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SFAS No. 142 and Corporate Tax Avoidance Behavior

謝承翰

Cheng-Han Xie

指導教授：許文馨 博士

Advisor : Wen-Hsin Hsu, Ph.D.

共同指導教授：林世銘 博士

Co-Advisor : Su-Ming Lin, Ph.D.

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SFAS No. 142 and Corporate Tax Avoidance Behavior

本論文係謝承翰君(R10722042) 在國立臺灣大學會計學研究所完成之碩士學位論文，於民國 112 年 06 月 21 日承下列考試委員審查通過及口試及格，特此證明

口試委員：

許文禧 林世銘 (簽名)

(指導教授)

廖春興

蔡元棠

系主任、所長

劉順仁

(簽名)

## 摘要



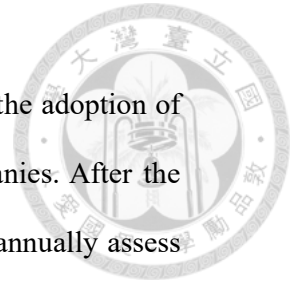
本研究探討了美國企業稅務規避行為與採用財務會計準則第 142 號之間的關係。在西元 2002 年實施財務會計準則第 142 號後，公司被要求使用公允價值法對商譽和其他無形資產進行定期評估和減值。此外，商譽不再進行攤銷並強制要求企業進行兩步驟的減值測試。本研究使用了使用差異中之差異法發現受到財務會計準則第 142 號影響的企業（即實驗組）在財務會計準則第 142 號實施後的時期內，其有效稅率較未受影響的企業低。其原因可能是財務會計準則第 142 號賦予管理者在評估商譽和其他無形資產的公平價值方面更大的自由裁量權，導致管理者可以更大程度影響稅務規劃和規避的相關決策。

關鍵字：避稅行為、財務會計準則第 142 號、管理階層裁量權、資訊環境、有效稅率

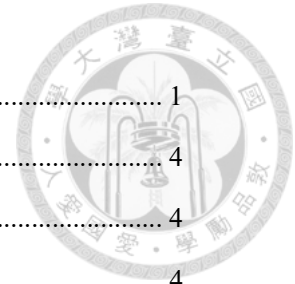
## Abstract

This study tests the relationship between corporate tax avoidance and the adoption of Statement of Financial Accounting Standards No.142 for U.S. companies. After the implementation of SFAS No. 142 in 2002, companies are required to annually assess and evaluate the impairment of goodwill and other intangible assets using the fair value method. Furthermore, SFAS 142 eliminates the practice of goodwill amortization and instead mandates a two-step impairment test for firms. Using a difference-in-differences design, I find that firms affected by SFAS 142 (i.e., treatment firms) have lower effective tax rates in the post-SFAS 142 periods compared with those not affected. SFAS 142 gives managers increased discretion in assessing the fair value of goodwill and other intangible assets, potentially leading to unverifiable estimates. This heightened managerial discretion can impact tax planning and avoidance as managers strategically manipulate value of intangible asset and their allocation to different segments for optimal tax outcomes. This research aims to shed light on the effects of this accounting standard on corporate behavior regarding financial reporting and tax planning. My study contributes to my understanding of the relationship between financial reporting behavior and tax reporting behavior.

**Keywords:** Tax Avoidance, SFAS 142, Management Discretion, Information Environment, Effective Tax Rate

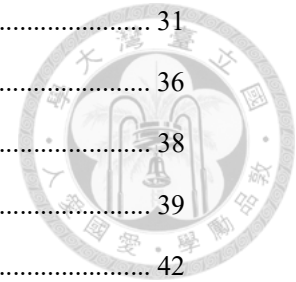


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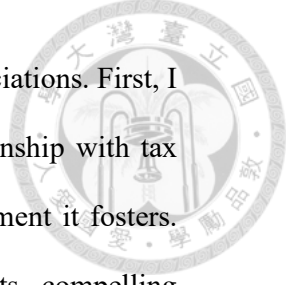


## 1. Introduction

Accounting standards can have a significant impact on tax avoidance practices. The relationship between accounting and tax can influence the amount of taxable income reported by a company and subsequently affect the taxes owed. For example, accounting standards provide guidance on how assets and liabilities should be valued. Companies may use different valuation methods to minimize taxable income. Firms might undervalue assets or overvalue liabilities, leading to lower reported profits and reduced tax liability. Another aspect to consider, accounting standards govern the timing and recognition of expenses. Companies may attempt to delay or accelerate the recognition of expenses to reduce taxable income. By deferring expenses, they can artificially inflate profits in one period and defer tax payments. Conversely, they may accelerate expenses to reduce current taxable income. Moreover, accounting standards require companies to disclose significant tax-related information. By studying these disclosures, tax authorities and the public can gain insights into a company's tax planning strategies and potentially uncover aggressive tax avoidance practices (Hope et al., 2013). However, the availability of literature discussing the impact of changing accounting methods on tax avoidance behaviors is relatively scarce, making it a topic worthy of discussion. The applicability of SFAS 142 provides a perfect opportunity to explore the relationship between these two aspects. It has brought about changes in the accounting treatment of goodwill and other intangible assets.

Before Statement of Financial Accounting Standards No. 142 (SFAS 142), indefinite-lived intangible assets (along with goodwill) were required to be amortized within the useful life. However, after the implementation of SFAS 142, indefinite-lived intangible assets are required to be tested annually for impairment. One implication of impairment accounting standards is that management is compelled to gather more

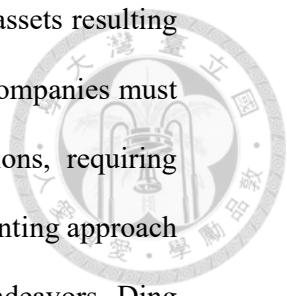
information about the potential for asset impairment.



I argue that tax avoidance exhibits both positive and negative associations. First, I anticipate that the adoption of SFAS 142 will have a negative relationship with tax avoidance due to the enhanced information and transparency environment it fosters. The implementation of SFAS 142 mandates annual impairment tests, compelling companies to gather extensive information regarding the evaluation of goodwill and the methodologies employed to determine its value, all of which must be disclosed in financial statements. In support of this notion, Qiang (2017) conducted a study examining the impact of changes in a company's financial statements on the information environment. The findings suggest that mandatory changes in external reporting prompt managers to acquire new information, thereby improving their information sets and the overall information environment. When a company's information environment becomes more transparent, its tax avoidance behavior tends to decrease (Hope et al., 2013). Higher transparency implies more information disclosure and oversight, making it easier to monitor and scrutinize the company's tax activities. A transparent information environment encourages companies to manage their tax affairs more prudently and in compliance with regulations, reducing potential tax risks and tax avoidance practices. Therefore, actively improving information disclosure and maintaining transparency generally led to a decrease in tax avoidance behavior.

On the other hand, I anticipate that the adoption of SFAS 142 will have a positively relationship with tax avoidance. After the implementation of SFAS 142, companies are no longer able to deduct fixed amortization expenses for goodwill each period, as impairment losses are now recognized. As a result, they lose the opportunity to reduce their tax liability through amortization. Considering this change, management may use their discretion to explore and engage in tax avoidance strategies. Another perspective





to consider is the increased presence of goodwill and other intangible assets resulting from merger and acquisition (M&A) activities. Under SFAS 141(R), companies must apply the acquisition method of accounting for all M&A transactions, requiring identification and assessment of each business combination. This accounting approach leads to a higher accumulation of intangible assets through M&A endeavors. Ding (2022) has presented evidence that companies with greater levels of intangible capital tend to employ more tax avoidance practices and undertake more tax sheltering activities. Additionally, SFAS 142 mandates the recognition and measurement of intangible assets based on fair value, presenting an opportunity for firms to manipulate the actual value of these assets for the purpose of tax avoidance (Watts, 2003). Consequently, there is a higher likelihood of companies engaging in tax avoidance following the adoption of SFAS 142.

To discern the impact of SFAS 142, I adopt a difference-in-differences research design. The treatment group comprises firms that report goodwill during the entire period of my study. The control group, on the other hand, includes firms that never report goodwill within the same timeframe and, consequently, remain unaffected by the adoption of SFAS 142. This approach enables us to isolate the impact of SFAS 142 by comparing changes in the outcomes of the treatment group with those of the control group over time. For the measurement of corporate tax avoidance, I use effective tax rate (ETR) and book-tax differences (DD\_BT D) in my model to see the actual tax burden faced by each company.

I include 4,599 observations in my model and find the treatment group (firms reporting goodwill) engaged in more tax planning compared to the control group (firms not reporting goodwill) during the period after the implementation of SFAS 142. The decrease in effective tax rate (ETR) and book-tax differences (BTD) for the treatment

group suggests that they were able to reduce their tax liabilities by engaging in more tax planning activities, which could be attributed to an improved internal information environment and reduced ambiguity in accounting for goodwill under SFAS 142.

My study makes several contributions. First, I shed light on how changes in accounting standards affect firms' tax planning behavior, which is an important issue for regulators, policymakers, and investors. The findings can help inform debates about the potential trade-offs between financial reporting transparency and tax avoidance, as well as provide insights into how firms respond to changes in accounting standards and regulations.

Second, the findings will add to the growing body of literature on the determinants of tax avoidance, which is an area of increasing interest to scholars and practitioners alike. By identifying specific factors that influence firms' tax planning behavior, this research can help inform efforts to design more effective tax policies and regulations that balance the need for revenue collection to promote economic growth and stability.

In the next section, I will discuss the accounting regulations' background and previous literature. In section 3, I talk about the hypothesis development, and section 4 presents the research design and sample selection. Section 5 shows the main results. And giving a summary of this paper in section 7.

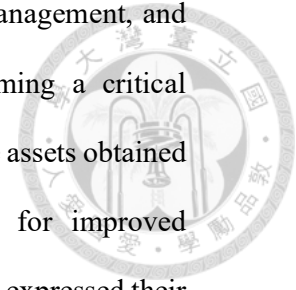
## **2. Literature review**

### *2.1 SFAS142*

#### *2.1.1 Reasons for Issuing SFAS 142*

This statement provides the accounting treatment for goodwill and other intangible assets from the business combination, suspend the APB Opinion No. 17. which dealt with intangible assets. Furthermore, the statement also covers the accounting treatment for goodwill and other intangible assets after their initial recognition in the financial

statements. Financial statement users, including analysts, company management, and other stakeholders, have observed that intangible assets are becoming a critical economic resource for many entities and are a growing proportion of the assets obtained in various transactions. Consequently, they emphasized the need for improved information on intangible assets. Additionally, financial statement users expressed their belief that goodwill amortization expense was not particularly useful in evaluating investments.



2.1.2 Differences between SFAS142 and Opinion 17

|  | <b>Before SFAS 142<br/>(Opinion 17)</b>                         | <b>After SFAS 142</b>  |
|--|---|--|
| <b>Accounting Treatment</b>                | Amortization of Goodwill  | Impairment Testing for Goodwill  |
| <b>Disclosure Requirements</b>             | Limited disclosure of impairment indicators                     | Enhanced disclosure of impairment indicators and test results                          |
| <b>Measurement of Goodwill</b>             | Based on historical cost  | Based on fair value  |
| <b>Frequency of Goodwill Assessment</b>    | No requirement for regular assessments                          | Annual or periodic assessments   |
| <b>Tax Planning Considerations</b>         | Opportunity for income shifting through amortization deductions | Greater scrutiny on allocation of impairment charges for tax optimization              |
| <b>Impact on Financial Statement Users</b> | Less insight into the true economic value of goodwill           | Improved transparency and comparability regarding the value and impairment of goodwill |

**Figure 1.** Comparison table between pre- and post-implementation of SFAS 142

As for the accounting treatment of goodwill in the US, APB Opinion 17 was issued in 1970 and provided the first guidance on the accounting treatment of intangible assets. Specifically, the opinion addressed how to account for intangible assets that were

acquired in a business combination. Under APB Opinion 17, company should record as assets the cost of intangible assets acquired from others. This included intangible assets such as patents, trademarks, and goodwill. Goodwill was defined as the excess of the purchase price over the fair value of the identifiable net assets acquired. The opinion also required that the cost of each category of intangible asset should be systematically allocated to income over the estimated period of benefit. However, the amortization period should not exceed forty years.

SFAS142 introduces a new accounting method for goodwill and changes the way it is treated. Instead of amortization, goodwill is no longer regularly charged. This leads to greater fluctuations in a company's profits due to the possibility of irregular and varying impairment losses.

As an example, let's consider Apple Inc. The difference in the way goodwill is reported on their financial statements is illustrated in Figures 1 and 2.

**CONSOLIDATED BALANCE SHEETS**  
(In millions, except share amounts)

|   | September 28, 2002 | September 29, 2001 |
|---|--------------------|--------------------|
| <b>ASSETS:</b>  |                    |                    |
| Current assets:   |                    |                    |
| Cash and cash equivalents   | \$ 2,252           | \$ 2,310           |
| Short-term investments  | 2,085              | 2,026              |
| Accounts receivable, less allowances of \$51 and \$51, respectively | 565                | 466                |
| Inventories   | 45                 | 11                 |
| Deferred tax assets   | 166                | 169                |
| Other current assets  | 275                | 161                |
| <b>Total current assets</b>   | <b>5,388</b>       | <b>5,143</b>       |
| Property, plant, and equipment, net                                 | 621                | 564                |
| Non-current debt and equity investments                             | 39                 | 128                |
| Acquired intangible assets  | 119                | 76                 |
| Other assets  | 131                | 110                |
| <b>Total assets</b>   | <b>\$ 6,298</b>    | <b>\$ 6,021</b>    |

**Figure 2.** The balance sheets of Apple Inc. (2002 – before the SFAS.142)

CONSOLIDATED BALANCE SHEETS

(In millions, except share amounts)

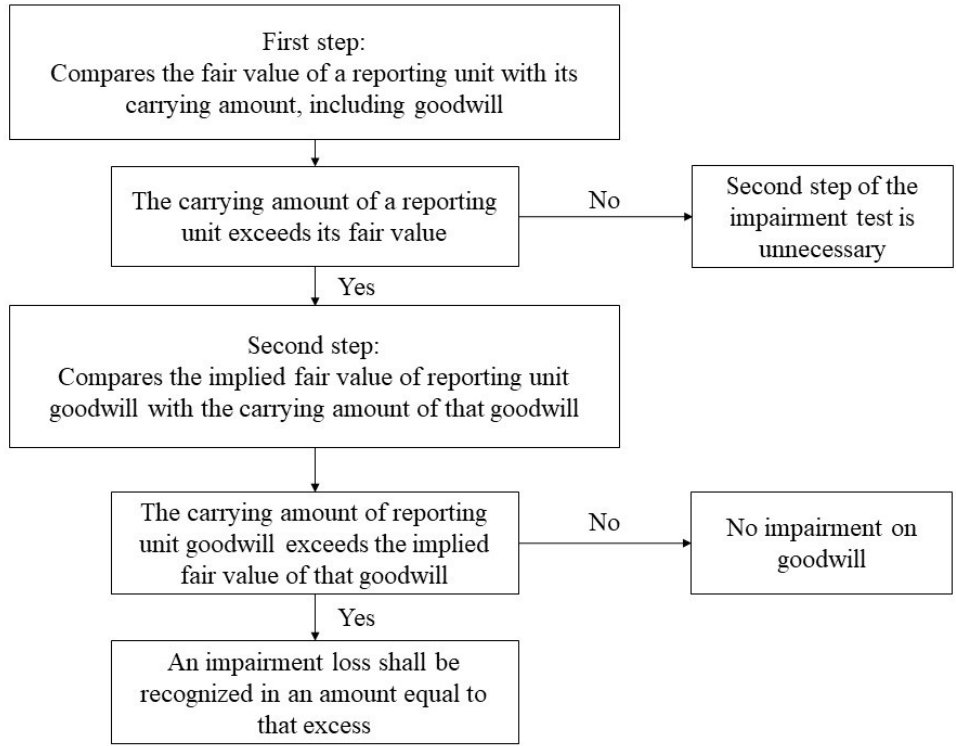
|   | September 27, 2003 | September 28, 2002 |
|---|--------------------|--------------------|
| <b>ASSETS:</b>  |                    |                    |
| Current assets:   |                    |                    |
| Cash and cash equivalents   | \$ 3,396           | \$ 2,252           |
| Short-term investments  | 1,170              | 2,085              |
| Accounts receivable, less allowances of \$49 and \$51, respectively | 766                | 565                |
| Inventories   | 56                 | 45                 |
| Deferred tax assets   | 190                | 166                |
| Other current assets  | 309                | 275                |
| <b>Total current assets</b>   | <b>5,887</b>       | <b>5,388</b>       |
| Property, plant, and equipment, net                                 | 669                | 621                |
| <b>Goodwill</b>   | <b>85</b>          | <b>85</b>          |
| Acquired intangible assets  | 24                 | 34                 |
| Other assets  | 150                | 170                |
| <b>Total assets</b>   | <b>\$ 6,815</b>    | <b>\$ 6,298</b>    |

**Figure 3.** The balance sheets of Apple Inc. (2003 – after the SFAS.142)

### 2.1.3 Two-step impairment

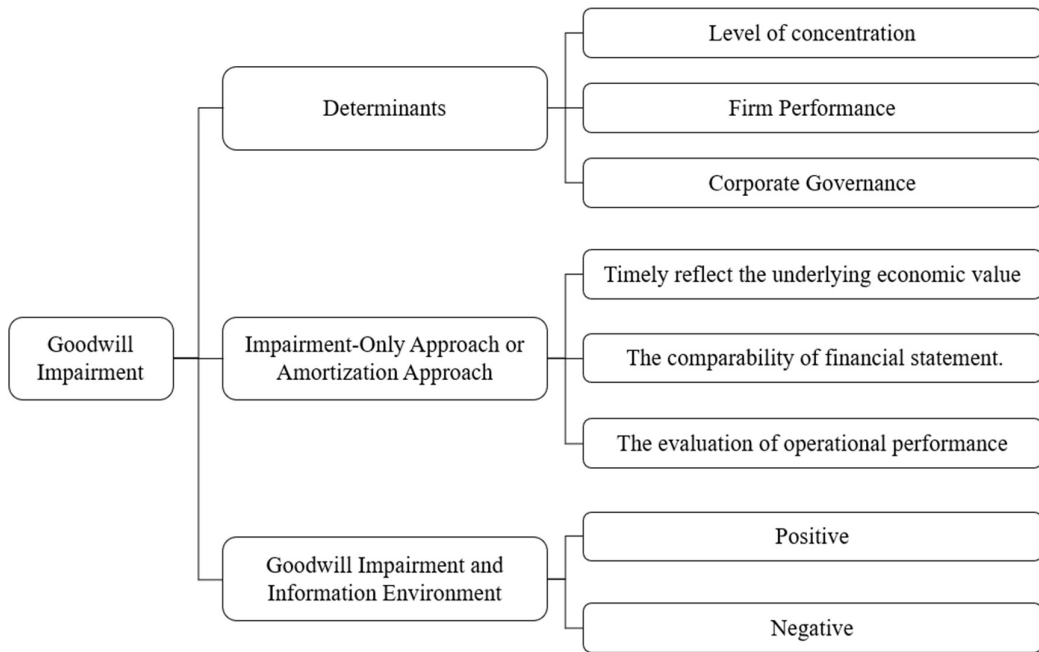
In the goodwill impairment test, there are two steps. Firstly, we need to assess whether there is potential impairment in the company's goodwill by comparing the fair value of the reporting unit (including goodwill) to its carrying amount. If the fair value of the unit exceeds its carrying amount, it indicates that there is currently no impairment, and there is no need to proceed to the second stage. Conversely, if the fair value is lower than the carrying amount, the second stage of the test must be conducted.

In the second step, the specific amount of impairment is determined by comparing the fair value of the goodwill to its carrying amount. If the carrying amount exceeds the fair value, the company must recognize an impairment loss equal to the difference and use the adjusted value of the goodwill as its new carrying amount. It is important to note that goodwill impairment cannot be reversed in subsequent accounting periods.



**Figure 4.** The flowchart of the two-step impairment

*2.2 Literature review in goodwill impairment*



**Figure 5.** Structure of Goodwill Impairment

### 2.2.1 *Determinants of Goodwill Impairment*

There are several papers investigating which factors can explain goodwill impairments. Including the level of concentration, the relationship between the level of concentration and the decision to carry out the goodwill impairment decision is documented in the literature (Verriest, 2009). Fan and Wong (2002) mentioned the level of concentration can affect the difficulty of the financial statement users get the information from the company. Also, Francis, Schipper, and Vincent (2005) mentioned lacking transparency in accounting disclosures can deteriorate information asymmetry. Thus, in the situation of a high-level concentration company, most shareholders might tend to manipulate the accounting information for their benefit. Since the decision of making the goodwill impaired can affect the return of the stock and the future cash flow (Cheol, 2011), the management has an incentive to recognize impairment loss on goodwill in the way they want.

Next, the literature also believes that firm performance plays a big role in goodwill impairment. According to Francis, Hanna, and Vincent's (1996) research, they found that an above-average performing company tends to carry out goodwill impairment. It is believed that when a better-performing company issues a goodwill impairment, the event will have a weaker impact on the market compared to a company that performs worse. On the other way, because goodwill impairment was often related to negative events such as unanticipated competition or loss of key personnel (FASB, 2001), the stock price and return went down after the company announce impairment (Chen, 2008).

Finally, the corporate governance quality can also be seen from several papers as one of the determinants of goodwill impairment. (e.g. Leuz et al., 2003 and Daske et al., 2008). But it is also worth mentioning when I talk about the determinants of goodwill impairment which is firm-specific governance. Providing quality financial

information such as financial statement often count on the corporate governance mechanisms to perform (e.g. Klein, 2002; Larcker et al., 2007). Having strong corporate governance can mitigate the potential risks that may arise in the company such as agency problems. (Shleifer and Vishny, 1998; Larcker et al., 2007). It can also be avoided by providing as much information as possible to make the outsider's information align with the insiders. Previous research has shown that a positive relationship was found between effective governance practice (e.g. Karamanou and Vafeas, 2005; Marques, 2006). Good corporate governance ensures transparent, reasonable, and accountable decision-making processes within a company, avoiding subjective or improper evaluation of goodwill. This helps mitigate the risk of goodwill impairment and ensures proper recognition and treatment of goodwill (Verriest, 2009).

### *2.2.2 Impairment-Only Approach or Amortization Approach*

Accounting for goodwill has been a topic of debate and controversy for several decades (Bugeja and Gallery, 2006). In this debate, there are several points that are consistently brought up and discussed.

First, which method can more effectively and timely reflect the underlying economic value of goodwill. Under the impairment-only approach, companies are required to regularly test for impairment and recognize the impairment loss when the goodwill's carrying amount exceeds its recoverable amount. This approach aims to promptly reflect any decline in the value of goodwill. (American Accounting Association's Financial Accounting Standards Committee, 2001). However, recent research has raised concerns about the "impairment-only" approach, suggesting that it may be inadequate and delayed in recognizing and addressing goodwill impairments (Li et al., 2017; Ramanna and Watts, 2012). As a result, there may be a time lag between the occurrence of impairment and its recognition in the financial statements. On the



other hand, the amortization approach spreads the cost of goodwill over its useful life, resulting in a systematic reduction in its value over time. This method provides a more regular and predictable recognition of the decline in goodwill value. By amortizing goodwill, companies can avoid significant fluctuations in reported earnings caused by impairment losses. However, Ross (2001) argue that the amortization approach may not promptly capture changes in the underlying economic value of goodwill, as it relies on a predetermined amortization schedule that may not align with the actual value erosion.

Second, the comparability of financial statement. The impairment-only approach focuses on recognizing impairment losses when the carrying amount of goodwill exceeds its recoverable amount. This method can result in significant variability in reported earnings among companies, as impairment losses are recognized only when specific triggering events occur. As a result, the financial statements of companies following the impairment-only approach may have different levels of reported earnings and financial performance, making it challenging to compare them directly (Anthony et al., 2020). In contrast, the amortization approach spreads the cost of goodwill over its useful life, resulting in a more predictable and consistent recognition of goodwill expenses. This method can enhance the comparability of financial statements, as companies amortize goodwill systematically over time. By adopting a standardized amortization schedule, the reported earnings of companies following the amortization approach may exhibit more consistent patterns, allowing for easier comparison across different entities.

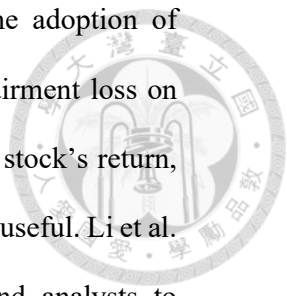
Last, the evaluation of operational performance, the impairment-only approach focuses on assessing the impairment of goodwill based on triggering events and determining the recoverable amount. When evaluating operational performance,

stakeholders may find the impairment-only approach more informative (Naser, 2012). The impairment losses recognized under this approach serve as indicators of the company's ability to sustain and enhance the value of its acquired assets over time. This approach allows for a closer examination of the underlying operational performance and the impact of external factors on the company's long-term success. On the other hand, the amortization approach does not directly reflect changes in the economic value of goodwill but rather spreads the cost of goodwill over its useful life. While this approach provides a more consistent and predictable expense recognition, it may not necessarily capture the true operational performance of the company (Hayn and Hughes, 2006). The systematic amortization of goodwill over time may mask the actual fluctuations in the company's operational effectiveness and its ability to generate value from the acquired assets.

### *2.2.3 Goodwill Impairment and Information Environment*

As previously mentioned, the adoption of SFAS 142 has changed the accounting treatment of goodwill. The research conducted by Chambers (2007) concluded that annual impairment testing of goodwill increases the value relevance of financial reports. From an external user's perspective, Guler (2016) suggests that the standard has improved the usefulness of goodwill numbers by finding that goodwill write-offs (or impairments) and goodwill balances are more strongly associated with stock returns and stock prices respectively in the post-SFAS 142 periods. Bens and Heltzer (2006) found there is an association between goodwill impairment loss and market reactions by looking at the long-window stock-price return. Some papers provide the concept that stock price was affected enormously when the company announced the goodwill impairment news during the narrow windows (Hirschey et al. 2002; Bens et al. 2006).

Recently, several studies have examined the market participants' and analyst



reaction to the company's announced goodwill impairments after the adoption of SFAS142. According to Guler's (2016) findings, the unexpected impairment loss on goodwill and intangible assets become a strong factor in accessing the stock's return, suggesting that the information on goodwill impairments becomes more useful. Li et al. (2011) also investigates the reaction of financial statement users and analysts to goodwill impairment. They mention that both financial information users and analysts are prone to expectations downward when the company announces the impairment. Nevertheless, the revisions are smaller in the period of SFAS 142 suggesting that the information provided by the company can effectively communicate with the market. Makrominas (2017) finds a positive relationship between the market's anticipation of growth opportunities, saying that goodwill and other intangible assets play a big role in accessing a company.

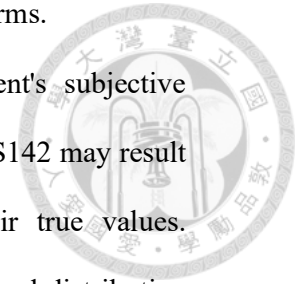
Finally, previous literature examines the association between goodwill and future earnings and cash flows. According to Glaum et al. (2018) findings, the future performance of a UK company is positively associated with the information of goodwill. Jarva (2009) mentioned that when a company is experiencing an impairment loss on the goodwill it might be a signal that a decline in cash flow in the future. Lee (2011) finds that investor and financial information users become more easily to predict future cash flows by considering the impaired information and the behavior of prediction becomes more common after the adoption of SFAS 142. Not only does this affect the external information, but the internal information environment has also get improved. In order to conduct annual routine tests, the company needs to gather relevant information to complete the two-stage impairment test. Cheng, Cho, and Yang (2018) argues the adoption of SFAS142 results in a significant improvement in the quality of internal information within the company. This improvement is established by observing

the enhanced accuracy of the company's forecasts compared to other firms.

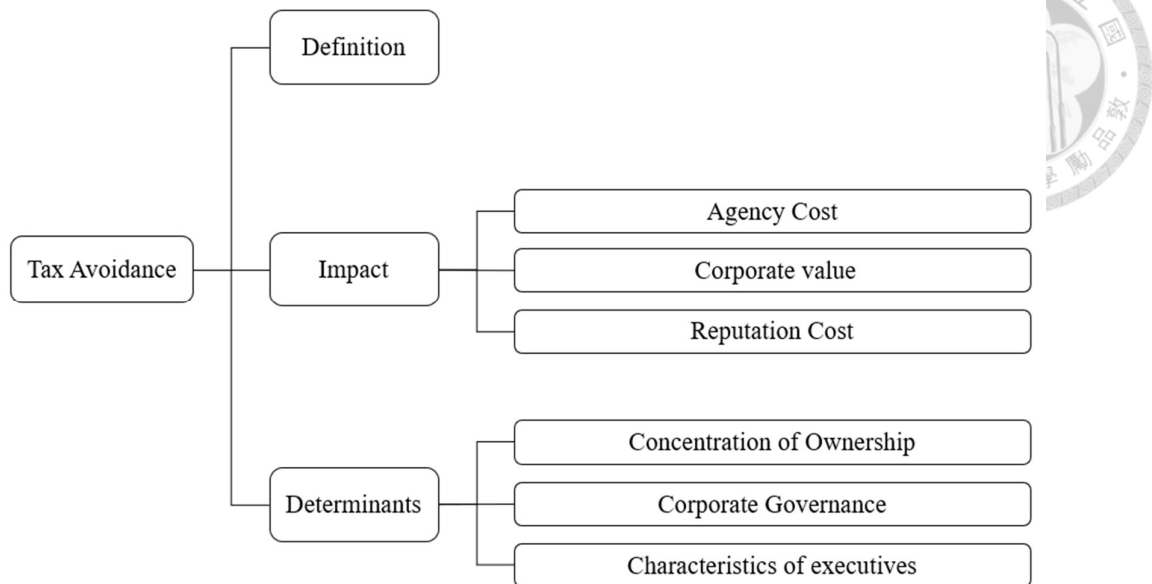
However, Watts (2003), the excessive reliance on management's subjective judgment in determining the fair value of intangible assets under SFAS142 may result in significant discrepancies between the reported values and their true values. Additionally, this subjective allocation of values may also lead to biased distribution across various departments within the company.

Several papers point out the problem of managers recognizing the goodwill impairment loss opportunistically since the SFAS142 offers the opportunity to do so. Ramanna (2008) finds that under the circumstances of the adoption of SFAS 142, the discretion becomes greater whenever management doing the goodwill impairment test. Similarly, Li and Sloan (2017) mentioned that management conducts the discretion provided by SFAS 142 to postpone the recognition of the goodwill impairment, leading to short-term inflation in earnings and stock returns. Li et al. (2011) offer evidence to support that management secretly hid the fact of the company is facing an impairment loss on goodwill from the market by postponing the recognition of the impairment loss. Finally, Ramanna and Watts (2012) found that managers take advantage of their discretion to benefit themselves and this is predicted by the agency theory.

Also, Chen et al. (2008) find that the information on goodwill impairment provides limited power for explaining the company's earnings by looking at the explanatory power between the situation with and without impairment-related information.



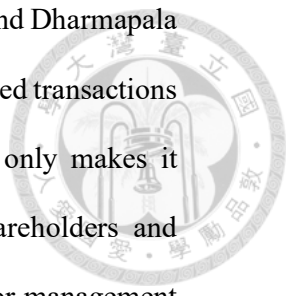
## 2.3 Literature Review in Tax Avoidance



**Figure 6.** Structure of Tax Avoidance

### 2.3.1 Tax avoidance

Taxation is a primary source of revenue for governments and can significantly impact firms' investment and operating decisions. In recent years, tax regulations have undergone substantial changes, making it necessary for firms to carefully consider tax implications in their decision-making process. Tax avoidance is a practice used by firms to minimize their tax liabilities, and it typically involves two distinct methods: tax arrangement and illegal tax behavior. Tax arrangement refers to a legitimate practice in which firms arrange their affairs in a manner that reduces their tax burden while complying with the law. On the other hand, tax evasion involves firms exploiting gaps or ambiguities in tax laws to evade tax payments illegally. Such behavior can have serious legal consequences, and firms engaging in such activities may face penalties, fines, or other punitive measures (Hanlon et al., 2010). I have adopted the interpretation provided by Dyreng et al. (2008), which defines any behavior that reduces a firm's tax burden as tax avoidance.



According to the tax-avoidance agency theory proposed by Desai and Dharmapala (2006), firms engaging in tax avoidance often use complex and convoluted transactions to conceal their activities from tax authorities. This complexity not only makes it difficult for tax authorities to detect tax avoidance but also for shareholders and investors to access critical information. This can create opportunities for management to manipulate information for their purposes and lead to information asymmetry between management and shareholders. Moreover, these sophisticated transactions can exacerbate information asymmetry, leading to a further deterioration of the internal information environment. The resulting lack of transparency can make it challenging for shareholders and investors to make informed investment decisions and accurately evaluate a firm's financial performance.

### *2.3.2 Impact of Tax Avoidance*

The impact of tax avoidance on companies may encompass several aspects. First, agency cost, it arises from the conflicts of interest between managers and shareholders. Managers may engage in earnings management tactics disguised as tax avoidance, leading to detrimental effects on the reliability and accuracy of financial reporting. This creates what is known as agency costs, which arise from the conflicts of interest between managers (agents) and shareholders (principals). In a study by Frank et al. (2009), they examined the relationship between tax avoidance and the quality of corporate financial reporting, using performance-adjusted earnings as a measure. Their findings revealed a positive correlation between tax avoidance and the aggressive nature of financial reporting, suggesting that managers may manipulate earnings under the tax avoidance. However, Lennox et al. (2013) present a different perspective, proposing that firms with higher levels of tax avoidance are subjected to increased scrutiny, making them less susceptible to accounting fraud since it is hard to report high

book incomes and low taxable incomes at the same time or this would be a red flag to the IRS.

Second, corporate value, Desai and Dharmapala (2009) observed no significant correlation between tax avoidance and firm value. They attributed this lack of relationship to opportunistic behavior by managers who exploit the cash generated from tax avoidance. Additionally, tax avoidance may indirectly affect firm value through its impact on financing costs. Hasan et al. (2014) argued that creditors do not benefit from tax avoidance since their returns are fixed. As tax avoidance may increase a company's business risk, banks may require higher loan spreads to mitigate this risk. Consistent with this notion, Hasan et al. (2014) found a positive association between corporate tax avoidance and debt financing costs. Conversely, shareholders, who hold residual claims, tend to experience greater benefits from tax avoidance, and Goh et al. (2016) discovered that tax-avoiding firms have a lower cost of equity capital.

Reputational costs are often considered a significant factor in restraining tax avoidance activities, especially the most aggressive tax strategies. The Commissioner of the Internal Revenue Service (IRS) has highlighted the "significant risk to corporate reputations" posed by aggressive tax planning and the public's limited tolerance for such practices. Graham et al. (2012) surveyed tax executives and discovered that more than half of them agreed that potential harm to their firm's reputation was an important consideration when deciding whether to implement a tax planning strategy. This evidence suggests that managers perceive aggressive tax avoidance as a potential risk to their own reputation or that of their firms.

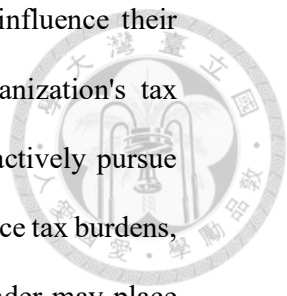
### *2.3.3 Determinants of Tax Avoidance*

There is a relationship between ownership concentration and tax avoidance. McGuire et al. (2014) suggest that firms with higher ownership concentration are more

likely to engage in tax avoidance. This is because in firms with concentrated ownership, decision-making power is typically held by a few shareholders or a family, who have greater control and influence over the company's operations and finances (Suzanne et al., 2006). In these firms, owners may be more focused on maximizing their personal wealth and seek to minimize their tax obligations. They can employ various tax avoidance strategies and loopholes to minimize the tax burden faced by the company. Additionally, due to the high ownership concentration, these firms are more easily able to coordinate and make internal decisions to implement tax avoidance behaviors.

Corporate governance is related to tax avoidance behavior. Corporate governance refers to the systems and mechanisms that oversee and control the operations of a company, and it can influence the behavior of the company at various levels, including tax avoidance. First, board independence, an independent board may better oversee the actions of managers, including tax avoidance behavior. Lanis and Richardson (2011) have found that companies with a higher proportion of outside directors generally engage in less tax avoidance. Second, internal controls, effective internal controls can enhance a company's ability to manage financial risks and compliance issues, thereby reducing the risk of tax avoidance. Companies with strong internal controls and high-quality internal information tend to pursue more tax avoidance (Bauer, 2016). Third, institutional shareholders, institutional shareholders have a certain influence on corporate governance, and they may encourage managers to maximize shareholder interests, including through tax avoidance (Khan et al., 2017). However, research findings on the relationship between institutional shareholding and tax avoidance are mixed, with some studies finding that higher institutional ownership is associated with more tax avoidance, while others find a more conservative stance among institutional shareholders regarding tax avoidance (Khurana and Moser, 2013).





The personal characteristics and behavior styles of leaders can influence their attitudes and actions towards tax matters, thereby affecting the organization's tax avoidance behavior (Christensen et al., 2015). A leader may tend to actively pursue maximization of benefits and be willing to employ various means to reduce tax burdens, including engaging in tax avoidance behavior. Conversely, another leader may place greater emphasis on ethics and compliance, emphasizing adherence to tax regulations. For instance, Olsen and Stekelberg (2016) have found that leaders with narcissistic tendencies may be associated with aggressive tax avoidance behavior within the organization. Narcissistic leaders may be more inclined to pursue personal interests and be willing to take risks that may violate tax laws to achieve their goals. On the other hand, Christensen et al. (2015) suggests that leaders with a conservative inclination may be more cautious and inclined to comply with tax regulations. These leaders may prioritize the organization's legitimacy and ethics, making efforts to ensure that tax practices align with regulatory requirements.

I have already observed that there has been considerable academic research on the determinants of tax avoidance. However, there is limited discussion on the relationship between the implementation of SFAS 142 and tax avoidance. Therefore, the following sections will provide two studies and discussions on this relationship.

### **3. Hypotheses Development**

SFAS142 has introduced numerous regulations regarding the disclosure of intangible assets and goodwill in financial reporting. To provide accurate information to financial reporting users, Cheng, Cho, and Yang (2018) find that management must collect relevant data and use outside assistance for valuation purposes to support their disclosures. As noted by Johnson, Lopez, and Sorensen (2021), this process of disclosing information can improve the overall internal information environment, and

the market participants gain a better understanding of the company's future performance implications of goodwill. This is because a good internal information environment implies that the company has higher information quality, which makes it easier for management to comply with tax regulations and reduces the incentives for engaging in tax avoidance. Therefore, companies with a robust internal information environment are more likely to exhibit lower levels of tax avoidance, supporting my first hypothesis.

*H1a: After the adoption of SFAS 142, firms that report goodwill engage in less tax avoidance behavior.*

After the implementation of SFAS 142, companies are no longer able to claim fixed amortization expenses for goodwill each period due to impairment. Consequently, they lose the opportunity to reduce their tax liability through amortization. In response to this, management may seek to utilize their discretion to explore and engage in tax avoidance practices. From another perspective, goodwill, and other intangible assets, primarily originating from merger and acquisition (M&A) activities. Under SFAS141(R), companies are required to apply the acquisition method of accounting for all M&A transactions, and the acquiring entity must identify and assess each business combination. This accounting method results in firms acquiring a greater amount of intangible assets through their M&A endeavors. Deng (2022) has provided evidence that companies with higher levels of intangible capital tend to engage in more tax avoidance practices and undertake a greater number of tax sheltering activities. Because SFAS 142 stipulates that companies should recognize and measure intangible assets based on their fair value, this creates an opportunity for firms to manipulate the true value of intangible assets for the purpose of engaging in tax avoidance (Bens, 2006). Therefore, companies are more likely engage in tax avoidance after the adoption of 142, supporting my second hypothesis.

*H1b: After the adoption of SFAS 142, firms that report goodwill engage in more tax avoidance behavior.*



#### **4. Research Design**

##### *4.1 Measures of Tax Avoidance*

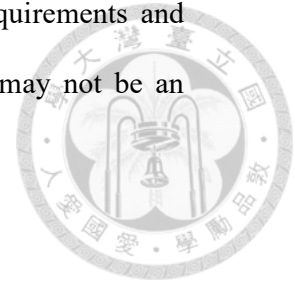
My first and second measures of tax avoidance are effective tax rate (ETR) and cash effective tax rate (CETR), the ETR of a corporation is a widely used measure to assess the tax burden of a company. Variances between the ETR and the statutory rate can occur due to disparities in how income is calculated under financial reporting standards compared to taxation regulations (Wang, 2020). For the second measure, Dyreng et al. (2008) employed CETR calculation, which involved dividing the cumulative taxes paid over a period of ten years by the cumulative pre-tax income during the same period. This long-term approach helps mitigate the impact of temporary variations in measuring tax avoidance practices when comparing the CETR to the statutory rate.

And the last two measures of tax avoidance are Manzon-Plesko Book-Tax Difference (MP\_BTD) and Desai-Dharmapala Book-Tax Difference (DD\_BTD).

Book-tax differences arise due to inconsistencies between financial accounting numbers and tax accounting numbers. Mills (1998) conducted a study where companies with significant book-tax differences (BTD) were considered red flags by the Internal Revenue Service (IRS) in the United States, leading to increased scrutiny and adjustments. Additionally, Wilson (2009) found that companies involved in past tax evasion cases generally exhibited substantial BTD, indicating a positive relationship between tax avoidance behavior and BTD.

Due to the confidential nature of taxable income, the calculation of book-tax differences (BTD) involves several estimations. Typically, these estimations involve adjusting accounting earnings by dividing the current income tax expense by the

statutory tax rate. Additionally, BTD can be influenced by legal requirements and corporate behaviors (Graham et al., 2012), which means that BTD may not be an entirely precise indicator.



#### 4.2 The Research Design for H1a and H1b

To examine H1a and H1b, I establish the following model:

$$\begin{aligned}
 AVOID_{it} = & \alpha_0 + \alpha_1 POST + \alpha_2 TREAT + \alpha_3 POST \times TREAT + \alpha_4 SIZE\_MV_{it} + \\
 & \alpha_5 MB_{it} + \alpha_6 SALE\_GROWTH_{it} + \alpha_7 LEV_{it} + \alpha_8 ROA_{it} + \alpha_9 NOL_{it} + \\
 & \alpha_{10} CASH_{it} + \alpha_{11} FI_{it} + \alpha_{12} EQINC_{it} + \alpha_{13} INTAN_{it} + \alpha_{14} PPE_{it} + \\
 & \alpha_{15} RD_{it} + \alpha_{16} ADV_{it} + \alpha_{17} SG\&A_{it} + \alpha_{18} ABS\_DA_{it} + YEARdummy + \\
 & INDUSTRYdummy + \varepsilon_1
 \end{aligned} \tag{1}$$

where the dependent variable AVOID is the tax avoidance measure, ETR, CETR, MP\_BT D and DD\_BT D respectively as defined above. POST is an indicator variable that equals one for the post-SFAS 142 period (i.e., between 2003 and 2006 for my test) and zero for the pre-SFAS 142 period (i.e., between 1999 and 2001 for my test). The coefficient on POST ( $\alpha_1$ ) captures the change in tax avoidance of the general market after the adoption of SFAS 142. The coefficient on TREAT ( $\alpha_2$ ) captures general tax avoidance for firms with goodwill during my entire sample period (i.e., pre- and post-SFAS 142), and the coefficient on POST $\times$  TREAT ( $\alpha_3$ ) captures the incremental change in tax avoidance for firms with goodwill after the adoption of SFAS 142. H1b suggests a negative coefficient on this interaction term.

As to control variables, I first control for firm characteristics such as firm size (SIZE), firm growth opportunities (MB and SALE\_GROWTH), and leverage (LEV) that could be associated with the tax planning (Rego, 2003; Dyreng et al., 2008; Mills et al., 1998; Graham et al., 2006). Specifically, I control for firm size as economies of scale is associated with tax avoidance ability and incentives (Watts and Zimmerman

1986; Rego 2003; Dyreng et al. 2008); growth-oriented companies tend to actively expand their business operations, which can generate additional temporary or permanent differences.(Chen et al., 2010); Companies that heavily rely on debt financing to leverage their operations generate significant tax-deductible interest expenses. (Mills et al., 1998; Stickney and McGee, 1982; Dyreng et al., 2008) However, they may have less demand for non-debt-related tax credits or offsets (Graham and Tucker, 2006).

I included a series of variables (ROA, NOL) to better control for differences in profitability among companies. The research shows that companies with improved profitability, reflected in their effective tax rate, (Chen et al., 2010) are more likely to consider retaining more after-tax earnings (Rego, 2003; Wilson, 2009). Additionally, companies with loss carryback or carryforward may also impact their effective tax rate calculations.

I also control for the company's liquidity (CASH) because tax avoidance behaviors often directly impact cash flows, and certain tax avoidance strategies may require cash to operate (McGuire et al., 2012). On the other hand, variables such as (FI, EQINC, INTAN, PPE, RD, ADV, and SG&A) provide information about a company's profitability and asset composition, which can influence the effective tax rate (ETR) and book-tax differences (BTD). Specifically, the pretax foreign operations (FI) and equity in earnings (EQINC) introduce variations in the calculation of consolidated earnings using the equity method. In addition, companies can claim deductible depreciation expenses based on their holdings of real estate, buildings, and equipment under tax law. Therefore, in non-capital-intensive companies, higher effective tax rates (ETR) can be expected (Gupta & Newberry, 1997). Apart from depreciation expenses, tax laws also provide different tax incentives and exemptions to encourage innovation

and research, particularly benefiting research-intensive firms (Chen et al., 2010; Grubert & Slemrod, 1998). On other fronts, I also control for advertising expenses and SG&A expenses, as these expenses provide opportunities for tax relief and can be utilized for tax avoidance purposes (Dyreng et al., 2010). Regarding abnormal accruals (ABS\_DA), Frank (2009) found a negative relationship between earnings quality and tax avoidance. I include this variable to control for earnings quality across firms and mitigate the influence of earnings manipulation on tax avoidance behavior.

For all regressions, I include indicator variables to control for year and industry-fixed effects to avoid the influence of temporal changes on firm characteristics (Rego, 2003). The robust standard errors clustered at the firm level (Petersen, 2009) are used to adjust for heteroskedasticity and time-series correlation. I winsorize the continuous variables at 1% and 99% levels to eliminate outliers.

## 5. Sample, Descriptive Statistics, and Results

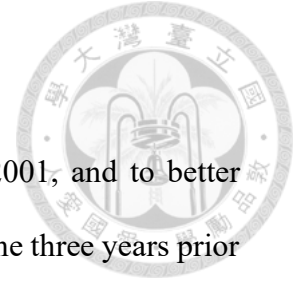
### 5.1 Sample Selection

Considering that SFAS 142 became effective on December 15, 2001, and to better observe the effects of SFAS 142, the analysis includes annual data for the three years prior to implementation (i.e., 1999 to 2001, pre-SFAS 142 period) as well as the three years following implementation (i.e., 2003 to 2005, post-SFAS 142 period). The adoption year (2002) is excluded to avoid any interference with less precise research outcomes.

To enhance the depth and comprehensiveness of my analysis, I merge my sample with financial data from Compustat, stock price data from CRSP, and CEO compensation data from ExecuComp. By incorporating these additional datasets, I can capture a comprehensive view of various financial, market, and managerial aspects related to the impact of SFAS 142. The resulting final sample comprises 4,599 firm-year observations, providing a robust foundation for my empirical analysis. By employing this rigorous methodology and a substantial sample size, I aim to effectively examine the influence of SFAS 142 on key financial and non-financial outcomes, enabling a comprehensive evaluation of the implications and effectiveness of this accounting standard within the examined time frame.

### 5.2 Descriptive statistics

In Table 1, *ETR* exhibits a mean of 0.30, indicating that, on average, firms in the sample face a tax burden of 30% of their taxable income. The *CETR* shows a lower mean of 0.25, suggesting that firms, on average, allocate a smaller proportion of their cash flows toward tax obligations. Interestingly, the variable *TREAT* demonstrates a mean value of 0.52, with a minimum and maximum of 0.00 and 1.00, respectively. This indicates that acquiring



firms in the sample often carry goodwill on their balance sheets, suggesting a prevalence of merger and acquisition activities during the observed period.

Furthermore, the Market-to-Book Ratio (*MB*) exhibits a relatively high mean of 3.14, accompanied by a large standard deviation of 101.24, indicating substantial variation in the market valuation of firms relative to their book values. Moreover, variables such as leverage (*LEV*), return on assets (*ROA*), and sales growth (*SALE\_GROWTH*) exhibit mean values of 0.22, -0.03, and 0.83, respectively, reflecting the average levels of debt utilization, profitability, and sales growth across the sample firms.

[Insert Table 1 here]

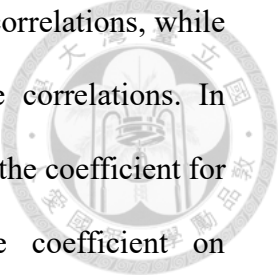
Table 2 presents the correlations between all variables. *ETR* and *CETR* is negatively correlated with *POST*. Specifically, *DD\_BT D* is positively and significantly correlated with *POST*. In addition, strong association is found between *ETR*, *CETR*, *MP\_BT D* and *DD\_BT D*. Moreover, *ETR* is negatively correlated with *SALE\_GROWTH*, *NOL*, *CASH*, *EQINC* and *RD*, and positively correlated with *TREAT*, *SIZE\_MV* and *ROA*.

[Insert Table 2 here]

### 5.3 Regression analysis: Test of H1a and H1b

Table 3 presents the main regression results of Equation (1) examining the relationship between *ETR* and *CETR* with the control variables. The table consists of four columns. In columns (1) and (2), *ETR* is used as the dependent variable. In both columns, the coefficient for *POST\*TREAT* is negative and significant, the coefficient on *POST\*TREAT* is -0.039 (p-value <0.05) in column (1) and -0.023 (p-value <0.05) in column (2), indicating an increase in tax avoidance activities among firms with goodwill after the adoption of SFAS 142. Additionally, in column (2), several control variables show significant associations





with *ETR* and *CETR*. Specifically, *SIZE\_MV* and *ROA* exhibit positive correlations, while *SALE\_GROWTH*, *NOL*, *CASH*, *FI*, *EQINC*, and *RD* show negative correlations. In columns (3) and (4), *CETR* is used as the dependent variable. Like *ETR*, the coefficient for *POST\*TREAT* is negative and significant in both columns, the coefficient on *POST\*TREAT* is -0.021 (p-value <0.1) in column (3) and -0.039 (p-value <0.05) in column (4), suggesting an increase in tax avoidance activities for firms with goodwill after implementing SFAS 142. In column (4), several control variables also demonstrate significant correlations with *ETR* and *CETR*. *SIZE\_MV* shows a positive correlation, while *SALE\_GROWTH*, *LEV*, *ROA*, *NOL*, and *RD* exhibit negative correlations. Overall, the results indicate a significant relationship between the adoption of SFAS 142, the presence of goodwill, and increased tax avoidance activities. Furthermore, various control variables show significant associations with the tax avoidance behavior, indicating their influence on the observed results.

[Insert Table 3 here]

Table 4 presents the main regression results of Equation (1) examining the relationship between *MP\_BTD* and *DD\_BTD* with the control variables. The table consists of five columns. In columns (1) and (2), *MP\_BTD* is used as the dependent variable. In both columns, the coefficient for *POST\*TREAT* is positive and significant, the coefficient on *POST\*TREAT* is 0.027 (p-value <0.05) in column (1) and 0.016 (p-value <0.05) in column (2), indicating an increase in tax avoidance activities among firms with goodwill after the adoption of SFAS 142. Additionally, in column (2), several control variables show significant associations with *ETR* and *CETR*. Specifically, *LEV*, *ROA*, *NOL*, and *RD* exhibit positive correlations, while *SIZE\_MV*, *MB*, *SALE\_GROWTH*, *CASH*, *FI*, *EQINC*, *SG&A*

and *ABS\_DA* show negative correlations. In columns (3) and (4), *DD\_BT* is used as the dependent variable. Like column (2), the coefficient for *POST\*TREAT* is positive and significant in both columns, the coefficient on *POST\*TREAT* is 0.027 (p-value <0.05) in column (3) and 0.016 (p-value <0.05) in column (4), suggesting an increase in tax avoidance activities for firms with goodwill after implementing SFAS 142. In column (4), several control variables also demonstrate significant correlations with *ETR* and *CETR*. *LEV*, *ROA*, *NOL*, and *RD* shows a positive correlation, while *SIZE\_MV*, *MB*, *SALE\_GROWTH*, *CASH*, *FI*, *EQINC*, *SG&A* and *ABS\_DA* exhibit negative correlations. Overall, the results indicate a significant relationship between the adoption of SFAS 142, the presence of goodwill, and increased tax avoidance activities. Furthermore, various control variables show significant associations with the tax avoidance behavior, indicating their influence on the observed results.

[Insert Table 4 here]

## 6. Additional analysis

### 6.1 Current ETR

Consistent with prior research (Dyreg and Lindsey, 2009), my second tax avoidance measure is the current effective tax rate (*Current ETR*), which is calculated by dividing the current tax expense by the pretax accounting income. This metric aims to capture the extent of the firm's tax burden and serves as an indirect indicator of tax avoidance. In my computation of *Current ETR*, I exclude any considerations related to deferred taxes.

$$\begin{aligned}
 \text{CurrentETR}_{it} = & \gamma_0 + \gamma_1 \text{POST} + \gamma_2 \text{TREAT} + \gamma_3 \text{POST} \times \text{TREAT} + \gamma_4 \text{SIZE\_MV}_{it} + \\
 & \gamma_5 \text{MB}_{it} + \gamma_6 \text{SALE\_GROWTH}_{it} + \gamma_7 \text{LEV}_{it} + \gamma_8 \text{ROA}_{it} + \gamma_9 \text{NOL}_{it} + \\
 & \gamma_{10} \text{CASH}_{it} + \gamma_{11} \text{FI}_{it} + \gamma_{12} \text{EQINC}_{it} + \gamma_{13} \text{INTAN}_{it} + \gamma_{14} \text{PPE}_{it} +
 \end{aligned}$$

$$\gamma_{15}RD_{it} + \gamma_{16}ADV_{it} + \gamma_{17}SG\&A_{it} + \gamma_{18}ABS\_DA_{it} + YEARDummy + INDUSTRYdummy + \varepsilon_3 \quad (3)$$



In the untabulated results, I observe a significant negative coefficient on *POST\*TREAT* (p-value < 0.05), providing support for my hypothesis.

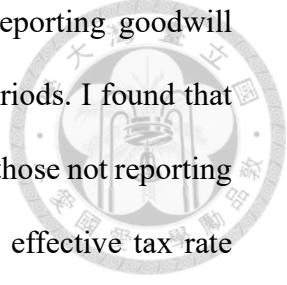
### 6.2 Robustness tests with entropy-balanced approach

Since SFAS 142 encompasses not only the accounting treatment of goodwill but also other intangible assets, I have made the decision to examine how different levels of intangible assets are associated with tax avoidance. I employ Hainmueller's (2012) entropy-balancing approach. I split the observations into two groups considering the intangible asset over total assets (INTAN). Specifically, the treatment and the control group include observations with intangible capital above and below the sample median, respectively. From the unablated result, it provides additional support for H1b, indicating after the adoption of SFAS 142, the firms with high level of intangible assets also engage in more tax avoidance.

### 6.3 Robustness tests with a propensity score matching approach

Same as the previous robustness and provide further robustness to my findings, I perform propensity score matching analysis, following Zhao (2004). In doing so, based on the control variables I cluster firms with similar characteristics that differ only in the intangible asset over total assets (INTAN) in homogenized samples and compare their tax profiles. Unablated results are in line with my baseline model estimations and provide additional support for the hypothesis the firms with high level of intangible assets also engage in more tax avoidance.

## 7. Conclusions

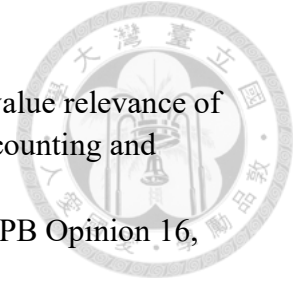


In this analysis, I examined the tax planning behavior of firms reporting goodwill compared to those not reporting goodwill during the post-SFAS 142 periods. I found that the firms reporting goodwill engaged in more tax planning compared to those not reporting goodwill. This finding was supported by a significant decrease in the effective tax rate (ETR) and book-tax differences (BTD) for the treatment group. I attribute this outcome to the enhancement of managerial discretion under SFAS 142. SFAS 142's shift from amortization to impairment testing gives managers increased discretion in assessing the fair value of goodwill and other intangible assets, potentially leading to unverifiable estimates. This heightened managerial discretion can impact tax planning and avoidance as managers strategically manipulate value of intangible asset and their allocation to different segments for optimal tax outcomes, raising concerns about the other tax issues.

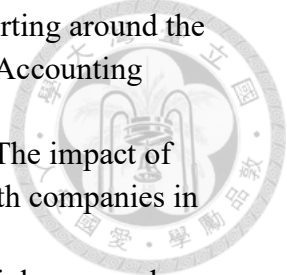
The contribution of this study is that it sheds light on how changes in accounting standards, such as SFAS 142, influence firms' tax planning behavior. This is an important topic for regulators, policymakers, and investors who are interested in understanding the implications of accounting standards on tax-related decisions. For my research constraints, tax-related information, particularly details regarding specific tax avoidance practices, is often treated as confidential by governments and tax authorities. This confidentiality is aimed at protecting the privacy of taxpayers. Consequently, I may struggle to access comprehensive and accurate data required for their analysis.

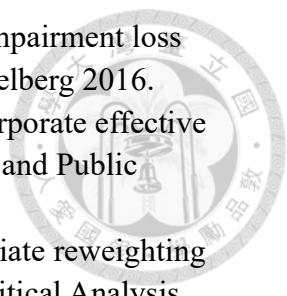
Overall, this analysis provides valuable insights into the relationship between accounting standards, tax planning behavior, and the broader implications for stakeholders in the financial and regulatory landscape.

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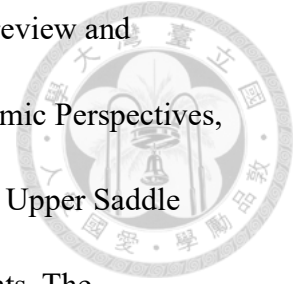
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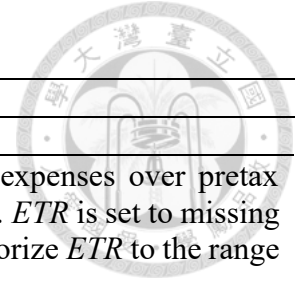
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## Appendix : Variable Definitions



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### (1) Dependent Variable

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#### (a) Tax avoidance measures-effective tax rate

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*ETR* The effective tax rate is the ratio of total tax expenses over pretax income adjusted for special items.  $TXT/(PI-SPI)$ . *ETR* is set to missing when the denominator is zero or negative. I winsorize *ETR* to the range [0, 1] as in prior studies.

*CETR* The cash effective tax rate is cash taxes paid divided by pre-tax book income adjusted for special items.  $TXPD/(PI-SPI)$ . *CETR* is set to missing when the denominator is zero or negative. I winsorize *CETR* to the range [0, 1] as in prior studies.

#### (b) Tax avoidance measures-book tax difference

*MP\_BT D* Manzon-Plesko (2002) book-tax difference is calculated as (U.S. domestic accounting income-U.S. domestic taxable income-state income tax expense –other income tax expense – equity in earnings) / lagged total assets.

As firms' tax returns are confidential, taxable income must be estimated using publicly available data. Following Manzon and Plesko (2002), U.S. domestic taxable income is estimated as current federal income tax expense divided by the statutory tax rate (i.e.  $TXFED$  divided by 0.35).

$$=[PIDOM-(TXFED/0.35)-TXS-TXO-ESUB]/AT_{it-1}$$

Following Desai and Dharmapala (2006), I include only firm-years with positive federal income tax expense ( $TXFED$ ) as firms with zero or negative taxable income are presumed to have no strong incentives to engage in tax avoidance activities.

Following Chen, Chen, Cheng, and Shevlin (2010) I exclude observations with total assets less than \$1 million in order to mitigate the small deflator problem.

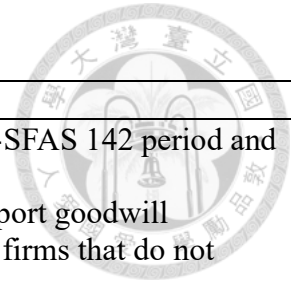
*DD\_BT D* Desai-Dharmapala (2006) residual book-tax difference calculated as  $\mu_i + \varepsilon_{it}$  from the following firm-fixed effect regression:  
 $MP\_BTD = \beta_1 TA_{it} + m_i + \varepsilon_{it}$  where *MP\_BT D* is Manzon-Plesko book-tax difference; *TA* is total accruals measured as in Dechow et al. (1995) = (net income - operating cash flows) / lagged assets.

$\mu_i$  is the average value of the residual for a firm over the sample period and  $\varepsilon_{it}$  is the deviation of the residual in year t from firm i's average residual.

I include firm-year observations with positive taxable income. Following Chen et al. (2010) and Kim et al. (2011), both variables (*MP\_BT D* and *TA*) are scaled by lagged total assets and are winsorized at 1% and 99% levels for regression purposes. I exclude observations with total assets less than \$1 million in order to mitigate

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small deflator problem.




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**(2) Variable of Interest**

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|              |  |
|--------------|--|
| <i>POST</i>  | An indicator variable that equals one for the post-SFAS 142 period and zero otherwise.   |
| <i>TREAT</i> | An indicator variable equals one for firms that report goodwill throughout the whole sample period and zero for firms that do not report goodwill during the same time period. |

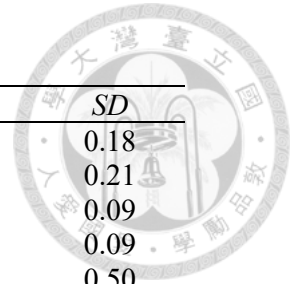
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**(3) Control Variables**

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|                    |  |
|--------------------|--|
| <i>SIZE_MV</i>     | The natural logarithm of market value in the beginning of year $t$ ( $CSHO*PRCC\_F$ )  |
| <i>MB</i>          | The ratio of the market value of equity to the book value of equity in the beginning of year $t$ ( $CSHO*PRCC\_F/CEQ$ ).   |
| <i>SALE_GROWTH</i> | The change in sales revenue scaled by the lagged sales.  |
| <i>LEV</i>         | The ratio of long-term debts to lagged total assets.   |
| <i>ROA</i>         | The ratio of operating income to lagged total assets ( $PI-XI/AT_{t-1}$ )  |
| <i>NOL</i>         | An indicator variable coded as one if a company has loss carryforward (TLCF) as the beginning of the year $t$ and zero otherwise. Missing values in TLCF are set to 0  |
| <i>CASH</i>        | Cash and cash equivalents in current year divided by beginning of the year total assets. $CHE/AT_{t-1}$  |
| <i>FI</i>          | The pretax foreign income (PIFO) in year $t$ scaled by the beginning of the year total assets and missing value in PIFO are set to 0. $PIFO_t/AT_{t-1}$  |
| <i>EQINC</i>       | The equity income in earnings (ESUB) in year $t$ scaled by beginning of the year total assets and missing value in ESUB are set to 0 ( $ESUB_t/AT_{t-1}$ )   |
| <i>INTAN</i>       | Intangible assets in current year divided by beginning of the year total assets $INTAN/AT_{t-1}$<br>If information for goodwill and other intangibles ( <i>INTAN</i> ) is missing on Compustat, then I set the value for <i>INTAN</i> to zero. If $INTAN=C$ on Compustat, then I set the value of <i>INTAN</i> to that for goodwill ( <i>GDWL</i> ). |
| <i>PPE</i>         | The property, plant, and equipment in year $t$ scaled by the beginning of the year total assets. ( $PPENT/AT_{t-1}$ )  |
| <i>RD</i>          | Total research and development expense divided by beginning of the year total assets and missing value in <i>RD</i> are set to 0. ( $XRD/AT_{t-1}$ )   |
| <i>ADV</i>         | Advertising expense in year $t$ divided by net sale in year $t$ ; when missing, reset to 0.  |
| <i>SG&amp;A</i>    | Selling, general, and administrative expense in year $t$ divided by net sales in year $t$ ; missing values of SG&A are set to 0.   |
| <i>ABS_DA</i>      | The absolute value of discretionary accruals for firm $i$ in year $t$ , where discretionary accruals are based on the performance matched modified Jones model. (discretionary accruals for firm $i$ , year $t$ , where discretionary accruals are computed using the modified Jones model including lagged ROA as an additional regressor)          |

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**Table 1.** Descriptive statistics

|                    | <i>Mean</i> | <i>Q1</i> | <i>Q2</i> | <i>Q3</i> | <i>SD</i> |
|--------------------|-------------|-----------|-----------|-----------|-----------|
| <i>ETR</i>         | 0.30        | 0.22      | 0.34      | 0.38      | 0.18      |
| <i>CETR</i>        | 0.25        | 0.08      | 0.23      | 0.35      | 0.21      |
| <i>MP_BT D</i>     | 0.01        | -0.01     | 0.01      | 0.03      | 0.09      |
| <i>DD_BT D</i>     | 0.01        | -0.01     | 0.01      | 0.03      | 0.09      |
| <i>POST</i>        | 0.54        | 0.00      | 1.00      | 1.00      | 0.50      |
| <i>TREAT</i>       | 0.52        | 0.00      | 1.00      | 1.00      | 0.50      |
| <i>SIZE_MV</i>     | 5.43        | 3.44      | 5.42      | 7.23      | 2.66      |
| <i>MB</i>          | 3.14        | 1.03      | 1.88      | 3.46      | 101.24    |
| <i>SALE_GROWTH</i> | 0.83        | -0.03     | 0.09      | 0.22      | 42.39     |
| <i>LEV</i>         | 0.22        | 0.00      | 0.13      | 0.30      | 0.72      |
| <i>ROA</i>         | -0.03       | -0.04     | 0.05      | 0.13      | 0.59      |
| <i>NOL</i>         | 0.36        | 0.00      | 0.00      | 1.00      | 0.48      |
| <i>CASH</i>        | 0.24        | 0.03      | 0.09      | 0.27      | 0.51      |
| <i>FI</i>          | 0.01        | 0.00      | 0.00      | 0.00      | 0.08      |
| <i>EQINC</i>       | 0.00        | 0.00      | 0.00      | 0.00      | 0.04      |
| <i>INTAN</i>       | 0.14        | 0.00      | 0.04      | 0.19      | 0.32      |
| <i>PPE</i>         | 0.33        | 0.10      | 0.23      | 0.46      | 0.55      |
| <i>RD</i>          | 0.06        | 0.00      | 0.00      | 0.05      | 0.22      |
| <i>ADV</i>         | 0.01        | 0.00      | 0.00      | 0.00      | 0.04      |
| <i>SGA</i>         | 0.31        | 0.08      | 0.22      | 0.41      | 0.41      |
| <i>ABS_DA</i>      | 0.11        | 0.02      | 0.05      | 0.12      | 0.29      |

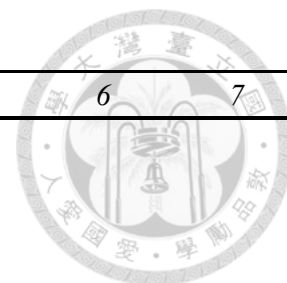
*Notes:*

This table presents descriptive statistics for the samples. It contains 4,599 firm-years observations. *ETR* The effective tax rate is the ratio of total tax expenses over pretax income adjusted for special items.  $TXT/(PI-SPI)$  *CETR* The cash effective tax rate is cash taxes paid divided by pre-tax book income adjusted for special items.  $TXPD/(PI-SPI)$  *CETR* is set to missing when the denominator is zero or negative. *MP\_BT D* Manzon-Plesko (2002) book-tax difference is calculated as (U.S. domestic accounting income-U.S. domestic taxable income- state income tax expense -other income tax expense - equity in earnings) / lagged total assets. *DD\_BT D* Desai-Dharmapala (2006) residual book-tax difference calculated as  $\mu_i + \epsilon_{it}$  from the following firm-fixed effect regression:  $MP\_BTD = \beta_1 TA_{it} + \mu_i + \epsilon_{it}$  where *MP\_BT D* is Manzon-Plesko book-tax difference; *TA* is total accruals measured as in Dechow et al. (1995) = (net income -operating cash flows)/ lagged assets.  $\mu_i$  is the average value of the residual for a firm over the sample period and  $\epsilon_{it}$  is the deviation of the residual in year *t* from firm *i*'s average residual. *POST* An indicator variable that equals one for the post-SFAS 142 period and zero otherwise. *TREAT* An indicator variable equals one for firms that report goodwill throughout the whole sample period and zero for firms that do not report goodwill during the same time period. *SIZE\_MV* The natural logarithm of market value *MB* The ratio of the market value of equity to the book value of equity in the beginning of year. *SALE\_GROWTH* The change in sales revenue scaled by the lagged sales. *LEV* The ratio of long-term debts to lagged total assets. *ROA* The ratio of operating income to lagged total assets *NOL* An indicator variable coded as one if a company has loss carryforward (TLCF) as the beginning of the year *t* and zero otherwise. *CASH* Cash and cash equivalents in current year divided by beginning of the year total assets. *FI* The pretax foreign income (PIFO) in year *t* scaled by the beginning of the year total assets and missing value in PIFO are set to 0. *EQINC* The equity income in earnings (ESUB) in year *t* scaled by beginning of the year total assets *INTAN* Intangible assets in current year divided by beginning of the year total assets *PPE* The property, plant, and equipment in year *t* scaled by the beginning of the year total assets *RD* Total research and development expense divided by beginning of the year total assets *ADV* Advertising expense in year *t* divided by net sale in year *t* *SG&A* Selling, general, and administrative expense in year *t* divided by net sales in year *t* *ABS\_DA* The absolute value of discretionary accruals for firm *i* in year *t*

**Table 2.** Correlation Table

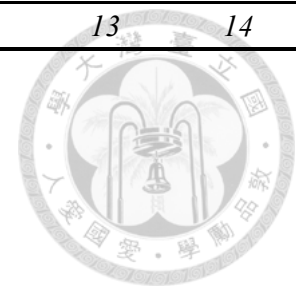
| <i>Variables</i>      | 1        | 2        | 3        | 4        | 5       | 6        | 7        |
|-----------------------|----------|----------|----------|----------|---------|----------|----------|
| 1. <i>ETR</i>         | 1        |          |          |          |         |          |          |
| 2. <i>CETR</i>        | 0.28***  | 1        |          |          |         |          |          |
| 3. <i>MP_BT</i>       | 0.25***  | 0.48***  | 1        |          |         |          |          |
| 4. <i>DD_BT</i>       | 0        | -0.19*** | -0.06**  | 1        |         |          |          |
| 5. <i>POST</i>        | -0.06*** | -0.08*** | -0.09*** | 0.05**   | 1       |          |          |
| 6. <i>TREAT</i>       | 0.04***  | 0.06***  | 0.02*    | -0.01    | -0.01   | 1        |          |
| 7. <i>SIZE_MV</i>     | 0.07***  | 0.08***  | -0.12*** | -0.03    | 0.04*** | 0.42***  | 1        |
| 8. <i>MB</i>          | 0        | -0.02*   | -0.06*** | -0.12*** | 0       | 0        | 0.01*    |
| 9. <i>SALE_GROWTH</i> | -0.05*** | -0.13*** | -0.13*** | -0.02    | 0       | -0.01    | 0        |
| 10. <i>LEV</i>        | 0        | -0.07*** | -0.08*** | 0        | 0       | 0.03***  | 0        |
| 11. <i>ROA</i>        | 0.13***  | -0.06*** | -0.13*** | 0.62***  | -0.02*  | 0.18***  | 0.21***  |
| 12. <i>NOL</i>        | -0.11*** | -0.07*** | -0.04*** | 0        | 0.10*** | -0.01    | -0.08*** |
| 13. <i>CASH</i>       | -0.04*** | -0.06*** | -0.03**  | 0        | 0.04*** | -0.21*** | -0.09*** |
| 14. <i>FI</i>         | -0.03**  | -0.04*** | -0.07*** | -0.04*   | 0.02*   | 0.07***  | 0.09***  |
| 15. <i>EQINC</i>      | -0.06*** | -0.03**  | -0.04*** | 0        | 0.02**  | 0        | 0        |
| 16. <i>INTAN</i>      | 0        | -0.01    | -0.03**  | 0        | 0.02**  | 0.30***  | 0.12***  |
| 17. <i>PPE</i>        | 0        | -0.06*** | -0.20*** | 0.07**   | -0.02** | -0.07*** | 0.03***  |
| 18. <i>RD</i>         | -0.13*** | -0.07*** | 0        | -0.13*** | 0.02**  | -0.17*** | -0.09*** |
| 19. <i>ADV</i>        | 0.02*    | 0        | 0.04***  | -0.05*   | 0.02*   | -0.02**  | 0.02**   |
| 20. <i>SGA</i>        | -0.01    | 0.02**   | 0.13***  | -0.0     | 0.03*** | -0.12*** | -0.21*** |
| 21. <i>ABS_DA</i>     | -0.06*** | -0.01    | 0        | -0.08*** | 0       | -0.16*** | -0.18*** |

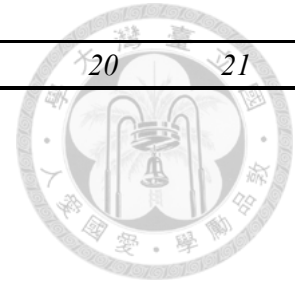
\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$



| <i>Variables</i>      | 8        | 9 | 10       | 11       | 12        | 13       | 14       |
|-----------------------|----------|---|----------|----------|-----------|----------|----------|
| 1. <i>ETR</i>         |          |   |          |          |           |          |          |
| 2. <i>CETR</i>        |          |   |          |          |           |          |          |
| 3. <i>MP_BT</i>       |          |   |          |          |           |          |          |
| 4. <i>DD_BT</i>       |          |   |          |          |           |          |          |
| 5. <i>POST</i>        |          |   |          |          |           |          |          |
| 6. <i>TREAT</i>       |          |   |          |          |           |          |          |
| 7. <i>SIZE_MV</i>     |          |   |          |          |           |          |          |
| 8. <i>MB</i>          | 1        |   |          |          |           |          |          |
| 9. <i>SALE_GROWTH</i> | 0        | 1 |          |          |           |          |          |
| 10. <i>LEV</i>        | 0        | 0 | 1        |          |           |          |          |
| 11. <i>ROA</i>        | 0.03***  | 0 | -0.06*** | 1        |           |          |          |
| 12. <i>NOL</i>        | 0        | 0 | 0        | -0.09*** | 1         |          |          |
| 13. <i>CASH</i>       | 0        | 0 | -0.02*** | -0.35*** | 0.026**   | 1        |          |
| 14. <i>FI</i>         | 0        | 0 | 0.03***  | 0.15***  | 0         | -0.03*** | 1        |
| 15. <i>EQINC</i>      | 0        | 0 | 0.03***  | 0.06***  | 0         | 0        | 0        |
| 16. <i>INTAN</i>      | 0        | 0 | 0.10***  | -0.05*** | 0.018*    | 0.14***  | 0.06***  |
| 17. <i>PPE</i>        | 0        | 0 | 0.20***  | 0.04***  | -0.031*** | -0.02*   | 0.45***  |
| 18. <i>RD</i>         | 0        | 0 | -0.01*   | -0.62*** | 0.049***  | 0.51***  | -0.03*** |
| 19. <i>ADV</i>        | 0        | 0 | 0        | 0.02**   | 0         | 0.05***  | 0        |
| 20. <i>SGA</i>        | -0.03*** | 0 | 0.03***  | -0.40*** | 0.058***  | 0.26***  | -0.03*** |
| 21. <i>ABS_DA</i>     | 0        | 0 | 0        | -0.70*** | 0.060***  | 0.38***  | -0.03*** |

\*\*\* $p < 0.01$ , \*\* $p < 0.05$ , \* $p < 0.1$





| <i>Variables</i>      | 15      | 16      | 17       | 18       | 19      | 20      | 21 |
|-----------------------|---------|---------|----------|----------|---------|---------|----|
| 1. <i>ETR</i>         |         |         |          |          |         |         |    |
| 2. <i>CETR</i>        |         |         |          |          |         |         |    |
| 3. <i>MP_BT</i>       |         |         |          |          |         |         |    |
| 4. <i>DD_BT</i>       |         |         |          |          |         |         |    |
| 5. <i>POST</i>        |         |         |          |          |         |         |    |
| 6. <i>TREAT</i>       |         |         |          |          |         |         |    |
| 7. <i>SIZE_MV</i>     |         |         |          |          |         |         |    |
| 8. <i>MB</i>          |         |         |          |          |         |         |    |
| 9. <i>SALE_GROWTH</i> |         |         |          |          |         |         |    |
| 10. <i>LEV</i>        |         |         |          |          |         |         |    |
| 11. <i>ROA</i>        |         |         |          |          |         |         |    |
| 12. <i>NOL</i>        |         |         |          |          |         |         |    |
| 13. <i>CASH</i>       |         |         |          |          |         |         |    |
| 14. <i>FI</i>         |         |         |          |          |         |         |    |
| 15. <i>EQINC</i>      | 1       |         |          |          |         |         |    |
| 16. <i>INTAN</i>      | -0.02** | 1       |          |          |         |         |    |
| 17. <i>PPE</i>        | 0       | 0.05*** | 1        |          |         |         |    |
| 18. <i>RD</i>         | -0.01   | 0       | -0.07*** | 1        |         |         |    |
| 19. <i>ADV</i>        | 0       | 0.02**  | 0        | -0.03*** | 1       |         |    |
| 20. <i>SGA</i>        | 0       | 0.05*** | 0        | 0.20***  | 0.25*** | 1       |    |
| 21. <i>ABS_DA</i>     | 0.02*   | 0.06*** | 0.03***  | 0.51***  | 0       | 0.33*** | 1  |

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

*Notes:*

This table presents correlation table for the samples. It contains 4,599 firm-years observations. *ETR* The effective tax rate is the ratio of total tax expenses over pretax income adjusted for special items.  $TXT/(PI-SPI)$  *CETR* The cash effective tax rate is cash taxes paid divided by pre-tax book income adjusted for special items.  $TXPD/(PI-SPI)$  *CETR* is set to missing when the denominator is zero or negative. *MP\_BT* Manzon-Plesko (2002) book-tax difference is calculated as (U.S. domestic accounting income-U.S. domestic taxable income- state income tax expense -other income tax expense - equity in earnings) / lagged total assets. *DD\_BT* Desai-Dharmapala (2006) residual book-tax difference calculated as  $\mu_i + \epsilon_{it}$  from the following firm-fixed effect regression:  $MP\_BT = \beta_1 TA_{it} + \mu_i + \epsilon_{it}$  where *MP\_BT* is Manzon-Plesko book-tax difference; *TA* is total accruals measured as in Dechow et al. (1995) = (net income -operating cash flows)/ lagged assets.  $\mu_i$  is the average value of the residual for a firm over the sample period and  $\epsilon_{it}$  is the deviation of the residual in year t from firm i's average residual. *POST* An indicator variable that equals one for the post-SFAS 142 period and zero otherwise. *TREAT* An indicator variable equals one for firms that report goodwill throughout the whole sample period and zero for firms that do not report goodwill during the same time period. *SIZE\_MV* The natural logarithm of market value *MB* The ratio of the market value of equity to the book value of equity in the beginning of year. *SALE\_GROWTH* The change in sales revenue scaled by the lagged sales. *LEV* The ratio of long-term debts to lagged total assets. *ROA* The ratio of operating income to lagged total assets *NOL* An indicator variable coded as one if a company has loss carryforward (TLCF) as the beginning of the year t and zero otherwise. *CASH* Cash and cash equivalents in current year divided by beginning of the year total assets. *FI* The pretax foreign income (PIFO) in year t scaled by the beginning of the year total assets and missing value in PIFO are set to 0. *EQINC* The equity income in earnings (ESUB) in year t scaled by beginning of the year total assets *INTAN* Intangible assets in current year divided by beginning of the year total assets *PPE* The property, plant, and equipment in year t scaled by the beginning of the year total assets *RD* Total research and development expense divided by beginning of the year total assets *ADV* Advertising expense in year t divided by net sale in year t *SG&A* Selling, general, and administrative expense in year t divided by net sales in year t *ABS\_DA* The absolute value of discretionary accruals for firm i in year t

**Table 3.** The adoption of SFAS 142 and tax avoidance: tax rate

|                            | (1)  | (2)  | (3)   | (4)  |
|----------------------------|--|--|---|--|
|                            | <i>ETR</i>                                   | <i>ETR</i>                                   | <i>CETR</i>                                 | <i>CETR</i>                                  |
| <i>Intercept</i>           | 0.106<br>(1.23)                              | 0.566<br>(7.43) <sup>***</sup>               | 0.021<br>(0.20)                             | 0.172<br>(1.84)                              |
| <i>POST</i>                | -0.015<br>(-1.84)                            | -0.006<br>(-0.74)                            | -0.021<br>(-2.06) <sup>*</sup>              | -0.022<br>(-2.12) <sup>*</sup>               |
| <i>TREAT</i>               | 0.019<br>(2.43) <sup>*</sup>                 | 0.012<br>(1.45)                              | 0.032<br>(3.32) <sup>***</sup>              | 0.009<br>(0.85)                              |
| <b><i>POST*TREAT</i></b>   | <b>-0.039</b><br><b>(-2.83)<sup>**</sup></b> | <b>-0.023</b><br><b>(-2.21)<sup>**</sup></b> | <b>-0.021</b><br><b>(-1.97)<sup>*</sup></b> | <b>-0.039</b><br><b>(-2.46)<sup>**</sup></b> |
| <i>SIZE_MV</i>             |  | 0.004<br>(3.01) <sup>**</sup>                |   | 0.009<br>(6.02) <sup>***</sup>               |
| <i>MB</i>                  |  | 0.000<br>(1.04)                              |   | -0.000<br>(-1.65)                            |
| <i>SALE_GROWTH</i>         |  | -0.027<br>(-3.68) <sup>***</sup>             |   | -0.050<br>(-5.53) <sup>***</sup>             |
| <i>LEV</i>                 |  | -0.012<br>(-1.01)                            |   | -0.071<br>(-5.00) <sup>***</sup>             |
| <i>ROA</i>                 |  | 0.307<br>(11.63) <sup>***</sup>              |   | -0.145<br>(-4.50) <sup>***</sup>             |
| <i>NOL</i>                 |  | -0.022<br>(-3.99) <sup>***</sup>             |   | -0.028<br>(-4.09) <sup>***</sup>             |
| <i>CASH</i>                |  | -0.040<br>(-3.22) <sup>**</sup>              |   | -0.011<br>(-0.73)                            |
| <i>FI</i>                  |  | -0.153<br>(-3.18) <sup>**</sup>              |   | 0.013<br>(0.21)                              |
| <i>EQINC</i>               |  | -0.908<br>(-5.01) <sup>***</sup>             |   | -0.184<br>(-0.83)                            |
| <i>INTAN</i>               |  | 0.012<br>(1.08)                              |   | -0.000<br>(-0.03)                            |
| <i>PPE</i>                 |  | 0.004<br>(0.68)                              |   | 0.015<br>(1.95)                              |
| <i>RD</i>                  |  | -0.274<br>(-4.58) <sup>***</sup>             |   | -0.315<br>(-4.31) <sup>***</sup>             |
| <i>ADV</i>                 |  | -0.010<br>(-0.16)                            |   | -0.013<br>(-0.18)                            |
| <i>SG&amp;A</i>            |  | -0.036<br>(-2.50) <sup>*</sup>               |   | 0.031<br>(1.79)                              |
| <i>ABS_DA</i>              |  | -0.044<br>(-1.69)                            |   | 0.048<br>(1.51)                              |
| Year Fixed Effects         | Yes  | Yes  | Yes   | Yes  |
| Industry Fixed effects     | Yes  | Yes  | Yes   | Yes  |
| <i>n</i>                   | 4599   | 4599   | 4599  | 4599   |
| adj. <i>R</i> <sup>2</sup> | 0.042  | 0.089  | 0.045                                       | 0.080  |

*t* statistics in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Notes:

*ETR* The effective tax rate is the ratio of total tax expenses over pretax income adjusted for special items.  $TXT/(PI - SPI)$

*CETR* The cash effective tax rate is cash taxes paid divided by pre-tax book income adjusted for special items.



TXPD/ (PI-SPI)CETR is set to missing when the denominator is zero or negative. *MP\_BTD* Manzon-Plesko (2002) book-tax difference is calculated as (U.S. domestic accounting income-U.S. domestic taxable income- state income tax expense -other income tax expense - equity in earnings) / lagged total assets. *DD\_BTD* Desai-Dharmapala (2006) residual book-tax difference calculated as  $\mu_i + \varepsilon_{it}$  from the following firm-fixed effect regression:  $MP\_BTD = \beta_1 TA_{it} + \mu_i + \varepsilon_{it}$  where *MP\_BTD* is Manzon-Plesko book-tax difference; *TA* is total accruals measured as in Dechow et al. (1995) = (net income -operating cash flows)/ lagged assets.  $\mu_i$  is the average value of the residual for a firm over the sample period and  $\varepsilon_{it}$  is the deviation of the residual in year *t* from firm *i*'s average residual. *POST* An indicator variable that equals one for the post-SFAS 142 period and zero otherwise. *TREAT* An indicator variable equals one for firms that report goodwill throughout the whole sample period and zero for firms that do not report goodwill during the same time period. *SIZE\_MV* The natural logarithm of market value *MB* The ratio of the market value of equity to the book value of equity in the beginning of year. *SALE\_GROWTH* The change in sales revenue scaled by the lagged sales. *LEV* The ratio of long-term debts to lagged total assets. *ROA* The ratio of operating income to lagged total assets *NOL* An indicator variable coded as one if a company has loss carryforward (TLCF) as the beginning of the year *t* and zero otherwise. *CASH* Cash and cash equivalents in current year divided by beginning of the year total assets. *FI* The pretax foreign income (PIFO) in year *t* scaled by the beginning of the year total assets and missing value in PIFO are set to 0. *EQINC* The equity income in earnings (ESUB) in year *t* scaled by beginning of the year total assets *INTAN* Intangible assets in current year divided by beginning of the year total assets *PPE* The property, plant, and equipment in year *t* scaled by the beginning of the year total assets *RDT* Total research and development expense divided by beginning of the year total assets *ADV* Advertising expense in year *t* divided by net sale in year *t* *SG&A* Selling, general, and administrative expense in year *t* divided by net sales in year *t* *ABS\_DA* The absolute value of discretionary accruals for firm *i* in year *t*

**Table 4** The adoption of SFAS 142 and tax avoidance: book tax differences

|                            | (1)                             | (2)                             | (3)                             | (4)                               |
|----------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|
|                            | <i>MP_BT D</i>                  | <i>MP_BT D</i>                  | <i>DD_BT D</i>                  | <i>DD_BT D</i>                    |
| <i>Intercept</i>           | -0.011<br>(-1.28)               | -0.002<br>(-0.19)               | -0.011<br>(-1.28)               | -0.002<br>(-0.19)                 |
| <i>POST</i>                | 0.031<br>(2.93)**               | 0.023<br>(3.30)***              | 0.031<br>(2.93)**               | 0.023<br>(3.30)***                |
| <i>TREAT</i>               | 0.014<br>(1.45)                 | 0.013<br>(1.97)*                | 0.014<br>(1.45)                 | 0.013<br>(1.97)*                  |
| <b><i>POST*TREAT</i></b>   | <b>0.027</b><br><b>(2.25)**</b> | <b>0.016</b><br><b>(2.04)**</b> | <b>0.027</b><br><b>(2.25)**</b> | <b>-0.016</b><br><b>(-2.04)**</b> |
| <i>SIZE_MV</i>             |                                 | -0.006<br>(-6.99)***            |                                 | -0.006<br>(-6.99)***              |
| <i>MB</i>                  |                                 | -0.000<br>(-3.57)***            |                                 | -0.000<br>(-3.57)***              |
| <i>SALE_GROWTH</i>         |                                 | -0.015<br>(-2.85)**             |                                 | -0.015<br>(-2.85)**               |
| <i>LEV</i>                 |                                 | 0.022<br>(2.46)*                |                                 | 0.022<br>(2.46)*                  |
| <i>ROA</i>                 |                                 | 0.658<br>(42.50)***             |                                 | 0.658<br>(42.50)***               |
| <i>NOL</i>                 |                                 | 0.015<br>(4.44)***              |                                 | 0.015<br>(4.44)***                |
| <i>CASH</i>                |                                 | -0.063<br>(-7.76)***            |                                 | -0.063<br>(-7.76)***              |
| <i>FI</i>                  |                                 | -0.580<br>(-18.80)***           |                                 | -0.580<br>(-18.80)***             |
| <i>EQINC</i>               |                                 | -0.934<br>(-3.28)**             |                                 | -0.934<br>(-3.28)**               |
| <i>INTAN</i>               |                                 | -0.001<br>(-0.18)               |                                 | -0.001<br>(-0.18)                 |
| <i>PPE</i>                 |                                 | -0.003<br>(-0.28)               |                                 | -0.003<br>(-0.28)                 |
| <i>RD</i>                  |                                 | 0.091<br>(2.83)**               |                                 | 0.091<br>(2.83)**                 |
| <i>ADV</i>                 |                                 | -0.047<br>(-1.18)               |                                 | -0.047<br>(-1.18)                 |
| <i>SG&amp;A</i>            |                                 | -0.054<br>(-6.93)***            |                                 | -0.054<br>(-6.93)***              |
| <i>ABS_DA</i>              |                                 | -0.048<br>(-2.40)*              |                                 | -0.048<br>(-2.40)*                |
| Year Fixed Effects         | Yes                             | Yes                             | Yes                             | Yes                               |
| Industry Fixed effects     | Yes                             | Yes                             | Yes                             | Yes                               |
| <i>n</i>                   | 4599                            | 4599                            | 4599                            | 4599                              |
| adj. <i>R</i> <sup>2</sup> | 0.005                           | 0.621                           | 0.005                           | 0.621                             |

*t* statistics in parentheses

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Notes:

*ETR* The effective tax rate is the ratio of total tax expenses over pretax income adjusted for special items.  $TXT/(PI-SPI)$  *CETR* The cash effective tax rate is cash taxes paid divided by pre-tax book income adjusted for special items.  $TXPD/(PI-SPI)$  *CETR* is set to missing when the denominator is zero or negative. *MP\_BT D* Manzon-Plesko (2002) book-tax difference is calculated as (U.S. domestic accounting income-U.S. domestic taxable income- state income tax expense - other income tax expense - equity in earnings) / lagged total assets. *DD\_BT D* Desai-Dharmapala (2006) residual book-tax difference calculated as  $\mu_i + \epsilon_{it}$  from the following firm-fixed effect

regression:  $MP\_BTD = \beta_1 TA_{it} + \mu_i + \epsilon_{it}$  where *MP\_BTD* is Manzon-Plesko book-tax difference; *TA* is total accruals measured as in Dechow et al. (1995) = (net income - operating cash flows) / lagged assets.  $\mu_i$  is the average value of the residual for a firm over the sample period and  $\epsilon_{it}$  is the deviation of the residual in year *t* from firm *i*'s average residual. *POST* An indicator variable that equals one for the post-SFAS 142 period and zero otherwise. *TREAT* An indicator variable equals one for firms that report goodwill throughout the whole sample period and zero for firms that do not report goodwill during the same time period. *SIZE\_MV* The natural logarithm of market value *MB* The ratio of the market value of equity to the book value of equity in the beginning of year. *SALE\_GROWTH* The change in sales revenue scaled by the lagged sales. *LEV* The ratio of long-term debts to lagged total assets. *ROA* The ratio of operating income to lagged total assets *NOL* An indicator variable coded as one if a company has loss carryforward (TLCF) as the beginning of the year *t* and zero otherwise. *CASH* Cash and cash equivalents in current year divided by beginning of the year total assets. *FI* The pretax foreign income (PIFO) in year *t* scaled by the beginning of the year total assets and missing value in PIFO are set to 0. *EQINC* The equity income in earnings (ESUB) in year *t* scaled by beginning of the year total assets *INTAN* Intangible assets in current year divided by beginning of the year total assets *PPE* The property, plant, and equipment in year *t* scaled by the beginning of the year total assets *RDT* Total research and development expense divided by beginning of the year total assets *ADV* Advertising expense in year *t* divided by net sale in year *t* *SG&A* Selling, general, and administrative expense in year *t* divided by net sales in year *t* *ABS\_DA* The absolute value of discretionary accruals for firm *i* in year *t*