that they achieve lower taxes for firms that have tax haven affiliates (see, e.g., Dyreng and Lindsey, 2009).

[7] AUSTRAC is a primary source of information that identifies Australian firms who may be engaged in tax avoidance through the utilization of tax havens. More recent data are not publicly available.

countries. Additionally, there has been recent concern by the ATO and the Australian Treasury that multinational firms operating out of Australia, such as Google and Apple, have been able to effectively utilize tax havens (e.g., Bermuda) and other low-tax jurisdictions (e.g., Ireland) to exploit the differences in tax laws and therefore to reduce their Australian and global tax liabilities (Drucker, 2011; Womack and Drucker, 2011; Coyne, 2013).[8] In fact, the ATO (2012, p.43) states that: "Australia's top 200 listed companies are deriving significantly more of their income from overseas sources. Multinational groups may attempt to structure their global operations to minimize tax costs by, for example, maximizing the proportion of their profits recorded in low-tax jurisdictions." The flow of funds to countries other than tax havens can also represent a tax risk, if the country is used as a conduit to channel funds to a tax haven, because this may ultimately contribute to tax avoidance (ATO, 2010; 2011).

We argue that there are several variables that represent key determinants of tax haven utilization, including transfer pricing, intangible assets, the interaction effect between transfer pricing and intangible assets, withholding taxes, performance-based management remuneration, multinationality, and the strength of corporate governance structure. The rationale and literature support for each of these variables is discussed in the following sections.

2.1. Transfer pricing

Drucker (2011) recently claimed that some of the largest tax audits currently being undertaken or completed in the US involve aggressive transfer-pricing transactions to low-tax jurisdictions, such as tax havens. Aggressive transfer pricing activity may include the shifting profits to a tax haven incorporated subsidiary that is subject to relatively low or no corporate

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[8] On its Australian revenue in 2012, Google paid A\$74,176 in corporate tax on A\$201 million. However, this figure was later disputed by Google, which claimed that its tax bill was closer to A\$781,471. Apple Australia Ltd eventually paid A\$40 million in tax in 2012, on its Australian revenue of A\$6 billion (Coyne, 2013).

taxes (The Treasury, 2011; Ernst and Young, 2013). Desai et al. (2006b) claim that transactions between related parties located in variably taxed jurisdictions offer substantial scope for tax avoidance. Specifically, multinational firms carry out inter-firm trade, inter-group debt, service, royalty and dividend payments on a non-arm's length basis to facilitate tax avoidance.

The purpose of Australia's transfer pricing rules[9] is to ensure that related-party international transactions are carried out on an arm's-length basis, so profits are not artificially deflated (inflated) in high-tax (low-tax) jurisdictions. Multinational firms can lower group taxes by strategically setting inter-firm transfer prices (Grubert and Mutti, 1991; Collins and Shackelford, 1998). The ATO (2013, p. 46) recently stated that: "we have a continuing concern about related-party arrangements that shift profits out of Australia or deductible expenses into Australia. International related-party dealings now amount to about \$270 billion annually, with the rate of growth in these dealings exceeding growth in gross domestic product (GDP)."

Aggressive transfer pricing activity is reflected by extensive non-arm's length transactions between related parties.[10] Strict adherence to the arm's length principle in the pricing of goods and services is problematic, as there may not be an active market to compare prices outside of the firm, such as for intangible assets (Bartelsman and Beetsma, 2003). The divergence of transfer prices from their commercial market values may be attributed not only to tax differentials that may produce tax arbitrage, but also to market segmentation, which leads to financial arbitrage, covariance between exchange rates and foreign currency cash flows, and the

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[9] See Division 13 of the *Income Tax Assessment Act 1936* (ITAA36).
[10] Intra-entity transactions that are deemed to lack commercial justification include those, for example, where there is a transfer of assets, loans advanced to or repaid by related parties, or the provision of services between related parties often in different tax jurisdictions where there is no disclosed rationale for undertaking that transaction and there is no statement disclosed in the report describing that the terms of the transaction are based on arms-length pricing (Australian Securities and Investment Commission (ASIC), 2010). Thus, a major tax compliance problem facing firms is that they do not have adequate documentation on how they established their arm's length inter-firm transfer prices (Hamilton et al., 2001).

specific cost structure adopted by the firm (Usmen, 2012). The concept of comparability is therefore central to the arm's-length principle.

Paragraph 21 of AASB 124 states that in its annual report, a firm should disclose whether intergroup transactions have been undertaken on an arm's-length or commercial basis, and substantiate that basis (AASB, 2008). If a firm therefore has supporting documentation confirming that intergroup transactions are carried out on normal commercial terms, it should state that the transaction has been undertaken on an arm's length basis. Disclosure of related party transactions on an arm's length basis can only be made if it can be substantiated. In the absence of this disclosure, the presumption is that those transactions were not conducted on arm's-length terms, or that there is insufficient evidence to show the commercial basis of those transactions (Epstein and Jermakowics, 2008).[11]

The ATO (2010, 2012, 2013) and ASIC (2004, 2010, 2011) have targeted both tax avoidance schemes and schemes that are non-compliant with the *Corporation Act 2001 (Cwlth)*. These involve related party transactions that do not have adequate documentation describing the commercial rationale or basis of these transactions. For example, as part of its tax compliance program, the ATO (2010) examined the transfer of loans between group members that are then forgiven without any documented commercial justification, with the net result being a tax benefit. Similarly, the ASIC (2010) formulated additional guidance for firms on disclosing and justifying the nature of their related entity transactions. It is a requirement of the ASIC (2010) that any transactions involving debt forgiveness between related entities, the determination of arm's-length pricing, terms and conditions and the application of exceptions, and lack of expert

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[11] Paragraphs 3 and 4 of AASB 124 require disclosure of related party transactions and balances in the individual financial statements of parent firms and subsidiaries. Intragroup transactions between such entities are disclosed. On consolidation, such transactions are eliminated, so they are not disclosed in the consolidated financial statements. We use related party disclosures made by the parent firm in the annual report, concerning group member dealings, to assess whether the firm can verify that those transactions are made on an arm's length or commercial basis.

advice about related entity loans, are disclosed. To formally test the influence of aggressive transfer pricing activity on tax haven utilization, we propose the following hypothesis:

H1: All else being equal, firms engaged in aggressive transfer pricing activity are more likely to utilize a tax haven incorporated firm.

2.2. Intangible assets

The transfer of intangible assets (e.g., R&D expenditure, intellectual property, brands, trademarks, and trade names) between group entities located in variably taxed jurisdictions is of increasing concern to tax authorities globally (Grubert, 2003; Grubert and Mutti, 2006; Gravelle, 2009). Because many intangible assets are difficult to value, the transfer of payments (e.g., royalties) attributed to intangible assets are difficult to value at arm's length prices (Gravelle, 2009). The US Treasury Department claims that there is a significant risk of tax revenue erosion via the transfer of high-value intangible assets (e.g., R&D expenditure) between related entities located in high/low-tax jurisdictions (Department of the Treasury, 2007).

Intangible assets have unique values (e.g., the lack of well-established markets and subjective valuations) that can be exploited simultaneously by a firm in several jurisdictions. Hence, there is substantial scope to engage in tax avoidance through the transfer of intangible assets to low-tax jurisdictions, such as tax havens (Dyreng et al., 2008). Furthermore, the tax benefits derived from R&D expenditure may vary, depending on the host country of that expenditure. In Australia for example, R&D tax concessions allow firms to claim a tax deduction in their income tax return of up to 125% (and in some cases up to 175%) for their eligible expenditure on R&D activities. To formally test the influence of intangible assets on tax haven utilization, we propose the following hypothesis:

H2: All else being equal, firms with greater investments in intangible assets are more likely
to utilize a tax haven incorporated firm.

2.3. Interaction effect of transfer pricing and intangible assets

The ATO (2010) asserts that there is a significant risk of transfer pricing aggressiveness
through the transfer of high-value intangible assets (e.g., R&D and intellectual property) to low-
tax jurisdictions, such as tax havens. While there are transfer-pricing rules (i.e., the Division 13
of ITAA36) in Australia, both firms and the ATO have to make judgments about the commercial
reality of transactions, and arrangements concerning the transfer of intangible assets (ATO, 2010;
2103).[12] According to the ATO (2010; 2013), difficulties in the application of the transfer pricing
rules in practice have encouraged and facilitated the shifting of intangible assets (e.g., R&D
expenditure, intellectual property, brands, trademarks, and trade names) offshore to tax havens or
other low-tax financial centers by multinational firms. Therefore, it is possible that transfer
pricing and intangible assets jointly affect tax haven utilization, and we propose the following
hypothesis:

H3: All else being equal, firms that participate in transfer pricing aggressiveness and
investment in intangible assets concurrently are more likely to utilize a tax haven
incorporated firm.

2.4. Withholding taxes

Desai et al. (2006b) claim that transactions between related parties located in variably taxed
jurisdictions offer considerable scope to engage in tax avoidance. The treatment of a payment as

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[12] In fact, the ATO (2013) requires firms to disclose information regarding intangible property as part of an overall
package of transfer documentation required by firms willing to establish transfer pricing agreements with the ATO.

a debt interest or an equity interest can differ across jurisdictions depending on the character of the payment, thus lower amounts of withholding tax may be paid. Intra-group transfers of debt, dividends, and royalties can be structured so as to reduce the amount of corporate tax payable by preferentially characterizing a transaction as a payment of interest rather than a dividend or royalty payment (Desai et al., 2006b). Alternatively, the payment can be characterized as a payment for services, thereby avoiding the payment of withholding taxes altogether. There are different ways in which profits can be repatriated, which can create opportunities to disguise or re-characterize payments to obtain a tax benefit. Activity around withholding taxes essentially means that there is a significant flow of funds among group entities, which gives the opportunity to reduce a firm's overall tax burden through re-characterizing payments or transferring funds to preferential jurisdictions. For example, recent newspaper reports (see e.g., Drucker, 2011; Womack and Drucker, 2011) described the role of the Netherlands in facilitating the movement of funds to tax havens, referred to as the "Dutch sandwich," which allows money to be transferred from countries that would charge withholding taxes to tax havens (e.g., Bermuda and the Cayman Islands) so that withholding taxes is effectively reduced or avoided altogether.

Australian withholding taxes are levied on interest (10%), unfranked dividends (30%), and royalty income (30%) paid to non-resident entities. In considering withholding taxes, it is necessary to determine whether the return on investment is related to a debt interest or an equity interest.[13] This categorization determines whether a return paid by a firm on a financing interest that it has issued will be frankable (treated as a dividend) or deductible (treated as interest expense). If it is a return on a debt interest, then it will be subject to interest withholding tax; if it is a return on an equity interest, then it will be subject to dividend withholding tax.

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[13] The rules for defining what constitutes a debt interest or an equity interest are contained in Division 974 of the *Income Tax Assessment Act* 1997 (ITAA97).

Characterization determines whether interest withholding tax or dividend withholding tax is payable on non-resident distributions or whether an instrument is debt capital for thin capitalization purposes. Interest and royalties are also two major deductible income payments made between firms. Thus, if withholding taxes apply, it is expected that there will be greater incentives and more opportunity to engage in tax avoidance. The re-characterization of those payments or avoidance of withholding taxes on payments can potentially be exacerbated through the utilization of tax havens. To formally test the influence of withholding taxes on tax haven utilization, we propose the following hypothesis:

H4: All else being equal, firms subject to withholding taxes are more likely to utilize a tax haven incorporated firm.

2.5. Performance-based management remuneration

Desai and Dharmapala (2009) argue that opportunistic managers can use various tools of tax avoidance to advance managerial interests at the expense of shareholder interests. However, incentives for managers to engage in tax avoidance are often affected by the nature of the compensation arrangement (Watts and Zimmerman, 1990). Several studies have examined the influence of executive compensation on tax avoidance (e.g., Desai and Dharmapala, 2006; Rego and Wilson, 2012). Tax avoidance is likely to be greater in firms where managers' compensation is more closely tied to changes in the market price of shares, or where remuneration is tied to firm performance based on net profit after tax (Desai and Dharmapala, 2009).

Rego and Wilson (2012) found a positive association between aggressive tax reporting (as measured by ETRs) and CEO/CFO compensation. According to Alexander et al. (2008), a reduction in the amount of corporate taxes payable can lead to an increase in firm value and, in

turn, the amount of personal wealth of the management based on equity-based management compensation. Minnick and Noga (2010) found that pay-performance sensitivity for CEOs and directors results in lower long-run ETRs. Armstrong et al. (2012) observed that the remuneration incentives of tax directors exhibited a strong negative association with the financial ETR, but little association with the cash ETR and other measures of tax avoidance based on book-tax differences and corporate tax sheltering. To formally test the influence of performance-based management remuneration on tax haven utilization, we propose the following hypothesis:

H5: All else being equal, firms with key management personnel that are remunerated proportionately more based on performance are more likely to utilize a tax haven incorporated firm.

2.6. Multinationality

Firms with extensive foreign operations or that derive proportionately more income from foreign sources have greater scope and incentive to engage in tax avoidance (Rego, 2003; Hanlon et al., 2005; Dyreng et al., 2008). Multinational firms, for example, have the opportunity to reduce corporate taxes by locating operations in low-tax jurisdictions, by shifting income from high-tax jurisdictions to low-tax jurisdictions, and by exploiting differences in the tax rules of different countries (Slemrod, 2001). A multinational firm's ETR is likely to reflect a mixture of operations in both high-tax rate jurisdictions and low-tax rate jurisdictions and consequently, how aggressively these firms are likely to pursue tax avoidance strategies.

Rego (2003) found that multinational firms tend to have more opportunity to avoid corporate taxes, and more success, than purely domestic firms. Mills and Newberry (2004) observed that multinational firms with relatively low average foreign tax rates reported lower taxable incomes

14

in US subsidiaries than those with relatively high average foreign tax rates. Hanlon et al. (2005) found that foreign-controlled firms have more than double the levels of tax non-compliance than domestic-controlled firms. Dyreng et al. (2008) observed that firms with greater international exposure have more opportunities to engage in tax avoidance. To formally test the effect of multinationality on tax haven utilization, we propose the following hypothesis:

H6: All else being equal, multinational firms are more likely to utilize a tax haven incorporated firm.

2.7. Corporate governance structure

We also consider whether the strength of a firm's corporate governance structure could possibly influence tax haven utilization. Recent evidence suggests that the corporate governance structure of a firm has a significant effect on tax avoidance (see, e.g., Desai and Dharmapala, 2006; Dharmapala, 2008; Hanlon and Slemrod, 2008; Lanis and Richardson, 2011; Richardson et al., 2013). Tax authorities such as the ATO (2010) recognize that the standard of a firm's corporate governance structure has a direct bearing on the incentives and abilities of management to actively participate in tax avoidance.

Research carried out by Dyreng et al. (2010), Lanis and Richardson (2011) and Richardson et al. (2013) found that boards of directors have a major role to play in monitoring management, and claim that directors are responsible for influencing risky tax planning through the compliance tone and framework they establish for the firm. Well-governed firms are considered by tax authorities to be lower risk, as they are less likely to participate in aggressive tax avoidance (Erle, 2008; ATO, 2010). Indeed, firms with stronger or more effective corporate governance structures are less likely to misstate or incorrectly report taxable income, have fewer

opportunities to engage in activities that are directed at benefiting executive management, and are less likely to undertake complex, obfuscating tax avoidance activities (Desai and Dharmapala, 2009; Lanis and Richardson, 2011; Richardson et al., 2013). Overall, strong corporate governance structures are likely to assist in the management of corporate taxes and associated tax risks (ATO, 2010). To formally test the influence of the strength of governance structure on tax haven utilization, we propose the following hypothesis:

H7: All else being equal, firms with weaker corporate governance structures are more likely to utilize a tax haven incorporated firm.

3. Research design

3.1. Sample selection and data source

Our sample initially consisted of the top 300 Australian publicly-listed firms in the period from 2006–2010 (commencing July 1, 2006). This sample period was chosen because significant audit and review activity was undertaken by the ATO relating to the tax motivated utilization of tax havens from 2007–2009. The ATO focused their resources specifically to tackle what they perceived to be an aggressive utilization of tax havens over that period (ATO, 2010).

The final sample for our empirical tests consists of 200 firms (1,000 firm-years), after excluding firms that fall into the following categories: financial firms (39); insurance firms (11); US GAAP reporting firms (16); property partnership or trust entities (11); and firms that did not report across all five years of the 2006–2010 period, as they were newly incorporated or were taken over, or merged with other firms (18). Financial institutions and insurance firms were excluded from the sample due to significant differences in the application of accounting policies and the derivation of accounting estimates, together with the different regulatory constraints

faced by these firms (see, e.g., Gupta and Newberry, 1997; Rego, 2003). Finally, the tax and financial accounting related data were hand-collected from the annual reports.

3.2. Dependent variable

The dependent variable is represented by tax havens (*THAV*). To improve the robustness of our results, we use seven alternative measures of tax havens that have either been used in prior research (e.g., Desai et. al., 2006a; Desai and Dharmapala, 2009) or have been used by the ATO (2010) to identify regions as a tax risk due to their tax compliance programs. Our seven tax haven measures are summarized as follows.

(1) *THAV1*: a dummy variable that is coded as 1 if the firm has at least one subsidiary company incorporated in an OECD listed tax haven, and 0 otherwise;

(2) *THAV2*: a dummy variable that is coded as 1 if the firm uses a special purpose financing subsidiary incorporated in a tax haven for treasury purposes, and 0 otherwise;

(3) *THAV3*: a continuous variable measured as the number of firms incorporated in an OECD listed tax haven divided by the total number of subsidiaries;

(4) *THAV4*: a dummy variable that is coded as 1 if the firm has a subsidiary incorporated in a tax haven located in the Caribbean geographical domain (i.e., Bermuda, the British Virgin Islands, the Cayman Islands, Netherlands Antilles, Panama, Turks and Caicos Islands), and 0 otherwise;

(5) *THAV5*: a dummy variable that is coded as 1 if the firm has a subsidiary incorporated in a tax haven located in a British geographical domain (i.e., British Virgin Islands, Channel Islands, Guernsey, Isle of Man, Jersey, Liberia, Luxembourg, Malta, and the Netherlands), and 0 otherwise;

(6) *THAV6*: a dummy variable that is coded as 1 if the firm has a subsidiary incorporated in a tax haven located in the Oceania geographical domain (i.e., Cook Islands, New Caledonia, Samoa and Vanuatu), and 0 otherwise; and

(7) *THAV7*: a dummy variable that is coded as 1 if the firm has a subsidiary incorporated in a tax haven located in the Indian geographical domain (i.e., Mauritius), and 0 otherwise.

3.3. Independent variables

The independent variables consist of transfer pricing (*TPRICE*), intangible assets (*INTANG*), the interaction between transfer pricing and intangible assets (*TPRICE*INTANG*), withholding taxes (*WTAX*), performance-based management remuneration (*REM*), multinationality (*MULTI*), and the strength of corporate governance structure (*CGS*).

TPRICE is measured as a dummy variable that is coded as 1 if the parent entity cannot substantiate whether related party transactions with group members were made on an arm's length or a commercial basis,[14] and 0 otherwise. *INTANG* is measured as intangible assets (i.e., the sum of R&D, intellectual property, brands, trademarks, trade names, and goodwill) divided by total assets. *WTAX* is measured as a dummy variable that is coded as 1 if Australian withholding taxes apply, and 0 otherwise. *REM* is measured as the total performance based remuneration[15] paid to key management personnel (total at-risk cash bonus and total equity-based remuneration paid to key management personnel) divided by the total remuneration paid to

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[14] A firm may not disclose whether intragroup or related party transactions are undertaken on an arm's-length basis for several reasons, including (Epstein and Jermakowics, 2008): (1) the set of intragroup transactions are immaterial; (2) the transactions are not on an arm's length basis; or (3) the firm does not have appropriate evidence to show that related party transactions were conducted on an arm's length basis. For instance, they may not have similar transactions with both related and unrelated parties and so cannot provide evidence that the terms and conditions of both sets of transactions are largely similar. Thus, a transaction or set of transactions could potentially still be arm's length, but the firm cannot substantiate the commercial basis of those transactions.

[15] Performance based remuneration paid to key management personnel is typically based on post-tax earnings, profitability, growth, and other more specific items relating to safety and environmental milestones.

key management personnel (see, e.g., Desai and Dharmapala, 2006). *MULTI* is measured as foreign source income divided by total income (see, e.g., Rego, 2003). Finally, *CGS* is constructed to capture the overall strength of a firm's corporate governance structure. A value of either "1" or "0" is assigned to six corporate governance items derived from the Australian Stock Exchange (ASX) Corporate Governance Council's (2007) corporate governance principles, and recommendations[16] for each firm in our sample. The six items for each sample firm are then added together and divided by six to generate a corporate governance score for each firm-year.[17]

3.4. Control variables

The control variables are represented by firm size (*SIZE*), leverage (*LEV*), the market-to-book ratio (*MKTBK*), return on assets (*ROA*), industry sector (*INDSEC*), and year (*YEAR*) effects.

SIZE is included in our regression model as a control variable, following Rego's (2003) claim that larger firms can achieve economies of scale via tax planning, and utilize resources and incentives to reduce group tax. *SIZE* is measured as the natural logarithm of total assets.

We incorporate *LEV* in our regression model as a control variable, as it is expected that firms with higher debt-to-equity ratios tend to be more efficient at minimizing corporate tax liabilities (Richardson and Lanis, 2007). *LEV* is measured as long-term debt divided by total assets.

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[16] The six corporate governance variables include standard items such as the composition and structure of the board of directors, and items dealing with financial reporting integrity, financial expertise, risk oversight, and the existence of formal governance tools (e.g., policies, procedures, committees, and charters). We report the six components of the CGS in Appendix A. Support for the construction of our corporate governance index is provided in the corporate governance literature (see, e.g., Beekes and Brown, 2006; Bebchuk et al., 2009). Finally, we note that the ASX Corporate Governance Council's (2007) principles and recommendations represent an objective and reliable source for the selection of corporate governance attributes for our sample firms.

[17] Each item is treated equally in the computation of the CGS. Prior research indicates that weighted and un-weighted scores generate the same results where there are a large number of items (Marsden and Shrives, 1991; Beattie et al., 2004) as is the case with our study. Moreover, the focus of this study is not on one particular user group, so the weighting of the CGS items was not undertaken. Cooke (1989), for example, claims that one class of user will attach different weights to an item than another class of user. Finally, the development of weighted indices also involves subjective judgment (Marston and Shrives, 1991; Beattie et al., 2004).

We also include a growth control variable in our regression model denoted by *MKTBK*, which is measured as the market value of equity divided by the book value of equity. However, this variable has produced conflicting results in prior research (e.g., Gupta and Newberry, 1997; Adhikari et al., 2006), so we make no sign prediction for *MKTBK*.

ROA is incorporated in our regression model to control for operating performance and firm profitability. Prior research has found that *ROA* is significantly positively associated with tax avoidance (Armstrong et al., 2012). *ROA* is measured as pre-tax profit divided by total assets.

INDSEC dummy variables, defined by the two-digit Global Industry Classification Standard (GICS) codes, are included as control variables in our study because tax avoidance can fluctuate across different industry sectors (Omer et al., 1993). We include ten *INDSEC* dummies in our study: consumer discretionary, consumer staples, energy, health care, information technology, materials, real estate, telecommunications, transport, and utilities.[18] No sign predictions are made for the *INDSEC* dummies.

Finally, *YEAR* dummy variables are included in our regression model to control for differences in tax haven activities that possibly exist over the 2006–2010 sample years. No sign predictions are made for the *YEAR* dummies.[19]

3.5. Regression procedure

As mentioned, to improve the robustness of our empirical results, our dependent variable *THAV* is proxied by seven measures (*THAV1–THAV7*). Given the binary nature of *THAV1*, *THAV2*, *THAV4*, *THAV5*, *THAV6* and *THAV7*, we use logit regression analysis to empirically

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[18] With utilities being the omitted sector in the regression analysis.
[19] With the 2010 year being the omitted year in the regression analysis.

test our hypotheses. As *THAV3* is a continuous variable, we also use ordinary least squares (OLS) regression analysis to test the hypotheses with this proxy.

We separate our regression analysis into two parts. We first test the association between the independent variables and three general measures of tax havens (*THAV1–THAV3*), and then test the association between the independent variables and four key tax haven geographical domains (*THAV4–THAV7*) to determine whether there is preferential utilization of tax havens based on possible differences in the accountability, administrative, or transparency attributes between tax havens located in different geographical regions (Gravelle, 2009; ATO, 2010).

3.6. Base regression model

Our base regression model used to examine the major determinants of tax haven utilization is represented as follows.

$$THAV_{it} = \alpha_{0it} + \beta_1 TPRICE_{it} + \beta_2 INTANG_{it} + \beta_3 TPRICE*INTANG_{it} + \beta_4 WTAX_{it}$$
$$+ \beta_5 REM_{it} + \beta_6 MULTI_{it} + \beta_7 CGS_{it} + \beta_8 SIZE_{it} + \beta_9 LEV_{it} + \beta_{10} MKTBK_{it}$$
$$+ \beta_{11} ROA_{it} + \beta_{12-20} INDSEC_{it} + \beta_{21-24} YEAR_{it} + \varepsilon_{it} \qquad (1)$$

where: i = firms 1–200; t = financial years 2006–2010; *THAV* = tax haven measure (*THAV1–THAV7*); *TPRICE* = a dummy variable that is coded as 1 if the parent entity cannot substantiate that related party transactions group members were made on an arm's length or commercial basis, and 0 otherwise; *INTANG* = intangible assets divided by total assets; *TPRICE*INTANG* = an interaction term computed by multiplying *TPRICE* by *INTANG*; *WTAX* = a dummy variable that is coded as 1 if Australian withholding taxes apply, and 0 otherwise; *REM* = the total performance based remuneration paid to key management personnel (total at-risk cash bonus paid to key management personnel plus the total equity-based remuneration paid to key

management personnel) divided by the total remuneration paid to key management personnel; *MULTI* = foreign source income divided by total income; *CGS* = a corporate governance score comprising six corporate governance items (see Appendix A); *SIZE* = the natural logarithm of total assets; *LEV* = long-term debt divided by total assets; *MKTBK* = the market value of equity divided by the book value of equity; *ROA* = pre-tax income divided by total assets; *INDSEC* = an industry sector dummy variable that is coded as 1 if the firm falls within the specific GICS industry sector category, and 0 otherwise; *YEAR* = a year dummy variable that is coded as 1 if the year falls within the specific year category, and 0 otherwise; and ε = the error term.

4. Empirical results

4.1. Summary statistics

Table 1 reports the descriptive statistics for the dependent variables (*THAV1–THAV7*), independent variables (*TPRICE*, *INTANG*, *WTAX*, *REM*, *MULTI*, and *CGS*), and control variables (*SIZE*, *LEV*, *MKTBK*, and *ROA*). The dependent variable *THAV1* has a mean of 0.339, and thus 33.9% of the firms in our sample have a subsidiary incorporated in a tax haven. Special purpose financing subsidiaries incorporated in a tax haven were used by 13.6% of the sample firms for treasury purposes (*THAV2*), while 2.9% of subsidiaries, on average, were incorporated in a tax haven (*THAV3*). Of the firms in our sample who incorporated at least one subsidiary in a tax haven located in the Caribbean, British, Oceania, and Indian geographical domains, the percentages for *THAV4*, *THAV5*, *THAV6*, and *THAV7* are 12.2%, 21.4%, 3.2%, and 9.2% respectively. For the independent variables, 30% of the firms in our sample display aggressive transfer pricing activity (*TPRICE*), intangible assets (*INTANG*) is, on average, 17% of total assets, an average of 50.7% of the sample firms are subject to Australian withholding taxes

(*WTAX*), and foreign sourced income (*MULTI*) is on average 24.2%. Performance-based management remuneration (*REM*) averages 34.1% of total management remuneration. Finally, the corporate governance score (*CGS*) averages 76.5% for the sample firms.

[**Insert Table 1 About Here**]

The Pearson pairwise correlation results are presented in Table 2. Significant correlations (with predicted signs) are found between each of the dependent variables (*THAV1–THAV7*) and the independent variables: *TPRICE*, *INTANG*, *WTAX*, *REM*, *MULTI* and *CGS* ($p < 0.05$ or better). However, we find no significant correlations between *REM* and *THAV3*, and between *INTANG* and *THAV6*. We also find significant correlations (with predicted signs) between each of the dependent variables (*THAV1–THAV7*) and the control variables: *SIZE* and *LEV* ($p < 0.01$). Table 2 also shows that only moderate levels of collinearity exist between our explanatory variables.[20] Specifically, the highest correlation coefficient is between *LEV* and *SIZE* of 0.411 ($p < 0.01$). Finally, we compute variance inflation factors (VIFs) when estimating our base regression model to test for signs of multi-collinearity between the explanatory variables. We find that no VIFs exceed five, and therefore conclude that multi-collinearity is not a problem in our study.[21]

[**Insert Table 2 About Here**]

4.2. Regression results

Table 3 reports the base regression model results on the major determinants of tax haven utilization in terms of the three general tax haven measures (*THAV1–THAV3*).[22] The regression

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[20] According to Hair et al. (2006), if a value of the correlation coefficient for a pair of explanatory variables lies between ±0.25 and ±0.75, then there is a moderate level of collinearity between the two variables.

[21] Hair et al. (2006) suggest that a VIF value above the threshold of 10 corresponds to a high level of multi-collinearity among the explanatory variables.

[22] The coefficient estimates are reported in Table 3 with the *t*-statistics in parentheses. We compute robust standard errors, which are clustered by firm (see, e.g., Peterson, 2009), for all of the regression models run in this study.

coefficient for *TPRICE* is positive and significantly associated with tax haven utilization ($p <$ 0.05 or better) across all of the regression models (*THAV1–THAV3*), and thus H1 is supported. Firms engaging in aggressive transfer pricing activity utilize tax havens where profits are subject to relatively low (if any) corporate tax (e.g., Desai et al., 2006a). The regression coefficient for *INTANG* is positive and significantly associated with tax haven utilization ($p < 0.05$) across all of the regression models (*THAV1–THAV3*), thus providing support for H2. Intangible assets are used as a means of transferring profits internationally (e.g., Dyreng et al., 2008) via the utilization of tax havens. The regression coefficient for the interaction term, *TPRICE*INTANG*, is significantly positively associated ($p < 0.05$) with each tax haven measure (*THAV1–THAV3*), so H3 is supported. This result suggests that aggressive transfer pricing and intangible assets jointly influence tax haven utilization. The regression coefficient for *WTAX* is positive and significantly associated with tax haven utilization ($p < 0.01$) across all regression models (*THAV1–THAV3*), so H4 is supported by the results. Firms subject to withholding taxes utilize tax havens to take advantage of differences in the tax treatment of transactions, and differences in tax rates between jurisdictions to reduce group taxes payable (e.g., Desai et al., 2006b). The regression coefficient for *REM* is positive, but is not significantly associated with tax haven utilization across any of our regression models (*THAV1–THAV3*). Thus, H5 is not supported. The regression coefficient for *MULTI* is positively and significantly associated with tax haven utilization ($p < 0.05$ or better) across the *THAV1* and *THAV2* regression models, so H6 is supported by the results. Firms that source proportionately more of their income offshore are positively associated with the utilization of tax havens (e.g., Rego, 2003; Mills). This finding is important, as tax havens may be used as a repository or conduit of foreign sourced income to reduce group taxes payable. The regression coefficient for *CGS* is negative and significantly

associated with tax haven utilization ($p < 0.05$ or better) across all of the regression models (*THAV1–THAV3*), so H7 is supported. We find therefore that firms with weaker corporate governance structures are more likely to utilize tax havens. Overall, the results in Table 3 provide support for H1, H2, H3, H4, H6, and H7, but not for H5. In terms of the control variables, the regression coefficient for *SIZE* is positive and significantly associated with tax haven utilization ($p < 0.10$ or better with predicted signs) in several of our regression models.

[Insert Table 3 About Here]

Table 4 presents the base regression model results of the determinants of tax haven utilization in terms of the four key geographical domains (*THAV4–THAV7*). The regression coefficient for *TPRICE* is positive and significantly associated with tax haven utilization ($p < 0.05$) across all of the regression models (*THAV4–THAV7*), so H1 is supported by the results. Aggressive transfer pricing activity is significantly positively associated with tax haven utilization in the Caribbean, British, Oceania, and Indian geographical domains. The regression coefficient for *INTANG* is positive and significantly associated with tax haven utilization ($p < 0.10$ or better) across the *THAV4*, *THAV6*, and *THAV7* regression models, providing further support for H2. Intangible assets are significantly positively associated with tax haven utilization in the Caribbean, Oceania, and Indian geographical domains. In terms of the regression coefficient for the interaction term, *TPRICE*INTANG* is significantly positively associated ($p < 0.05$ or better) across the *THAV4*, *THAV6*, and *THAV7* regression models, so H3 is again supported by the results. Transfer pricing and intangible assets jointly influence tax haven utilization in the Caribbean, Oceania, and Indian geographical domains. The regression coefficient for *WTAX* is positively and significantly associated with tax haven utilization ($p < 0.05$ or better) across all regression models (*THAV1–THAV7*), providing support for H4. Withholding taxes are significantly positively associated

with tax haven utilization in the Caribbean, British, Oceania, and Indian geographical domains. The regression coefficient for *REM* is positive and significantly associated with tax haven utilization ($p < 0.05$ or better) in only the *THAV6* regression model, so H5 is marginally supported by the results. It seems that where key management personnel meet their performance targets (e.g., after-tax profitability) in the Oceania geographical domain, they have an incentive to reduce group taxes payable through the utilization of tax havens (e.g., Desai et al., 2006b). The regression coefficient for *MULTI* is positive and significantly associated with tax haven utilization ($p < 0.10$ or better) across the *THAV5*, *THAV6*, and *THAV7* regression models, and therefore H6 is supported by the results. Multinationality is significantly positively associated with tax haven utilization in the British, Oceania, and Indian geographical domains. The regression coefficient for *CGS* is negative and significantly associated with tax haven utilization ($p < 0.05$) across the *THAV4*, *THAV5*, and *THAV6* regression models, so H7 is supported. Firms with weaker corporate governance structures are therefore more likely to utilize tax havens in the Caribbean, British, and Oceania geographical domains. Overall, the results in Table 4 support all seven hypotheses (although support for H5 is marginal). In terms of the control variables, the regression coefficients for *SIZE*, *LEV*, and *ROA* are positively and significantly associated with tax haven utilization ($p < 0.05$ or better with the predicted sign) in some of our regression models.

[Insert Table 4 About Here]

4.3. Robustness check – firm level regressions

We also perform a robustness check at the firm level using the base regression model in equation (1). This robustness check is carried out to determine whether there is serial dependence in our data (see, e.g., Harvey, 1990; Hoi et al., 2013), as variables such as tax haven utilization,

26

transfer pricing, withholding taxes, and corporate governance structures could remain relatively stable over time. We take the average of the variables over the five-year (2006–2010) sampling period and calculate firm-level measures for all of the variables in the base regression model of equation (1).[23] We then use the firm-level (average) variables to run the regression models.

Table 5 reports the firm-level regressions results. We find that the regression coefficients for our independent variables, *TPRICE*, *INTANG*, *TPRICE*INTANG*, *WTAX*, *REM*, *MULTI*, and *CGS*, are significant ($p < 0.10$ or better) with predicted signs. We also observe that the regression coefficients for the control variables *SIZE*, *LEV*, and *ROA* are significant ($p < 0.10$ or better with predicted signs) in several of our regression models. Overall, the firm-level regression results are generally consistent with the base regression model results presented in Tables 3 and 4. We are therefore confident that our empirical results are not overly influenced by any potential serial dependence in the data.[24]

[Insert Table 5 About Here]

5. Conclusions

This study examines the determinants of tax haven utilization by publicly-listed Australian firms. Our regression results indicate that variables relating to transfer pricing, intangible assets, an interaction term between transfer pricing and intangible assets, withholding taxes, performance-based management remuneration, and multinationality are positively associated with tax haven utilization. We also find that corporate governance structures are negatively associated with tax haven utilization. The magnitude and significance of the regression

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[23] For a dummy variable, such as *THAV1*, we construct the firm-level measure as a dummy variable that is coded as 1 if *THAV1* equals 1 in more than half of the years during 2006–2010, and 0 otherwise. We use the same procedure to calculate the firm-level measures for the other dummy variables, including *THAV2*, *THAV4*, *THAV5*, *THAV6*, *THAV7*, *TPRICE*, and *WTAX*. The method that we use here is consistent with that of Hoi et al. (2013).

[24] As a final robustness check of our base regression model results in equation (1), we ran cross-sectional OLS regressions for each of the 2006–2010 years separately. The (untabulated) results are similar in terms of coefficients and significance level to those reported in our base (pooled) regression results in Tables 3 and 4.

coefficients indicate that transfer pricing, withholding taxes, intangible assets, an interaction term between transfer pricing and intangible assets, corporate governance, and multinationality are the most important drivers of tax haven utilization.

Our study extends the current literature on the international tax avoidance practices of firms, with specific reference to tax haven utilization by publicly-listed Australian firms. Presently, there is a lack of research into the significance of tax havens in facilitating tax avoidance in Australia and elsewhere (e.g., Canada, the UK and the US). In fact, this is one of the first studies to provide detailed empirical evidence of the major determinants of tax haven utilization. We add to the current literature by examining the joint effect of aggressive transfer pricing and intangible assets on tax haven utilization. We also investigate the association between the strength of a corporate governance structure and tax haven utilization, which has not been analyzed in the literature before. Finally, there is the possibility that the results of our research can be generalized to other jurisdictions, such as Canada, the UK and the US.

This study is subject to several limitations. First, the sample is drawn from publicly-listed Australian firms because data are not generally available for private firms. Second, it is not possible to determine the importance of a particular tax haven incorporated subsidiary to the corporate group as a whole. Third, it may be possible that firms have not disclosed all of their subsidiaries (including tax haven incorporated subsidiaries) in the annual report for reasons of brevity, economic importance, transparency, and reputation. Thus, it is possible that not all tax haven incorporated firms have been recognized in our sample firms. However, crosschecking with other aspects of the annual report (e.g., interests in jointly controlled entities) suggests that our data are complete, and any potential omission would not significantly affect our results. Finally, our base regression model may be incomplete. For example, the role of tax authorities

could influence tax haven utilization. However, we excluded this variable due to data availability constraints.

Future research on tax haven utilization could consider several important issues. First, future research could evaluate the flow of funds from transactions between Australian firms and their tax haven affiliates to determine the key determinants of net fund transfers. Second, the utilization of tax havens by multinational financial firms could also be investigated given the economic importance of these firms to most countries. Third, future research could also explore in more detail the association between intangible assets, transfer pricing aggressiveness and audit activity pertaining to tax haven utilization. There is global recognition that tax haven utilization and transfer pricing aggressiveness are the primary mechanisms by which multinational firms are able to significantly reduce corporate tax liabilities. In fact, tax authorities are continuing to direct substantial resources at tax compliance (e.g., review and audit) on the abusive utilization of tax havens and transfer pricing arrangements. Finally, future research could also examine the determinants of tax haven utilization in different jurisdictions around the world, especially in Canada, the UK and the US, given that there have been several media releases recently about the extensive use of tax havens by firms domiciled in these particular jurisdictions.

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Appendix A
Corporate Governance Score

The corporate governance score (*CGS*) is based on six corporate governance (CG) items derived from the ASX Corporate Governance Council's (2007) principles and recommendations, which are summarized below.

Item	Description
CG1	The board chairman is an independent director
CG2	Different individuals hold the roles of chairman
CG3	The majority of the board of directors (>60%) is independent
CG4	The board adopted a formal integrated risk management policy that deals with risk management and internal controls
CG5	The CEO/CFO stated in the annual report that the firm's risk management and controls system were operating effectively and efficiently
CG6	The firm has a risk management committee

Source: ASX Corporate Governance Council (2007).

Table 1
Descriptive Statistics

Variable	Mean	Std. Dev.	Median	Minimum	Maximum
THAV1	0.339	0.474	0.000	0.000	1.000
THAV2	0.136	0.343	0.000	0.000	1.000
THAV3	0.029	0.085	0.000	0.000	1.000
THAV4	0.122	0.328	0.000	0.000	1.000
THAV5	0.214	0.410	0.000	0.000	1.000
THAV6	0.032	0.177	0.000	0.000	1.000
THAV7	0.092	0.289	0.000	0.000	1.000
TPRICE	0.300	0.470	0.000	0.000	1.000
INTANG	0.170	0.237	0.042	0.000	0.705
WTAX	0.507	0.500	0.000	0.000	1.000
REM	0.341	0.235	0.313	0.000	1.000
MULTI	0.242	0.317	0.051	0.000	1.000
CGS	0.765	0.201	0.833	0.167	1.000
SIZE	20.351	1.863	20.401	13.823	24.747
LEV	0.627	0.217	0.686	0.000	1.649
MKTBK	5.116	1.755	2.304	–4.901	8.148
ROA	0.008	0.116	0.006	–0.204	0.358

Variable definitions: *THAV1* = a dummy variable that is coded as 1 if the firm has at least one subsidiary company incorporated in an OECD listed tax haven, and 0 otherwise; *THAV2* = a dummy variable that is coded as 1 if the firm uses a special purpose financing subsidiary incorporated in a tax haven for treasury purposes, and 0 otherwise; *THAV3* = a continuous variable measured as the number of firms incorporated in an OECD listed tax haven divided by the total number of subsidiaries; *THAV4* = a dummy variable that is coded as 1 if the firm has a subsidiary incorporated in a tax haven located in the Caribbean geographical domain (i.e., Bermuda, the British Virgin Islands, the Cayman Islands, Netherlands Antilles, Panama, Turks and Caicos Islands), and 0 otherwise; *THAV5* = a dummy variable that is coded as 1 if the firm has a subsidiary incorporated in a tax haven located in a British geographical domain (i.e., British Virgin Islands, Channel Islands, Guernsey, Isle of Man, Jersey, Liberia, Luxembourg, Malta, and the Netherlands), and 0 otherwise; *THAV6* = a dummy variable that is coded as 1 if the firm has a subsidiary incorporated in a tax haven located in the Oceania geographical domain (i.e., Cook Islands, New Caledonia, Samoa and Vanuatu), and 0 otherwise; *THAV7* = a dummy variable that is coded as 1 if the firm has a subsidiary incorporated in a tax haven located in the Indian geographical domain (i.e., Mauritius), and 0 otherwise; *TPRICE* = a dummy variable that is coded as 1 if the parent entity cannot substantiate that related party transactions group members were made on an arm's length or commercial basis, and 0 otherwise; *INTANG* = intangible assets divided by total assets; *WTAX* = a dummy variable that is coded as 1 if Australian withholding taxes apply, and 0 otherwise; *REM* = the total performance based remuneration paid to key management personnel (total at-risk cash bonus paid to key management personnel plus the total equity-based remuneration paid to key management personnel) divided by the total remuneration paid to key management personnel; *MULTI* = foreign source income divided by total income; *CGS* = a corporate governance score comprising six corporate governance items (see Appendix A); *SIZE* = the natural logarithm of total assets; *LEV* = long-term debt divided by total assets; *MKTBK* = the market value of equity divided by the book value of equity; and *ROA* = pre-tax income divided by total assets.
N = 1,000 for all variables.

Table 2
Pearson Correlation Results

	THAV1	THAV2	THAV3	THAV4	THAV5	THAV6	THAV7	TPRICE	INTANG	WTAX	REM	MULTI	CGS	SIZE	LEV	MKTBK	ROA
THAV1	–																
THAV2	0.566***	–															
THAV3	0.456***	0.345***	–														
THAV4	0.508***	0.308***	0.283***	–													
THAV5	0.630***	0.502***	0.344***	0.309***	–												
THAV6	0.339***	0.252***	0.276***	0.210***	0.263***	–											
THAV7	0.437***	0.246***	0.233***	0.247***	0.169***	0.199***	–										
TPRICE	0.083***	0.155***	0.070**	0.067**	0.071**	0.010***	0.085***	–									
INTANG	0.148***	0.190***	0.120***	0.138***	0.113***	0.173***	0.100***	0.104***	–								
WTAX	0.514***	0.314***	0.155***	0.266***	0.417***	0.124***	0.266***	0.192***	0.040	–							
REM	0.206***	0.142***	0.031	0.202***	0.149***	0.116***	0.134***	0.073**	0.031	0.193	–						
MULTI	0.262***	0.258***	0.094***	0.069**	0.242***	0.198***	0.182***	0.154***	0.005	0.080**	0.066**	–					
CGS	–0.107***	–0.131***	–0.135***	–0.143***	–0.100***	–0.062**	–0.082***	–0.096***	–0.014	0.241***	–0.133***	0.035	–				
SIZE	0.384***	0.322***	0.100***	0.340***	0.287***	0.192***	0.157***	0.372***	–0.141***	0.344***	0.317***	0.106***	0.317***	–			
LEV	0.226***	0.141***	0.078***	0.127***	0.184***	0.110***	0.115***	0.284***	–0.145***	0.325***	0.091***	0.085***	0.155***	0.411***	–		
MKTB	0.031	0.018	0.002	0.015	0.050	0.008	0.009	0.014	0.025	0.018	0.019	0.006	–0.040	0.149***	0.010	–	
ROA	0.012	0.003	0.004	0.012	0.004	0.001	0.005	0.042	0.017	0.016	0.023	0.025	–0.008	0.022	0.020	0.012	–

Variable definitions: See Table 1 for variable definitions.

N = 1,000 for all variables.

*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. The *p*-values are one-tailed for directional hypotheses and two-tailed otherwise.

Table 3
Regression Results – General Tax Haven Determinants

	Predicted sign	THAV1[a] (LOGIT)	THAV2[a] (LOGIT)	THAV3[a] (OLS)
Intercept	?	14.186 (4.67)***	17.507 (4.29)***	5.732 (1.13)
TPRICE	+	0.729 (2.20)**	0.646 (2.92)***	0.595 (2.23)**
INTANG	+	0.134 (1.98)**	0.163 (2.01)**	0.123 (1.97)**
TPRICE*INTANG	+	0.842 (2.22)**	0.803 (2.10)**	0.869 (2.20)**
WTAX	+	0.197 (5.48)***	0.263 (2.85)***	0.693 (3.22)***
REM	+	0.006 (1.22)	0.004 (0.45)	0.004 (0.25)
MULTI	+	0.005 (2.25)**	0.019 (2.96)***	0.004 (0.28)
CGS	–	–0.013 (–2.40)***	–0.027 (–2.15)**	–0.015 (–2.03)**
SIZE	+	0.459 (3.60)***	0.479 (3.71)***	0.118 (2.48)***
LEV	+	0.073 (0.77)	0.002 (0.01)	0.302 (1.27)
MKTBK	?	0.005 (0.30)	0.008 (0.67)	0.025 (0.95)
ROA	+	0.001 (0.11)	0.001 (1.17)	0.001 (0.88)
INDSEC	?	Yes	Yes	Yes
YEAR	?	Yes	Yes	Yes
Pseudo/Adj. R^2 (%)		32.36%	38.45%	10.40%

Variable definitions: *INDSEC* = an industry sector dummy variable that is coded as 1 if the firm falls within the specific GICS industry sector category, and 0 otherwise; *YEAR* = a year dummy variable that is coded as 1 if the year falls within the specific year category, and 0 otherwise; and see Table 1 for other variable definitions.
N = 1,000 for all variables.
*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. The *p*-values are one-tailed for directional hypotheses and two-tailed otherwise.
[a]Coefficient estimates with the *t*-statistics in parentheses. Robust standard errors are computed, which are clustered by firm (see, e.g., Peterson, 2009).

Table 4
Regression Results –Geographical Domain Tax Haven Determinants

	Predicted sign	THAV4[a] (LOGIT)	THAV5[a] (LOGIT)	THAV6[a] (LOGIT)	THAV7[a] (LOGIT)
Intercept	?	15.981 (4.21)***	12.759 (3.71)***	12.315 (1.96)**	6.871 (2.46)**
TPRICE	+	0.638 (2.35)**	0.461 (1.81)**	0.656 (2.04)**	0.656 (1.93)**
INTANG	+	.164 (1.66)*	0.146 (1.26)	0.178 (1.86)**	0.135 (2.03)**
TPRICE*INTANG	+	0.908 (1.92)**	0.591 (0.50)	0.928 (2.51)***	0.960 (2.03)**
WTAX	+	0.786 (3.01)***	0.611 (4.20)***	0.369 (1.70)**	0.476 (1.96)**
REM	+	0.006 (0.75)	0.005 (0.89)	0.022 (1.70)**	0.012 (1.04)
MULTI	+	0.005 (0.75)	0.007 (2.43)***	0.018 (1.40)*	0.012 (1.96)**
CGS	−	–0.018 (–1.82)**	–0.011 (–1.97)**	–0.010 (–1.86)**	–0.005 (–0.31)
SIZE	+	0.587 (2.87)***	0.311 (2.65)***	0.225 (1.96)**	0.201 (1.97)**
LEV	+	0.052 (0.37)	0.141 (1.39)*	0.340 (1.04)	0.001 (0.01)
MKTBK	?	0.030 (1.48)	0.009 (0.44)	0.003 (0.13)	0.001 (0.09)
ROA	+	0.018 (2.14)**	0.001 (1.64)**	0.014 (0.62)	0.003 (0.41)
INDSEC	?	Yes	Yes	Yes	Yes
YEAR	?	Yes	Yes	Yes	Yes
Pseudo R^2 (%)		27.78%	28.95%	30.49%	19.55%

Variable definitions: See Tables 1 and 3 for variable definitions.

N = 1,000 for all variables.

*, **, and *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively. The *p*-values are one-tailed for directional hypotheses and two-tailed otherwise.

[a]Coefficient estimates with the *t*-statistics in parentheses. Robust standard errors are computed, which are clustered by firm (see, e.g., Peterson, 2009).

Table 5
Regression Results – Firm-level Regressions of Tax Haven Determinants

	Predicted sign	General			Geographical Domains			
		$THAV1$[a] (LOGIT)	$THAV2$[a] (LOGIT)	$THAV3$[a] (OLS)	$THAV4$[a] (LOGIT)	$THAV5$[a] (LOGIT)	$THAV6$[a] (LOGIT)	$THAV7$[a] (LOGIT)
Intercept	?	14.970 (4.27)***	13.780 (3.59)***	5.252 (2.10)**	17.176 (4.63)***	12.067 (3.99)***	18.331 (1.87)*	8.482 (4.59)***
TPRICE	+	0.713 (2.01)**	0.608 (2.01)**	0.437 (2.24)**	0.676 (2.08)**	0.354 (1.96)**	0.622 (2.24)**	0.651 (1.89)**
INTANG	+	0.165 (2.08)**	0.144 (2.04)**	0.160 (2.02)**	.264 (1.60)*	0.182 (0.76)	0.117 (1.67)*	0.176 (2.01)**
TPRICE*INTANG	+	0.613 (2.24)**	0.522 (2.30)**	0.824 (2.07)**	0.993 (2.03)**	0.572 (0.27)	0.948 (2.57)***	0.781 (2.08)**
WTAX	+	0.129 (5.85)***	0.206 (3.00)***	0.906 (3.00)***	0.774 (3.28)***	0.616 (4.45)***	0.327 (1.90)**	0.447 (2.32)**
REM	+	0.000 (1.08)	0.002 (0.08)	0.003 (0.08)	0.005 (0.73)	0.006 (0.41)	0.002 (2.22)**	0.011 (1.20)
MULTI	+	0.004 (1.98)**	0.013 (1.72)**	0.013 (0.72)	0.008 (1.48)*	0.007 (1.92)**	0.019 (1.51)*	0.009 (1.89)**
CGS	–	–0.011 (–2.08)**	–0.021 (–2.09)**	–0.017 (–1.92)**	–0.022 (–1.88)**	–0.010 (–2.26)**	–0.010 (–2.03)**	–0.006 (–0.63)
SIZE	+	0.331 (2.57)***	0.434 (2.40)***	0.188 (2.03)**	0.309 (2.25)**	0.378 (1.91)**	0.221 (2.05)**	0.233 (2.08)**
LEV	+	0.088 (1.00)	0.002 (0.15)	0.381 (1.01)	0.035 (0.29)	0.110 (1.36)*	0.004 (0.72)	0.013 (0.13)
MKTBK	?	0.012 (0.70)	0.003 (0.51)	0.088 (1.06)	0.037 (1.04)	0.008 (0.85)	0.002 (0.92)	0.001 (0.01)
ROA	+	0.001 (0.10)	0.001 (0.74)	0.007 (1.72)**	0.019 (1.70)**	0.001 (1.85)**	0.001 (0.58)	0.001 (0.03)
INDSEC	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo/Adj. R^2 (%)	%	37.76%	32.15%	13.20%	33.06%	31.21%	35.76%	26.34%

Variable definitions: See Tables 1 and 3 for variable definitions.
N = 200 for all variables.
*, **, and *** indicate significance at the .10, .05, and .01 levels, respectively. The *p*-values are one-tailed for directional hypotheses and two-tailed otherwise.
[a]Coefficient estimates with the *t*-statistics in parentheses. Robust standard errors are computed, which are clustered by firm (see, e.g., Peterson, 2009).