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Essays on Tax Avoidance

Pipatnarapong, Jirarat

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Essays on Tax Avoidance

by

Jirarat Pipatnarapong

MSc, BSc (Hons)

Thesis submitted in fulfilment of the requirement for the degree of Doctor
of Philosophy

Bangor Business School
Bangor University

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Declaration

Yr wyf drwy hyn yn datgan mai canlyniad fy ymchwil fy hun yw'r thesis hwn, ac eithrio lle nodir yn wahanol. Caiff ffynonellau eraill eu cydnabod gan droednodiadau yn rhoi cyfeiriadau eglur. Nid yw sylwedd y gwaith hwn wedi cael ei dderbyn o'r blaen ar gyfer unrhyw radd, ac nid yw'n cael ei gyflwyno ar yr un pryd mewn ymgeisiaeth am unrhyw radd oni bai ei fod, fel y cytunwyd gan y Brifysgol, am gymwysterau deuol cymeradwy.

I hereby declare that this thesis is the results of my own investigations, except where otherwise stated. All other sources are acknowledged by bibliographic references. This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree unless, as agreed by the University, for approved dual awards.

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Abstract

This thesis examines three topical, yet contentious issues linked to tax avoidance using a sample of firms domiciled in the BRICS countries: Brazil, Russia, India, China, and South Africa. The three issues examined in this study are: the relationship between tax avoidance and (i) corporate social responsibility (CSR); (ii) earnings management; and (iii) accounting conservatism.

Using listed firms domiciled in BRICS countries for the period from 2008 to 2015, the first study examines the relationship between tax avoidance and CSR. The results show that the effective tax rate is positively associated with scores on CSR performance, suggesting that firms domiciled in BRICS with higher CSR performance pay higher taxes at the same time. The results imply that firms in BRICS countries are willing to accept compromise in the pursuit of shareholder profit by pursuing a combined strategy of tax compliance and CSR engagement. This study also shows that audit expertise plays a significant role in the effect of CSR on the level of tax paid. Moreover, the findings are robust to different approaches, including the use of alternative measures of tax avoidance and the level of CSR performance, as well as using the 2SLS model to mitigate the endogeneity issues.

The second study investigates the association between tax avoidance and the degree of earnings management. While most prior studies focus only on discretionary accruals, this study employs both accruals-based and real-activities techniques as proxies for earnings management. The results show a strong and positive relationship between tax avoidance and accruals-based earnings management. However, the relationship between tax avoidance and real-activity earnings management results is in the opposite direction. These results suggest that nonconformity between financial accounting standards and tax rules allows managers to make discretion only on accruals to manage book income upwards and taxable income downwards in the same reporting period. The findings are robust to different alternative analyses including a different level of earnings management, a different level of tax avoidance, and endogeneity concerns.

The third study investigates the relation between tax avoidance and the degree of accounting conservatism, where conservatism refers to the delay in income recognition in the financial report. Specifically, the primary objective is to examine whether firms employ conservative accounting

either through conditional conservatism or unconditional conservatism in reducing tax liability. Using a dataset of listed firms domiciled in BRICS during the period 2006–2018, the results show that conditional conservatism is positively and significantly associated with tax avoidance. In contrast, unconditional conservatism is negatively and significantly associated with tax avoidance. These findings suggest that the two forms of conservatism play a distinct role in tax incentives.

This thesis provides important insights for policymakers that the inclusion of responsible tax payment as part of a global CSR agenda may motivate firms to align their behaviours with respect to tax payment. Moreover, this thesis recommends to regulatory agencies that the high level of accrual-based earnings management and the high level of conditional conservative accounting could indicate tax avoidance engagement. Hence, it is vital for relevant parties to take into account the effects of tax avoidance when drafting new and updating old accounting standards. Finally, analysts and investors who are interested in firms' tax avoidance activities and use the accounting numbers to evaluate the extent of tax avoidance when making investment decisions to adjust their portfolios should also take into consideration the effects of earnings management and accounting conservatism.

Chapter 1 Introduction

Introduction

1.1. Background Information and Motivation

The issue of corporate tax avoidance itself is not new. What is new is the attention of policymakers and other stakeholders who have been attempting to mitigate opportunities for tax avoidance schemes by business enterprises. Given that tax revenue is the lifeblood of every jurisdiction (Christensen & Murphy, 2004), reduction in tax revenue due to tax avoidance has adverse effects on the budgetary revenue to maintain public services (Avi-Yonah, 2006). Due to these potential issues, a wave of reactions arises against the practice of tax avoidance around the world. One of these is the Base Erosion and Profit Shifting (BEPS) Project launched by the Organisation for Economic Co-operation and Development (OECD) and G20 countries in 2015. In particular, the OECD/G20 BEPS Project has been created to tackle artificial profit shifting conducted by multinationals in moving their profits from higher-tax jurisdictions to lower-tax jurisdictions. Currently, over 135 countries and jurisdictions are collaborating through a package of fifteen actions and related solutions to improve the coherence of international tax rules and ensure the transparency of tax environments across countries and jurisdictions.¹

As companies could potentially relocate their headquarters and operations to jurisdictions that impose the lowest taxes, the consequences do not affect only a particular country but also represent a global economic problem due to significant tax losses worldwide. Crivelli et al. (2016) report that \$650 billion have been lost globally through tax avoidance strategies across the period from 1980 to 2013 for various countries. Similarly, Cobham & Janský (2018) indicate a more conservative global revenue loss \$500 billion from similar tax avoidance activities. More recently, the Financial Secrecy Index (FSI) (2020) compiled by Tax Justice Network researchers show a staggering loss of \$21 to \$32 trillion as a result of private financial wealth located in untaxed or lightly taxed in tax havens

¹ <https://www.oecd.org/tax/beps/>

around the world during 2002 to 2010.² Empirically, Clausing (2016) finds that profit shifting executed by corporations headquartered in the U.S. during 1983 to 2012 causes each host country to lost tax revenues between \$77 billion and \$111 billion, and the value of tax losses has substantially increased over time.

Relevant stakeholders (e.g., tax authorities, government, social activists) focus more attention on tax avoidance issues given that they have become more ubiquitous for business corporations in recent years. For example, Starbucks and Apple paid only 1% ETR in the Netherlands and Ireland in 2011, and Apple's global ETR was only 9.8% (Schimanski, 2018). Recently, in 2018, Amazon made an \$11.2 billion profit while Netflix posted its largest ever profit of \$845 million; however, both paid no federal tax (The Guardian, 2019). While most studies on tax avoidance investigate the issue of tax avoidance in the context of developed economies, limited prior works highlight higher losses due to tax avoidance in less developed countries. For example, Besley & Persson (2014) demonstrate that while high-income countries are able to collect taxes of around 40% of their GDP, countries with lower income can generally only collect between 10-20% of their GDP.

According to MSCI Market Classification Framework, an emerging market comprises some characteristics of a developed market but does not fully meet its standards.³ In other words, although emerging countries are comparable with developed markets in term of economy, many other factors and criteria that make emerging countries different from developed markets, e.g., social norm, political environment, infrastructure, legal system, population (Grewal & Lilien, 2015). More specifically, Kvint (2009) defines an emerging market country as “a society transitioning from a centralised to a free-market-oriented-economy, with increasing economic freedom, gradual integration with the Global Marketplace and with other members of the GEM (Global Emerging Market), an expanding middle class, improving standards of living, social stability and tolerance, as well as an increase in cooperation with multilateral institution”. As the emerging markets' GDPs are estimated to permanently surpass that of all developed markets by 2035 (Wilson & Purushothaman, 2003), they become economically stronger and more economically important. As such, emerging economies should to make their markets transparent and trustable by providing comparable and

² <https://fsi.taxjustice.net/en/>

³ file:///C:/Users/abp6dc/Downloads/MSCI_Market_Classification_Framework.pdf

relevant information. Through this lens, investors would be more confident when making decisions on their investments (Meser, Veith, & Zimmermann, 2015).

Therefore, this thesis posits that investigating tax avoidance in emerging economies may gain new knowledge and add to the extant literature on tax avoidance in a different context as compared to developed economies. This thesis focuses on BRICS (Brazil, Russia, India, China, and South Africa) as a representative sample of advanced emerging economies. BRICS currently accounts for nearly a quarter of the global economy and contribute more than half to the global economic growth (IMF, 2018), accounting for about 29% of the world's population, 23% of the world's land area, and about 24% of the GDP (the World Bank database, 2019). BRICS also plays a politically important role especially with regard to the institutions and practices of international political economy, and they have the most discernible impact on changes in the existing global governance architectures (Roberts & Armijo, 2014). Therefore, losing revenues from tax avoidance practised in BRICS would have an adverse impact not only each BRICS member but also the global economic development. Given tax avoidance issues are under-examined in emerging, the current study attempts to fill the gap in the extant literature by focusing on the BRICS countries.

As corporate tax avoidance could be accomplished by creating legal loopholes through recording complicated transactions, the scope of this study is decided based on these characteristics, i.e. the legal practice and the difficulty of detection. Given that tax avoidance is undesirable corporate conduct, which is not illegal (Guenther et al., 2013; Slemrod & Yitzhaki, 2002), it is difficult to enforce hard laws⁴ to tackle this corporate behaviour. Therefore, linking soft laws⁵ to tax avoidance is necessary because soft laws allow society to put pressure on firms to comply with their corporate responsibility to pay taxes in order for them to be perceived as legitimate. As CSR is considered a form of soft law (Jackson 2010; Vogel 2005) that emphasises a firm's social commitment to various stakeholders, it is theoretically and practically linked to the corporate practice of tax avoidance (Knuutinen, 2014), and the public has called on firms to pay their fair share of tax as part of their CSR (Huseynov & Klamm, 2012). The vagueness of tax avoidance makes it difficult for stakeholders

⁴ Hard law is a foundation of any functioning tax system that can bring standards to all firms operating under the tax system as it works through sanctions and determination of clarity (Nov, 2006). Therefore, it cannot be rejected that hard law allows tax system to perform in a more efficient way.

⁵ Examples of soft laws are private monitoring mechanisms or agreements that embody norms, NGO legislation, and governmental policy statements (Sheppard, 2014).

to detect. Determining other corporate behaviours may also help to detect the level of tax avoidance. Engaging in earnings management and using accounting conservatism are well-known corporate behaviours which are closely linked to the practice of tax avoidance as its incentive. Therefore, earnings management and accounting conservatism are logical and compelling corporate behaviours for exploring the level of tax avoidance.

1.2. Research Objectives and Research Questions

Corporate tax avoidance is traditionally viewed as a mechanism to maximize profit by reducing tax liabilities (Hanlon & Heitzman, 2010; Preuss, 2010). Prior research has documented that tax incentives play an important role in firms' behaviours, such as earnings management (e.g., Desai & Dharmapala, 2009; Shane & Stock, 2006; Sundvik, 2017; Taylor & Richardson, 2014; Wong, Lo, & Firth, 2015), corporate social responsibility (CSR) (e.g., Lanis & Richardson, 2012, 2013, 2015; Preuss, 2010, 2012), and profit shifting (e.g., Bartelsman & Beetsma, 2000; Fuest & Riedel, 2012; Janský & Prats, 2015; Omar & Zolkafli, 2015). However, as mentioned above, these studies have focused mainly on developed countries, leaving the issue of tax avoidance in emerging countries is under-examined. Therefore, this thesis aims to fill this gap in literature by examining the relationship between tax avoidance and CSR, earnings management, and accounting conservatism, respectively, in emerging countries, focusing on a sample from BRICS. More specifically, using a dataset of listed firms domiciled in BRICS countries, the objectives of this thesis are to empirically investigate:

- the link between CSR and the level of tax avoidance.
- the link between earnings management and the level of tax avoidance
- the link between accounting conservatism and the level of tax avoidance

With respect to the first issue examined in this thesis, the association between tax avoidance and CSR, given that tax revenue is an integral part of funds to provide public goods, losing revenue through tax avoidance would have adverse effects on society. While tax avoidance aims to maximise shareholders' wealth and enables corporations to compete in the markets by reporting higher profits to investors, it is costly to social welfare by eroding the smooth functioning of the state to provide public goods, which affects the existence of society (Avi-Yonah, 2006). CSR captures the idea that, beyond legal compliance, corporations need to operate in the interest of society at large (Carroll, 1979). Reporting higher profits by reducing tax expenses is considered as not paying a fair share of tax, and a corporation may be seen as socially irresponsible (Hoi et al., 2013; Huseynov & Klamm, 2012). Therefore, the first study is motivated by the growing debate on whether responsible tax

payment should be part of a firm's CSR strategy (Avi-Yonah, 2014; Desai & Dharmapala, 2006; Dowling, 2014; Sikka, 2010). In order to achieve the first objective, i.e., to investigate whether CSR is linked to the level of tax avoidance, the main research question is stated as:

RQ1: Is firms' CSR engagement associated with the levels of tax avoidance?

In particular, the current study investigates the link between tax avoidance and CSR in light of whether CSR activities are undertaken to conceal firms' misconduct of tax avoidance, or whether such activities are implemented by taking into consideration for social well-being.

The second study investigates the link between tax avoidance and earnings management. It is argued that firms manage earnings to save tax because tax calculations are based on accounting numbers (Monem, 2003). Firms may engage in tax avoidance because a proportion of their profits is paid to the tax authority through corporate income tax. This requirement creates conflicts between contracts a firm has with the state government and with the capital market. While pressure from the capital market encourages firms to report high book income, firms do not simultaneously favour to pay more tax due to such higher book income. In other words, to meet market expectations, managers need to present high profits, but higher profits result in higher taxes. Managers may thus employ earnings management to minimize the corporate tax obligation, and to increase corporate net income at the same time. In doing so, firms may engage in tax avoidance which involves complicated and confidential corporate structures and transactions (Chen & Chu, 2005). That is, managers likely have private information and know-how to use available legal channels to reduce the effective tax rate (ETR) (Crocker & Slemrod, 2005). Thus, the second study is driven by the question of whether tax avoidance demands practices that can be bundled with earnings management. In order to achieve the second objective, i.e., to investigate whether earnings management is linked to the level of tax avoidance, the research question is stated as follows:

RQ2: Is firm's level of earnings management associated with the levels of tax avoidance?

As there are different forms of earnings management, i.e., accruals-based earnings management (AEM) and real-activity earnings management (REM), the study attempts to answer the above question using both AEM and REM mechanisms in avoiding taxes.

The third study examines the link between tax avoidance and accounting conservatism. Specifically, the study aims to answer the question of whether firms adopt conservative accounting methods to reduce their tax liabilities. Accounting conservatism is an accounting principle that requires firms to

be timelier in recognizing losses than gains. That is, firms would lower net assets and profits in response to bad news, but do not increase net assets and profits in response to good news. This is because gains require higher standards of verification to be recorded in book income than losses (Basu, 1997; Watts, 2003a, 2003b). By conservatively delaying the recognition of book income, taxable income is simultaneously shifted, and tax payments are also deferred into the future (Bornemann, 2018). In other words, while the exercise of accounting conservatism helps to provide useful information to stakeholders, firms simultaneously shift taxable income into the future (by delaying the recognition of revenues) and/or defer tax payments (by accelerating the recognition of expenses). Therefore, tax savings may be an incentive for firms to increase accounting conservatism to minimize tax liability in the current period. In order to achieve the third objective, i.e., to investigate whether accounting conservatism is linked the level of tax avoidance, the research question is stated as follows:

RQ3: Is a firm's level of accounting conservatism associated with the levels of tax avoidance?

Accounting conservatism can be classified as either conditional or unconditional. Prior studies report mixed results on whether conditional conservatism, or unconditional conservatism, or both are more likely to be related to tax burdens. This study investigates tax-reducing effects of both the conditional and unconditional forms of accounting conservatism in order to answer the above question.

1.3. Research Methodology

This thesis employs a deductive research approach by developing hypotheses based on the objectives and existing theories and empirical evidence, and the hypotheses are tested through statistical models. In the context of this thesis, the tax avoidance proxies capture all tax avoidance activities, i.e., both legal and illegal transactions. In other words, the current study does not attempt to distinguish between legal avoidance activities and illegal tax evasion activities. Therefore, the tax avoidance measure employed focuses on the total amount of tax avoided, rather than on the specific actions. Prior research claims that the ETR, specifically the GAAP-based ETR, captures a broad range of tax avoidance activities (Badertscher, Katz, & Rego, 2013; Chen et al., 2010; Gaertner, 2014; Huseynov & Klamm, 2012; Laguir, Staglianò, & Elbaz, 2015; Lanis & Richardson, 2012; Phillips, 2003; Steijvers & Niskanen, 2014). Therefore, the GAAP-based ETR (hereafter ETR), calculated by dividing income tax by pre-tax book income, is chosen as the main measure of corporate tax avoidance in all three studies.

In analysing the relationship between tax avoidance and CSR, the study uses CSR dataset collected from the Thomson Reuter's ASSET4 database from 2008 to 2015. The CSR measure is estimated as the average of the scores of the social and environmental pillars (Naughton et al., 2014).⁶ Additional tests are also conducted to confirm interpretations of the primary results. First, two alternative measures of CSR are used, namely, the country-industry adjusted CSR mean (McWilliams & Siegel, 2001) and a high-low separated group (Lanis & Richardson, 2012). Second, two alternative measures of ETR are used, namely one-year ETR as calculated by dividing income tax by operating cash flows (Jaafar & Thornton, 2015; Karampinis & Hevas, 2013) and five-year ETR (Dyreng et al., 2008). Lastly, industry-mean scores of CSR (Kim et al., 2014) are used as instrumental variables in a regression model estimated with the Two-Stage Least Square (2SLS) method to alleviate any bias caused from endogeneity problems.

The second study investigates the relationship between tax avoidance and earnings management, and the dataset is sourced from Worldscope retrieved through the Datastream Thomson Reuters database. Earnings management is proxied through both AEM measures and REM measures. With respect to estimation using discretionary accruals, this study uses four approaches: i) the Jones model; ii) the modified-Jones model; iii) the performance-matched Jones model, and iv) the performance-matched modified-Jones model. All discretionary accrual-based models are estimated for each country, industry, and year combination (Bartov et al., 2000; Koh, 2003). Furthermore, this study conducts some additional tests, including estimating tax avoidance with an AEM subsample and employing estimations using 2SLS to mitigate endogeneity problems.

The third study investigates the relationship between tax avoidance and accounting conservatism for the period 2006-2018 from WorldScope retrieved through the Datastream Thomson Reuters database. In assessing the link between firms' level of tax avoidance and accounting conservatism, this study uses two measures of accounting conservatism, namely (i) the C-score developed by Khan & Watts (2009) to proxy for conditional conservatism and: (ii) negative accruals developed by Givoly & Hayn (2000) to proxy for unconditional conservatism. The study also investigates the association between tax avoidance and accounting conservatism at the country level by re-estimating the main regression model with samples for each country separately. Additionally, this study tests the effect of having a Big4 auditor and a net operating loss (NOL) on the relationship between tax avoidance and accounting

⁶ Thomson Reuter's Asset4 contains scores for four pillars: governance score, economic score, environmental score, and social score. This study excludes the governance and economic scores, as they are not related to the objective of the study.

conservatism. To eliminate any alternative interpretations of results, robustness tests are carried out using alternative measures of ETRs, analysing a subsample that excludes China and India as the main results may be driven by the fact that the majority of sample companies are domiciled in these two countries, and running estimations using 2SLS to deal with endogeneity problems.

1.4. Summary of the Key Findings

The main findings of the current study are as follows:

The first study empirically investigates the link between CSR and the degree of tax avoidance. The main findings show that firms with higher level of CSR are less likely to engage in tax avoidance. This can be theoretically explained under the perspectives of corporate culture and normative stakeholder that if a firm strongly believes in ‘appropriate and ethical’ corporate behaviour, then all the decisions undertaken by the firm should reflect such a right shared belief (Kreps 1996; Hermalin 2001). Therefore, firms with the strong believed culture of balancing the interests of all stakeholders would accept compromise in the pursuit of shareholder profit by pursuing a combined strategy of tax compliance and CSR engagement in order to satisfy stakeholders’ interests instead of shareholders’ and gain support for its continued survival (Gray et al., 1995).

In analysing the link between earnings management and tax avoidance, this thesis reports that firms with higher level of earnings management using discretionary accruals are more likely to engage in tax avoidance. These results support the hypothesis that firms’ managers use non-conforming techniques to increase book incomes and decrease taxable incomes at the same time, consistent with prior studies in the developed economies (e.g., Desai, 2002; Frank et al., 2009). Further testing the level of conservatism, this thesis shows that firms present higher level of tax avoidance when using conditional conservatism, rather unconditional conservatism. This positive association between tax avoidance and conditional form of conservatism is consistent with the results in the study of Gan (2018) finding that conditional conservatism results in reducing the tax burden and also confirms the study of Lara, Osma, & Penalva (2009) reporting that taxation does induce not only unconditional conservatism but also conditional conservatism.

Therefore, these results contribute to the literature by providing clear evidence on the direct link between tax avoidance and CSR. It also extends the literature on the extent of earnings management and accounting conservatism, affecting the level of tax avoidance in the context of BRICS emerging markets.

1.5. Contributions

This thesis makes the following contributions: To the best of my knowledge, this is the first study to empirically examine the issue of tax avoidance in the BRICS countries. In particular, in examining tax avoidance issues, the current study offers a new setting to that of developed countries investigated in prior literature, as BRICS countries provide different capital market characteristics and institutional environments. Although BRICS are fast-growing economies, their regulatory mechanisms are relatively poor, as reflected in weak law enforcement, high levels of corruption, and lack of political accountability. These limitations may lead to more severe issues associated with tax avoidance in BRICS. Accordingly, using listed firms domiciled in BRICS countries, this thesis extends the prior literature on tax avoidance by providing new perspectives. What is more, it adds insights into whether CSR, earnings management, and accounting conservatism are linked to tax avoidance in a similar way as they are in developed economies. As BRICS are also key players in international trade and the international tax regime (Baistrocchi, 2013), tax avoidance behaviours in BRICS need to be explored first to better our understanding and to then investigate the impact of tax avoidance in BRICS on international trade and the international tax regime.⁷ With the context of non-homogeneous economies of BRICS, this thesis provides additional knowledge by extending studies on tax avoidance across country contexts, which generates additional insights for policy makers on tax avoidance in BRICS, extends research on the practice of tax avoidance in different environments, and consequently improves investors' decisions towards firms in the unique environment of BRICS.

The first study of this thesis is a response to prior works by Huseynov & Klamm, (2012) and Sikka (2010) which call for more research on the link between tax avoidance and CSR. Within the context of BRICS, prior studies have already investigated types, the nature, drivers and the scope of CSR (e.g., Ali et al., 2018; Arrive & Feng, 2018). Extant literature has also already investigated the effect of tax regimes in BRICS on the international tax system (e.g., Baistrocchi, 2013; Shelepov, 2017). This study provides new insights by examining the association between tax avoidance and CSR, through the lenses of several theories, including legitimacy theory, stakeholder theory, reputation risk management, organized hypocrisy, and corporate culture. More specifically, the new insights indicate that firms in the BRICS group do not use CSR strategically as "a tool" to legitimate or manage the risk/minimise public scrutiny from their tax avoidance behaviour. Instead, they develop a culture of

⁷ In the process of convergence toward, feedback to market leaders (i.e., BRICS in this thesis) offered by the global community of tax advisors, tax scholars, and international taxpayers is needed (Baistrocchi, 2013).

tax compliance and CSR engagement as a complementary strategy, promising ethical conduct to external audiences and committing to serving the interests of all stakeholders. This new evidence would be useful for standards and regulators setters when considering CSR related regulations, and CSR reports to include responsible tax payment as part of those regulations and reports.

Tax avoidance has been argued as schemes transferring benefits from state to shareholders through the technique of earnings management to guarantee tax benefits and shielded them from tax authorities (Desai & Dharmapala, 2006, 2009). While prior studies examine the association between tax avoidance and earnings management (e.g., Badertscher et al., 2009; Desai & Dharmapala, 2009), these studies provide inconsistent findings. Moreover, it remains largely unexplored how earnings management influences tax avoidance in the context of BRICS, which indicates a gap in the literature. Therefore, the second paper helps to further our understanding by providing new evidence on the association between tax avoidance and earnings management. In particular, it demonstrates how managers strategically use the techniques of accruals-based earnings management and real activity earning management to deal with tax incentives. The results provide new insights showing that firms in BRICS use a non-conforming earnings management approach to increase book income and to reduce taxable income in the same accounting period through the discretion of accruals, not through the alteration of real activities. This understanding would be useful for both financial standards setters and tax authorities when considering new standards or regulations to deal with the problems of earnings management and tax avoidance. This study also provides insights to investors (Drake et al., 2019; Mukhlisin & Anissa, 2018) to be aware of a particular firm engaging in earnings management might also engage in tax avoidance activities.

Another accounting practice that may be used to gain tax benefits is accounting conservatism (Bornemann, 2018; Heltzer, 2009; Lara et al., 2009; Qiang, 2007). Existing evidence is mixed and still inclusive about what type of accounting conservatism (the conditional or unconditional form, or both) is more likely associated with taxation, and especially with reducing the tax liability. In particular, while existing studies focus on an ex-ante analysis of whether high tax rate leads to more conservatism (Bornemann, 2018), this study adopts an ex-post perspective and provides evidence of whether employing accounting conservatism results in the reductions of tax liabilities. Therefore, the third study expands and contributes to the literature by adding new evidence showing that firms in BRICS use the conditional form rather than the unconditional form of conservative accounting to reduce tax liabilities. This new evidence is important for standard setters when considering whether conservative accounting should be emphasised in accounting standards or not, as this accounting

principle has both benefits and costs. That is, while firms may attempt to provide timely and useful information to stakeholders through the use of conservative accounting, they may also simultaneously shift taxable income into the future by delaying the recognition of revenues and/or deferring tax payments by accelerating the recognition of expenses.

1.6. Structure of the Thesis

This thesis is organized into six chapters, as follows.

Following this chapter, Chapter two reviews and discusses extant literature on corporate tax avoidance within the scope of this study, including definitions of tax avoidance and terminologies widely used in the literature, theoretical frameworks underlying to the behaviour of corporate tax avoidance, alternative perspectives on tax avoidance, factors determining corporate tax avoidance, the importance of BRICS on the global economy, and the current tax avoidance practices in emerging countries.

Chapters three, four, and five provide the empirical studies examining the association between (i) tax avoidance and CSR; (ii) tax avoidance and earnings management and (iii) tax avoidance and accounting conservatism, respectively. These three chapters are organized in the same way, i.e., starting with an introduction, followed by reviewing related literature, hypothesis development, research design, results, and conclusion the main points of the study.

Chapter Six concludes the thesis by providing a summary of the thesis and related discussion, the limitations and the suggested directions for future research.

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Chapter 2 Literature Review

Literature Review

2.1 Introduction

This chapter reviews the extant literature on corporate tax avoidance within the scope of this study. In particular, this chapter discusses (i) definitions of tax avoidance and terminologies widely used in the literature; (ii) theoretical frameworks underlying to the behaviour of corporate tax avoidance; (iii) alternative perspectives on tax avoidance; (iv) factors both at the firm- and country-level determining corporate tax avoidance; (v) the current tax avoidance practices in emerging countries and; (vi) the importance of BRICS vis-a-vis the global economy.

2.2. Corporate Tax Avoidance

A corporate income tax (CIT) is a direct tax imposed by a jurisdiction on profits of corporations and required to be paid to tax authorities. The amount of CIT is classified as an expense which will be deducted from revenues when calculating net profits of firms in each accounting period. Given that the firms' bottom line is reduced by tax expenses, the value of firms may be also affected by the amount of CIT that firms owe to the tax authorities. As such, firms would attempt to minimize the amount of tax liabilities as much as possible to increase the firms' value (Desai & Dharmapala, 2009). This firms' behaviour is generally referred to as corporate tax avoidance (hereafter tax avoidance). However, several terms are used in referring to the tax reduction strategies used in the literature. Table 2.1 presents a broad view of those terms, including tax avoidance, tax evasion, tax sheltering, tax havens and tax aggressiveness.

The term "tax avoidance" has no universally accepted meaning, but is broadly defined as activities, behaviours, or transactions executed within a legal framework, but alter the intent of the law it purports to follow, in order to reduce tax liability (e.g., Bird & Davis-Nozemack, 2018; Cheng, Huang, Li, & Stanfield, 2012; Dyreng, Hanlon, & Maydew, 2008; Hanlon & Heitzman, 2010; Lanis, Richardson, Liu, & Mcclure, 2018; Manganaris, Spathis, & Dasilas, 2015; Payne & Raiborn, 2018).

In other words, tax avoidance is any actions facilitated by tax regulation loopholes to reduce the tax burden on entities being taxed. Tax avoidance is, sometimes, used interchangeably with tax evasion, but they are in fact different concepts. In gaining similar benefits (i.e., tax reduction), tax evasion is illegal activities that comprise components of deception, concealment, or destruction of the nature of transactions to reduce the actual tax liabilities (Bird & Davis-Nozemack, 2018; Payne & Raiborn, 2018; Sikka, 2010). Therefore, while tax avoidance may be an accepted element of the tax planning process in business, tax evasion breaks the letter of the law (Payne & Raiborn, 2018).

Table 2.1 Definitions of tax strategies

Tax avoidance

Author(s)	Definitions
Payne & Raiborn (2018, p. 470)	The process of using legal means to reduce the amount of tax that is owed based on enumerated provisions in the tax law.
Bird & Davis-Nozemack (2018, p. 1010)	The pursuit of transactions and structures in order to reduce tax responsibility in a manner that is contrary to the policy or spirit of government legislation.
Henry & Sansing (2018, p. 1043-1044)	Anything that causes a firm's cash taxes paid to be less than what they would have been.
Lanis, Richardson, Liu, & McClure (2018, p. 2)	The term to encompass a spectrum of what may be considered acceptable and unacceptable tax behaviours. This range of activities forms a tax-avoidance continuum from ordinary tax-minimizing policies well within the boundaries of the law to the more contentious types of tax strategies that give rise to uncertain tax positions.
Lisowsky, Robinson, & Schmidt (2013, p. 584)	Tax avoidance encompasses all tax positions (i.e., certain and uncertain positions).
Hanlon & Heitzman (2010, p. 137)	Strategies of tax planning to reduce explicit taxes, and if tax avoidance represents a continuum of tax planning strategies where something like municipal bond investments are at one end (lower explicit tax, perfectly legal), then terms such as noncompliance, evasion, aggressiveness, and sheltering would be closer to the other end of the continuum.
Dyreng, Hanlon, & Maydew (2008, p. 62)	Anything that reduces the firm's cash effective tax rate over a long time period.

Kay (1980, p. 136)	The facts of the transaction are admitted but they have been arranged in such a way that the resulting tax treatment differs from that intended by the relevant legislation.
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Tax evasion

Author(s)	Definitions
Payne & Raiborn (2018, p. 470)	Any dishonest or dubious action taken outside the legal framework to reduce or conceal taxable income amounts or increase deductions so as to reduce the true tax liability to less than the obligated amount under the legal tax framework.
Bird & Davis-Nozemack (2018, p. 1010)	An illegal and immoral practice
Cowell (1990, p. 231)	Attempt of concealment some of their taxable income from the authorities.
Kay (1980, p. 136)	Evasion is concerned with concealing or misrepresenting the nature of a transaction.

Tax sheltering

Author(s)	Definitions
Chyz (2013, p. 312)	The most severe or aggressive form of tax avoidance with the main goal to lower tax liabilities by exploiting discontinuities in the tax law.
Lisowsky, Robinson, & Schmidt (2013, p. 584)	Tax positions with the greatest amount of uncertainty
Lisowsky (2010, p. 1694)	Transactions or arrangements that generate tax losses without incurring economic losses or risk to lower the corporate tax liability by exploiting discontinuities in the tax law. Tax shelters are illegal when they do not exhibit economic substance or a business purpose; that is, when they are created for the sole aim of evading tax rather than filling a non-tax economic need.
Cowell (1990, p. 231)	Sheltering is a legitimate activity, openly carried out by tax-payers taking advantage of special provisions or loopholes in tax laws.

Tax haven

Author(s)	Definitions
Janský & Prats (2015, p. 274)	Locations and a fundamental element of a broader system and industry that support tax evasion and avoidance.
Jaafar & Thornton (2015, p. 436)	Jurisdictions that impose no or very low corporate taxes and hence offer firms the ability to reduce their overall tax burdens in their home country.
Dharmapala & Hines (2009, p. 1058)	Locations with very low tax rates and other tax attributes

Tax aggressiveness

Author(s)	Tax Aggressiveness
Lanis & Richardson (2013, p. 75)	A scheme or arrangement put in place with the sole or dominant purpose of avoiding tax which is not within the spirit of the law.
Lisowsky, Robinson, & Schmidt (2013, p. 584)	A subset of tax avoidance in which the underlying positions likely have weak legal support.
Lanis & Richardson (2012, p. 86)	The downward management of taxable income through tax planning activities that are legal or that may fall into the grey area, as well as activities that are illegal.
Rego & Wilson (2012, p. 776)	A more aggressive tax positions are subject to greater uncertainty.
Hanlon & Slemrod (2009, p. 127)	Complex transactions used by corporations to obtain significant tax benefits probably never intended by the tax code; these transactions may not be illegal per se.

Tax avoidance can be achieved through mechanisms referred to as tax sheltering, a method that taxpayers can use to lower their tax liabilities. Tax sheltering activities can range from investments that provide favourable tax treatment, to activities that reduce taxable income such as transfer pricing, a corporate-owned life insurance deal, contingent-payment instalment sales, lease-in, lease-out transactions, the cross-border dividend capture strategy, the contested liability acceleration strategy, and offshore intellectual property havens (Graham & Tucker, 2006; Wilson, 2009a). One of the most-engaged methods of tax shelters is reallocating taxable income through complex techniques such as intra-firm trade and intangible property transferring to tax havens, the no-tax or very low-tax

jurisdictions (Desai et al., 2006; Dharmapala & Hines, 2009). As tax sheltering is the method to avoid tax, Cowell (1990) asserts that sheltering is a legitimate activity but inconsistent with the spirit or intent of the statute or regulation. Nonetheless, Hanlon & Slemrod (2009) and Lisowsky (2010) argue that while tax shelters provide a way to legally avoid taxes, they can also be used for illegal tax evasion if those transactions are created for the sole purpose of evading taxes.

Tax aggressiveness is another word used interchangeably with tax avoidance which defined broadly in Lanis & Richardson (2013) as a scheme which is not consistent with the spirit of the law carried out for the purpose of avoiding tax. However, tax aggressiveness is more likely and specifically referring to a risky tax avoidance/tax shelter activity that leads firms to encounter a greater uncertainty tax position (Lisowsky et al., 2013; Rego & Wilson, 2012). Therefore, tax aggressiveness can be activities that are legal or illegal, as well as activities fall into the grey area depending on how aggressive the activities are (Lanis & Richardson, 2012).

However, Hanlon & Heitzman (2010) argue that tax avoidance is the general terms referring to tax strategies that firms engage for the purpose of tax reduction. It can fall anywhere along a continuum ranging from certain tax positions (perfectly legal) to uncertain tax positions (legal, grey area, or illegal), depending on the aggressiveness levels of avoidance activities. This suggests that the tax avoidance should be specifically defined by a researcher according to a particular research question and context. As the input data used in this study to distinguish between legal avoidance activities and illegal evasion activities are not publicly accessible, tax avoidance in this study is based on the output data to measure the overall magnitude of firms' tax avoidance. Thus, it is defined as any schemes, regardless of consideration about legal elements, that firms participate to receive a reduction of tax liability.

2.3. Theoretical Framework

Tax avoidance can be viewed as another form of a principal-agent problem – the conflict of interest between an owner (principal) and a manager (agent) (Slemrod, 2004). Based on agency theory, a firm's manager is expected to act on behalf of an owner to maximize the value of the firm. The principal-agent scheme occurs when the interests of agents do not align with those of principals. This issue is normally driven by an asymmetry of information. In a corporation, owners are mostly separated from a management team who is responsible for day-to-day tasks. This arrangement allows the firm's managers to hold a more complete set of information at hand compared to the owners, especially the outside owners. When information asymmetry exists, managers have opportunities to

promote their own self-interests (if those interests are not aligned with the owners' ones) at the expenses of the owners (Beatty & Harris, 1998).

Although tax avoidance in itself does not reflect the problem of agency, it is a part of the agency issues due to managerial opportunism (Desai & Dharmapala, 2009). In mitigating conflicting interests between managers and themselves, the firms' owners align managerial incentives with after-tax firm performance. The managers who expect to gain benefits from such incentives would exert their effort to reduce tax liability as much as possible to maximise profits and achieve their own goals. In other words, managers would do their best to maximize the after-tax wealth of the firm's owners as doing so maximizes their own wealth as well. Moreover, the information needed for the tax function is dispersed throughout the firm, which is available only within the system created for financial reporting and management (Cranford et al., 2012). As such, managers are provided resources to conduct activities designed to hide bad news or disclose information that misleads investors (Desai and Dharmapala, 2006). Furthermore, to justify the opacity of tax avoidance transactions, managers may claim that it is necessary to obfuscate those transactions as it would help reduce the risk of detection when firms are scrutinised by tax authorities and shield from the investigations of external auditors and audit committees (Kim, Li, & Zhang, 2011). Desai & Dharmapala (2009) show that complex tax shelters allow managers to report earnings while preventing investors from understanding their sources. Under the agency perspective, as the complexity of tax avoidance transactions can provide managers with tools to mask and justify their opportunistic behaviours (e.g. related party transactions, earnings manipulations, and other resource-diverting activities), tax avoidance and managerial diversion can be complementary (Desai & Dharmapala, 2006). Taken together, the agency theory predicts that incentive-aligned managers engage in more tax avoidance activities (Chen et al., 2010; Desai & Dharmapala, 2006; Desai & Dharmapala, 2009).

Motivated by this line of reasoning, the extant literature has begun exploring the role of agency frictions in explaining variation in tax avoidance. Chen et al. (2010) use multiple measures of tax aggressiveness; GAAP ETR, cash ETR, total BTD, and abnormal BTD examining whether a family-owned firm is more or less aggressive on tax transactions. They argue that family owners have more opportunity to engage in tax avoidance, but the family owners simultaneously face greater agency problem between dominant and minor shareholders who are monitoring the firm's performance. Their result shows that the family-owned firms are less tax aggressive than their non-family counterparts after controlling all factors affecting the differences between family firms and non-family firms. The

authors conclude that the firm value could be discounted if minority shareholders detect that firm hide rent extraction activities through complex tax transactions. Khan, Srinivasan, & Tan (2016) also examine the role of ownership structure in explaining variation in tax avoidance. The authors argue that although the institutional investors' interests are in favour of shareholders' share of after-tax income, those institutional owners do not demand managers to employ specific strategies to maximise profits, i.e. it could be tax avoidance or other strategies. Therefore, the level of tax avoidance is at managers' discretion. Using the Russell index reconstitution setting to isolate exogenous shocks to institutional ownership, they find that higher institutional ownership is associated with higher tax avoidance. The authors conclude that managers engage in tax avoidance due to the increase in the institutional ownership, rather than the explicit and specific demand for tax avoidance of institutional owners. Using a large sample of U.S. firms for the period 1995–2008, Kim et al. (2011) find that tax avoidance is positively associated with stock crash risk. The authors explain this relationship in the way that tax avoidance transactions offer managers tools to mask their opportunistic behaviours and hoarding of bad news. When all hidden bad news accumulates over the turning point, and immediately come out at once, firms face with stock price crashes. However, this relation is weakened for firms with strong external monitoring mechanisms such as high institutional ownership, high analyst coverage, and greater takeover threat from corporate control markets. Consistent with Desai & Dharmapala (2006), the complementary relationship between tax avoidance and managerial diversion is not held for firms with strong governance as managers can be kept in check.

2.4. Alternative Perspectives on Tax Avoidance

Although most studies on tax avoidance are based on an economic perspective, the ethical view has also been used to investigate this practice. As one side of the coin, increasing the firm value is an ultimate goal of tax avoidance engagement, but the other side of the coin, tax avoidance affect society as a whole. Therefore, this section discusses issues of tax avoidance from both perspectives.

2.4.1. Economic perspective on tax avoidance

Tax avoidance has become one of the key strategies because of its primary benefit to maximise cash of firms by minimising tax payments. As tax avoidance decreases cash outflows, it is expected to increase firm value (Drake et al., 2019), and is thereby positively viewed by investors (Mukhlisin & Anissa, 2018; Wilson, 2009a). As the outcome of tax avoidance is profit increasing which is the key indicator of firms' financial performance in the evaluation processes in capital markets, managers are

motivated to undertake tax avoidance strategies, especially, when managers' incentives are aligned with firm's owners interests (Armstrong et al., 2012; Crocker & Slemrod, 2005; Slemrod, 2004).

Engaging in tax avoidance strategies imposes a variety of costs on firms and managers both explicit costs and implicit costs (or non-tax costs). The explicit costs include expenses for setting up, implementing, monitoring, and improving the strategy, such as registration and legal fees for establishing business units, audit fees for consulting, and fines or penalties that may arise if the tax-favoured transactions are considered inappropriate by the tax authority (Hanlon & Slemrod, 2009; Kubata et al., 2013). It has been argued that tax avoidance cannot be evaluated without analysing corporate governance issues (Desai & Dharmapala, 2006b). This view points out that, in addition to the explicit costs, tax avoidance also imposes implicit costs. This type of cost is hidden in nature and not easy for stakeholders to identify the true net benefits of tax avoidance. Implicit costs are mostly referred to as agency costs which include reputational and/or political costs⁸ (Chen et al., 2010; Graham, Hanlon, Shevlin, & Shroff, 2014; Hanlon & Slemrod, 2009), direct appropriation for the managers if benefits from tax avoidance are attained and increased ability of managers to extract rents for themselves (Santana & Rezende, 2016) and loss of financial statement credibility (Kubata et al., 2013; Mukhlisin & Anissa, 2018).

As the reputation of a corporation represents the perception individual having toward a corporation, a strongly positive reputation is viewed as a tool to accomplish strategic competitive advantages (Schwaiger 2004). A corporation may be banned from society as a punishment of not being a good citizen when the public identifies that the company has avoided paying taxes. In the study of Hanlon & Slemrod (2009), they show the mission statement of the tax department of General Electric, as an example, which indicates that "tax strategies should not be harmful to the company's reputation" and the company also categorizes reputation as a tax risk type and describe the criteria for evaluating this type of risk. This shows that there are, at least, some companies that label reputational loss as a cost of being aggressive tax avoider. Using a sample of firms accused of tax sheltering and firms recorded as being poor corporate citizens for having low tax rates by the Citizens for Tax Justice, Hanlon & Slemrod's (2009) findings support this view in that the average company's stock price declines when its involvement in tax shelters is reported in the news. Chen et al. (2010) analyse family-owned

⁸ Not all agency costs are directly from the interactions between principal and agent. Agency costs can be incurred by both actors trying to suppress the political pressure that is placed on firms. These costs might arise from agents acting either for their own benefits or for the benefits of the company (Llott, 2017). For example, the penalties levied by tax authority if the firms are discovered about their tax avoidance schemes.

businesses and find that family firms, compared to non-family firms, report a lower level of aggressive tax avoidance since they attempt to mitigate reputational costs. Graham et al. (2014) analyse a survey of nearly 600 tax executives on incentives of tax avoidance strategy. They find that the concern about the corporate reputation is considered as “important” or “very important” by almost 70% of the executives when asked why they decide not to adopt aggressive tax strategy. This suggests that they regard aggressive tax avoidance to potentially result in reputational costs. With the objective to explore the effects of the corporate tax strategy on corporate reputation with customers, Hardeck & Hertl (2014), by means of laboratory experiment, also provide evidence that aggressive tax strategies significantly reduce corporate reputation and purchase intentions of customers. Mills et al. (2013) investigate the impact of political costs on tax avoidance of firms that rely on government contracts. They find that federal contractors that are highly sensitive to political costs exhibit higher effective tax rates, implying that federal contractors do not engage in aggressive tax avoidance in order to avoid political costs. Minnick & Noga (2010) find that firms with greater risk from public repercussion captured by those with high advertising expenses are less likely to engage in aggressive tax management.

Given that tax avoidance activities are risky and impose costs on both companies and managers, the latter must be motivated to engage in tax avoidance as it is expected to generate benefits for the company and its shareholders (Rego & Wilson, 2012). Therefore, a direct appropriation for the managers, if the target to save tax expenses were to be successful as planned, is an implicit cost of tax avoidance activities (Santana & Rezende, 2016). Several studies show that tax avoidance is associated with the practices with regards to corporate compensation (e.g., Armstrong et al., 2012; Desai & Dharmapala, 2006a; Phillips, 2003; Rego & Wilson, 2012). In addition to the reward given to managers, under the pretext that tax avoidance activities should be vague so as to not be observable by tax authorities, firms should not overlook the increased ability of those managers in manipulating transactions to be opaque because they may take advantage of the situation to extract rents for themselves, especially in environments with weak corporate governance (Desai & Dharmapala, 2009; Kim et al., 2011). Although tax avoidance is a complex and obscure transaction by its nature, the risk of being detected by the tax authorities is inevitable (Atwood et al., 2012; Crocker & Slemrod, 2005; Kim et al., 2011). Once the case is found out, firms will be investigated, and if the case is judged to be illegal by tax authority, firms are faced with potential penalties including the decline in stock price (Brooks, Godfrey, Hillenbrand, & Money, 2016; Cloyd, Mills, & Weaver, 2003; Hanlon & Slemrod, 2009), pecuniary and reputational sanctions, as well as adverse professional consequences (Desai &

Dharmapala, 2006) which is certainly viewed as a cost imposed on the taxpayer (Slemrod & Yitzhaki, 2002).

Among other implicit costs, the quality of earnings information can be affected by tax avoidance activities because the income tax expense is calculated based on an accrual basis. Prior research has shown that accruals can be potentially be manipulated to affect after-tax earnings (Hanlon & Heitzman, 2010). Firms that report low tax liability for a long period of time would make investors wonder about the quality of the financial statements. If it has been exposed that the management involves in tax dodging, investors and shareholders can also suspect that whether the management appropriately serves their interests. If the profits are generated from opportunistic motives of managers to cover the complexity of corporate problems, then this earnings information may not be reliable and relevant for investors. Frank et al. (2009) find that aggressive tax-avoiding firms also exhibit aggressive financial reporting, and hence a lower quality of financial statements. They also find that investors do not fully incorporate the discretionary accruals information into stock prices, and most of the mispricing is attributed to firms with the most aggressive financial reporting. Kubata et al. (2013) find that tax avoidance reduces the informativeness of financial reporting due to the opaque transactions, leading them to be difficult to understand. As a result, investors and shareholders may reduce the firms' credibility to the net income of companies due to the lower information content. Consequently, the loss of financial statement quality affects both the cost of capital (Lambert et al., 2007) and cost of debt (Francis et al., 2005).

All in all, tax avoidance is generally considered as a cost-benefit management strategy, which should be properly evaluated to ensure that the benefits outweigh the costs. Typically, managers would not proceed tax avoidance activities if those activities do not generate value where the benefits outweigh the costs. Measuring the benefits is straightforward (the amount of money saved from a reduction of tax expenses) but measuring the costs is a challenge as they include both explicit and implicit costs, and some costs cannot be measured in monetary terms.

2.4.2. Ethical perspective on tax avoidance

Although tax avoidance is an expected and accepted practice in a corporate entity's tax planning function by taking the advantage of legal loopholes to make the tax burden as low as possible, such practice begs the question of whether the legal minimum of aggressive tax avoidance is sufficient to follow the ethical minimum of fair tax payment (Payne & Raiborn, 2018). The national budgets for spending on the development and maintenance of public services such as education, physical

infrastructure, health care, and defence are practically from tax revenues (Christensen & Murphy, 2004; Payne & Raiborn, 2018). In the situation where some taxpayers pay less tax; the government may seek ways to maintain national budgets so that the delivery of public goods and services is not reduced or interrupted. By doing so, others may be forced to pay more tax. Thus, it raises the question of whether those who underpay taxes are perceived as unfair and unethical citizens. Moreover, multinational firms from developed jurisdictions that take advantage of a developing country's tax incentives and low tax rates in order to avoid higher taxes in their home country, and do not provide significant economic benefit to the host country may be questioned as to whether they behave ethically towards either the home or the host country (Haugen, 2018; Payne & Raiborn, 2018; West, 2018).

Ideally, business ethics and business competency should go together. In the real world of businesses, when business organisations have to deal with conflicting demands from heterogeneous groups of stakeholders, it is understandable that fulfilling all the stakeholders' expectations and obeying the business ethical codes are difficult for them to meet at the same time. However, one fact that needs to be accepted is that no reason can be used as an excuse for doing the wrong thing. Moreover, the "wrong things" may mean differently (e.g., law, norm and culture) to different persons. In the context of tax avoidance practices, it seems increasingly difficult for taking ethical issues into account when these practices are generally legal and acceptable through the uses of regulatory loopholes. Jackson (1996) states that if there are legal loopholes that are overlooked by the legislators, it is their duty to remove them from the system, and that the honest businesspeople has no obligation not to take advantage to these loopholes. However, Jackson's argument cannot be applied to all situations, for instance, the situation that businesses legally release toxic waste by means of the legal loopholes, and it jeopardises the health and safety of people in a community. Therefore, it is essential for businesses to balance their responsibilities between making profits, obeying the law, and being ethical with at least the minimum acceptable ethical behaviours (Stainer et al., 1997).

Given that to some extent tax liability is self-assessed, the interpretation of ambiguous tax law thus depends on how much risk firms wish to take and how much ethical responsibility they have towards the spirit of the law. As a sense of moral obligation varies across firms, their behaviours on tax practices would be influenced by the firms' key players who are embedded with different cultures and adopt different ethical standards that frame their approaches to influence firms' tax practices

(Sakurai & Braithwaite, 2003).⁹ Tax advisers, predominantly Big4 firms, play an important role here. Characteristically, tax advisers are believed to be people who keep businesses on the right side (both legal and ethical acceptance) of cutting down on the tax liability (Sakurai & Braithwaite, 2003; Stainer et al., 1997) as they can be both enforcers of the tax law (for unambiguous parts) and exploiters of the tax law (for ambiguous parts) (Klepper, Mazur & Nagin, 1991). However, recent tax-avoiding scandals of many multinational firms (such as Google, Starbucks, and Amazon) have called into question the ethical practices of these firms and their tax advisers. The dual roles of tax advisers, as government agents and as client advocates are also questionable, i.e., Big4 tax advisers are likely to be members of a professional association, helping the government in writing tax laws and at the same time designing strategies to help their clients avoid those laws (Marshall et al., 2005). Therefore, their ethical actions are conditional upon their self-enforcement and effective monitoring of ethical conduct within professional organizations. Another key player is society at large, i.e., as paying corporate tax is part of the social contract between firms and society (Hasan et al., 2017; Preuss, 2010),¹⁰ avoiding to pay tax is viewed as unethical and irresponsible behaviour (Dowling, 2014; Hoi et al., 2013) because firms do not act as good citizens by not paying their fair share of taxes (Huseynov & Klamm, 2012). In changing the perspective of business organization to acknowledge that the aggressive corporate restructuring to dodge tax is not compatible with true corporate responsibility requires large-scale cultural changes.

2.5. Prior Studies on Tax avoidance

2.5.1. Firm characteristics

A plethora of existing research on tax avoidance has focused on empirical data to highlight characteristics of tax aggressive firms (see Appendix A), particularly since Hanlon & Heitzman (2010) note that tax avoidance is one of four main areas of tax accounting research.¹¹ This section discusses prior empirical studies on firm-specific characteristics that affect the level of tax avoidance.

⁹ For example, Shafer and Simmon (2008) find that tax professionals who strongly believe in the importance of corporate ethics and social responsibility will engage in less tax avoidance schemes whereas tax professionals with tendency to adopt manipulative and deceitful behaviours believe less in the importance of corporate ethics and social responsibility and will be more acceptable to engage in tax avoidance.

¹⁰ Social contract is viewed as an agreement, either explicit or tacit, between the state and individual to form society and the individual needs to follow such agreement in exchange for the right to continue its existing in society. Therefore, corporation as part of citizens in society must pay the right tax amount (respecting the law) in return for mutual benefits (McNair, 2010; Tax and the social contract, 2016).

¹¹ In the review of Hanlon & Heitzman (2010), four main areas of tax research in economics and finance, i.e., the informational role of income tax expense reported for financial accounting, corporate tax avoidance, corporate decision-

(a) Firm size

Two contrasting theoretical frameworks are used to explain the relationship between tax avoidance and firm size (Gupta & Newberry, 1997; Kim & Limpaphayom, 1998). On the one hand, based on the theory of political cost, large firms encounter more scrutiny from governments (Jensen & Meckling, 1976) and are subjected to comply with greater regulatory activity (Watts and Zimmerman, 1986) because of their greater visibility as compared to small firms. The larger firms thereby endure higher political costs (Zimmerman, 1983). Given tax is one of the components of total political costs that the company is responsible for; this theory suggests that larger firms exhibit higher ETRs (Zimmerman 1983), suggesting a negative association between tax avoidance and firm size. A number of prior studies confirm its relation in line with this notion (e.g., Minnick & Noga, 2010; Rego, 2003). On the other hand, other studies report a positive relationship between tax avoidance and firm size: that is, larger firms are more likely to avoid paying their share of tax. Under the notion of the political power or clout theory, it is assumed that larger firms have more resources to influence the political process to be in favour of their optimal tax savings and more likely to participate in more complex tax planning strategies (e.g., Siegfried, 1972; Siegfried, 1974; Stickney & McGee, 1982; Porcano, 1986 in Lietz, 2013). Using two measures of ETR,¹² Richardson & Lanis (2007) find the negative association between firm size and ETRs in an Australian setting, suggesting a positive association between tax avoidance and firm size. Using non-ETR measure to proxy for tax avoidance, Wilson (2009) finds that larger firms are more tax aggressive as presented in a positive relation between tax shelter participation and firm size.

Nevertheless, others find mixed results in their study. For example, Wu, Wang, Luo, & Gillis (2012) examine the size effect on ETRs, and they find that private firm size is positively associated with ETRs whereas state-controlled firms is negatively associated with ETRs. Using a sample in the BRIC group of countries, Fernández-Rodríguez & Martínez-Arias (2014) also find mixed results where Brazil and China report positive relation, Russia exhibits negative relation, and India is the only country where size is not significant. Similarly, Gupta & Newberry (1997) do not report a significant relationship between ETRs and firm size. Although the results are mixed, the relationship between firm size and tax avoidance can be expected within the aforementioned theoretical perspectives. The

making including investment, capital structure, and organizational form, and taxes and asset pricing are surveyed and summarized the updated issues examined. They also suggest the important issues future research.

¹² The first ETR is calculated as income tax expense divided by book income, and the second ETR is defined as income tax expense dividend by operating cash flows (Richardson & Lanis, 2007, pp. 696, 698).

mixed results may be due to the different setting in each study including the sampled periods and geographical areas (Fernández-Rodríguez & Martínez-Arias, 2014).

(b) Leverage

Taxes play an important role in understanding the capital structure choices of firms, particularly in addressing the amount of capital which can be sourced between equity and debt in order to maximize firm value (Barclay et al., 2017). Generally, the use of leverage increases the complexity of firms' financial transactions. Highly leveraged firms, at first glance, have more ability to reduce taxes through the use of complete financing transactions (Mill et al., 1998 in Dunbar et al., 2010; Lietz, 2013). Alternatively, leveraged firms may have a relatively strong incentive to avoid taxes so as to preserve cash for paying the debt burden (Badertscher, Katz, & Rego, 2010). In line with this view, tax avoidance is assumed to be positively associated with firm leverage.

In the opposite view, since firms with high level of leverage incur more interest expenses which are deducted from taxable income,¹³ they may have less need to be tax aggressive as they face less pressure to draw on alternative non-debt tax shields (Graham & Tucker, 2006). Nevertheless, this would be only the case for firms with high expected marginal tax rate on their interest deduction (Mackie-mason, 1990). Therefore, tax avoidance is expected to have negative relation with the firm leverage level. Consistent with this notion, Faulkender & Smith (2016) find that firms operating in countries with lower tax rates use less debt as higher leverage ratios and lower interest coverage ratios are shown in multinational firms confronting higher tax rate. By comparing the leverage choices of taxable real estate companies to those of similar non-taxable real estate investment trusts (REITs)¹⁴ in order to avoid noise from financial statement data, Barclay et al. (2017) find that taxable companies exhibit leverage ratios about 5% higher than the leverage ratios of non-taxable REITs, suggesting an, even moderate, role of tax shield considerations in the decisions to use relatively large amounts of debt financing.

(c) Firm performance

Top-line growth firms or more profitable firms are obviously subjected to increasing applicable tax rates as their incomes increase, suggesting that such firms have higher ETR. The empirical evidence

¹³ Leveraged firms already have benefits from a tax shield (Wrightsmann, 1978) which thereby relatively a weak motivation to reduce more tax (Badertscher et al., 2013).

¹⁴ REITs companies receive no benefit from the tax deductibility of interest payments (Barclay et al., 2017).

is clear about the positive relationship between profitability and ETR, which shows that more profitable firms have to bear more taxes than less profitable ones. (Chen et al., 2010; Gupta & Newberry, 1997; Plesko, 2004; Richardson & Lanis, 2007; Stickney & Mcgee, 1982). However, more profitable firms have been argued to show a greater incentive to reduce their tax burden relative to less profitable firms (Dunbar et al., 2010). Similarly, Phillips (2003) concludes that firms with growth opportunities have a greater ability to engage in tax avoidance activities. Conversely, loss firms (i.e., firms with net operating losses) commonly have less incentive to participate in tax avoidance (Dunbar et al., 2010; Lietz, 2013; Minnick & Noga, 2010). Moreover, firms incurring losses can reduce their tax liability for the previous or subsequent accounting period by employing the benefit of carrybacks or carryforwards (Fernández-Rodríguez & Martínez-Arias, 2014).

(d) Capital intensity

Another factor that influences the effective level of tax directly is the degree of capital intensity. Capital intensity ratio is the number of assets that invest assets in fixed assets. According to (Fernández-Rodríguez & Martínez-Arias, 2012; Stickney & Mcgee, 1982), net property, plants, and equipment (PPE) creates depreciation expense which is a deductible item in all tax regimes. As depreciation can be deducted from the tax calculation, firms with greater levels of PPE have higher deductible expense in tax system, and thereby a lower ETR relative to firms with low levels of PPE. Thus, the acquisition of PPE allows firms to enjoy tax incentives that have beneficial effects on the firms' tax burden. In other words, firms with high levels of capital intensive firms are usually expected to have more tax planning opportunities (Dyreng et al., 2008). Extant empirical evidence shows that a greater weight of PPE leads to lower ETR, indicating that there is an inverse relationship between tax avoidance and capital intensity (Gupta & Newberry, 1997; Plesko, 2004; Richardson & Lanis, 2007; Stickney & Mcgee, 1982). Some other studies, however, do not find a statistical inference between tax avoidance and capital intensity (e.g., Harris & Feeny, 2000; Irianto, Sudibyo, & Ak, 2017; Liu & Cao, 2007). This lack of significance of its relationship may be because the benefits from other tax policies are greater than from PPE.

(e) Research and development (R&D)

The relationship between firms' R&D intensity and their average ETR (a measure of tax planning or tax avoidance) is intensely debated in tax policies discussion because R&D expenses are treated differently between a tax system and an accounting system. While R&D expenses may be capitalised as intangible assets (under certain conditions) for accounting purposes, they may be immediately

expensed in the tax system. This practice generally reduces a firm's ETR, leading to a requirement for recognition of deferred taxes for temporary book-tax differences (BTD) (Belz et al., 2017). Moreover, under certain conditions, firms are granted R&D tax credits which allow them to deduct an additional portion of R&D expenses from their tax base (Belz et al., 2017; Dyreng et al., 2010; Gao et al., 2016a). This deduction leads to reduced ETRs suggesting firms' incentive to reduce tax burden. Dyreng et al. (2008) find a positive relation between R&D intensity and tax avoidance. Cazier et al. (2009) find a positive relation between the level of R&D intensity and uncertain tax benefits. Lanis & Richardson (2015) also evidence that tax avoidance is positively associated with R&D expenditure owing to additional tax-deductible credit. Nevertheless, no relationship has been found between tax avoidance and the level of R&D intensity (e.g., Atwood, Drake, Myers, & Myers, 2012; Gao et al., 2016).

2.5.2. Multinational corporations (MNCs)

As multinational corporations (MNCs) operate in a variety of economic and political environments, political, cultures as well as tax jurisdiction, they have more opportunity to pay less income tax (Rego, 2003; Wilson, 2009a). The practices that allow MNCs to lower their worldwide tax liabilities include moving their operations to low-tax rate locations, shifting income to low-tax countries, taking advantage from different tax rules and tax subsidy agreement, or engaging in complex property transactions (Rego, 2003; Schwarz, 2009). Rego (2003) examines the sample of U.S. both a board sample of domestic and multinational corporations and a subsample of U.S. multinational corporations only. In both analyses, the results show consistently that firms with higher scales of foreign operations have lower worldwide ETRs than firms with less extensive foreign operations. This result is assumed that MNCs avoid more income tax. By focusing narrowly on MNCs in the oil, gas, and manufacturing sectors in Nigeria, Otusanya (2011) finds that the key structures enabling tax avoiding practices of MNCs are tax havens and offshore financial centres and the key actors facilitating their avoiding are the local business elite and local professionals who are engage for their own financial gain. Moreover, the findings show that the anti-tax practices by these MNCs shift the tax burden to less capital flow and less well-off citizens, and thereby undermine the Nigeria's social structure. Using a global dataset with 210,000 corporations in 102 countries to investigate whether cross-border profit shifting by MNCs is more prevalent in less developed countries, Johannesen, Tørsløv, & Wier (2017) find that the sensitivity of reported profits to profit-shifting incentives is negatively related to the level of economic and institutional development, suggesting that less developed countries appear to be significantly more exposed to tax avoidance by multinational firms.

2.5.3. Incentive compensation

In the last decade, studies have been examining the relationship between incentive compensation practices and tax avoidance. Intuitively, once executive compensation is structured to align with shareholder's interest, managers will strive towards maximizing profit and be willing to engage in riskier activities to gain higher value. Since tax aggressive strategies is risky behaviour leading to reduction of tax liability, consequently increasing the bottom line, those managers tend to be involved in tax avoidance. Therefore, the expected relation of these two aspects is a positive relation. Besides the results of Desai & Dharmapala (2006) as described above, several studies find a significantly positive relation between align-incentive compensation and tax avoidance. Phillips (2003) empirically examines the theoretical link between compensation and tax avoidance measured by GAAP ETRs. He finds that business-unit managers are compensated based on after-tax performance, but not CEOs (supported by Armstrong et al. (2012), leads to lower GAAP ETRs. Later, Gaertner (2014) re-examines Phillips (2003) and extends his study by estimating CEO cash compensation to total tax expense. Inconsistent with the previous study, the findings show that CEOs' after-tax incentives have a negatively and statistically significant relationship with firms' ETRs, suggesting that after-tax compensated CEOs request an exceptional additional risk. Similarly, Armstrong et al. (2015) and Rego & Wilson (2012) find that managers with high incentives of managerial risk-taking equity are likely to be more aggressive tax avoidance.

2.5.4. Governance mechanism

As discussed above, tax avoidance is considered to be a risky practice and unresolved agency cost to management. The different levels of tax avoidance, then, depend on the demand of shareholders. Desai and Dhamapala (2006) assume in their study that well-governed firms have strong internal control to prevent managerial diversion. However, equity incentives cannot be used in motivating a manager to avoid tax for poorly-governed firms because these firms are lacking governance mechanisms to prevent managerial diversion. Armstrong et al. (2015) look at the alternative view of agency problems by assuming that firms with governance mechanisms in place can diminish agency problems regarding tax avoidance. They examine whether a link between corporate governance characteristics, including contracts of managers' incentive-compensation, and tax avoidance exists. Their results prove that firms with high levels of risk-taking equity incentives are more motivated to invest in tax avoidance activities, which are beyond the levels of the shareholders' preferences. They also find that some characteristics of boards are able to mitigate agency problems with respect to high levels of tax aggressiveness. These characteristics include independence and financial background.

Steijvers and Niskanen (2014) provide evidence indicating that outside boards of directors moderate the relation between CEO ownership and tax aggressiveness.¹⁵

2.5.5. Institutional factors

Although paying tax is compulsory by the national laws and regulations, it is a voluntary action because it commits a large amount of taxpayer's money (Palil et al., 2016). Understanding the nature of an individual nation toward tax is thus important to the governments in setting strategies which can increase the willingness of their citizens to pay due tax accordingly. While the economy is the key concern of taxpayers in their decision-making regarding tax strategy, institutional factors also influence their decision to either avoid or not avoid tax.

(a) Characteristics of tax system

A nation's tax system, either a worldwide or territorial tax system in the home country, plays a primary role in determining the level of tax avoidance in a particular country because it dictates how much tax a firm must pay (Jaafar & Thornton, 2015). It is explained in Atwood, Drake, Myers, & Myers (2012) that under the worldwide tax system, income generated in overseas subsidiaries is subject to additional taxes in home country when such income is repatriated back to the parent firms as dividend. This additional tax is not collected from the parent company in countries with territorial tax systems. As a result, multinational firms located in countries using worldwide tax system are taxed at the higher rate on their worldwide income. Nevertheless, a number of tax planning techniques are available for multinational firms in the worldwide tax system to achieve tax savings. For example, subsidiary firms can delay the dividend payment in order to defer the payment of tax in their parent firms' countries. The firms can also defer this tax liability indefinitely if the earnings are invested in the country in which they are generated or in other countries (Atwood et al., 2012). These options encourage firms to park foreign profits outside their home country (Blouin et al., 2012). Taken together, the higher tax liability and the ability to defer tax payment in the home country may induce greater incentives for firms to avoid tax.

Interestingly, many prior studies reveal the opposing direction. Given dividends obtained from foreign subsidiaries are permanently exempt from tax liability in the parent home country, Hicks et

¹⁵ The characteristics of corporate governance have not been included in the analysis of the empirical studies in this thesis because missing data reduces the number of observations substantially.

al. (2009) argue that parent firms in countries with territorial tax systems can achieve greater tax benefits from shifting income to low-tax jurisdictions, compared to those firms in the country with worldwide tax systems as income shifting for them is only deferring home-country tax. Consistent with Hicks et al. (2009)'s argument, Atwood et al. (2012) find that compared to firms with home-country territorial tax regimes, parent firms in countries where the worldwide tax system is used avoid less tax in a study of firms in 22 countries between 1995 and 2007. Similarly, Markle (2016) finds that among 41 countries (24 countries with worldwide system versus 17 countries with a territorial system), multinational firms with home-country territorial tax regimes shift more income among their foreign affiliates than firms subjected to worldwide tax regimes.

(b) Strength of tax enforcement

The strength of the government enforcement of tax rules plays an important role in driving the taxpayer's view of higher probability of detection. When firms' managers perceive that tax authorities are more likely to detect tax avoidance activities because of the stronger tax enforcement and potentially impose additional taxes with interest and penalties to the firms, they may engage in less tax avoidance (Atwood et al., 2012). Allingham & Sandmo (1972) propose the economic model of tax non-compliance assuming that taxpayers are rational actors who seek to maximize the utility of their tax paid to the government by comparing the marginal cost and benefit of being tax compliance with those of tax non-compliance. As such, they would not comply with tax rules if they perceive that the probability of being caught and the potential penalty are relatively small compared to the benefits gained from being non-compliant. Therefore, in order to discourage tax avoidance, governments need to ensure that the benefit of being tax non-compliant is predominated by its cost through the perception of higher probability of detection and the penalties especially the penalties imposed directly on the manager, instead of the corporations (Crocker & Slemrod, 2005).

By using 1996 World Competitiveness Index reporting the respondents' agreement with the statement "Tax evasion is minimal in your country", Dyck & Zingales (2004) find that additional monitoring by tax authorities reduces the private benefits of controlling shareholders that are extracted from non-controlling shareholders. In a similar vein, Atwood et al. (2012), by using the same proxy as applied in Dyck & Zingales (2004) for tax enforcement, report that parent firms in countries where tax enforcement is perceived to be stronger are less likely to avoid tax liability. Desai, Dyck, & Zingales (2007) find that tax payments increased, related party trades were curtailed, and tax haven entities are abandoned following an increase in tax enforcement after the 2000 election of Vladimir Putin.

Hoopes, Mescall, & Pittman (2012) also evidence that U.S. public firms exhibit less aggressive tax positions when tax enforcement, proxied by better monitoring of IRS, is stricter.

(c) Adoption of International Financial Reporting Standards (IFRS)

The shift to the use of IFRS leads to changes in accounting methods, which also brings differences in the current treatment of tax basis. Therefore, it should be possible to have the impact on tax strategies because of the adoption of IFRS as tax calculation is based on the measurement and recognition of accounting transactions. More specifically, it is argued that the adoption of IFRS reduces the level of book-tax conformity (Chan et al., 2010; Chan et al., 2013; Chen & Gaviglio, 2017; Karampinis & Hevas, 2013), thereby reducing the impact on tax after the post-IFRS period (Hung & Subramanyam, 2007). In line with this notion, Karampinis & Hevas (2013) find that ETR as a measure of tax pressure is significantly and negatively associated with discretionary accruals in the pre-IFRS period and the effect disperses after IFRS has been implemented. However, some scholars argue that the reduction of book-tax conformity offers a convenient way for managers to avoid more tax because they are not faced with the trade-off decision between increasing book income and decreasing taxable income. Another possible condition that can explain the increased levels of tax avoidance after IFRS adoption is the possible increase in discretionary accruals available within the IFRS framework (A. S. Ahmed et al., 2013; Lin et al., 2012). According to Atwood et al. (2012), Frank et al. (2009) and Wilson, (2009), an increased accruals is associated with greater tax avoidance. More recently, Braga (2017) finds that after the adoption of IFRS, firms engage in higher levels of tax avoidance.

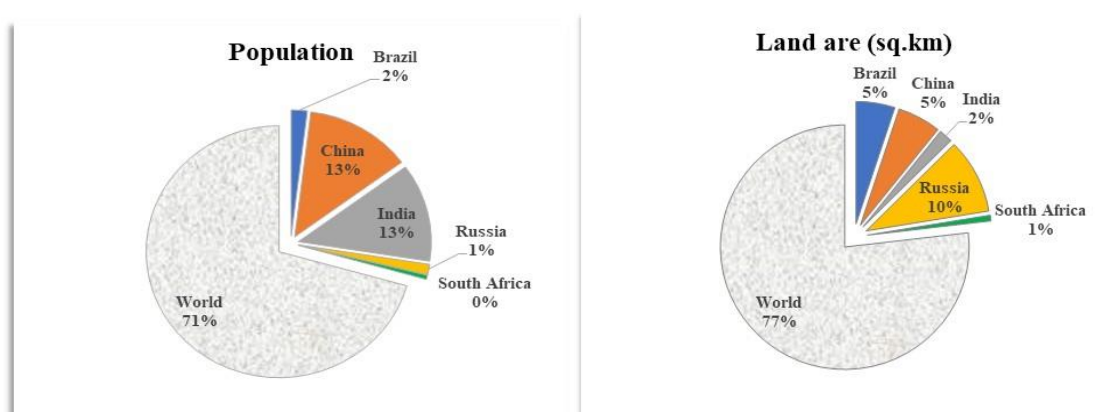
2.6. The Importance of BRICS Economy

Emerging markets have dramatically grown over the past few decades and now play a significant role in the global economy. BRICS is the acronym for a group of five countries including Brazil, Russia, India, China, and South Africa. All five are members of the G20¹⁶, but are distinguished (from other developing or newly industrialised countries) by their large, fast-growing economies and their significant influence on regional and global affairs (Piper, 2015). BRICS are first created as BRIC, before the inclusion of South Africa in 2010, by Goldman Sachs analyst Jim O'Neill in 2001 in a paper entitled *Building Better Economic BRICs*. O'Neill (2001) coins this group according to their economic growth that potentially dominates the world economy by 2050. O'Neill predicts that Brazil

¹⁶ The G20 (The Group of Twenty) is an international forum that brings together the world's 20 leading industrialised and emerging economies considered the center of the global financial system due to their population, size, or geographic location (Piper, 2015).

and Russia are likely to be dominance of raw materials suppliers while China and India appear to dominate in supply of global manufactured goods and services. Since then, BRIC have attracted significant investors for foreign direct investment (FDI) into their regions (Vijayakumar et al., 2010). In 2004, O'Neill then re-estimates the BRIC global economic dominance and reduces the time frame from 2050 to around 2030. While countries in Asia, Europe and Latin America are included in the group, the exclusion of countries in Africa would undermine the importance of the developing world profile. Therefore, South Africa, the largest economy in the region, is included in the group, and the acronym becomes BRICS as representatives from the four continents of the world in the globalizing process. According to the World Bank database (Last updated 2019), BRICS together account for about 29% of the world's population, 23% of the world's land area, and about 24% of the GDP (Gross Domestic Product), making the group an important economic engine.

Figure 2. 1 BRICS Population and land area



Source: The World Bank database: Health Nutrition and Population Statistics
(Last Updated: 19/09/2019)

Although mainly focusing on economic development, BRICS also plays a politically conscious role especially with regard to the institutions and practices of international political economy, and they have the most discernible impact on changes in the existing global governance architectures (Roberts & Armijo, 2014). Since the financial crisis in 2008, BRICS has started working with the G20, the International Monetary Fund (IMF), and the World Bank to reform structures of the global financial regulations in line with the increase in the relative weight of emerging countries in the world economy. The IMF's quota reform approved in Seoul in 2010 is driven by the cooperation of BRICS. Moreover, BRICS proposes initial calls for a replacement for the US dollar as the *de facto* global currency. Although such a proposal has been shelved, BRICS continuously play the political role in mainstream international relations, notably driven by an aversion to US political dominance. BRICS carry forward the launch of two new development banks, the Reserve Contingent Arrangement (RCA)

and the New Development Bank (NDB), as an alternative to the World Bank, to provide fund for infrastructure development in developing countries. However, it should be noted that there are important differences among the five countries in terms of diverse interests, production structure, political systems, opening outward, exchange rate, historical conflicts etc., which may affect the cooperation of BRICS on international relations issues.

In 2001, O'Neill predicted that the combined weight of the BRIC's GDP compared to World's GDP rises to 12.0% in the next ten years, but just over five years their collective share of the global economy has reached O'Neill's estimates and has tripled, including South Africa, in 2018 (shown in Table 1). According to the World Bank estimates, BRICS countries stand out because of their GDP growth with an average rate of 5.9% between 2001 and 2010, and 3.6% between 2011 and 2018 while the average global GDP growth is only around 2.8% for both periods. Remarkably, the collective GDP per capita of BRICS countries has been around 175% outperforming the global rate in 2001 and almost 340% in 2018. The rapid growth of BRICS's economic performance is due to their openness to emerging markets (Radulescu et al., 2014). During these 17 years, BRICS's goods imports (exports) have grown more than 840% (900%), while global growth of imports (exports) during the same period is 217% (222%). Moreover, BRICS have attracted significant investors for FDI into their countries. In 2018, their FDIs are accounted for 28.91% of the world FDI net inflows and contribute 18.55% to the world's, which present more than 300% and 1,800% growth for inflow and outflow FDI respectively, since they had been formed in 2001. Although they have been facing a hard time, i.e., the financial crisis in 2008, the increasing sanctions on Russia, Indian markets' bear run in 2014, China's stock market crash in 2015, and the ongoing Brazilian economic crisis, BRICS's stock markets bounced back soon enough to overturn the damage. For example, their capital markets have beaten out the 2008 crisis, increasing by 122% in the following year, then has recently reached more than 200% in 2018, which accounts for 15.68% of the world market capitalization. Due to this demonstrated model of economic growth, BRICS countries have gained an important weight in decision-making at the international level and have exerted a global influence.

Table 2.2 BRICS Economic Indicators in 2018

Country	GDP		Exports (bnUS\$)	Imports (bnUS\$)	IFDI (bnUS\$)	OFDI (bnUS\$)	Market Cap. (bnUS\$)
	Total (bnUS\$)	Per capita (US\$)					
Brazil	1,868.63	8,920.76	238.62	185.49	88.32	14.06	916.82
Russia	1,657.55	11,288.87	443.13	248.70	8.78	31.38	576.12
India	2,726.32	2,015.87	332.09	518.78	42.12	11.42	2,083.48
China	13,608.15	9,770.85	2,417.44	2,022.27	203.49	96.47	6,324.88
South Africa	366.30	6,339.57	94.05	92.36	5.47	4.55	865.33
World	86,600.60	11,298.30	19,233.89	18,946.53	1,204.50	850.92	68,654.09
Of which: BRICS	20,226.95	38,335.65	3,525.33	3,067.60	348.19	157.87	10,766.63
BRICS/World	23.36%	339%	18.33%	16.19%	28.91%	18.55%	15.68%
China/World	15.71%	181%	12.57%	10.67%	16.89%	11.34%	9.21%

Source: The World Bank database: World Development Indicators
(Last Updated: 19/09/2019)

However, it can be seen that the acceleration of BRICS's economic performance has driven mainly by Chinese economic power as against the other four countries. As shown in Table 1, China has contributed more than half of BRICS's economic performance for all indicators. Therefore, it should be noted that the power of BRICS countries has been made as a group, not individually. As reported in Table 1, there are several different elements in the individual country that bring up the synergy of this group.

2.7. Issues of Tax Avoidance in BRICS

With their growing economic and political power, BRICS countries are indeed a topical issue and have been examined from many different perspectives. For instance, as FDI has become an increasingly important component in determining economic strategies of firms and countries, Gammeltoft (2008) estimates the net FDI outflows from the BRICS while Vijayakumar et al. (2010) examine the factors attracting the FDI inflows towards these countries. Consistent with their economic growth, BRICS exhibit to a large extent of energy-consuming activities, leading to concerns of the depletion of the energy resources and the problem of global warming. In response to these concerns, several studies investigate the causality between economic growth, FDI, gross domestic product (GDP), urban population, energy consumption (natural and/or renewable energy), and carbon

dioxide (CO₂) emissions (Cowan et al., 2014; Dong et al., 2017; Sebri & Salha, 2014; Lifeng Wu et al., 2015). Even though the results are mixed, they contribute to advancing the existing literature and merit particular attention from policymakers about negative outcomes of economic growth. The current study shifts the attention and focuses on another important issue, i.e., tax avoidance in BRICS countries, which has been rarely examined in this setting.

Empirical studies on profit shifting find that tax problems in less developed countries are more acute as compared to that of developed countries. First, given high levels of corruption, weak law enforcement, and a lack of political accountability to provide the optimal legal and administrative resources, the ability to detect tax avoidance and to increase tax revenue is an ongoing issue in many emerging countries (Johannesen et al., 2017). Second, many emerging countries depend heavily on tax payments from large corporations (UNCTAD, 2015). Third, sophisticated anti-avoidance rules targeted multinational firms rarely exist in emerging countries (OECD, 2014). Besley & Persson (2014) demonstrate that while high-income countries are able to collect taxes of around 40% of their GDP, countries with low income can generally only collect between 10-20%. The primary source of income missing from emerging countries results from international operational functions, especially by transferring mispriced goods and services between subsidiaries and parent companies or between subsidiaries/affiliates for the purpose of shifting profits to low-tax jurisdictions (Mascagni et al., 2014).

Furthermore, Christensen & Murphy (2004) argue that the business structures of multinational firms have been designed in a way to avoid taxes in every jurisdiction where they operate. Empirical studies have also shown that although they report high levels of profitability, multinational US firms only pay insignificant amount of taxes in their host countries (Grubert & Mutti, 1991; Kinney & Lawrence, 2000). This may be due to the available opportunities for corporate income shifting (Shackelford & Shevli, 2001) and tax incentives provided by host countries. Governments from low-income countries often offer tax incentives to attract investors and promote economic growth. These financial benefits are prevalent in emerging countries in the form of tax holidays and tax exemptions that are difficult to classify and regulate and lead to low effective tax rates for companies (Mascagni et al., 2014). Given the attempt to attract FDI, the competition among emerging countries limits the ability of governments to charge MNCs taxes (Morisset, 2003; Zee et al., 2002). Developing countries also face challenges in enforcing tax laws and audits, which creates opportunities for tax avoidance by MNCs (Cravens, 1997). BRICS countries also face the problem of tax dodging, as shown in the following in-depth discussion on tax problems in each country.

Brazil

Brazil's corporate income tax rate is relatively very high (34%) compared to the world average (about 23%) and the BRICS's average rate (about 28%) (Tax Foundation, 2018). In addition, given the main structure of Brazilian nature such as soft laws, inefficient methods of preventive combat and academic research, lack of skilled labour, as well as a high corporate income rate and complexity of tax compliance, the rate of tax evasion in Brazil is very high (Clemente & Lirio, 2017). According to Tax Justice Network (2013), Brazil lost over USD 280 million due to its shadow economy, black market sales, and tax evasion. More recently, Janský & Palanský (2019) show that around \$32 billion in corporate profits are shifted from Brazil, amounting to \$11 billion in tax revenue loss. In mitigating the use of artificial mechanisms to avoid due taxes, the Brazilian government is actively involved in several initiatives. For example, Brazil is part of the Global Forum on Transparency and Exchange of Information for Tax Purposes (GF) and the OECD's base erosion and profit shifting (BEPS) project¹⁷ and adopt the Standard for Automatic Exchange of Financial Account Information in Tax Matters in 2018. However, despite formally participate in the development of the BEPS plan, Brazil has not announced the scope and implementation of any specific measures to combat tax base erosion into national legislation (Shelepov, 2017). As a result, the Brazilian firms show a low level of awareness and the cautious attitude toward the reform plans.

Russia

With lower corporate tax rates at 20% and simplified procedures after the Russian tax reform in 2000, tax revenue in Russia has skyrocketed from \$9 billion in 1999 to \$76 billion in 2012. However, there have been significant improvements since the tax reforms in the first year of Putin's presidency in 2000, the main remaining problems with the Russian tax system are a lack of business transparency and ineffectiveness of its tax system (Ivanenko, 2005; Radaev, 2001; Yakovlev, 2001). The analysis of the IMF and Russian Central Banks have revealed that Russia loses up to 1 trillion roubles a year in tax evasion schemes, and Cyprus is the main destination for foreign Russian firms (Amos, 2013). According to Janský & Palanský's (2019) estimation, they show that around \$85 billion in corporate profits are shifted from Russia, amounting to \$17 billion in tax revenue loss. Moreover, there are 3.9 million companies registered with the Federal Tax Service, but only 2 million are real organisations,

¹⁷ Base erosion and profit shifting (BEPS) refers to tax avoidance strategies used by multinational companies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax jurisdictions. The project to stop BEPS, headed by OECD, with fifteen action plans was initiated by G20 in 2012, but currently more than 100 countries have undertaken this framework to battle with tycoons using tax strategies (www.oecd.org/tax/beps/).

and of those 2 million, about 4-6% pay only a symbolic amount of tax and 11% do not pay any taxes at all (Amos, 2013).

India

The corporate tax rate in India stands at 35%, i.e., more than ten percentage points above the OECD average corporate tax rate. It has recently shown that the average tax paid by corporate taxpayers has increased from Rs 32.28 lakh (3.228 million) in the year 2014-2015 to Rs.49.95 lakh (4.995 million) in the year 2017-2018, a growth of 55% (Press Information Bureau, 2018). However, along with this growth of tax revenue, millions of rupees are stolen from the system. According to research by the UN University World Institute for Development Economics Research, India loses over \$40 billion in revenue due to tax avoidance. Specifically, India loses \$74 million only from the four largest US pharmaceutical companies, according to Oxfam. Although a huge amount of money is stolen from the nation, it is interesting that the issues regarding multinational tax avoidance has rarely been brought up to the front pages of popular Indian newspapers and has never been discussed on primetime TV news debates. In addition, no question relating to tax avoidance was raised in the Sixteenth Lower House of Parliament during the 2014-2019 period (Goel, 2019). While other countries have been in the fight against tax avoidance following the OECD's BEPS recommendations since 2013, the Indian government only introduced a general anti-avoidance rule (GAAR) in 2017, only after the case of *Vodafone* (Goel, 2019).

China

China's tax administration has improved substantially over the last 20 years in the face of major changes in the economy and the tax system. Since 1994, China's tax legislation has been comprehensively reformed to address problems hindering tax revenues collecting by authorities. The main problems are from a weak tax administration including a lack of equity where different treatment is applicable to different types of taxpayers and transactions, inefficiency where the rate structure encourages some types of investment over others, and administrative complexity where there are multiplicity of rates and bases (Brondolo & Zhang, 2016; Gamble, 2000). These problems bring a growing incidence of tax evasion. Yu (1997) (in Brondolo & Zhang, 2016) estimates and reveals that up to 30% of state-owned firms, 60% of joint ventures, 80% of private firms, and 100% of individual street vendors are unable to comply with their tax obligations in the mid-1990s. The State Taxation Administration (STA) thus simplified the tax system by reducing the number of taxes from 35

different taxes to 18 today. This simplification leads to lower costs both administrative costs for the SAT and compliance costs for taxpayers.

Even though China's tax law has been improved, it is unable to tackle the problem of tax avoidance. Under corporate income tax rate at 25% (topping the OECD average of 23.5%), China loses an estimated \$66.8 billion as a result of profit shifting through tax havens, ranked the second place after the US's losses (Cobham and Janský, 2017). In addition to the losses from profit shifting, China loses trillions of Yuan from the malpractices of local businesses (Clayton, 2016). In China, the Tax Bureau uses the Fapiao invoice system as a main tool to control over tax collection by compelling companies to pay tax in advance on their future sales. Every payment that firms receive will be made aware by the Tax Bureau from this Fapiao machine. In this way, the *Fapiao* invoice system is supposed to serve as a warranty against tax evasion within the country, but it also leads to the unintended consequences (Gamble, 2000). Companies attempt to find ways to avoid taxes by taking part in the practices such as offering two prices for the purchase of goods or services - one with Fapiao, and a lower one without, or making a fake Fapiao by paying an existing supplier a few extra % for surplus Fapiao (Clayton, 2016). Bribery is also a problem where there are no independent parties to supervise the works of tax officials, especially at the local levels (Gamble, 2000).

South Africa

In South Africa, the corporate income tax rate is 28%, and its amount is accounted for 19% of all tax receipts (Wier, 2019). Profit shifting is shown to be a "significant leakage" (seven billion ZAR a year, amounting to about 4% of corporate income tax receipts) in the tax system. Wier & Reynolds (2018) recently report that 98% of the tax loss in South Africa is undertaken by the top 10% of foreign-owned firms through forms of profit-shifting (e.g., transfer pricing). Even though these firms are around 2,000 (out of 1.2-million South African firms), their sales volumes account for more than 30% of the total sales. The study also shows that Switzerland is the main destination for siphoned-off profits; half of all profits are shifted from South Africa. A clear incentive for those firms to shift profits out of South Africa is the high tax rate: the rate is 28% in South Africa whereas there is only 8.5% rate in Switzerland. Moreover, when compared with the world average corporate tax rate of 23.03% (Tax Foundation, 2018), it ostensibly illustrates that the corporate tax rate in South Africa is relatively high. Another prime reason that keeps South Africa in this situation is the enforcement of its law. Although tax legislation on transfer mispricing in South Africa has been amended in line with the OECD's BEPS programme to meet the minimum standards since 2012, the levels of transfer mispricing go back to the former levels before The National Treasury enforces the revised rules by

2015 (Bisseker, 2018). This is because the new legislation is not being matched by greater enforcement so that companies once realized that they had not been audited, they revert back to their old ways (Wier & Reynolds, 2018).

2.8. Conclusion

Tax avoidance is a practice that offers ways to reduce corporate expenses, i.e., tax expenses. It is an increasingly debated issue due to the argument that tax avoidance could be legal practices. On the contrary, the levels of tax avoidance, observed through several tax-avoiding scandals, go beyond the acceptable levels, leading to economic problems both at the domestic and the global levels. Issues related to tax avoidance behaviours have been examined in the literature mainly in the context of developed markets. Although emerging markets show that their economy has grown dramatically in the last decade, their ability to combat tax avoidance practices of firms is constrained by the limited resources. Therefore, the current study aims to fill this gap by investigating issues relating to the practices of tax avoidance in emerging markets where their business practices have a significant impact on the global economy.

Theoretically, the practise of tax avoidance is due to both agency issues and information asymmetry. The separation of ownership in business causes agency issues where managers' interests may not be the same as their principles' interests. The principals thus attempt to mitigate this problem by aligning the manager's incentives with their incentives, practically by binding the manager's incentives with after-tax performance. The firms' managers who have more information compared to outsiders can manage transactions in their favour to increase after-tax profits and receive their reward packages. However, the levels of tax avoidance vary across firms, depending on particular factors that firms face, both at the firm and country levels.

This thesis, therefore, investigates three topical yet contentious issues determining the degree of tax avoidance, i.e., CSR, earnings management, and accounting conservatism. Chapter 3 explores the relationship between tax avoidance and CSR. Chapter 4 investigates the association between tax avoidance and earnings management. Chapter 5 analyses the link between tax avoidance and accounting conservatism. All three studies examine a sample of listed firms domiciled in the BRICS countries: Brazil, Russia, India, China, and South Africa.

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Appendix: Determinants of tax avoidance

Author	Key Measure	Sample and Period	Findings
			Multinational Corporations
Rego (2003)	Cash ETR	19,737 firm-year observations during 1990-1997	Smaller (political cost), more profitable, and more extensive foreign operations
Schwarz (2009)	Nominal Tax Rate; Cash ETR	50 countries data during 1999-2001	More profit shifting, particularly in countries with tax rate below 10%
Wilson (2009)	BTD	59 firms accused by the government of engaging tax shelter activity.	More foreign operations, subsidiaries in tax haven
Jaafar & Thornton (2015)	Current ETR; Current Tax Expense / Operating Cash Flow	All firm-year observations both public and private firms during 2001-2008	Firm with subsidiaries in tax haven
			Ownership Structure
Chen et al. (2010)	GAAP ETR; Cash ETR; Total BTD; Abnormal BTD	3,865 firm-year from 1,003 firms in the S&P 1500 index during 1996-2000	Public family firms avoid fewer taxes than public non-family firms
Badertscher et al. (2013)	GAAP ETR; Cash ETR; Permanent BTD; Wilson (2009) measure of tax sheltering	All firm-year observations for any 31 years during 1980-2010	Management-owned private firms avoid fewer income tax than private equity (PE)- backed firms
Steijvers and Niskanen (2014)	GAAP ETR	600 SMEs operating in Finland during 2000-2005	Private family firms avoid fewer taxes than private non-family firms CEO with lower ownership share is more tax aggressive
			Incentive Compensation
Phillip (2003)	GAAP ETR	237 survey responses during 1995-1996	High after-tax performance-based incentive for business-unit managers, but not CEOs
Desai and Dharmapala (2006)	BTD	Large firms during 1993-2001	Low equity-based compensation, weaker shareholder rights
Rego and Wilson (2012)	Discretionary permanent BTD; A tax shelter prediction score; The five-year Cash ETR; Unrecognized tax benefits (UTB)	Various sources of data during 1992-2009	High managerial risk-taking equity incentives
Gaertner (2014)	GAAP ETR; Cash ETR	All S&P 500 firms in 2010	Higher compensation-to-tax sensitivities

Armstrong et al. (2015)	1) Firm's level of tax avoidance measured by 2) ending balance of UTB; 3) difference between 3-years average GAAP ETR and 3-years average GAAP ETR of firm's size and industry peer	3,137 and 4,128 firm-year observations (depending on the measure of tax avoidance) during 2007-2011	Ave. level - High managerial risk-taking equity incentives
Steijvers and Niskanen (2014)	GAAP ETR	600 SMEs operating in Finland during 2000-2005	Governance Mechanism Outside board of directors moderate the relation between CEO ownership and tax aggressive
Armstrong et al. (2015)	Firm's level of tax avoidance measured by 1) ending balance of UTB; 2) difference between 3-years average GAAP ETR and 3-years average GAAP ETR of firm's size and industry peer	3,137 and 4,128 firm-year observations (depending on the measure of tax avoidance) during 2007-2011	High level - Positive relation between board financial expertise and independence, Low level - Negative relation between board financial expertise and independence
Wilson (2009)	BTD	59 firms accused by the government of engaging tax shelter activity.	Other Determinants Larger book-tax difference, higher prior-year ETR, greater litigation losses, less leverage
Gallemore et al. (2014)	Sheltering firms	118 sheltering firm-year observations from previous study and 245 COLI shelter	No significant reputational consequences
Gallemore & Labro (2015)	Cash ETR	Firm-year observations during 1994-2010	High quality of internal information

Chapter 3

Tax Avoidance and Corporate Social Responsibility (CSR)

3.1. Introduction

“Taxes are what we pay for civilized society.”

Oliver Wendell Holmes, 1904

Although it is widely believed that all citizens including corporations have a civic responsibility to pay tax¹⁸ (Hasan et al., 2017; Preuss, 2010), tax avoidance has continued to be corporate practices in arranging transactions to reduce their tax liability. On the one hand, tax avoidance is considered as a mechanism to increase shareholders' wealth by reducing corporate costs (Hanlon & Heitzman, 2010; Hanlon & Slemrod, 2009; Robinson et al., 2010). On the other hand, losses from corporate tax avoidance result in adverse impacts on society both in term of the economy and human well-being (Christensen & Murphy, 2004; Preuss, 2012; Salihi, Annular, & Sheikh Obid, 2015). By concealing tax avoidance schemes, markets cannot make a rational assessment based on corporate reported profits, hence, significantly affecting the functioning of the market, such as mispricing the risks and misallocating resources. Furthermore, the government could not measure the actual health of the economy, leading to inappropriate economic policies because the state cannot distinguish whether the profits reported by a company are generated by undertaking greater economic activities or by simply transferring the returns owed to society (Rudu, 2012; Sikka, 2009). Since tax avoidance schemes are aimed to transfer the profit expected to society to shareholders, the government loses funds that could be used to improve public infrastructure. As such, tax avoidance is viewed as socially irresponsible behaviour (Dowling, 2014). This is because corporations do not act as a good citizen by

¹⁸ Social contract is viewed as an agreement, either explicit or tacit, between the state and individual to form society and the individual need to follow such agreement in exchange for the right to continue its existing in society. Therefore, corporation as part of citizens in society must pay the right tax amount (respecting the law) in return for mutual benefits (McNair, 2010; Tax and the social contract, 2016).

not paying their fair share of taxes (Huseynov & Klamm, 2012). Given this, research on corporate tax avoidance in the context of corporate social responsibility (CSR) is encouraged (Avi-Yonah, 2014; Desai & Dharmapala, 2006; Dowling, 2014; Sikka, 2010).

Even though prior studies have documented the possible causality relation between tax avoidance practices and CSR (see Appendix 3.1), they do not conclude a particular direction of its connection. Some argue that CSR is the consequence of tax avoidance (e.g., Lanis & Richardson, 2013), others expose that the CSR is a driver of tax avoidance (Hoi et al., 2013; Huseynov & Klamm, 2012; Laguir et al., 2015; Lanis & Richardson, 2012, 2015). Further, the results are still mixed; whilst some studies note that firms that act as a good citizen are also involved in tax avoidance behaviours (Lanis & Richardson, 2013; Preuss, 2010, 2012; Sikka, 2010), others argue contrarily that firms with higher level of CSR engagement are less likely to engage in tax avoidance (Hoi et al., 2013; Huseynov & Klamm, 2012; Kiesewetter & Manthey, 2017; Laguir et al., 2015; Lanis & Richardson, 2012, 2015). Moreover, prior literature mostly examines data from developed countries such as the United States, the United Kingdom, and Australia. To fill the gap in the literature, this study examines the relationship between tax avoidance and CSR focusing on emerging countries represented through BRICS group of countries which include Brazil, Russia, India, China, and South Africa. Further, this study uses the widely used theories of legitimacy theory, stakeholder theory, reputation risk management, organized hypocrisy, and corporate culture to explain the relation between tax avoidance and CSR. More specifically, on the one hand, this study explores whether firms have obligated to a broad range of stakeholders by implementing the strategy of tax compliance along with CSR engagement. On the other hand, this study examines whether BRICS firms are engaging in organized hypocrisy by simultaneously practising tax avoidance activities and demonstrating/portraying to be socially responsible for maintaining legitimacy and mitigate the risk from severe sanction of dodging tax.

As a real-world entity which encounters a variety of competitive environments (Lanis & Richardson, 2012), a business corporation needs support for its continued existence (Freeman, 1984). In gaining a legitimated support, a corporation is expected to act in congruence with society's values and norms (Dowling & Pfeffer, 1975). From this perspective, Chen & Roberts (2010) argue that legitimacy is judged subjectively by various stakeholder groups; thus being legitimated depends on the value system of stakeholder groups rather than the value system of the society as a whole. CSR, the idea embracing the concepts of corporate philanthropy, sustainability, corporate citizenship (Ganescu & Gangone, 2017) and considering the balance of stakeholders' interests (Ubius and Alas, 2009), has

become an institutionalized feature of legitimated expectation (Brammer et al., 2012). Under normative stakeholder view, if firms integrate institutionalization of CSR into its core strategies and consistently practice in adopting them, this practice would become a corporate culture, a shared belief that guide appropriate behaviours for various situations to achieve its success (Needle; 2004; Pohl, 2006; Ravasi and Schultz, 2006). As such, firms with high level of CSR would be more cautious about engaging in aggressive tax avoidance as doing so may cause a negative perception towards the firms and eradicate the reputation they receive from CSR activities (Lanis & Richardson, 2012). Therefore, more socially responsible firms are likely to be less tax aggressive in nature.

Nevertheless, the perspective of instrumental stakeholder suggests that CSR could be an efficient tool to minimize public scrutiny and safeguard their legitimacy (Cho & Patten, 2007; Magness, 2006). In this case, firms engaging in CSR activities may be able to manage the risk of reputation loss due to their tax avoidance behaviour because participating CSR activities signals to the public that firms operate with cautions and concerns to an impact of their operations on the society (Godfrey, 2005). Due to the conflicting demands of stakeholder groups, it is difficult for corporations to satisfy all interests with one set of actions without discounting the benefits of others (Brunsson, 2003). When corporations fail to achieve what they say, they then engage in hypocrisy in order to protect their image, and in doing so, they engage in communicate CSR activities. This practice implies that the actual action of firms is not consistent with their actual stance on social responsibility. Simply say, while CSR is something about doing good, tax avoidance is perceived as irresponsible practice; the discrepancies between CSR talk and tax-avoiding actions are seen to be sources of hypocrisy (Wagner et al., 2009). Therefore, firms with high levels of CSR are more likely to engage in tax avoidance.

Using data from Thomson Reuter's ASSET4 to proxy for CSR engagement from 2008 to 2015, the main results show the positive relation between the annual effective tax rate (ETR) and CSR engagement scores for both social and environmental performance. The results suggest that CSR engagement is negatively associated with tax avoidance: the higher level of CSR, the lower level of tax avoidance. The findings imply that companies in BRICS countries are committed to a wide range of stakeholders, instead of shareholders exclusively, thereby executing a strategy of tax compliance and CSR engagement. Since there may be a gap between the claims in CSR report and the actual practices of CSR (Font et al., 2012), the replicated model is regressed based on CSR disclosure measured through ESG scores on social and environmental disclosures from the Bloomberg database. The results show that CSR disclosure does explain the level of tax avoidance in BRICS countries only scores on social activities. At a country level, the association between tax avoidance and CSR is

consistent with the results of the main test, albeit only for firms in Russia, India, and China. Further, this study finds that audit expertise which is proxied through the firm's employment of Big4 audit firms reduce the effect of CSR engagement on tax avoidance, but a firms' foreign listing status does not influence the relationship.

Additional robustness tests are also conducted to rule out alternative interpretations of primary results. First, the study uses two alternative measures of CSR, the country-industry adjusted CSR mean (McWilliams & Siegel, 2001) and high-low separated group (Lanis & Richardson, 2012). Second, two alternative measures of ETR, one-year ETR as calculated by dividing income tax by operating cash flows (Jaafar & Thornton, 2015; Karampinis & Hevas, 2013) and five-year ETR (Dyreng et al., 2008), have been regressed on CSR measure used in the primary test. Lastly, country-mean scores of CSR (Kim et al., 2014) have been used as the instrumental variables in regression model estimated with the Two Stage Least Square (2SLS) method to alleviate the bias caused from endogeneity problem. The results of robustness tests are consistent with those in the main tests. The robustness tests, therefore, confirms the negative relationship between tax avoidance and CSR in the BRICS group of nations.

This study contributes to the literature in the following ways. First, it provides a better understanding of how companies in emerging countries deal with tax avoidance in the context of CSR. To the best of author's knowledge, this study is the first empirical work investigating the link between tax avoidance and CSR engagement in BRICS countries, and in doing so, it fills in the gap of literature not only regarding the relation between tax avoidance and CSR, suggested by Huseynov & Klamm (2012) and Sikka (2010) but also the CSR engagement in BRICS, suggested by Belal & Momin (2009). Second, the theories used within the domain of social and environmental accounting research, namely, legitimacy theory, stakeholder theory, reputation risk management, organized hypocrisy, and corporate culture, have been usually applied and explained as separate perspectives. This study bridges the gap among them by using all theories to explain the link between tax avoidance and CSR as overlapping theories which are different in their levels of perception. Third, the findings provide valuable insights for policymakers to consider the requirement for firms to include responsible tax payment as part of their CSR strategies and for regulators to stimulate greater cooperating between tax authorities and legal demands for better transparency in the business operation.

The rest of this paper is organized as follows: *Section 3.2* presents related prior literature which is used to hypothesize the relationship between tax avoidance and CSR. *Section 3.3* provides the conceptual framework, leading to the development of hypotheses. *Section 3.4* presents research

design including the data, measurement of variables, and analysis model. *Section 3.5* reveals the empirical results and *Section 3.6* provides a summary and conclusions.

3.2. Related Literature

3.2.1. Corporate tax avoidance: An overview

Corporate tax expenses are generally calculated on a firm's profit. In promoting a particular corporate behaviour, tax authorities exclude or exempt some items, such as interest earned on municipal bond, as well as an extra amount for deducting from the calculation of tax liability. Accordingly, loopholes are created which allow taxpayers to avoid taxes through those exemptions and deductible items. When referring to corporate practices that aim at reducing tax liability, one would be confused between tax avoidance and tax evasion. Generally, while tax avoidance embraces legal activities utilizing loopholes in the tax system but conflicts with the spirit of laws (Guenther et al., 2013; Slemrod & Yitzhaki, 2002), tax evasion is labelled illegal activities that comprise components of deception, concealment, or destruction of records (Fisher, 2014; Hanlon & Heitzman, 2010; Hasseldine & Morris, 2013; Slemrod & Yitzhaki, 2002).

Payne & Raiborn (2018) assert that interpreting the loopholes to the benefit of the taxpayer is not illegal as long as taxpayers do not take a position that crosses the line drawn by law with the desire to evade taxes. In line with this, tax avoidance becomes an accepted and expected practice in the function of corporate tax planning in business entities to arrange tax burden as low as possible.¹⁹ However, what is *legal* may not necessarily *legitimate*. The benefits of tax reduction are vested primarily to company's shareholders, regardless of whether a use of legal loopholes for aggressively avoiding tax may indirectly affect other stakeholders of a corporation such as employees, management, creditors, potential investors, competitors, and governments of countries in which a corporation reports profits, as well as society at large (Payne & Raiborn, 2018). In the situation that some taxpayers pay less tax; the government may seek ways to maintain national budgets so that the delivery of public goods and services is not reduced or interrupted. By doing so, others may be forced to pay more tax. Thus, it raises the question of whether those who underpay taxes are perceived as

¹⁹ Tax avoidance is covered broad range of behaviors that a corporation engages to accomplish its goal. For example, a) postponement of tax by retiming transaction to pay tax later than it should be (Fisher, 2014; Slemrod & Yitzhaki, 2002; Stiglitz, 1986), b) change or make a reasonable interpretation of the legal form such as re-characterizing income to capital gain, restructuring a business from A to B, or renaming a consumer loan as a home equity loan (Fisher, 2014; Slemrod & Yitzhaki, 2002), and c) involve tax arbitrage by taking advantage from tax system of other countries to produce tax saving (Fisher, 2014; Slemrod & Yitzhaki, 2002).

unfair and immoral citizens. Furthermore, multinational firms from developed jurisdictions that take advantage of a developing country's tax incentives and low tax rates in order to avoid higher taxes in their home country, and do not provide significant economic benefit to the host country may be questioned as to whether they behave ethically towards either the home or the host country (Haugen, 2018; Payne & Raiborn, 2018; West, 2018). Therefore, even though the benefits for a myriad of stakeholders are difficult to be balanced, it is necessary for firms to consider the impact of their corporate actions on all stakeholders and to maximize profits through means that do not break the social norms.

3.2.2. Corporate Social Responsibility (CSR)

(a) The definition of CSR

The concept of CSR is not a new issue as it has been mentioned since 1916 in the writing of Clark (p.223) as "if men are responsible for the known results of their actions, business responsibilities must include the known results of business dealings, whether these have been recognized by law or not". As CSR is an evolving concept; hence, what corporations should do for society is a normative exercise, to achieve consensus on a CSR definition is difficult (Marens, 2004). Therefore, views on how to define CSR are based substantially on their breadth and scope of a particular context. For example, Friedman, (1970) narrowly equates CSR with the corporate executives' responsibility towards their employers to make as much money as possible, and at the same time, such actions must comply with the basic rules of society, both legal and ethical. Carroll (1979) suggests a much wider and widely accepted definition arguing that "the social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time" (Carroll, 1979 p. 500), where the economic and legal responsibilities are "required," the ethical responsibilities are "expected," and the philanthropic (voluntariness or discretionary) responsibilities are "desired." According to the absent of exclusive definition, Dahlsrud (2008) conducts content analysis with 37 different definitions proposed by researchers in different fields and different countries for more than 23 years from 1980 in an effort to achieve a common definition of CSR. The results reveal that CSR is identified by five dimensions: economic, stakeholder, social, environmental, and voluntariness. Of those 37 definitions, 97% are included at least three dimensions in any of those CSR definitions. Nevertheless, the work of Dahlsrud (2008) cannot achieve the goal to identify which dimension(s) is (are) or should be used in aligning with notions of CSR. Göbbels (2002) argues that there is no agreed-upon definition for CSR because it does not always the same thing to everyone. Some consider environmental matters to be an area requiring separate

consideration (Baum and Fisher, 2010) while others argue the interplay between the social, economic and environmental is central to socially responsible business activity (Davis et al., 2016; Laguir et al., 2015). Although CSR is not exclusive, it is generally defined as a concept that encourages corporations to equilibrate the interests of society at large. Corporations are expected to take responsibility for the impact of its activities at all levels of its operation on all stakeholders, and this responsibility goes beyond the statutory obligation to comply with legislation.

(b) The theoretical perspectives on CSR and its implications

Prior studies have developed and used several streams of theoretical perspectives to explain the motivations of CSR. Thus far, it has been reflected by a broad range of theories including legitimacy theory, stakeholder theory, a perspective of risk management, organized hypocrisy, and corporate culture. However, McWilliams et al. (2006) argue that the study related to CSR should not be investigated through a single lens of theoretical perspective. This study thus explains the CSR and tax avoidance link through these theories at the same time but observes them at the different levels of perspectives.

Legitimacy Theory

Dowling & Pfeffer (1975) posit that a corporation must act in congruence with society's values and norms in order to continue its existence. If a corporation has breached the expectations of society where it operates, its survival will be threatened (Deegan and Rankin, 1996). In other words, if a corporation wants to succeed in continuing its survival, its value system should be congruent with the value system of society, and this condition is referred as to legitimacy (Suchman, 1995). Legitimacy has been reserved in the CSR literature along two major lines, an institutional approach and a strategic approach (Suchman, 1995). From an institutionalist perspective, legitimacy is stem from the conformity to the constructed systems of social values, norms, beliefs, and definitions (Suchman, 1995). Therefore, if operations, structures, and strategies of corporations are set up following the common patterns of these social constructs, the corporations would be perceived as legitimate organizations (DiMaggio and Powell, 1983; Scott, 2008). Under this notion, the idea that companies should engage in certain responsible behaviours towards society leads CSR become a strongly institutionalized feature of legitimate expectation (Brammer et al., 2012). Growing pressure from civil society on corporations have created an “unavoidability of normative conformity” (Palazzo & Scherer, 2006 p. 73). Therefore, in order to be perceived as legitimated organizations, the institutionalization of CSR is integrated into concrete actions. In contrast to the institutional

perspective, the strategic legitimacy focuses mainly on how the corporations perform to gain, protect, increase or repair its legitimacy (Dowling and Pfeffer, 1975; Ashforth and Gibbs, 1990). As such, the adoption of CSR can be seen as a tool to build legitimacy (Preuss, 2010). CSR has been institutionalized into value system through activities such as the diffusion of CSR departments, the proliferation of branding initiatives, an ISO standard on CSR, and even the spread of stock market indices related to sustainability. These activities involve the understanding of people in society that CSR cases exist in the organizations if they are doing so (Brammer et al., 2012). That is, the visible engagement in social or other initiatives enhance acceptance from society, and the corporations are rewarded with increased legitimacy.

Stakeholder theory

Stakeholders are defined as “any group or individual who can affect or is affected by the achievement of a corporation’s purpose” (Freeman, 1984, p. 46). Given that a corporation needs the business’s ongoing success (i.e. being legitimated), activities of the corporation must be approved by its stakeholders to gain support for its continued survival (Gray et al., 1995). From this perspective, Chen & Roberts (2010) confer that legitimacy is judged subjectively by a various group of stakeholders; thus being legitimated depends on the value system of stakeholder groups rather than the value system of the society as a whole. This is because the same corporate activity would not necessarily be judged equally by different groups of stakeholders. Social and environmental disclosure is therefore seen as part of the communication between the corporation and its stakeholders (Gray et al., 1995).

The stakeholder theory is used by prior work to analyse in the context of CSR through the lens of instrumental or normative stakeholder theory. Instrumental stakeholder theory assumes that the corporation is a mechanism for wealth creation and CSR can be part of such instrument because CSR is perceived as a strategic tool to stimulate economic objectives (Garriga & Mele, 2004). In line with this, Rodgers et al. (2013) find that a firm’s social responsibility commitment provides contributions to its financial performance. Normative stakeholder theory, on the other hand, describes philosophically based on moral obligations towards stakeholders (Brickson, 2007), focusing on the ethical issue that corporations should pledge to adhere to the relationship between business and society (Garriga & Mele, 2004).

Reputation Risk Management

In an ever-changing world, businesses are forced to deal with uncertainty. Risks affect businesses outcomes in several terms such as economic performance and reputation, environmental, safety, and even society in general. As such, how to tackle those risks which are so-called risk management can be a key to business success. Defined in ISO31000:2018, risk management is “coordinated activities to direct and control an organization with regard to risk.” Generally, when a negative corporate situation arises, society would identify sanctions basing on the conditions surrounding the incidents (Hoi et al., 2013). Godfrey (2005) theorizes that positive moral corporate action provides firms with the insurance-like protection as it reduces the negative impact on the misbehaviours of business organizations. Through this lens, CSR becomes a mechanism to deal with potential reputational risks (Fombrun et al., 2000; Lin-Hi & Blumberg, 2018; Minor & Morgan, 2011). A number of studies show that CSR and corporate reputation are positively associated (e.g., Fombrun and Shanley 1990; Galbreath 2010; Stanaland et al. 2011). The common argument for the presence of a positive link between CSR and corporate reputation is based on the effect of a signal that is created by the social responsibility assumption. Engaging in CSR allows a corporation to signal its reliable and honest behaviours (McWilliams & Siegel, 2001), its interests in the stakeholder well-being and society as a whole, and its willingness to take care the others’ needs (Bhattacharya et al., 2009). Consistent with Godfrey (2005), CSR activities can be seen as a way to manage risks as it signals to public that the management of firms gives attention not only to maximize benefits for shareholders but also to have responsibility towards society at large.

Extending this view using the risk management model, Godfrey et al. (2009) test the property of insurance-like protection of CSR activity whether such activity leads to positive attributions from stakeholders by reducing their negative judgment, and not to boycott the company. Using 178 illegal actions against firms during 1993 – 2003, they find that firms engaging in institutional CSR activities which are focused on society as a whole attain an ‘insurance-like’ benefit whereas firms engaging in technical CSR activities which are aimed at a firm's trading partners yields no benefits on the participation. Minor & Morgan (2011) also conduct the link between CSR and reputation insurance of all S&P 500 companies over the period 1991-2006 and suggest that “CSR acts as a powerful form of reputation insurance when a firm suffers an adverse event” (p. 55). Specifically, a synergistic effect on reputation presents when firms harmonize their CSR strategies in both “doing good” and “not doing bad,” and the greatest reputational damages occurs when firms simultaneously engage in doing good and doing wrong; this is worse than just doing nothing.

Organized Hypocrisy

Brunsson (1989) considers the inconsistencies among talk, decisions, and actions as hypocrisy which organizations practically employ as a strategy to manage the conflict demands of various stakeholders. When different stakeholder groups place conflicting demands on the organization, it is difficult for corporations to satisfy all interests with one set of actions without discounting the demands or benefits of others (Brunsson, 2003). Although management is encouraged to develop strategies that at least each stakeholder group can accept at a minimum level, Cho, Laine, Roberts, & Rodrigue (2015) argue that conflicting pressures of society and institutions lead corporations to engage in hypocrisy in order to keep or develop their image.

In the world of business today, stakeholders are very concerned and monitor closely what and how companies do regarding CSR issues. Due to the recent examples of organizational misconduct, the CSR talk of companies has become scepticism by the public (Christensen, Morsing, & Thyssen, 2013). CSR means “doing” something good to society, not just “talking” about it (Aras & Crowther, 2009; Fernando, 2010; Holder-webb et al., 2009), but companies treat CSR merely as a corporate spin to improve legitimacy (Jahdi & Acikdilli, 2009). As stated in Banerjee (2008), communicating CSR to the public is nothing but symbols of an ideological movement intended to legitimize and consolidate the power of large organizations. Consistently, other scholars assert that CSR is a powerful mechanism to protect against criticism or to mislead interpretation in the way that an organization has nothing to hide (Newell, 2008) and to expresses intentions or policies without any real substance (Kolk, 2003). Thus, the discrepancies between CSR talk and actions are seen to be sources of hypocrisy (Wagner et al., 2009).

Corporate or Organizational Culture

Corporate culture is mainly defined as “set of shared beliefs and assumptions” that guide organizational members’ behaviour for various situations to achieve its economic success (Needle; 2004; Pohl, 2006; Ravasi and Schultz, 2006). Corporate culture characterizes all, or most, of the members in an organization, creating a unique characteristic and pattern which are stable in time (Ganescu & Gangone, 2017). As such, corporate culture influences how people in an organization interact with each other and with various stakeholders. As an organizational business philosophy, Gangone (2014, p. 85) states that corporate culture “should reflect the reasoning of investors and managers, the ethical standards they employ in making decisions, the traditions, attitudes and concrete situations experienced by the organization.” Supported by prior literature, the values and attitudes of

managers are determined by corporate culture, which affects their behaviors and decision making (Subramaniam & Ashkanasy, 2001). Furthermore, the corporate culture has an impact on the outcomes of organizational operation (McKinnon, Harrison, Chow, & Wu, 2003; Baird, Harrison, & Reeve, 2004, 2007).

The concept of corporate culture has become an interesting topic in CSR literature as it links the various aspects of human resources and organizational behavior to corporate social performance (Ubus and Alas, 2009; Yu & Choi, 2016), for example, corporate philanthropy, socially responsible investment, sustainability, corporate citizenship (Ganescu & Gangone, 2017), and the interests of stakeholders (Ubus and Alas, 2009). Thus, ethical decision-making in the process of integrated CSR initiatives development is usually possible when it is congruent with the culture of a corporation (Trevino and Nelson, 2007). In particular, organizations that base their operations on high ethical standards and intensively express concerns for the needs of all stakeholders typically link corporate CSR activities with the system value (Jaakson, Vadi, & Tamm, 2009).

In conclusion, the theory of corporate culture suggests that if a firm strongly believes in “right” corporate behaviour, then all the decisions undertaken by the firm should reflect such a right shared belief (Kreps 1996; Hermalin 2001). In line with this, Hoi et al. (2013) view CSR as the shared belief of an organization about the right course of action, influencing corporate practices that affect the firm’s various stakeholders. Jaakson et al. (2009) support this view through an empirical study showing that organizations with a mature corporate culture correlated with CSR initiatives benefiting to stakeholders. On the other hand, CSR transmits corporate culture through groups of employees who are involved in CSR activities. They also find that the performance of the organizations mediates the relationship between corporate culture and CSR. Similarly, Yu & Choi (2016) reveal that CSR activities of Chinese companies are carried out due to the stakeholders’ pressure and its relationship are mediated by a CSR-oriented corporate culture. Their results suggest that Chinese companies should promote a CSR-oriented corporate culture and make this policy efficiently to help them achieve a competitive advantage. Still, the same instance, Upadhaya, Munir, Blount, & Su, (2018) also demonstrate that the adoption of CSR is associated with firm strategies and its relationship is fully mediated by corporate culture, especially, in the dimension of innovation and respect for people.

3.2.3. Tax avoidance and CSR

If tax avoidance is considered just as a business transaction, its objective is only to reduce the amount of corporate tax expense as much as possible (Avi-Yonah, 2008) and it has nothing to concern about

ethics, stakeholders, or society. Given the national budget from tax revenue is “the lifeblood of the social contract, vital to the development and maintenance of physical infrastructure”²⁰ (Christensen & Murphy, 2004, p. 37), avoiding to pay tax erodes the smooth functioning of state to provide public goods (Avi-Yonah, 2006). Tax avoidance is also related to the debate around the issues regarding regulatory compliance and organizational integrity (Bird & Davis-Nozemack, 2018). Firms readily reap the benefits of public resources such as an educated workforce and foundational research, transportation, and utility systems which are all created and maintained by tax revenue. As such, it is a duty-based obligation imposed by society for firms to pay a fair share of tax to contribute to the continuity of those public services (Scheffer, 2013; Sikka, 2010). When firms try to avoid tax in order to maximize profits, they fail to act as good citizens of society (Hoi et al., 2013). Under this view, tax avoidance is a socially irresponsible practice which is not consistent with a firm’s obligations to society (Avi-Yonah, 2014; Dowling, 2014; Hasseldine & Morris, 2013; Lanis & Richardson, 2015).

To mitigate this problem, the governments in the past have dealt with the problem of tax avoidance through hard law²¹ (Bird & Davis-Nozemack, 2018). Nevertheless, given that tax avoidance is the undesirable corporate conduct which is legal (Guenther et al., 2013; Slemrod & Yitzhaki, 2002), hard law alone cannot eliminate the corporate behaviour of tax avoidance. Since hard law does not emphasize the key tasks of the non-coercive mechanism to play in tax compliance, it is difficult to enforce hard law with the grey-area behaviours. Prior studies respond to this problem by linking soft law (e.g., private monitoring mechanisms or agreements that embody norms, NGO legislation, and governmental policy statements (Sheppard, 2014) into tax avoidance account. Given that soft law is guided by societal values and norms, possessing the characteristics of legal rules (Park & Berger-walliser, 2015) but flexible (Karmel and Kelly 2009), this allows society to put pressure on firms to comply with the corporate responsibility to pay responsible taxes if they want to be perceived as legitimated in the eyes of the public. As CSR is based on a duty-based system and considered as a form of soft law (Jackson 2010; Vogel 2005) that emphasizes the firm's social commitment to various stakeholders, it is theoretically and practically linked to the corporate practice of tax avoidance (Knuutinen, 2014), and the public has called for incorporating of fair share of tax payment as part of CSR (Huseynov & Klamm, 2012).

²⁰ Tax revenues are essential for transportation infrastructure, public welfare, funded research, and national defense (Center on Budget and Policy Priorities 2015; Williams 2011).

²¹ Hard law is a foundation of any functioning tax system that can bring standards to all firms operating under the tax system as it works through sanctions and determination of clarity (Nov, 2006). Therefore, it cannot be rejected that hard law allows tax system to perform in a more efficient way.

3.3. Hypotheses Development

As recent literature on CSR seems to suggest that CSR in developing countries is shaped by a variety of contextual conditions and institutional pressures (Jamali & Karam, n.d.; Sharma, 2019),²² extant findings which mostly are from developed countries may not necessarily generalise to the context of emerging markets (i.e., BRICS). Therefore, the present study focuses on the data from emerging markets in order to fill this gap in the literature. Furthermore, the empirical link between corporate tax avoidance and social responsibility has not been clearly drawn as its direction has been shown based on various theories. Scheffer (2013) suggests that such gaps should be connected to provide a better understanding of the relation between them. In bridging the differences among them, this study builds on related theories, namely, legitimacy theory, stakeholder theory, reputation risk management, organized hypocrisy, and organizational culture to explain the context of tax avoidance – CSR relationship. Legitimacy is treated as a fundamental condition that corporations aim to hold for its continued existence in society which encompasses with various groups of stakeholders. Then, stakeholder theory is narrowly focused on how to manage the different or even conflicting demands of particular stakeholders to gain supports for their legitimated survival. Lastly, the perspectives of reputation risk management, organized hypocrisy, and corporate culture are used to explain the reasons behind corporations' actions that are performed to satisfy their stakeholders.

As mentioned above, institutionalist legitimacy suggests that if corporations would like to be perceived as legitimated organizations, they should follow the common patterns of social constructs (DiMaggio and Powell, 1983; Scott, 2008). In particular, under a normative stakeholder perspective, corporations have moral obligations towards stakeholders (Brickson, 2007) so that they should pledge to comply with norms, values, and expectations of stakeholder groups. As Freeman (1984) includes any individual and all parties that are affected by the operation of corporations in the term of “stakeholders”, it is essential for corporations to establish or improve policies and strategies as well as operations that offer outcomes most favourable to all related stakeholders (Williams, 2007). If this belief has been adopted into corporate policy and is used consistently, it will turn into corporate culture. In particular, corporate culture includes the shared beliefs that guide appropriate behaviours for various situations to achieve its success (Needle; 2004; Pohl, 2006; Ravasi and Schultz, 2006) and

²² Jamali & Karam (n.d.) conclude in their review on CSR in developing nations that institutional pressures influencing CSR include the limitations of political conditions, national policies and legislation, religion, economic conditions, and social and cultural attitudes, as well as the contracted roles of developing country governments.

influences the way that corporation's members interact with each other, and with various stakeholders.

As CSR comprises the concepts of corporate philanthropy, sustainability, and corporate citizenship (Ganescu & Gangone, 2017), as well as the interests of stakeholders (Ubius and Alas, 2009), Brammer et al. (2012) argue that CSR is a strongly institutionalized feature of legitimate expectation. Hoi et al. (2013) view CSR as one aspect of corporate cultures which presents the right course of actions in organization. Although, having CSR as a core strategy would make a company being recognized as a socially responsible corporation, failing to prove genuinely ethical operation may result in reputation/political costs to the company. In the case of tax avoidance, it is viewed as unethical and irresponsible corporate behaviour (Hoi et al., 2013; Keung et al., 2013) since avoiding to pay tax has an impact on the function of producing public goods to serve all members in society. Therefore, if firms with strong CSR culture simultaneously participate in tax avoidance, firms will not be appreciated by the community and may be labelled as "poor corporate citizens" (Chen et al., 2010). This practice is also against the culture of responsible corporations that suggests balancing the interests of all related stakeholders.

Hoi et al. (2013) investigate the association between irresponsible CSR activities and tax avoidance behaviour. Their results show that firms with more irresponsible CSR activities are more likely to engage in avoiding tax, supporting the corporate culture effect on tax avoidance. Lanis & Richardson (2012) assume that the concept of CSR provides corporation guidance to choose an appropriate ethical stance for a particular situation that affects its stakeholders. As tax aggressiveness is viewed as an irresponsible behavior that destroys the quality of life of people in society, Lanis & Richardson (2012) hypothesize that firms with high CSR profile would be more cautious in considering to engage in aggressive tax avoidance as they are frightened that it may cause a negative perception towards their firms and eradicate the reputation from other CSR activities. By examining the level of CSR disclosure of 408 Australian corporations using their own index with multiple proxies of corporate tax aggressiveness for the 2008/2009 financial year, the results confirm their hypothesis that the higher level of CSR activities, the lower level of aggressive tax engagement. Extending their own study by utilizing a more direct measure of tax avoidance and a more objective source of firm CSR performance from the Kinder, Lydenberg, and Domini (KLD) database, Lanis & Richardson (2015) find further support showing that firms with higher CSR performance are less likely to engage in tax avoidance.

Based on the preceding discussion, the perspective of corporate culture explains that if a firm strongly believes in “right” corporate behaviour, then all the decisions undertaken by the firm should reflect such a right shared belief (Kreps 1996; Hermalin 2001). Therefore, firms with the strong believed culture of balancing the interests of all stakeholders will accept compromise in the pursuit of shareholder profit by pursuing a combined strategy of tax compliance and CSR engagement in order to enhance their reputation and satisfy stakeholders’ interests instead of shareholders’. Accordingly, based on the complementary notions of legitimacy theory, normative stakeholder theory, and the corporate culture theory, the first hypothesis predicts a negative statistical association between tax avoidance and CSR as follows:

H1: All else being equal, firms with a *high* level of CSR are *less* likely to engage in aggressive tax avoidance.

When managers are encouraged to prioritize the interests of shareholders, they may use the techniques of tax avoidance to maximize profit for shareholders. At the same time, premised on legitimacy theory, companies need to retain the rights of continuous business in the society by operating in a way that meets the expectations of society (Deegan & Rankin, 1996; Dowling & Pfeffer, 1975). Tax avoidance, unquestionably, is not a corporate action favoured by society. Therefore, managers of the companies are necessary to adopt strategies that could obfuscate their avoidance behaviour or moderate the negative consequences of tax avoidance. Under instrumental branch of stakeholder theory, CSR could be an efficient tool to achieve managers’ objective of minimizing public scrutiny and safeguarding their legitimacy (Cho & Patten, 2007; Magness, 2006). Although the objective of CSR is to encourage firms to act and operate responsibly towards societies, many firms claim their integrity, ethics, honesty, responsibility, and transparency through CSR report (Cho & Patten, 2007; Magness, 2006) to exclusively promote company image to build (Preuss, 2010), gain, or maintain legitimacy (Avi-Yonah, 2008), as well as to deal with potential reputational risks (Fombrun et al., 2000; Lin-Hi & Blumberg, 2018; Minor & Morgan, 2011). Reporting good CSR activities to the public is considered a potentially powerful mechanism to maximize firms’ reputation (Hoi et al., 2013; Unerman, 2008). This role of CSR reporting is played either when firms develop a CSR reputation in a new area of social value, or when the negative events occur and render bad attitude towards corporations (Unerman, 2008).

Lanis & Richardson (2013) further explain the framework of CSR and legitimacy in the context of tax avoidance that firms with highly aggressive tax avoidance attempt to lessen public scrutiny on its avoidance by disclosing additional information concerning its other (good) CSR activities in various

areas to show their obligation fulfilling to the society. Preuss (2010) find that companies, locating their headquarters in tax havens or Offshore Finance Centres (OFCs) made claims that they follow socially responsible business practices through codes of conducts. Hoi et al. (2013) argue that firms protect themselves from public penalties on adverse events by enhancing their reputation through the reduction of irresponsible corporate social responsibility. On the other hand, firms with more aggressive tax avoidance will increase CSR to maintain the reputation which may help them to hide other inappropriate corporate behaviours. Stoian (2012) supports that companies are hiding their profits through the practice of dodging tax also have a good CSR profile and not to declare their profits movements.

Given that companies attempt to legitimate their societal credentials by presenting themselves as good citizens but simultaneously involve in tax avoidance practices, Sikka (2010) extends that this situation may be categorized as organized hypocrisy which represents the gaps to some extent between corporate talk, decision, and action. That is, actual actions of the companies may not necessarily be aligned with their publicly advocated claims. Such claims of ethics, integrity, honesty, transparency, and responsibility actually should be covering all issues about operations of organizations, but in reality, few companies refer tax payment as part of their social responsibility reports. In line with the view of the hypocrisy of organizations, Stoian (2012) shows that Romanian multinational companies with a high level of CSR avoid local tax burden by shifting their profit to offshore location without any consideration of declaring their tax movement as part of the CSR report.

Therefore, if CSR engagement is ultimately an attempt of a company to create positive stakeholders perceptions and reduce the harshness of penalties from negative events, it is possible that companies that adopt aggressive tax avoidance behavior to increase profits in favour of shareholder's interests may pursue a strategy of CSR engagement in order to hedge against the negative outcomes of tax avoidance. Accordingly, based on the complementary notions of a CSR hypocrisy, legitimacy theory, and reputation risk management, the second hypothesis predicts a positive relationship between tax avoidance and CSR as follows:

H2: All else being equal, firms with a *high* level of CSR are *more* likely to engage in aggressive tax avoidance.

3.4. Research Design

3.4.1. Data and sample description

Since this study examines the relationship between tax avoidance and CSR focusing on the fast-growing emerging country, this study uses data from BRICS group of countries which comprise of Brazil, Russia, India, China, and South Africa between 2008 and 2015. Essential information used in this study is mostly retrieved from the DataStream Thomson Reuters database, where CSR variables, i.e. the scores of social and environmental pillars are extracted from ASSET4, and other financial data are from Worldscope. The statutory tax rate is collected from KPMG International Cooperative website²³. The information about IFRS adoption relies on the IFRS[®] Foundation²⁴. Following Hoon, Selmier, & Lien (2011), the legal system is defined based on the JuriGlobe research group of the University of Ottawa²⁵. Furthermore, financial firms are excluded because of the unique practices of accounting standard and firms with no data in any year. After these procedures, the final sample consists of 428 firms with 2,211 firm-year observations. As reported in Table 3.1, 27% of the sample firms domiciled in China, followed by Brazil (26%), South Africa (21%), India (18%), and Russia (8%). Across the sector of operations²⁶, the industrials industry firms consist of 23% of the total sample, followed by basic materials (17%), consumer goods (13%), utilities (12%), and customer services (10%). The least number of observations is of the technology industry which accounted for 3%.

3.4.2. The measurement of variables

(a) Tax avoidance

In measuring the degree of tax avoidance of a firm, there is a range of proxies used in the literature²⁷. Most prior studies obtain data from a firm's financial statement to calculate the proxy of tax avoidance

²³ Source: <https://home.kpmg/vg/en/home/services/tax1/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html>

²⁴ Source: <https://www.ifrs.org>

²⁵ Source: <http://www.juriglobe.ca/eng/>

²⁶ This study categorizes companies into ten industries following Industry Classification Benchmark (ICB), operated and managed by FTSE Russell. The ten industries including health care, consumer goods, consumer services, basic materials, utilities, telecommunications, industrials, technology, oil & gas, and financial. However, the financial industry is excluded so that nine industries remain in the investigation.

²⁷ The measure of tax avoidance used in previous literature on the relationship between tax avoidance and CSR is revealed in Appendix 3.2.

because tax returns are not publicly presented by a firm and it provides a limited assessment to external users (Hanlon & Heitzman, 2010). In the context of this study, tax avoidance is defined as schemes that a corporation participates for the purpose of explicit tax reduction without any attempt to distinguish between legal avoidance activities and illegal evasion activities following Hanlon and Heitzman (2010). That is, tax avoidance in this paper captures both certain tax positions (perfectly legal) and uncertain tax positions (either legal or illegal transactions). That is, this study focuses on the total amount of tax avoided, rather than on the specific actions because specific actions taken provide different costs and benefits across countries.

Table 3.1 Sample Distribution by Country and Industry

Panel A: Sample Distribution by Country				
Country	Observations		Firms	
	<i>N</i>	Pct.	<i>N</i>	Pct.
Brazil	446	20%	122	24%
Russia	219	10%	45	9%
India	412	18%	77	15%
China	676	30%	129	26%
South Africa	523	23%	125	25%
	2,276	100%	498	100%

Panel B: Sample Distribution by Industry				
Industry	Observations		Firms	
	<i>N</i>	Pct.	<i>N</i>	Pct.
Basic Materials	457	20%	109	22%
Consumer Goods	276	13%	61	12%
Consumer Services	227	10%	56	11%
Health Care	110	5%	28	6%
Industrials	518	23%	109	22%
Oil & Gas	237	10%	37	7%
Technology	87	4%	16	3%
Telecommunications	133	6%	31	6%
Utilities	231	10%	51	10%
	2,276	100%	498	100%

This table presents the sample distribution by *country and industry*. The total observations are 2,276 from 498 companies from the period of 2008-2015.

Therefore, the effective tax rate (i.e., GAAP ETR), computed by dividing the total tax expense by pre-tax book income, is used to capture the consequence of tax avoidance. Moreover, extant research argues that the ETR captures a broad range of tax avoidance activities (Badertscher, Katz, & Rego,

2013; Chen et al., 2010; Gaertner, 2014; Huseynov & Klamm, 2012; Laguir, Staglianò, & Elbaz, 2015; Lanis & Richardson, 2012; Phillips, 2003; Steijvers & Niskanen, 2014) which is consistent with the objective of this study. Furthermore, the ETR is a financial statement metric noticeable to investors (Wang & Kong, 2011). In the main tests, this study employs a one-year ETR to proxy for tax avoidance and define, for a given firm i in year t , as follows:

$$ETR_{i,t} = \frac{Income\ Tax_{i,t}}{Pretax\ Book\ Income_{i,t}} \quad (1)$$

where $ETR_{i,t}$ is an annual GAAP-based ETR which is reported in financial statement and as such it is communicated directly to financial statement users. Armstrong et al. (2015) and Minnick & Noga (2010) both argue that GAAP ETR are statistically significant associated with a compensation package for tax executives and directors by setting the compensation contract that motives them to lower tax liability in the long-run horizon. Thus, GAAP-based ETR also reveal tax-driven complexities generated by rent-the seeking opportunistic manager.

In mitigating the difficulty of economic interpretation for the negative value of ETR, almost all ETR studies exclude the year in which firms report losses and exhibit negative income tax expenses from their investigation (e.g., Atwood, Drake, & Myers, 2010). In this study, however, negative values of numerator and denominator in the ETR calculation model firstly are set to be zero before the ETR is calculated. It is possible that negative income tax and negative pre-tax income might be the result of the manager's attempt to reduce earnings, to some extent, in order to reduce tax expenses. Therefore, such values should not be excluded from the analysis. Secondly, the ETR has also been *winsorized* the value at 0 and 1 in order to make it more interpretable²⁸ (Dyreng et al., 2008).

(b) Corporate Social Responsibility (CSR)

Prior studies have relied on several methods to measure CSR including the level of CSR disclosure (Lanis & Richardson, 2012, 2013), subjective surveys (Luo & Bhattacharya, 2006), and analyst rating (Hoi et al., 2013; Huseynov & Klamm, 2012; Laguir et al., 2015; Lanis & Richardson, 2015)²⁹. However, Cheng et al. (2011) argue that the rating scores from the third party can overcome the bias toward financial performance by measuring objective criteria. Following prior studies (e.g., Cheng et

²⁸ The ETR is the actual tax rate that firms pay their taxes. Therefore, it has no economic meaning if the rate turns to be negative values or greater 1.

²⁹ The measure of CSR used in prior literature on the relationship between tax avoidance and CSR is demonstrated in Appendix 3.2.

al., 2014; Eccles et al., 2014; Halbritter & Dorfleitner, 2015; Naughton et al., 2014; Ziegler et al., 2011), this study thus uses data from ASSET4 to proxy for CSR. It provides scores of broad CSR performance of a company in four pillars - environmental, social, governance and economic. The overall score calculated by equally weighting and z-scoring all underlying data points, then comparing them against all companies in the ASSET4 universe and position the score between 0% and 100% for each of four pillars

As focusing on other stakeholders, rather shareholders exclusively, this study excludes economic and corporate governance performance and capture only the level of CSR related to society as a whole through the average scores of social and environmental pillars (Naughton et al., 2014). The score of the social pillar is calculated based on activities related to society (e.g., community, human rights), workforce (e.g., diversity and opportunity, employment quality, health & safety, training, and development), and customer/product responsibility. The environmental pillar is rated based on activities related to emission reduction, product innovation, and resource reduction (DataStream, 2017).

3.4.3. Empirical model

This study employs the fixed-effect model to control the impact of unobserved time-invariant variables. In examining the relationship between tax avoidance and CSR engagement, the following model is estimated:

$$\begin{aligned} TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 CSR_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} + \\ & \sum_{n=12}^{16} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=17}^{26} \alpha_n Fixed\ Effect_{i,t}^{industry} + \\ & \sum_{n=27}^{39} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t} \end{aligned} \quad (2)$$

where $TaxAvoid_{i,t}$ is ETR computed as income tax expense divided by pre-tax book income and take the value between 0 and 1. $CSR_{i,t}$ is the average scores of performance in social pillar and performance in environment pillars range from 0 to 100, and The remaining is firm specific characteristics included as control variables³⁰, namely, size, leverage, the return on asset ratio, net operating loss, the market-to-book ratio, capital intensity, the closely-held shareholders, the dividend payout, the adoption of IFRS, and the law of origins. Since higher values of $CSR_{i,t}$ suggest a greater level of CSR whereas higher ETR implies less tax avoidance, this study accepts H1a if the coefficient

³⁰ Descriptions of variables are provided in Appendix 3.3.

β_1 for CSR_{it} shows negative value as it suggests a positive relationship between CSR and tax avoidance; that is, firms may adopt CSR in order to hedge against the negative outcomes of tax avoidance whereas tax-compliant firms may not perceive any need for further CSR engagement in order to boost their reputations as good corporate citizens. On the contrary, if the coefficient β_1 for CSR_{it} is positive value, the H1b is accepted as it indicates a negative relationship between CSR and tax avoidance; that is, firms that are willing to accept compromise in the pursuit of shareholder profit in order to enhance their reputation or satisfy the aspirations of stakeholders other than shareholders, may pursue a combined strategy of tax compliance (i.e. not enjoy in participating tax avoidance strategies) and CSR engagement. In contrast, firms that prioritize shareholder profit over reputation or non-profit stakeholder interests may pursue a combined strategy of tax avoidance and non-engagement with CSR.

In mitigating potential confounding effects on tax avoidance by other determinants of tax avoidance, several control variables both at the firm level and the country level are included in the model, namely, firm size (*Size*), leverage (*Lev*), firm profitability (*ROA*), firm net operating losses (*Loss*), firm growth (*MTBV*), firm capital intensity (*CapInt*), firm closely-held shares³¹ (*CloseHeld*), and firm dividend payout (*DivPayout*) (Dyreng et al., 2008; Gupta & Newberry, 1997; Huseynov & Klamm, 2012; Lietz, 2013; Phillips, 2003; Wilson, 2009b).

Dyreng et al. (2008) suggest that firm size may play a role in the firm's engagement in tax avoidance. Based on the theory of political cost, Watts and Zimmerman (1986) explain that firms with higher visibility are subjected to comply with greater regulatory activity, introducing a negative association between firm size and tax avoidance (Minnick & Noga, 2010; Rego, 2003). Nevertheless, others present the results in line with a positive relation under the notion of the political power, i.e., by assuming that larger companies having more resources to make more lobbying and participate in more complex tax planning activities (e.g. Siegfried (1972), Siegfried (1974), Stickney and McGee (1982), Porcano (1986) in Lietz, 2013). Wilson (2009) reports a positive relationship between tax shelter activities and firm size. In addition, firms with high levels of property, plant & equipment (i.e., highly capital intensive firms) are usually expected to exhibit more tax planning opportunities

³¹ The closely held share represents shares held by insiders. For companies with more than one class of common stock, closely held shares for each class is added together. It includes but is not restricted to shares held by cross holdings (corporations and holding companies), corporations (incl. real estate companies), holding Company, government, employees, and individuals/insiders (Thompson Reuter, 2019).

(Dyreng et al., 2008). More profitable firms have also been argued to exhibit a greater incentive to reduce their tax burden relative to lesser profitable firms (Dunbar et al., 2010).

Similarly, Phillips (2003) concludes that firms with growth opportunities show a greater ability to engage in tax avoidance activities. However, top-line growth firms are subjected to increasing applicable tax rates as their incomes increase, suggesting that such firms could have higher ETR. Conversely, loss firms (i.e., firms with net operating losses) should commonly have less incentive to engage in tax avoidance (Dunbar et al., 2010; Lietz, 2013; Minnick & Noga, 2010). Generally, leverage shows the complexity of firms' financial transactions. Highly leveraged firms, at first sight, could be more able to reduce taxes through the use of complicated financing transactions, suggesting a positive association between tax avoidance and firm leverage (Mill et al., 1998 in Dunbar et al., 2010; Lietz, 2013). Alternatively, leveraged firms may have a relatively strong incentive to avoid taxes to preserve cash to service the debt burden (Badertscher, Katz, & Rego, 2010). However, since firms with the high level of leverage incur more interest expenses which are deducted from taxable income³², they may have less need to be tax aggressive as they face less pressure to draw on alternative non-debt tax shields (Graham & Tucker, 2006).

Moreover, several studies (Amiram et al., 2013; Chetty & Saez, 2005; M. A. Desai & Dharmapala, 2006) find that ownership and shareholder dividend tax policies influence managers to engage in corporate tax avoidance. If managers are committed to increasing the benefit of shareholders, the positive relation between tax avoidance and dividend payout is expected. On the other hand, managers are more likely to put their effort towards the strategy of upward book income and downward taxable income at the same time in order to increase profits which eventually increase the payout of dividends. Amiram et al. (2013) also argue that firms with a higher proportion of closely-held shares have more alignment between managers and shareholders, thereby accentuating the incentives to engage in corporate tax avoidance. Therefore, those firms are expected to have higher levels of tax avoidance to increase shareholder's profits.

This study includes the adoption of the International Financial Reporting Standards (*IFRS*) and the legal origin (*LawSys*) to control for country-level factors that may affect tax avoidance. The shift to the use of IFRS leads to changes in accounting method which also bring differences in the current treatment of tax basis. The adoption of IFRS, therefore, should be possible to give the impact on tax

³² Leveraged firms already have benefits from a tax shield (Wrightsmann, 1978) which thereby relatively a weak motivation to reduce more tax (Badertscher et al., 2010).

strategies because tax calculation is based on the measurement and recognition of accounting transactions. More specifically, it is argued that the adoption of IFRS would reduce book-tax conformity, thereby reducing the impact on tax after the post-IFRS period (Hung & Subramanyam, 2007). In line with this notion, Karampinis & Hevas (2013) find that ETR as a measure of tax pressure is significantly and negatively associated with discretionary accruals in the pre-IFRS period and the effect disperses after the IFRS has been implemented. Managers are less likely to engage in tax avoidance when managers perceive that government enforcement of tax rules is stronger. This is because they believe that strong enforcement introduces the higher expected probability of detection and tax authorities may impose additional taxes plus penalties (Atwood et al., 2012), thereby discouraging tax avoidance.

3.5. Results

3.5.1. Univariate analysis

(a) Descriptive statistics

Table 3.2 presents the descriptive statistics where Panel A shows the statistics for the full sample, Panel B shows the mean value of all variables based on country of domicile, and Panel C shows the mean value of all variables based on the industry of firm's operation. The overall sample presents a mean (median) ETR of 26% (25.7%) with a range of 0–1 and the mean (median) of the statutory tax rate (STR) is 29.3% (28%) with the same range. ETR is the average rate at which an individual firm is taxed on its pre-tax profits so that expected to be lower than STR which is the tax rates that are established by the law of each country. As such, ETR is commonly to have a lower value than the STR due to the allowable income tax exemptions. The lower ETR than STR also implies that there are incomes included in book income but would not be recorded in taxable income (Armstrong et al., 2012). However, although the overall value of ETR shows lower value in comparison to STR for the pooled sample, not all observed countries report the consistent level having lower ETR than STR. In particular, Russian firms pay tax at a higher rate (average at 24.80%) than required by law (average at 20.50%) and South African firms pay tax at the quite similar rate (average at 31.40%) as the statutory rate (average at 31.10%). In examining ETR in individual industry shown in Table 3.2 Panel C, while firms in the industry of consumer goods (25.40%), health care (23.10%), industrials (25.30%), and oil & gas (23.60%) report the lower mean ETR than overall mean ETR (26%) for the whole sample, firms in technology industry pay the lowest tax rate at 21.90%.

In addition, in Table 3.2, CSR as the independent variable shows a mean (median) of 56.73 (63.19) with a 0-100 range. Across the country, there are marked differences in CSR scores. South Africa displays the highest mean value in CSR of 68.30 while China shows the lowest mean value of 36.87, providing little support to Alon et al. (2010)'s result which claims that firms in China less realize the importance of CSR communication in relative to other nations in the BRICS group. For other countries, the mean value of Brazil, India, and Russia is 56.73, 66.30, and 53.24, respectively. Considering CSR scores in each industry as shown in Table 3.2 Panel C, consumer goods (54.06), consumer services (48.97), health care (41.59), and industrials (49.35) report lower mean CSR scores than the overall mean (56.73).

For firm-specific controls affecting the firm level of tax avoidance, all variables are winsorized at percentiles 1% and 99% to mitigate the potential of extreme value distorting results. The size has a mean (median) of 15.76 (15.87), the mean (median) leverage ratio is 17.2% (14.3%), as well as the mean (median) property, plant, and equipment present 38.4% (35.7%) of total assets. The sample firms further exhibit profitability as mean (median) income to total assets (ROA) is equal to 10.7% (8.4%) with only 0.5% of firms are in loss, and 46.7% of firms are held by insiders. The growth of sample firms is observed through the market-to-book ratio having a mean (median) of 3.06 (3.46), and an average payout of the dividends is \$34.36 per share. For the controls in the country level, 58.9% of the sample firms comply with the civil law, and 71% of the firms adopt the IFRS. Overall, the means and medians of all variables show an acceptable range which reflects normality of distributions (Hair et al., 2006).

(b) Trend of tax avoidance and CSR

Figure 3.1 Panel A shows the trend of averages of ETR over eight years compared with the those of the statutory tax rate. The average STR fluctuates between 28% and 31% during the year 2008 and 2012, and stable at around 29% in the year 2013 to 2015. On the contrary, the average ETR gradually increased by two percentage points from 25% in 2008 to 27% in 2015. Overall, the gap between STR and ETR has narrowed over eight years from 5% in 2008 to 1% in 2015. The stability of the average STR is because the corporate tax rate in Brazil, Russia, and China remains the same over the sample period. Figure 3.2 presents the trend of average social and environment pillar scores. Overall, the score from both pillars have increased over eight years from 50.63 in the year 2008 to 60.23 in the year 2015 for environmental CSR scores, and from 58.04 in the year 2008 to 64.54 in the year 2015 for social CSR scores. Specifically, firms in BRICS countries have been rated higher scores for CSR related to social activities than those for environmental activities.

Table 3.2 Descriptive Statistics**Panel A: Overall variable summary**

Variables	N	Mean	25%	Median	75%	SD
ETR	2276	0.260	0.196	0.257	0.310	0.136
STR	2276	0.293	0.250	0.280	0.340	0.049
CSR	2276	56.732	31.100	63.190	80.885	27.302
SOC	2276	60.037	31.800	69.540	87.940	30.213
ENV	2276	53.426	27.365	57.415	79.045	27.579
Size	2276	15.762	14.701	15.873	16.685	1.514
Lev	2276	0.172	0.048	0.143	0.255	0.146
ROA	2276	0.107	0.044	0.084	0.138	0.107
Loss	2276	0.005	0.000	0.000	0.000	0.072
MTBV	2276	3.015	1.120	1.860	3.460	3.462
CapInt	2276	0.384	0.166	0.357	0.603	0.239
CloseHeld	2276	0.467	0.244	0.515	0.677	0.271
DivPayout	2276	34.335	17.880	30.355	48.050	23.510
LawSys	2276	0.589	0.000	1.000	1.000	0.492
IFRS	2276	0.710	0.000	1.000	1.000	0.454

Panel B: Country mean value for all variables

Variables	Mean Value					
	Overall	Brazil	Russia	India	China	S.Africa
ETR	0.260	0.257	0.248	0.245	0.235	0.314
STR	0.293	0.340	0.205	0.336	0.250	0.311
CSR	56.732	66.147	53.241	66.299	36.868	68.303
SOC	60.037	71.992	55.653	67.680	35.648	77.183
ENV	53.426	60.301	50.829	64.918	38.088	59.423
Size	15.762	15.836	16.748	15.520	16.549	14.459
Lev	0.172	0.256	0.169	0.157	0.162	0.125
ROA	0.107	0.089	0.135	0.141	0.067	0.137
Loss	0.005	0.002	0.005	0.000	0.003	0.015
MTBV	3.015	3.109	2.146	4.862	2.117	31.395
CapInt	0.384	0.292	0.551	0.350	0.417	0.376
CloseHeld	0.467	0.434	0.615	0.555	0.545	0.262
DivPayout	34.335	43.422	28.358	24.649	31.382	40.534
LawSys	0.589	1.000	1.000	0.000	1.000	0.000
IFRS	0.710	0.881	0.479	0.000	1.000	0.847

Table 3.2 Descriptive Statistics (Cont'd)

Panel C: Industry variable mean value against overall mean value

Variables	Mean Value									
	Overall	Ind.1	Ind.2	Ind.3	Ind.4	Ind.5	Ind.6	Ind.7	Ind.8	Ind.9
ETR	0.260	0.271	0.254	0.294	0.231	0.253	0.236	0.219	0.287	0.269
STR	0.293	0.288	0.306	0.306	0.306	0.289	0.255	0.312	0.292	0.310
CSR	56.732	58.479	54.062	48.972	41.588	49.349	70.597	71.813	56.777	67.923
SOC	60.037	62.024	57.133	57.494	46.456	49.676	70.854	76.604	63.878	72.230
ENV	53.426	54.935	50.992	40.449	36.720	49.022	70.340	67.023	49.677	63.616
Size	15.762	15.893	14.906	14.632	14.602	15.652	17.704	15.187	16.330	16.331
Lev	0.172	0.179	0.098	0.173	0.110	0.173	0.149	0.059	0.209	0.313
ROA	0.107	0.109	0.144	0.125	0.144	0.070	0.111	0.171	0.122	0.072
Loss	0.005	0.013	0.004	0.004	0.000	0.004	0.000	0.000	0.015	0.000
MTBV	3.015	2.258	5.957	70.407	4.079	2.397	1.387	3.911	2.467	1.577
CapInt	0.384	0.488	0.280	0.334	0.255	0.291	0.594	0.116	0.483	0.449
CloseHeld	0.467	0.509	0.441	0.354	0.442	0.410	0.549	0.444	0.575	0.526
DivPayout	34.335	32.120	36.250	41.424	23.655	30.888	28.631	31.141	40.560	45.746
LawSys	0.589	0.573	0.540	0.507	0.382	0.581	0.789	0.276	0.519	0.831
IFRS	0.710	0.707	0.678	0.885	0.536	0.793	0.637	0.448	0.564	0.740

This table presents descriptive statistics for main variables used in this analysis. *Ind.1* to *Ind.9* refer to Basic Materials, Consumer Goods, Consumer Services, Health Care, Industrials, Oil & Gas, Technology, Telecommunications, and Utilities, respectively.

The variable computations are described in Appendix 3.3 unless definitions noted here: *ETR* refers to annual effective tax rate, *STR* refers to the statutory tax rate, *CSR* refers to the average score of social pillar and environmental pillar, *SOC* refers to social pillar score, *ENV* refers to environmental pillar score, *Size* refers to size of firms based on total assets, *Lev* refers to firm leverage, *ROA* refers to firm profitability, *Loss* refers to net operating losses, *MTBV* refers to the market-to-book-ratio, *CapInt* refers to the intensity of firms' capital, and *CloseHeld* refers to the closely-held shares, *DivPayout* refers to dividend payout per share, *LawSys* refers to the country's law origins, *IFRS* refers to the adoption of IFRS. The variables are measured as follows;

Dependent Variables:

ETR the ratio of annual income tax and pretax income;

Independent Variables:

CSR the average score of social pillar and environmental pillar;

SOC the score of social pillars;

ENV the score of environmental pillars;

Control Variables:

Size the natural logarithm of total assets;

Lev the ratio of long-term debt liability and total assets;

ROA the ratio of pre-tax book income and total assets;

Loss the dummy variable equal to 1 if the firm's net income less than 1, and 0 otherwise;

MTBV the ratio of market value and book value of the common equity;

CapInt the ratio of gross property, plant, equipment and total assets;

CloseHeld the ratio of number of closely held shares and common shares outstanding;

DivPayout the ratio of dividends per share and earnings per share multiplied by 100;

IFRS the dummy variable equal to 1 in the year and after when firms adopt IFRS, and 0 otherwise;

LawSys the dummy variable equal to 1 if firms are in country complying with civil law and 0 otherwise.

However, while all countries reveal a consistent trend, having higher scores on the social pillar comparing to the environmental pillar, China exhibits opposite with overall trend. Not only does China has the lowest average scores in both social and environmental pillars, but China is also only the country where presents a higher score on environmental CSR than a score on social CSR. China has the very low scores is possibly due to that China is still at an exploratory stage of reporting CSR (Noronha et al., 2013) and also as pointed out by Belal & Momin (2009) that CSR practices in China rarely exist. In regard to its acclaiming on the environment rather a society, it may be because China is the world largest emitter of CO₂ emission and the air quality of its major cities fails to meet international health standards (EDGAR, 2017)³³. The environment in China is also affected by water, solid wastes and noise pollution which generated from the operation of businesses (Jiaqi, 2018). As such, the Chinese government is putting significant effort into environmental protection by enacting new and stricter laws and regulations (e.g. the Environmental Protection Tax Law of China and Water Pollution Prevention and Control Law) which require firms to address the nature and size of their impact on the environment.

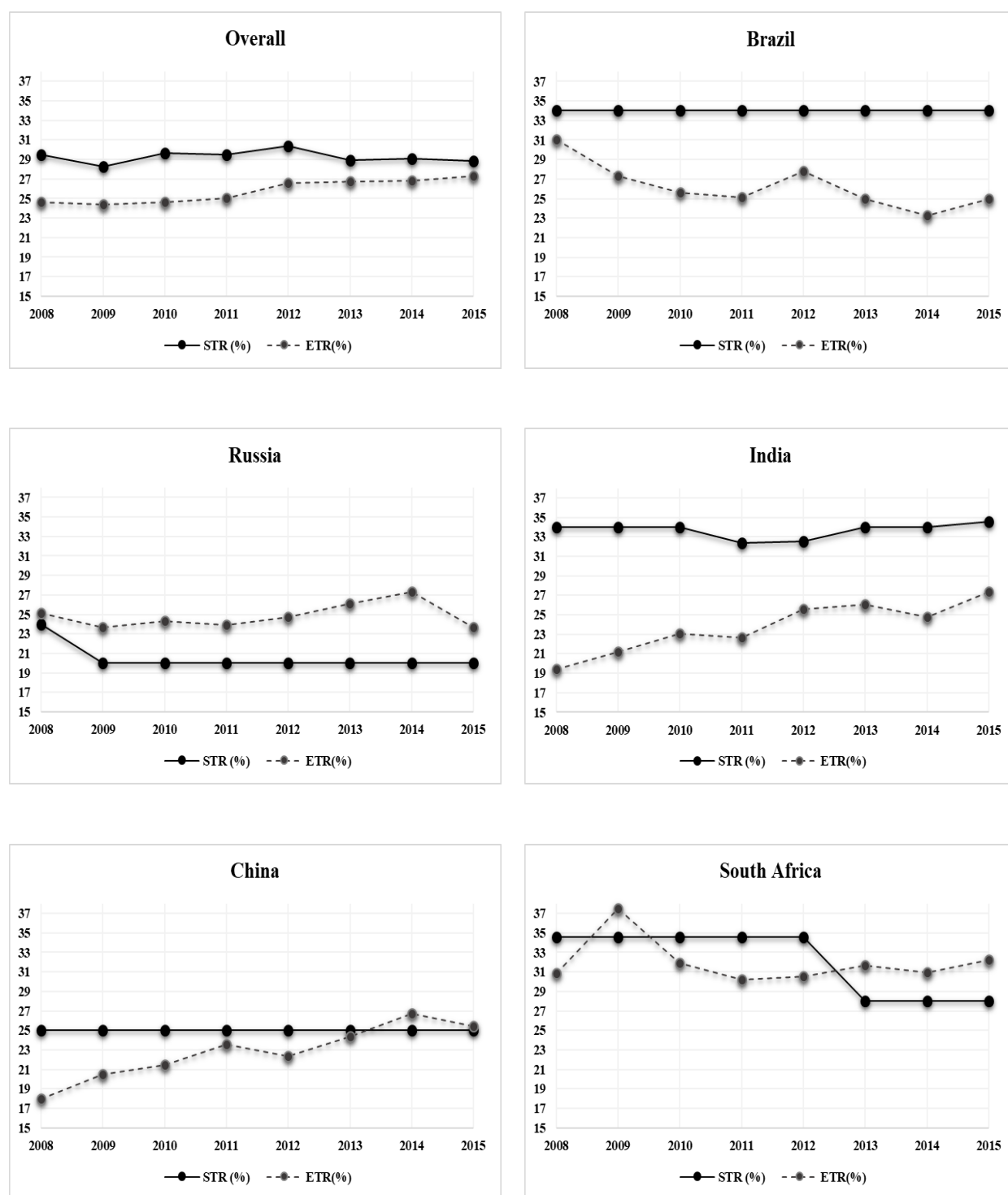
Correlation analysis reported in Table 3.3 indicates that ETR is significantly positively associated with CSR ($p < .001$) and its pillars on SOC ($p < .001$) and ENV ($p < .001$), implying that the higher the corporation's level of CSR, the lower level of tax avoidance. ETR also significantly correlates with most of the economic factors influencing the level of tax avoidance which is included in Equation (2). ETR correlates with leverage ($p < .05$), net operating loss ($p < .001$), market-to-book ratio ($p < .001$), and dividend payout ($p < .001$) with positive sign. The negative correlation is shown with the return on assets ($p < .01$) and the origin of the law system ($p < .001$). Among explanatory variables, only moderate levels of collinearity exist (the highest correlation coefficient is between firm size and the law system of .461 ($p < .001$)). Moreover, the variance inflation factors (VIFs) show that our base regression model does not present the problem of multicollinearity. The results show that no VIFs exceed five for any of our explanatory variables, confirming none of the multicollinearity in the model³⁴.

³³ Source: <http://edgar.jrc.ec.europa.eu>

³⁴ The problem of multicollinearity among the explanatory variables is introduced to the model if a VIF value is above the threshold of ten (Hair et al., 2006 in Lanis & Richardson, 2012).

Figure 3.1 Trend of average ETR and CSR scores

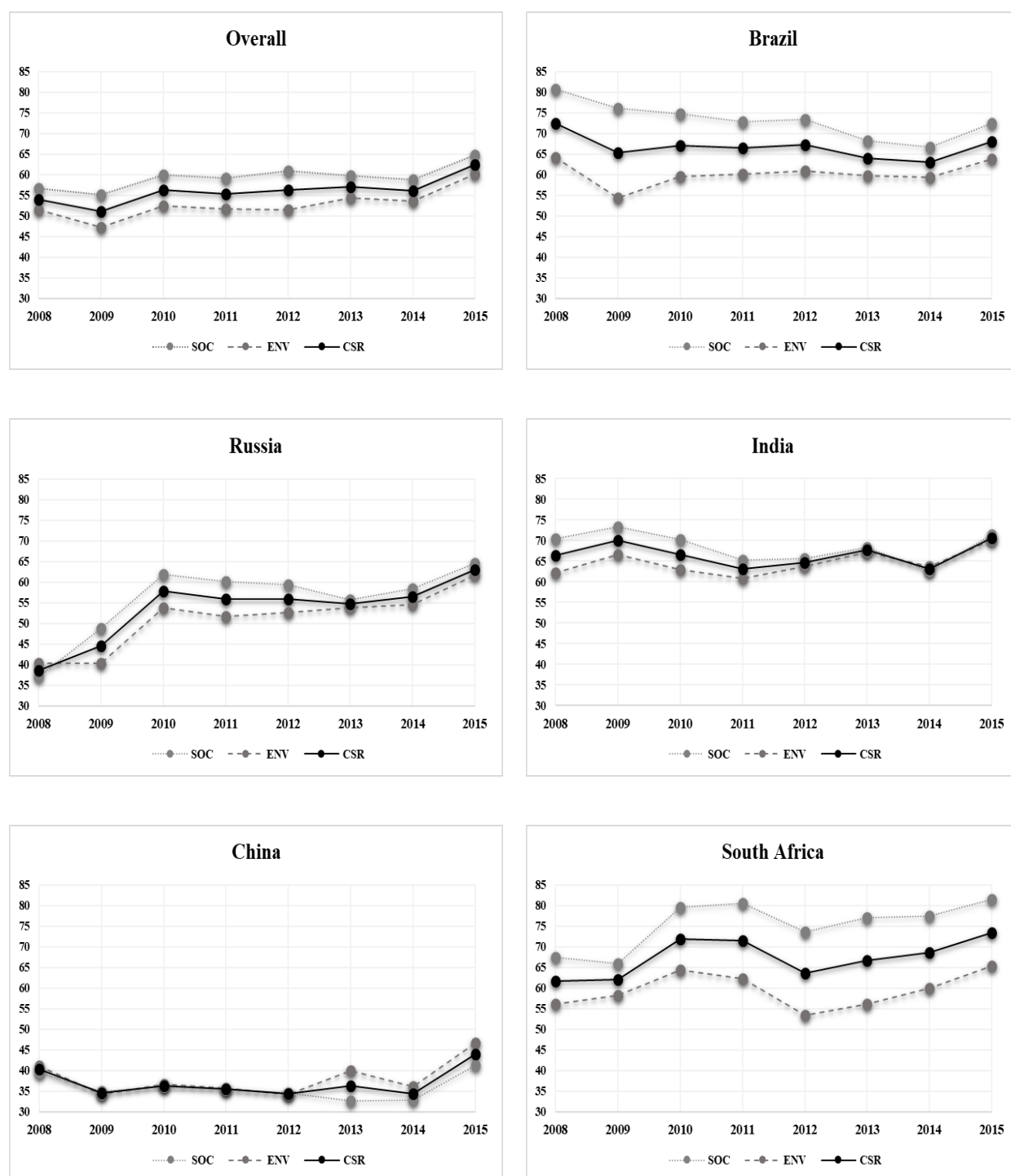
Panel A: Trend of average ETR against STR for pooled data



The figure above is plotted from the mean value of STR against the mean value of ETR for all sample as of 2,276 firm-year observation during the period of 2008-2015 (see data source in Appendix 3.4).

Figure 3.1 Trend of average ETR and CSR scores

Panel B: Trend of average CSR score on social and environmental pillars for pooled data



The figure above is plotted from the mean value of social pillar scores against the mean value of environmental pillar score for all sample as of 2,276 firm-year observation during the period of 2008-2015. The trend of the average CSR score which is used to proxy for CSR in this study is lied parallelly between SOC and ENV (see data source in Appendix 3.4).

Table 3.3 Variable Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) ETR	1													
(2) CSR	0.115 ***	1												
(3) SOC	0.124 ***	0.950 ***	1											
(4) ENV	0.092 ***	0.939 ***	0.785 ***	1										
(5) Size	-0,041	0.145 ***	0.038	0.246 ***	1									
(6) Lev	0.051 *	0.063 **	0.074 ***	0.044 *	0.238 ***	1								
(7) ROA	-0.063 **	0.126 ***	0.149 ***	0.086 ***	-0.269 ***	-0.295 **	1							
(8) Loss	0.348 ***	0.009	0.009	0.008	0,019	0.029	-0.063 ***	1						
(9) MTBV	0.190 ***	-0.017 ***	0.006	-0.041	-0,002	0,011	-0.017	-0.005	1					
(10) CapInt	-0,025	0.141 ***	0.119 ***	0.148 ***	0.315 ***	0.325 **	-0.068 ***	0.022	-0.065 *	1				
(11) CloseHeld	-0,032	-0.109 ***	-0.151 ***	-0.050 ***	0.279 ***	0.047 *	0.032	-0.001	-0.056 *	0.185 **	1			
(12) DivPayout	0.107 ***	0.181 ***	0.211 ***	0.127 ***	-0.125 ***	0.010	0.228 ***	-0.106 ***	-0.012	-0.030	-0.062 **	1		
(13) LawSys	-0.143 ***	-0.327 ***	-0.358 ***	-0.255 ***	0.461 ***	0.186 **	-0.245 ***	-0.038	-0.069 *	0.068 **	0.232 **	0.028	1	
(14) IFRS	0.009	-0.163 ***	-0.139 ***	-0.200 ***	-0.008	0.056 **	-0.225 ***	0.046 *	-0.008	-0.041 *	-0.186 **	0.177 **	0.436 ***	1
<i>N</i>	2276													

Standard errors in parentheses

*, ** and *** indicate the level of significance at $p < 0.05$, $p < 0.01$, and $p < 0.001$, respectively, using Pearson tests.

3.5.2. Multivariate analysis

(a) Tax avoidance and CSR

In examining how CSR in BRICS group affect tax avoidance in the base-line test, this study first regresses the average CSR scores on annual GAAP ETR across firm-year observations controlling for both firm and country-specific variables. In the second and third steps, the same model is re-estimated by replacing average CSR scores with scores on the social pillar and environmental pillar, respectively. However, to ensure that the data satisfy the underlying assumptions of the classical linear regression model for an OLS estimator to be BLUE (Best Linear Unbiased Estimator), some tests are conducted.

Table 3.4 reports the regression results for both average CSR and individual pillar and annual GAAP ETR. Based on the Hausman test, the fixed effect regression with the robustness of standard errors at the firm level³⁵ is used to investigate the hypotheses. The results indicate that the regression coefficient for average CSR ($\beta = 0.0004, p < 0.05$), for social pillar ($\beta = 0.0002, p < 0.1$), and for environmental pillar ($\beta = 0.0004, p < 0.01$) are positive and significantly associated with annual GAAP ETR. This means that, on average, 1% increases in CSR performance results in a 0.04% increase in annual GAAP ETR. On the other hand, firms with a higher level of CSR are likely to be less tax aggressive. The results lend further support for H1, explained through the complementary notions of legitimacy theory, normative stakeholder theory, and the corporate culture theory. That is, the results suggest that firms in the BRICS group do not use CSR as "a tool" to legitimate or manage the risk/minimise public scrutiny from their tax avoidance behaviour. Instead, they develop a culture of tax compliance and CSR engagement as a complementary strategy that is geared toward improving reputation to gain legitimacy where firms promise ethical conduct to external audiences and commit to serving the interests of all stakeholders. This also supports prior findings indicating that economic development does not explain the variation of CSR across nations in BRICS as shown in the case of India where GDP per capita is lower than in China, but CSR is more intensive (Alon et al., 2010; Ramasamy & Yeung, 2009; Shaomin Li, Marc Fetscherin, Ilan Alon, 2010). Similarly, Alon et al. (2010) find that economic responsibility in the view of Chinese firms is not perceived as the most important responsibility, but providing jobs, housing and food is the

³⁵ Breusch Pagan/Cook Weisberg Test and Wooldridge Test indicate that my data is suspected to have the problem of heteroskedasticity and autocorrelation. Robust the standard errors help dealing with such problems.

most important responsibility for CSR engagement. In comparison to developed countries, this finding is consistent with many prior studies in which firms with a higher level of CSR are less likely to engage in tax avoidance (e.g., Hoi et al., 2013; Laguir et al., 2015; Lanis & Richardson, 2012, 2015). As BRICS is currently in the process of convergence towards several international standards, it is possible that firms in BRICS also converge their CSR behaviours towards institutionalised global CSR practices.

As for the firm-specific control variables, the results are consistent in all cases for average CSR and social and environmental pillar. The capital intensity (CapInt), which is an alternative proxy capturing firm size, is negative and significantly associated with the effective tax rate, consistent with Huseynov & Klamm (2012). This result implies that larger firms reduce more tax rate. This result can be explained through the theory of political power, assuming that larger companies have more resources to make more lobbying and participate in more complex tax planning activities. The coefficients on firm leverage (Lev) have a significantly positive relation to the ETR, suggesting that firms with a high level of leverage participate less in tax avoidance activities. Consistent with Huseynov & Klamm (2012), the firm profitability proxied by return on asset (ROA) is significantly positively associated with ETR, consistent with the notion that ETR is progressive according to income. As predicted, firms with negative income (Loss) are less incentive to lessen tax rate thereby positively associated with the ETR. Growth, measured as the market-to-book ratio (MTBV), is significant and positive related to the ETR, consistent with (Dyreng et al., 2008; Minnick & Noga, 2010). The results also show that firms having more alignment between managers and shareholders (CloseHeld) pay more tax, consistent with the results of dividend payout per share (DivPayout) and tax rate showing the positive and significant for all models. That is, more aligned firms commit to increasing profits for shareholders, leading to higher tax liability as to the result of increased incomes.

Considering the results for country-specific variables, firms in the country with civil law (LawSys), categorized as low investor protection show lower ETR as expected because the low level of investor protection represents less enforcement of law and regulations.³⁶ After the adoption of IFRS, firms report higher GAAP ETR, supporting the argument that the increased book-tax conformity would reduce managerial opportunism over financial reporting, limit tax avoidance, and minimize costs of compliance

³⁶ Consistent with La Porta et al, 1998, common law origin presents characteristics in comply with attributes of strong investor protection.

(Blaylock et al., 2015; Tang, 2015). If book income and tax income were to conform, managers would not be motivated to upward book income because doing that would be countered by higher income tax payments. Similarly, downward book income to avoid tax would be countered by the disapproval of financial contracts from creditors, or dissatisfied by shareholders (Blaylock et al., 2015). Another support of the required book-tax conformity argues that the convergence of the two would diminish earnings management by eliminating tax accruals, which can be used to either manage or smooth financial income with no effect on taxable income (Whitaker, 2005).

(b) Robustness tests

Alternative measures of CSR

For the first robustness test, this study adjusts the overall average CSR scores by CSR country and industry-mean scores to control for the deviation of CSR scores across countries and industries (McWilliams & Siegel, 2001). Second, following Lanis & Richardson (2012), this study divides overall CSR scores into a high level of CSR performance and denote high CSR equal to 1 if the firm's overall average CSR score falls above the country mean score and equal to 0, otherwise. Table 3.5 Panel A reports the positive association between tax avoidance and CSR in both alternative measures of CSR: industry-adjusted CSR ($\beta = 0.0307, p < 0.01$) and high subgroup of CSR ($\beta = 0.0147, p < 0.01$). Again, they are quantitatively similar to the main test and provide further support for the hypothesis of stakeholder theory. In the case of firm and country-specific control variables, results are similar to those in the main tests, both in term of direction and magnitude of the coefficients.

Alternative measures of tax avoidance

Since this study based on the data from different jurisdictions, the measure of ETR in the main test may be altered the results because of differences in accounting choices across different countries. This study, therefore, uses the first alternative measure of ETR as calculated by income tax divided by operating cash flows to mitigate such problem (Jaafar & Thornton, 2015; Karampinis & Hevas, 2013). In addition, annual ETR is calculated from annual data which can introduce significant year-to-year variation in the measure, thereby misleading indicators of corporate tax avoidance. Supported by Dyreng et al., (2008), one-year ETR is less predictive for tax avoidance. Therefore using long-term ETR is more appropriate as it reflects sustained avoidance by firms, representing their intention to maintain low ETR over a long

period by manipulating in particularly complicated transactions and hence clouding users of financial statements (Kubata et al., 2013). In addition to benefits regarding the reduction of volatility presenting in annual ETR (Hanlon & Heitzman, 2010; Salihu et al., 2013), using long-run ETR helps diminish data truncation bias due to a loss in each year³⁷ (Henry & Sansing, 2018b). Gebhart (2017) investigates the measures of tax avoidance used in literature. Predictably, he finds that there are differences among the single measure and those differences carry on over time. In particular, measures estimated under annual basis display considerable correlation increasing due to the similarity of computation and inputs used. Following Dyreng et al. (2008), this study adopts five-year cumulative ETR to be the second alternative measure of tax avoidance and define as five-year income tax divided by five-year pre-tax income. The results of the alternative measures of ETRs and CSR are reported in Table 3.5 Panel B, and they reveal that both average CSR and individual CSR pillar continue to exhibit a strong positive relationship with the tax rate for both alternative proxies: the one-year ETR with operating cash flow as a denominator ($\beta = 0.0007, p < 0.01$) and five-year ETR with pre-tax income as a denominator ($\beta = 0.0006, p < 0.01$).

Two-Stage Least Squares (2SLS) regression

This study also uses the Two-Stage Least Squares analysis to make sure that the model does not violate the underlying assumptions of the classical linear regression model and the OLS estimators will not be biased due to the problem on endogeneity. As the endogeneity occurs when an independent variable is correlated with the error term which can arise as the results of (i) omitted variables; (ii) reverse causality and; (iii) measurement error (Robert and Whited, 2012). In this study, the concern relates to the second issue of endogeneity. That is, it can be argued that tax avoidance causes CSR engagement (Lanis & Richardson, 2013) or that CSR engagement causes tax avoidance (Hoi et al., 2013; Huseynov & Klamm, 2012; Lanis & Richardson, 2012). In dealing with this concern, the instrumental variables (IV) is used (Bound et al., 1995; Reed, 2015) with 2SLS estimation.

As CSR is assumed to be the endogenous variable in the model, this study uses the industry-mean CSR as the instrumental variables (Larcker and Rusticus, 2010; Robert and Whited, 2012) in 2SLS regression. The results in Table 3.5 Panel C reports consistent results with those of OLS regression where the

³⁷ Almost all ETR studies exclude the year in which firms present losses because the difficulty of economic interpretation for negative value of ETRs.

regression coefficient for average CSR is positive and significantly associated with the ETR ($\beta = 0.0008$, $p < 0.01$). To ensure the endogeneity problem of CSR variables, the null hypothesis testing that the CSR variables are exogenous are executed. Both Durbin test and Wu-Hausman test report a very small p-value which suggests rejecting the null hypothesis, and the model is correct in treating CSR variables as endogenous variables. Also, all the R^2 statistics in the first-stage regression to confirm the relevance of instrumental variables are relatively high, suggesting that the instruments are sufficiently correlated with CSR variables. Therefore, they do not imply a weak-instrument problem.

Table 3.4 The Relation between Tax Avoidance and CSR

Variables	Exp. Sign	ETR			
		OLS Estimation			
CSR_A4:					
Average CSR	+/-	0.0004 (0.000)	**		
Pillars:					
Social				0.0002 (0.000)	*
Environment					0.0004 (0.000)***
Control Variables:					
Firm-Level:					
Size	+/-	0.0022 (0.003)		0.0037 (0.003)	0.0017 (0.003)
CapInt	-	-0.0538 (0.014)	***	-0.0515 (0.015)	-0.054 (0.014)***
Lev	+/-	0.0481 (0.025)	*	0.0448 (0.025)	0.0508 (0.025)**
ROA	+/-	-0.1368 (0.031)	***	-0.1343 (0.031)	-0.1372 (0.031)***
Loss	+	0.6394 (0.059)	***	0.6394 (0.059)	0.6391 (0.059)***
MTBV	+/-	0.0002 (0.000)	***	0.0002 (0.000)	0.0002 (0.000)***
CloseHeld	-	0.0389 (0.012)	***	0.0387 (0.012)	0.0386 (0.012)***
DivPayout	-	0.0008 (0.000)	***	0.0008 (0.000)	0.0008 (0.000)***
Country-Level:					
LawSys	-	-0.0711 (0.011)	***	-0.0721 (0.012)	-0.0719 (0.011)***
IFRS	+	-0.0467 (0.011)	***	-0.0461 (0.011)	-0.0465 (0.011)***
Fixed Effects:					
Country, Industry, Year		Yes		Yes	Yes
Constant		0.2549 (0.041)	***	0.2387 (0.040)	0.2655 (0.042)***
adj. R ²		0.229		0.228	0.23
F		14.5941		14.5618	14.6148
N		2276		2276	2276

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

The table reports regression results of the following fixed-effect model using OLS estimation with robustness of standard errors:

$$TaxAvoid_{i,t} = \alpha_0 + \alpha_1 CSR_{i,t} + \sum_{n=2}^9 \alpha_n CONTROLS_{i,t} + \sum_{n=10}^{31} \alpha_n FIXED\ EFFECTS_{i,t} + \varepsilon_{i,t}$$

where: *TaxAvoid* is tax avoidance proxied through *annualETR*, calculated by dividing income tax by pretax income;

CSR is corporate social responsibility measured through the average score between social pillar and environmental pillar from ASSET4 dataset, *SOC* is the score from social pillar, and *ENV* is the score from environmental pillar.

CONTROLS are set of control variables where *Size* refers to size of firms based on total assets, *Lev* refers to firm leverage, *ROA* refers to firm profitability, *Loss* refers to net operating losses, *MTBV* refers to the market-to-book-ratio, *CapInt* refers to the intensity of firms' capital, and *CloseHeld* refers to the closely-held shares, *DivPayout* refers to dividend payout per share, *LawSys* refers to the country's law origins, *IFRS* refers to the adoption of IFRS. The variables are measured as follows;

Size	the natural logarithm of total assets;
Lev	the ratio of long-term debt liability and total assets;
ROA	the ratio of pre-tax book income and total assets;
Loss	the dummy variable equal to 1 if the firm's net income less than 1, and 0 otherwise;
MTBV	the ratio of market value and book value of the common equity;
CapInt	the ratio of gross property, plant, equipment and total assets;
CloseHeld	the ratio of number of closely held shares and common shares outstanding;
DivPayout	the ratio of dividends per share and earnings per share multiplied by 100;
IFRS	the dummy variable equal to 1 in the year and after when firms adopt IFRS, and 0 otherwise;
LawSys	the dummy variable equal to 1 if firms are in country complying with civil law and 0 otherwise.

FIXED EFFECTS refer to country, industry, and year fixed effect: five countries, nine industries, and eight years.

Table 3.5 Robustness Tests

Panel A: Tax Avoidance and CSR using Alternative CSR Measures

Variables	Exp. Sign	Tax Avoidance				
		ETR as Income Tax/Pre-tax Income				
Industry Adj. CSR:	+					
Average CSR		0.0307*** (0.0077)				
Social CSR			0.0216 *** (0.0074)			
Environmental CSR				0.0297*** (0.0075)		
High level of CSR:	+					
Average CSR				0.0147** (0.0063)		
Social CSR					0.0075 * (0.0061)	
Environmental CSR						0.0224 *** (0.0063)
Constant		0.2724*** (0.0410)	0.2533 *** (0.0405)	0.2797*** (0.0420)	0.2559*** (0.0420)	0.2373 *** (0.0408)
adj. R^2		0.234	0.232	0.235	0.229	0.227
F		15.446	15.116	15.287	15.028	14.384
N		2276	2276	2276	2276	2276

Panel B: Tax Avoidance and CSR using Alternative Tax Avoidance Measures

Variables	Exp. Sign	Tax Avoidance				
		ETR as Income Tax/Operating Cash Flow		Five-year ETR		
CSR:	+					
Average CSR		0.0007*** (0.0002)		0.0006*** (0.0001)		
Pillars:						
Social		0.0008 *** (0.0002)			0.0006*** (0.0001)	
Environment			0.0003* (0.0002)			0.0005 *** (0.0001)
Constant		0.4892*** (0.0648)	0.4746 *** (0.0633)	0.4693*** (0.0657)	0.3111*** (0.0413)	0.2896*** (0.0397)
adj. R^2		0.211	0.213	0.208	0.175	0.172
F		28.7114	28.7095	28.502	21.5305	21.6443
N		2108	2108	2108	2210	2210

Table 3.5 Robustness Tests (Cont'd)

Panel C: Tax avoidance and CSR using 2SLS estimation

Variables	Exp. Sign	Tax Avoidance (ETR)					
		2SLS Estimation					
CSR:	+						
Average CSR		0.0008 (0.0002)	***				
Pillars:							
Social				0.0006 (0.0002)	***		
Environment						0.0007 (0.0002)	***
Fixed Effects:							
Industry, Year		Yes		Yes		Yes	
Constant		0.3133 (0.0415)	***	0.285 (0.0402)	***	0.3287 (0.0434)	***
Adj. R^2		0.226		0.225		0.227	
Wald Chi^2		439.240	***	431.860	***	436.760	***
Tests of endogeneity:							
(Ho: variables are exogenous)							
Durbin chi2		15.391	***	8.207	***	12.694	***
Wu-Hausman F		15.804	***	8.748	***	13.156	***
First-stage regression:							
R^2		0.8429		0.8352		0.8347	
Adj. R^2		0.8409		0.8331		0.8326	
Part. R^2		0.6585		0.6536		0.6779	
F		2159.58	***	1679.96	***	2307.33	***
<i>N</i>		2276		2276		2276	

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests. Robust standard errors clustered at the firm level are in parentheses. All models are controlled for country, industry, year fixed effects.

¹ ETR1 is calculated as income tax divided by operating cash flow.

² Five-year ETR is calculated as five-year income tax divided by five-year pre-tax income.

(c) Additional analyses

Tax avoidance and CSR disclosure

To achieve the goal of long-term financial performance, corporations have structured CSR practices as an integral function of its business. Besides the engagement, corporations realize that their CSR activities also need to be communicated to the public (Font et al., 2012), generally through CSR disclosure, to be deemed as legitimated corporate organizations. However, the CSR agenda in business is not necessarily acknowledged in more responsible behaviour; it has questioned to what extent CSR disclosure is consistent with CSR performance, or whether CSR engagement policy is just a method to avoid other regulations (Hess, 2008). Therefore, transparency in CSR reporting is crucial if companies are to be held to account for their actions (Font et al., 2012).

Nevertheless, it is difficult to evaluate whether a firm' CSR policy is genuine or is only a marketing tool to achieve its financial goal. Hess (2014) argues that CSR reports are primarily aimed at sharing information to outside, tend to be noticed as to the main company objectives, but no end results are reported. This could be one of the reasons causing the gap between CSR disclosure and CSR performance as said, "it is one thing to have a policy; it is another to adhere to it" (Font et al., 2012, p. 1550). Font et al. (2012) test the gap between corporate social responsibility claims and actual practices of ten international hotel chains through a content analysis approach. Their results suggest that corporate policies do not necessarily reflect actual operations. Gutsche et al. (2017) find that although the firm value is affected by both CSR disclosure and CSR performance, the total effect of the individual dimensions of CSR performance is smaller than the relative effect of CSR disclosure, suggesting the inconsistency between what companies talk and what they have done.

In investigating whether there is any difference between the impact of CSR performance and CSR disclosure on tax avoidance, the main model has been re-estimated by replacing CSR scores from ASSET4 database with those from Bloomberg database.³⁸ Noted, CSR scores from Bloomberg is claimed

³⁸ Comparable to ASSET4, Bloomberg ESG Disclosure Scores rate over 10,000 publicly listed companies globally based on their disclosure of quantitative and policy related ESG data with more than 120 indicators. Based on the extent of a company's Environmental, Social, and Governance (ESG) disclosure, the score ranges from 0.1 to 100 for companies that expose a minimum number of data points to those that disclose every sustainability data point collected through CSR report, annual report, company website, and Bloomberg survey from companies (Qiu, 2013).

to be proxied for CSR disclosure because none of the data from Bloomberg is estimated or derived, thereby every data field can be traced back to a company. Furthermore, as different industries cannot be assigned an equal weight for each ESG factor, each data point then is adjusted by industries and weighted by importance. This means that a company is only scored with data points relevant to its industry sector. For example, with data point such as Phones Recycled, it is only evaluated and scored for companies in the Telecommunications sector and not penalized for those in other sectors that do not disclose it. As such, the industry-fixed effects are excluded from the model. Table 3.6 shows that scores of average CSR disclosure are positively associated with the ETR. The results also reveal that this positive relationship is driven by social disclosure, as the coefficient of environmental disclosure scores is not significant. As the results are consistent with social performance, it can be implied that firms' social disclosure does reflect their actual social performance.

Table 3.6 The Relation between Tax Avoidance and CSR disclosure

Variables	Exp. Sign	ETR		
		OLS Estimation		
CSR:				
Average CSR	+/-	0.0008 *** (0.0004)		
Pillars:				
Social	+/-		0.0007 *** (0.0003)	
Environment	+/-			0.0005 (0.0004)
Control Variables:				
Firm-Level:				
Size	+/-	0.0049 (0.0049)	0.0053 (0.0049)	0.0056 (0.0049)
Lev	+/-	0.0584 (0.0469)	0.061 (0.0473)	0.059 (0.0209)
Growth	+	-0.0224 (0.0189)	-0.0232 (0.0190)	-0.0188 (0.0312)
ROA	-	-0.0693 ** (0.0328)	-0.0688 ** (0.0338)	-0.0641 ** (0.0325)
MTBV	+	0.0002 *** 0.0000	0.0002 *** 0.0000	0.0002 *** 0.0000
IntangInt	-	-0.032 (0.0362)	-0.0344 (0.0364)	-0.036 (0.0366)
FirmAge	+	0.0002 (0.0006)	0.0003 (0.0007)	0.0002 (0.0007)
Loss	+	0.6134 *** (0.0655)	0.6155 *** (0.0657)	0.6131 *** (0.0655)
Country-Level:				
LawSys	-	-0.063 *** (0.0232)	-0.0623 *** (0.0232)	-0.0611 *** (0.0234)
IFRS	-	-0.0357 * (0.0189)	-0.0351 * (0.0188)	-0.035 * (0.0188)
Fixed Effects:				
Country, Industry, Year		Yes	Yes	Yes
Constant		0.1762 *** (0.0757)	0.1688 *** (0.0760)	0.1827 *** (0.0752)
adj. R^2		0.316	0.317	0.313
F		12.0924	12.0169	12.1061
N		726	726	726

Standard errors in parentheses

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

Tax avoidance and CSR at individual country level

Table 3.7 reports the regression results for each member country in the BRICS group. Explained by institutional theory, the way corporations governing vary across jurisdictions due to a variation of the motives of managers, shareholders, and other key stakeholders driven by the long-standing, historically entrenched institutions (Matten & Moon, 2008) which focus on the role of economic, political, and cultural context (Baughn et al., 2007). Therefore, the relationship between tax avoidance and CSR may present diversely among countries in the BRICS group. The main regression model is re-estimated with the country-based data separately. The results show that Russia, India, and China provide statistically significant evidence consistent with the main test. Although Brazil and South Africa show a relatively high mean value of CSR rating scores signifying a high level of CSR performance, the relation between tax avoidance and CSR is no longer significant. This suggests that the firms' behaviour regarding CSR is not a driver, for firms in Brazil and South Africa, of tax avoidance. Consistent with Im, Kim, & Ko (2017), they find that the active activities on CSR in Brazil do not link with tax avoidance.

The effect of Big4 auditor on the relation between tax avoidance and CSR

Since the audit firms are not prohibited from providing services other than audit services to their audit clients³⁹, tax services from audit firms are one option for firms to succeed in their tax saving goal. Using tax consulting services from the same audit firms, although it is concerned about auditor independence (Cripe and McAllister, 2009), many research evidence that synergies between audit and tax work within the same audit firm help in discovering opportunities for tax savings (Dhaliwal et al., 2013; Seetharaman, Sun, & Wang, 2011). In this line, Omer, Bedard, & Falsetta (2006) find a negative relationship between using auditor-provided tax services and subsequent changes in tax rates. However, this relation weakened in 2002 as the result of mandated SOX. Gleason & Mills (2011) note that using auditor-provided tax services is associated with lower US tax expenses. Hogan & Noga (2015) also find that the auditor-provided tax services are negatively associated with the five-year average annual cash-effective tax rates, suggesting firms using the auditor-provided tax service pay less tax. Prior literature use Big4 firms as

³⁹ Although limitations on the types of non-audit services are stricter after the passage of the Sarbanes–Oxley Act of 2002 (SOX), tax-related services are not fully forbidden. The act just required firms to disclose annual fees paid for non-audit services and disclose separately the amount paid for tax services (Hogan & Noga, 2015).

representative of large audit firms⁴⁰ to investigate the audit quality (e.g., Behn et al., 2008; Cassell et al., 2013; Francis & Yu, 2009; Lai, 2013). In the context of tax avoidance, McGuire, Omer, & Wang (2012) and Janssen, Vandenbussche, & Crabbé (2005) find that clients using tax services from their audit firm engage in greater tax avoidance when their external audit firm is tax expertise proxied through Big4. In the context of CSR, prior research also indicates that audit firm size is positively associated with voluntary CSR disclosure (Ahmed & Courtis, 1999; Kelton & Yang, 2008; Xiao et al., 2004). Therefore, employing Big4 audit firms may influence the effect of CSR on the level of tax avoidance. This study investigates this hypothesis by capturing the audit expertise through the use of Big4 firms and measuring Big4 as a dichotomous variable equal to 1 if firms use audit services from Big4 (i.e., Deloitte & Touche, Ernst & Young, PricewaterhouseCoopers, and KPMG,) and 0 otherwise.

Table 3.8 shows the interaction terms of Big4 and CSR are negatively associated with ETR in all models, reducing the relationship between tax avoidance and CSR from 0.04% to 0.02%⁴¹. The results suggest that high CSR firms that hire external auditors from Big4 firms tend to pay less tax. Taken together, the expert auditor itself does not affect the level of tax avoidance, but it does when interact with high CSR performance. The possible explanation is that Big4 auditor may help top CSR performance firms arranging transactions for tax reduction purpose as overinvesting in CSR can disguise the sin nature of their misbehaviour regarding tax payment.

The effect of listing status on tax avoidance – CSR association

Since the multinational companies (MNCs) operate in a range of economic environment, political, and culture as well as numerous tax jurisdictions, they use those advantages to set up complex schemes that allow them to avoid tax both in their home country and the host country. Given that the MNCs have more opportunities to participate in tax avoidance schemes (through tax sheltering, transfer pricing, or income shifting), Rego (2003) finds that firms with the high scale of foreign operations present lower worldwide ETRs. Similarly, companies that have been identified to be actively involved in tax sheltering showing higher levels of overseas operations, often have subsidiaries in tax havens and exhibit inconsistent book-

⁴⁰ DeAngelo (1981) claims that audit quality is driven by many factors including the size of audit firm which can measure through a market share; the larger market shares the audit firm has, the more expert the audit firm is.

⁴¹ The effect of CSR on the ETR in this model is equal to $(0.0014) + (-0.0012 \times 1) = 0.002$, while the effect of CSR on the ETR in the model without Big4 is equal to 0.0004 as presented in Table 3.4.

tax treatment (Lisowsky, 2010; Wilson, 2009b). Investigating firm-level corporate income tax rates for 11,602 corporations and country-level ETRs from over 80 countries between 1988 and 2009, Markle & Shackelford (2012) find that MNEs located in low-tax jurisdictions display the lowest ETRs at 14% in comparison to ETRs at 30% for MNEs domiciled in the U.S.

As globalization is one of the drivers to form new developments of CSR engagement, it could be conjectured that firms in emerging countries have encouraged to the trend toward universal practices (Chapple & Moon, 2005) either by outside-in perspective or inside-out perspective. Through the outside-in perspective, firms from advanced markets operating in emerging counties bring the new CSR strategies to implement or adapt it in accordance with their policies. Argued in the aspect of inside-out view, firms in emerging countries operating internationally consider CSR as a tool to build their reputation and to be the proof of being good citizens in the eyes of host countries. Hafsi & Farashahi (2005) state that international functions (e.g., multinational firms, international joint venture, and alliance) within a country may lead domestic firms to adapt to globalization. To test the conjecture, the variable of firms foreign listing status is added into the replication of the main model. Table 3.9 reports that listing stocks in foreign markets does not influence the level of the tax rate and does not have an impact on the relationship between tax avoidance and CSR in BRICS countries.

Table 3.7 The relation between Tax Avoidance and CSR by country

Countries	ETR-CSR	ETR-Social	ETR-Environmental
Brazil	0.0001 (0.0004)	0.0002 (0.0003)	0.0000 (0.0003)
FE: Industry and Year	Yes	Yes	Yes
adj. R^2	0.282	0.282	0.282
F	8.2791	8.2919	8.2715
N	446	446	446
Russia	0.0007* (0.0004)	0.0003 (0.0003)	0.0012*** (0.0004)
FE: Industry and Year	Yes	Yes	Yes
adj. R^2	0.379	0.370	0.393
F	6.7885	6.5744	7.1468
N	219	219	219
India	0.0006** (0.0003)	0.0004* (0.0003)	0.0005** (0.0003)
FE: Industry and Year	Yes	Yes	Yes
adj. R^2	0.188	0.185	0.188
F	5.1413	5.0564	5.1506
N	412	412	412
China	0.0010*** (0.0003)	0.0006*** (0.0002)	0.0011*** (0.0003)
FE: Industry and Year	Yes	Yes	Yes
adj. R^2	0.210	0.203	0.214
F	8.4797	8.1610	8.6425
N	676	676	676
S. Africa	0.0001 (0.0003)	0.0001 (0.0003)	0.0002 (0.0003)
FE: Industry and Year	Yes	Yes	Yes
adj. R^2	0.381	0.381	0.381
F	14.9458	14.9578	14.9725
N	523	523	523

Standard errors in parentheses

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

Table 3.8 The effect of Big4 audit on the relation between tax avoidance and CSR

Variables	Exp. Sign	ETR					
		Big4 effect without CSR interaction			Big4 effect with CSR interaction		
CSR:							
Average CSR	(+)	0.0003 (0.000)			0.0014 ** (0.001)		
Pillars:							
Social		0.0001 (0.000)			0.0010 * (0.001)		
Environment				0.0003 ** (0.000)			0.0015 *** (0.001)
Main effects:							
Big4	(-)	-0.0152 (0.013)	-0.0141 (0.013)	-0.0155 (0.013)	0.0420 * (0.023)	0.0306 (0.022)	0.0407 ** (0.020)
Interaction effects:							
Average CSR					-0.0012 *** (0.001)		
Pillars:							
Social					-0.0009 ** (0.001)		
Environment							-0.0013 *** (0.001)
Control Variables		Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects:							
Country, Industry, Year		Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.239 *** (0.047)	0.224 *** (0.046)	0.253 *** (0.048)	0.206 *** (0.048)	0.196 *** (0.048)	0.223 *** (0.049)
adj. R ²							
		0.265	0.264	0.266	0.269	0.267	0.27
F		13.579	13.513	13.777	13.284	13.295	13.402
N		1796	1796	1796	1796	1796	1796

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

Table 3.9 The effect of foreign listing status on tax avoidance and CSR link

Variables	Exp. Sign	ETR					
		Foreign listing effect without CSR interaction			Foreign listing effect with CSR interaction		
CSR:							
Average CSR	(+)	0.0004 ** (0.000)			0.0003 ** (0.000)		
Pillars:							
Social		0.0002 * (0.000)			0.0002 (0.000)		
Environment		0.0004 ** (0.000)			0.0003 ** (0.000)		
Main effects:							
Foreign Listing	(-)	-0.0044 (0.006)	-0.0040 (0.006)	-0.0045 (0.006)	-0.0089 (0.012)	-0.0059 (0.012)	-0.0108 (0.011)
Interaction effects:							
Average CSR					0.0001 (0.000)		
Pillars:							
Social					0.0000 (0.000)		
Environment					0.0001 (0.000)		
Control Variables		Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects:							
Country, Industry, Year		Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.252 *** (0.041)	0.236 *** (0.040)	0.263 *** (0.042)	0.254 *** (0.042)	0.237 *** (0.041)	0.266 *** (0.043)
adj. R^2							
		0.229	0.228	0.23	0.229	0.228	0.229
F		14.177	14.138	14.196	13.717	13.687	13.748
N		2276	2276	2276	2276	2276	2276

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

3.6. Conclusion

Since corporate taxes are part of the national revenue, which is a fundamental budget for supporting social infrastructures, avoiding paying tax by corporations in a social perspective would affect society as a whole. Tax-avoiding firms, then, are conceived as not being a good citizen because they do not

discharge the duty to pay their fair share of taxes, implying that they neglect their social responsibility. This raises the question of whether it is time to bring the issue of tax avoidance into CSR account in considering the firms' obligations about responsibility towards "all stakeholders" in "all aspects" affected by their business operation. Although tax avoidance seems to be related to CSR strategy, the link between them is not well explored in literature. In the real business world, many companies label themselves as a green corporation but simultaneously face the accusation of tax avoidance. This study examines how tax avoidance relates to CSR in BRICS (Brazil, Russia, India, China, and South Africa). In particular, this study investigates how a firm's CSR in social and environmental activities relates to its average tax paid measured through the ETR.

At the firm level across BRICS countries, the results show that firms with higher level of CSR display lower level of tax avoidance. The results suggest that firms in BRICS do not engage in CSR activities to manage the risk/minimise public scrutiny from their tax avoidance behaviour. Instead, they legitimate themselves by having a culture of promising ethical conduct to external audiences and commit to serve all stakeholders' interests. However, at the country level, the findings are consistent with the observation that firms claiming to be socially responsible are less likely to avoid tax only in India and China. Additionally, the results demonstrate that firms with high level of CSR using audit services from Big4 firms are more likely to pay less tax. On the contrary, although literature claims that multinational corporations have more opportunity to find a way to reduce the tax burden, foreign listing status of firms in BRICS countries do not affect the level of tax avoidance.

The findings have significant implications for policymakers who seek to identify the conditions under which tax avoidance is less likely to be aggressive. This study finds that the association between tax avoidance and CSR for developing markets is consistent with results from developed markets, showing that strong CSR firms are less likely to engage in tax avoidance. Therefore, the result furthers policymakers' understanding and allow them to formulate effective regulations that can improve firm's tax compliance by stimulating firms to include responsible tax payments as part of a CSR code of conduct policy. Moreover, these results support the calls by non-governmental organisations, such as ActionAid, Oxfam, Christian Aid, and the Tax Justice Network, to frame corporate taxation as a CSR issue. The requirement of including responsible tax payment as part of global CSR agenda may make firms to have more concern about their behaviours regarding tax payment.

This thesis is subject to the following limitations. First, the sample is limited to publicly listed firms and limited to only five countries as the representatives of emerging countries. Second, the measures of tax avoidance (ETR) are based on financial statement data which cannot be guaranteed their accuracy. Third, due to the unavailability of data, CSR measures are limited to only one score provider (i.e., ASSET4); the findings may not be easily comparable to studies investigating the same or similar aspects that use different measures. Therefore, future research on the relationship between tax avoidance and CSR in emerging economies is encouraged to expand the sample size, use proxy which can ensure the practice of tax avoidance in particular sample such as a sample of corporations accused by the taxation office that they are tax avoiders, and investigate based on the same measure using data from the same database.

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Appendices

Appendix 3.1: Prior literature on the relationship between tax avoidance and CSR

Author	Objective(s)	Theories	Sample/ Country	Key Measures				Method	Empirical Results
				Tax Avoidance		CSR			
				Proxy	Source	Proxy	Source		
Shafer & Simmon (2008)	Investigate the effects of attitudes toward corporate ethics and social responsibility, and Machiavellianism on tax professionals’ willingness to participate in aggressive tax avoidance.	---	Professional institute(s) / Hong Kong	---	---	---	---	Survey	<p>High Machiavellians are more likely to endorse the traditional “stockholder view” of corporate responsibility and less likely to support the “stakeholder view”.</p> <p>The stockholder view of corporate responsibility mediates the relationship between Machiavellianism and ethical/social responsibility judgements.</p> <p>Machiavellianism had significant direct effects on ethical and social responsibility judgements.</p>
Preuss (2010)	Examine whether companies that engage in tax avoidance by locating their headquarters in	Legitimacy theory	Forbes Global 2000 Index	MNEs headquartered in two OFCs (Bermuda	---	Codes of Conduct	Company website	Content analysis (counting the	OFC-based companies have codes of conduct which comparable with codes adopted by US firms, in terms of

	tax havens act socially responsibly.			and Cayman Islands)				frequency of an item)	adoption rates and average length.
Huseynov & Klamm (2012)	Examines the effect of CSR on tax avoidance in firms that use auditor- provided tax services	---	S&P500 firms / USA	GAAP ETR, Cash ETR	CompuStat	Corporate Governance, Community, Diversity	KLD	Regressions DV - Tax IV - CSR	The interaction of corporate governance strengths and diversity concerns with tax management fees negatively affects Cash ETR. CSR affects tax avoidance when dividing firms into portfolios based on CSR levels.
Preuss (2012)	Examine how companies, incorporating in tax haven country, approach CSR.	Utilitarianis, deontology, virtue ethic	Forbes Global 2000 Index	MNEs headquartered in two OFCs (Bermuda and Cayman Islands)	---	Codes of conduct, social and environmental reporting, CSR standard	Company website	Theoretical analysis, Content analysis (counting the frequency of an item)	Tax haven firms; Virtually adopt a code of conduct. Less report social and environmental standard. Put more important to employees than to society.
Lanis & Richardson (2012)	Investigate the association between CSR and corporate tax aggressiveness	Agency theory	Listed company / Australia	GAAP ETR	Aspect-Huntley	CSR disclosure	The annual report from ASX and Connect 4	Regression DV - Tax	Firms with a higher level of CSR engage the lower level of tax aggressiveness, particularly firms with social investment

								IV - CSR	commitment and ethic and business conduct.
Lanis & Richardson (2013)	Empirically test legitimacy theory by comparing the corporate social responsibility (CSR) disclosures of tax aggressive corporations with those of non-tax aggressive corporations in Australia.	Legitimacy theory	20 firms accused by the Australian Taxation Office of engaging in tax aggressive activities during the 2001-2006 period / Australia	---	---	CSR disclosure	Annual report	Content analysis DV - CSR IV - Tax	A positive relationship between corporate tax aggressiveness and CSR disclosure, confirming legitimacy theory.
Hoi et al. (2013)	Examine the empirical association between CSR and tax avoidance.	---	US large firms	Cash ETR, tax sheltering probability measure, the permanent BTD, the discretionary BTD	Compustat	Negative social rating	KLD	Regression DV - Tax IV - CSR	Firms with excessive irresponsible CSR activities have a higher likelihood of engaging in tax-sheltering activities and greater discretionary/permanent book-tax differences.
Hardeck & Hertl (2014)	Investigate the effects of media reports on tax aggressiveness and a customer-oriented company	Carroll's pyramid of CSR	Germany	Media report on corporate tax strategies	Constructed	Corporate reputation, purchase intention, willingness to pay	Constructed	Laboratory experiment	Aggressive tax strategies have a negative impact on firm reputation and purchase intention, lower willingness to pay. Customers with high tax morale and negative attitude on tax

									avoidance enhance the above relationship.
Laguir et al. (2015)	How the different activities of CSR affect corporate tax aggressiveness.	Agency theory/ Stakeholder theory/ Legitimacy theory	French Firms during 2003-2011	ETR	DIANE financial database	CSR dimension score rating (Social, CG, Economic, Environment)	Vigeo database	PLS-SEM	<p>Higher activity in the social dimension, lower the level of tax aggressiveness.</p> <p>Higher activity in the economic dimension, higher the level of tax aggressiveness.</p> <p>Insignificant result for the relation between tax aggressiveness and CG as well as the environment.</p>
Lanis & Richardson (2015)	Examine whether CSR performance is associated with corporate tax avoidance.	---	US firms during 2003-2009	Tax Dispute (Dummy coded as 1 if a firm involve a major tax dispute)	KLD database	CSR performance	KLD database	Logit Regression	More CSR performance, less tax avoidance

Appendix 3.2: Measurement used in literature to capture tax avoidance and CSR

Author	Dependent Variables			Independent Variables			Controls	
	Proxy	Measure(s)	Source	Proxy	Measure(s)	Source	Proxy	Measure(s)
Lanis & Richardson (2015)	Tax Dispute	Dummy coded as 1 if a firm involves a major tax dispute	KLD database	CSR performance	Sum up every strength and concern for all categories (Community Relation, CG, Diversity, Employee Relation, Environment, Human Rights, Products)	KLD database	BOD independence	The proportion of board members who are an independent director
							Management stock ownership of BOD	The total proportion of corporate stock owned by insiders
							Age public	No. of years that stock has been traded in public
							CEO tenure	No. of years that CEO has served as a director on board
							CEO duality	Dummy coded as 1 if chairperson also holds the managerial position of CEO or managing director
							Big-four auditor	Dummy coded as 1 if a firm uses a big-four auditor
							Size	Natural logarithm of total assets
							Leverage	Long-term debt/total assets
							Capital intensity	Net PPE/total assets
							R&D intensity	R&D expenditure/net sales
							Inventory intensity	Inventory/total assets
							Market-to-book ratio	The market value of equity/BV of equity
							ROA	Pre-tax income/total assets
							Year	Dummy coded as 1 if the year falls within the specific year category

Author	Dependent Variables			Independent Variables			Controls	
	Proxy	Measure(s)	Source	Proxy	Measure(s)	Source	Proxy	Measure(s)
Laurier et al. (2015)	ETR1	Income tax expense currently payable/book income	DIANE financial database	Social Dimension	Human resource/Human rights/Community involvement	Vigeo database	Size	The natural logarithm of total assets
	ETR2	Income tax expense currently payable/operating cash flow		Governance Dimension	CG score		Financial performance	-ROA (Pre-tax income/total assets) -ROE (Pre-tax income/shareholder's equity)
				Economic Dimension	Business behavior rating		Industry sector	Dummy constructs
				Environment Dimension	Environment rating		Leverage	Long-term debt/total assets
							Capital intensity	Net PPE/total assets
							Intangibles	Intangible expenditure/total assets
Lanis & Richardson (2013)	The level of CSR disclosure	The NO. of sentences for each CSR disclosure theme (Environment, Energy, Product/Consumer, Community, Employee/HR, General/Other)	A firm's annual report	Tax aggressiveness	Dummy coded as 1 if a firm had been excused of tax aggressiveness by the ATO	ASX and ATO website	Size	The natural logarithm of total assets
							Leverage	Long-term debt/total assets
							Capital intensity	Net PPE/total assets
							Market-to-book ratio	The market value of equity/BV of equity
							ROA	Pre-tax income/total assets

Author	Dependent Variables			Independent Variables			Controls	
	Proxy	Measure(s)	Source	Proxy	Measure(s)	Source	Proxy	Measure(s)
Hoi et al. (2013)	Book-tax difference	- Desai & Dhamapala (2006) discretionary BTD - Frank et al. (2009) permanent BTD		Negative social ratings	Dummy coded as 1 if the firm has 4 or more irresponsible CSR activities	KLD database	Positive CSR	Sum of all engagement of CSR
							Earning Quality	Abs. value of discretionary accrual using the modified Jones model
							CG	The fraction of institutional investors
	Cash ETR	Cash tax paid/Pre-tax income					Profitability	- Operating income scaled by lagged assets - Dummy coded as 1 if loss carry forward is positive - Loss carry forward scaled by lagged assets
							Liquidity	Cash holding scaled by lagged assets
							Leverage	Long-term debt scaled by lagged assets
							Foreign Operation	Foreign income scaled by lagged assets
							Firm Size	- The natural log of the MV of equity - The natural log of the No. of employees
							Firm Growth Opportunity	- Change in sales scaled by lagged assets - Market-to-book ratio scaled by BV of equity
							Other Firm Attributes* *scaled by lagged assets	- R&D expense - PPE - Equity income in earning

Author	Dependent Variables			Independent Variables			Controls	
	Proxy	Measure(s)	Source	Proxy	Measure(s)	Source	Proxy	Measure(s)
Lanis & Richardson (2012)	ETR1	Income tax expense / book income	Aspect-Huntley financial database	CSR Disclosure	Develop a broad-based CSR disclosure index	A corporations' annual report	BOD independence	The proportion of board members who are an independent director
	ETR2	Income tax expense / operating cash flow					Trouble	Dummy coded as 1 if a firm report a 3-year net loss
							Management stock ownership of BOD	Cumulative proportion of corporate stock owned by insiders
							Age public	No. of years that stock has been traded on ASX
							CEO tenure	No. of years that CEO has served as a director on board
							CEO duality	Dummy coded as 1 if chairperson also holds the managerial position of CEO or managing director
							Block held	The total proportion of blockholder who hold at least 5% of the outstanding share
							Size	Natural logarithm of total assets
								Long-term debt/total assets
							Leverage	Net PPE/total assets
							Capital intensity	R&D expenditure/net sales
							R&D intensity	Inventory/total assets
							Inventory intensity	The market value of equity/BV of equity
							Market-to-book ratio	Pre-tax income/total assets
							ROA	Dummy as two-digit GICS code for nine sectors
							Industry sector	

Author	Dependent Variables			Independent Variables			Controls	
	Proxy	Measure(s)	Source	Proxy	Measure(s)	Source	Proxy	Measure(s)
Huseynov & Klammer (2012)	GAAP ETR	Tax expense/Pre-tax income	Compustat database	Tax Fee Rate	The 3-year average of Tax free/Pre-tax income	KLD STATS database Audit Analytics database	Size	The logarithm of total assets
	Cash ETR	Cash tax paid/(Pre-tax income – special item) *Compute 3-year average value		CSR score (Annual rating of community, diversity, and governance performance)	Sum the score of strength (+1) and concern (-1)		Performance	ROA
							Market-to-book ratio	The market value of equity/BV of equity
							Dividend Payout	Dummy coded as 1 if a firm pays a dividend
							Leverage	Total debt/BV of total equity
							Institutional ownership	The percentage of shares held by institutions
							Capital intensive	Capital expenditure/total assets
							Foreign sales	Foreign sales/total assets
							Advertising	Advertising expense/total assets

Appendix 3.3: Variable Definitions

Variables of Interest

In the main test

ETR_A4	=	Income tax expense currently payable divided by pretax book income
CSR	=	The average performance scores of the social pillar and environmental pillar from ASSET4
Social	=	The social performance scores from ASSET4
Environment	=	The environmental performance scores from ASSET4

In the additional tests

CSR_BB	=	The average disclosure scores of the social pillar and environmental pillar from Bloomberg
Big4	=	The dummy variable equal to 1 if firms use the audit service from Deloitte & Touche, Ernst & Young, PricewaterhouseCoopers, and KPMG, and 0 otherwise
Foreign	=	The dummy variable equal to 1 if firms

In the robustness tests

Tax avoidance variables	=	i) One-year ETR calculated by income tax expense currently payable divided by cash flow from operation ii) Five-year ETR calculated by five-year income tax expense currently payable divided by five-year pretax book income
CSR variables	=	i) Overall average CSR performance scores adjusted by the country, industry mean scores of CSR performance ii) High CSR group equal to 1 if the firm's overall average CSR score is above the country mean score and 0 otherwise
Instrumental variable	=	The country and industry mean scores of CSR performance

Control Variables

Size	=	The natural logarithm of total assets
Lev	=	The ratio of long-term debt liability and total assets
ROA	=	The ratio of pre-tax book income and total assets
Loss	=	The dummy variable equal to 1 if the firm's net income less than 1 and 0 otherwise
MTBV	=	The ratio of market value and a book value of the common equity
CapInt	=	The ratio of gross property, plant, and equipment and total assets
CloseHeld	=	The ratio of number of closely held shares and common shares outstanding
DivPayout	=	The ratio of dividends per share and earnings per share multiplied by 100
IFRS	=	The dummy variable equal to 1 in the year and after when firms adopt IFRS and 0 otherwise
LawSys	=	The dummy variable equal to 1 if firms are in country complying with civil law and 0 otherwise

Appendix 3.4: The mean value of variables for overall and for each country

The mean value of ETR and STR

Year	Overall		Brazil		Russia		India		China		S. Africa	
	STR	ETR	STR	ETR	STR	ETR	STR	ETR	STR	ETR	STR	ETR
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
2008	29.50	24.60	34.00	31.01	24.00	25.11	34.00	19.41	25.00	17.95	34.55	30.85
2009	28.29	24.38	34.00	27.34	20.00	23.64	34.00	21.18	25.00	20.44	34.55	37.49
2010	29.61	24.62	34.00	25.65	20.00	24.33	34.00	23.08	25.00	21.48	34.55	31.92
2011	29.50	25.03	34.00	25.10	20.00	23.91	32.40	22.67	25.00	23.58	34.55	30.18
2012	30.41	26.56	34.00	27.79	20.00	24.68	32.50	25.57	25.00	22.31	34.55	30.50
2013	28.95	26.76	34.00	24.96	20.00	26.07	34.00	26.02	25.00	24.39	28.00	31.65
2014	29.05	26.81	34.00	23.30	20.00	27.35	34.00	24.78	25.00	26.74	28.00	30.94
2015	28.80	27.33	34.00	24.94	20.00	23.70	34.60	27.37	25.00	25.46	28.00	32.20

The mean value of CSR scores: the average of social scores and environmental scores

Year	Overall		Brazil		Russia		India		China		S. Africa	
	SOC	ENV	SOC	ENV	SOC	ENV	SOC	ENV	SOC	ENV	SOC	ENV
2008	56.69	51.42	80.76	64.21	36.98	40.35	70.55	62.13	39.48	41.22	67.38	56.06
2009	55.10	47.21	76.20	54.36	48.80	40.30	73.36	66.62	34.94	34.25	65.92	58.17
2010	60.02	52.43	74.70	59.59	61.78	53.86	70.28	63.06	36.06	36.74	79.54	64.38
2011	59.16	51.69	72.77	60.09	60.20	51.72	65.35	60.83	35.43	35.71	80.53	62.32
2012	60.89	51.53	73.44	61.01	59.33	52.59	65.66	63.83	34.53	34.18	73.69	53.51
2013	59.82	54.41	68.19	59.74	55.65	53.74	68.31	67.27	32.63	39.94	77.10	56.17
2014	58.81	53.59	66.74	59.33	58.30	54.45	62.55	63.80	32.78	36.20	77.52	59.89
2015	64.76	60.09	72.40	63.81	64.58	61.58	71.41	70.08	41.31	46.73	81.53	65.33

Chapter 4

Tax Avoidance and Earnings Management

4.1. Introduction

Tax avoidance has been argued as schemes transferring benefits from state to shareholders through transactions that can be bundled with earnings management to guarantee tax benefits and shielded them from tax authorities (Desai & Dharmapala, 2006, 2009). Specifically, while book income is normally referred to earnings before recording tax expense in the income statement under the generally accepted accounting principles (GAAP), taxable income is calculated following the rules of earnings recognition prescribed by corporate tax laws, which can be estimated by adjusting book income with the book-tax difference items. As a result, firms' managers face with conflicting incentives for the reported value of pre-tax income; whether the high value should be reported to signal firm high performance, or the low value is encouraged to achieve the purpose for tax reduction. Regardless of the incentives, such a situation suggests that the managers may be involved in managing reported earnings to meet their own and other stakeholders' expectations.

Prior research studies show a considerable gap between corporate income reported to tax authorities and income reported to the shareholders especially in the U.S (Desai, 2002; Manzon & Plesko, 2002; Mills et al., 2002). This is partly due to the conflicting objectives and rules in preparing financial statements (Hanlon, 2005; Hu et al., 2015), it provides opportunities for managers to employ different strategies which allow them to simultaneously inflate income as a signal of high performance to investors, and deflated reported income to avoid tax in the same reporting period (Frank, Lynch, & Rego, 2009).

With regards to earnings management, the majority of previous empirical accounting research has commonly focused on accruals-based approach⁴², the concept of accounting earnings comprising of cash flows and accruals, to investigate behaviours of earnings management (e.g., Dechow & Dichev, 2002; Dechow, Sloan, & Sweeney, 1995; Francis, LaFond, Olsson, & Schipper, 2005; Hope et al., 2013; Jones, 1991; Kothari, Leone, & Wasley, 2005; McNichols, 2002; McNichols & Stubben, 2008; Ruch et al., 2011). In addition to accrual-based earnings management (hereafter AEM), firms can manage earnings through the alteration of real activities (the so-called real-activities earnings management and hereafter REM) (e.g. Francis, Hasan, & Li, 2016; Gunny, 2005; Gunny, 2010; Roychowdhury, 2006), which have direct effect on cash flow⁴³ (Cohen & Zarowin, 2010) and more difficult to control (Dichev et al., 2013), as it is an operational decision, than accruals estimation which can be upheld by the work of an auditor (Bereskin et al., 2018). Prior empirical studies have analysed whether firms engage REM to increase their income in the current period and the extant literature report that such action does exist (Cohen et al., 2008; Graham et al., 2005; Roychowdhury, 2006). In particular, Graham et al. (2005) and Cohen et al. (2008) both document the widespread occurrence of earnings management through REM.

Despite the prevalence of literature on earnings management, the number of studies incorporating tax avoidance in the context of earnings management in emerging markets has been relatively quite limited. The role of AEM versus REM in the context of tax avoidance remains largely unexplored at the same time; this indicates an important gap in the literature. When different forms of earnings management are available for managers to use as a tool in their strategic earnings reporting, a question naturally arises whether and how managers use AEM and REM to achieve their goal. This study, therefore, examines the relationship between tax avoidance and earnings management through both AEM and REM and extend the focus of study into advanced emerging countries, BRICS, which have different tax regimes, enforcement, and market practices as compared to developed countries.

⁴² Earnings management through accruals models are working on the researcher's attempt to measure the normal and discretionary portion of accruals. The latter reflects the level of firms' earnings management.

⁴³ However, REM may not always necessarily affect earnings and abnormal cash flow from operations in the same direction. For instance, assumingly paid by cash, reductions of discretionary expense will increase both earnings and abnormal cash flow from operation at the end of the current period. For the other instance, if a manager undertakes the overproduction in order to decrease cost of goods sold, but those costs are not recovered by sales in the same period, the abnormal cash flow from operation will be low in the current period while earnings are increased (assuming products are sold at the price with lower costs of production). Moreover, if the firm engages in REM more than one activities in the same period, the effect of REM on abnormal cash flow from operations may be ambiguous (Gunny, 2010).

One of the main factors driving managers to manipulate earnings is an information asymmetry between managers and their stakeholders (Schipper, 1989). Managers may make use of the complexity of tax information which is difficult to be identified by outside shareholders to ascertain their actual tax obligations and to monitor managerial actions (Chen & Chu, 2005; Crocker & Slemrod, 2005). With agency issues, managers have opportunities to promote their own self-interest at the expense of shareholders to exploit tax benefits which provide positive effects on firm value (Desai & Dharmapala, 2009b) and reward themselves as a form of compensation (Gaertner, 2014; Phillips, 2003; Seidman & Stomberg, 2012). Supported by the study of Taylor & Richardson (2014), the results indicate that tax avoidance is an outcome of managerial incentives, opportunism, and capabilities. In other words, when a manager is motivated to reduce tax burden, the financial accounting number provides a recourse to do so. As such, tax incentives are a logical and powerful context for exploring the boundary of earnings management. Existing studies have demonstrated a positive association between tax avoidance and earnings management.

Using the sample from the BRICS group of countries, an advanced emerging market, this study investigates the relationship between tax avoidance measured as the annual GAAP effective tax rate (hereafter the GAAP ETR) and earnings management through AEM and REM, in particular, with a conforming or non-conforming strategy. The results show that the GAAP ETR is negatively and significantly associated with measures AEM, implying that *firms* with *higher* levels of AEM exhibit greater degree of tax avoidance. This result supports the hypothesis that managers of firms use non-conforming techniques to manage earnings which are able to increase book income (higher discretionary accruals) and simultaneously decrease taxable income (lower the effective tax rate) (Desai, 2002; Frank et al., 2009; Hanlon et al., 2005; Manzon & Plesko, 2002). In contrast, the GAAP ETR is positively and significantly associated with measures of REM, implying that firms with higher REM engage in lower degrees of tax avoidance. This result supports the hypothesis that managers of firms use conforming techniques to manage earnings where the higher income leads to the higher effective tax rate, consistent with Zang (2012). In sum, the results imply that firms employ non-conforming earnings management through discretionary accruals to increase income and avoid tax in the same accounting period. Simultaneously, they employ the strategy of conforming earnings management through the alteration of real activities to increase income which eventually increases tax expense at the same time. At the country level analysis, only India and China show consistent results for all measures of AEM and REM. The results for Russia and South Africa are consistent with the main results only one measure of REM, i.e., sales manipulation for Russia, and overproduction for South Africa.

This study adds three incremental contributions to the literature. First, the findings contribute to the growing literature on the association between tax avoidance and earnings management, in particular, on how managers strategically use the techniques of AEM and REM to deal with tax incentives. Secondly, while prior studies have focused on one specific country and use only one measure of earnings management (mostly focus on the accruals-based measure), this study is the first study that examines the association between tax avoidance and earnings management captured by both techniques of earnings management, i.e., AEM and REM, and focuses on the sample from BRICS countries. This provides the preliminary findings for future research to improve the methodology and make the association between tax avoidance and earnings management in the context of an emerging market more pronounced. Thirdly, this study fills the gap in the literature on the effects of AEM and REM on tax avoidance. More precisely, using an alternative measure of tax avoidance, this study provides consistent evidence with Frank et al. (2009) to support the recent trends that areas of book-tax nonconformity offer managers the opportunity to manage book income upwards and taxable income downwards through discretionary accruals in the same reporting period. Again, by using different measures of key variables, this study also supports Zang (2010)'s findings indicating that REM is subject to a higher level of book-tax conformity than AEM. Specifically, when firms increase book income by manipulating sales volume or by overproducing inventory, they also increase taxable income and incur higher tax costs in the current period. It seems fair to conclude that the relationship between tax avoidance and earnings management triggered by the discretion on accruals and the alteration of real activities has gained universal support in BRICS firms.

Moreover, a better understanding of the extent to which tax avoidance is related to earnings management in an emerging market provides practical implications to several parties. Given that nonconformity between financial accounting standards and corporate tax regulation allows tax planning by firms that manage earnings, especially through discretion on accrual transactions, the government incurs additional costs to prevent the loss of tax revenue. Thus, this study provides support of the requirement of the more book-tax conformity, which would likely reduce the game of numbers in financial report played by corporations. Given anecdotal evidence (Drake et al., 2019; Mukhlisin & Anissa, 2018) shows that investors are keen to factor firms' tax avoidance activities when making investment decisions this study is also important for investors, who directly use the accounting numbers to evaluate the extent of tax avoidance and the quality of earnings.

The remainder of the paper is organized as follows: *Section 4.2* reviews relevant literature and discussed underlying theoretical frameworks. *Section 4.3* presents the development of hypotheses.

Section 4.4 describes the research design, including the data, measurement of variables, and analysis model. *Section 4.5* presents the main findings and results from additional and robustness tests. *Section 4.6* provides a summary and conclusion.

4.2. Related Literature

4.2.1. Earnings management: accruals-based and real-activities

According to the survey by Graham et al. (2005),⁴⁴ due to stock market reactions, CFOs believe that earnings, not cash flows, are the key metrics considered by investors. Missing the earnings per share (EPS) target might be interpreted as evidence of potential red-flags in the company. In particular, if the company is not able to meet the target, it could be described as poor management in the sense that the company cannot generate sufficient value in the future. These situations create uncertainties about the prospects of the company, which would have adverse consequences. Managers thus engage in earnings management in order to meet the expectations of analysts and investors. Apart from the pressure of stock markets, there are other possible motives driving managers to manage earnings such as to signal firms' private information, to protect the CEOs and senior managers' positions, and to meet performance standard of the firms (Verbruggen, Christaens, & Mills, 2008).

Earnings management can be classified into two main categories: AEM and REM. Healy and Wahlen (1999, p. 368) describe the practice of AEM as "...managers [using] judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting practices." In other words, AEM can be achieved by managers attempting to disguise or obscure the firm's underlying economic performance through the accounting choices available within the GAAP (Dechow and Skinner 2000); for example, changing the depreciation method for fixed assets and the estimation for provision for doubtful debt. Prior studies use the model of the accrual process to distinguish abnormal accruals (or discretionary accruals) from normal accruals. By doing so, the model captures distortions of earnings induced by application of earnings management available within the accounting rules through abnormal accruals. The interpretation of

⁴⁴ Graham et al. (2005) investigate the factors that drive reported earnings and disclosure decisions. They use a combination of field interviews and a survey method with more than 400 executives to address the following questions: "Do managers care about earnings benchmarks or earnings trends and, if yes, which benchmarks are perceived to be important? What factors motivate firms to exercise discretion, and even sacrifice economic value, to manage reported earnings?"

this measure is that if the normal accruals are appropriately modelled, then the abnormal component of accruals represents a distortion, i.e., a higher level of the abnormal component, a higher level of earnings management, and thereby a lower quality of earnings. The use of accruals to manage earnings varies according to specific events and specific industries depending on the flexibility available within the framework of GAAP for managers to make discretions (Trejo-pech et al., 2016; Verbruggen et al., 2008). Prior literature documents the positive association between discretionary accruals and earnings management (Dechow et al., 1995; McNichols, 2000; McNichols & Wilson, 1988), in particular with beating earnings benchmarks (Ayers, Jiang, & Yeung, 2006; Dechow, 2003; Phillips, Pincus, & Rego, 2003).

Furthermore, several studies show that managerial intervention during the reporting process can occur not only through accounting estimation, but also through the decisions on an operational process by changing the timing or structuring an operation, investment, and financing decision to purposefully alter the reported earnings in a particular direction. These actions are referred to as REM. In the accounting and financial literature, Roychowdhury (2006, p. 337) defines REM as “departures from normal operational practices, motivated by managers’ desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations.” The notion of REM to manipulate earnings upwards is demonstrated analytically through activities such as myopically investing in discretionary expenditures, timing of income recognition from the disposal of long-lived assets and investments, giving excessive price discounts to boost temporary sales in the current period, and overproducing to report the lower cost of goods sold (COGS) (Cohen et al., 2008; Gunny, 2005; Gunny, 2010; Roychowdhury, 2006). The survey by Graham et al. (2005) shows that to meet the forecasted earnings, CFOs would reduce research and development, advertising, and maintenance expenses (80%), and would delay a new project (55%), all of which are REM activities. Roychowdhury (2006) finds that managers improve reported margins to avoid reporting annual losses through REM activities, specifically, offering price discounts, overproducing, and cutting discretionary expenditures. Similarly, Bhojraj et al. (2009) find that managers cut discretionary expenditures to beat earnings benchmarks. Cohen & Paul Zarowin (2010) show that firms using REM to achieve earnings targets are followed by better operating performance. Focusing on the zero earnings threshold, Gunny (2010) report that REM activities are significantly and positively associated with just meet earnings benchmarks (meet zero and last year’s net income). Notwithstanding, it is a normal business decision to engage in some certain REM activities (e.g., offering price discounts and reducing discretionary expenditures) in some economic situations as they are possibly optimal actions for businesses. Nevertheless, if managers engage in those activities more

aggressively than the normal practices according to such economic circumstances in an effort to meet or beat earnings targets even though those activities do not contribute to future firm value, then it is argued that they engage in REM (Roychowdhury, 2006).

While a growing body of literature has shown the existence of upward earnings-inflating abnormal activities (i.e., increasing-incomes), Francis et al. (2016) argue that in some cases, managers have incentives to temporarily move earnings downwards. Focusing on the events of management buyouts (MBOs), share repurchases, and CEO option awards, they find that managers use REM to deflate market valuations. Joosten (2012) finds that firms which report increased earnings between zero and ten per cent manage earnings downwards through REM strategy. In a similar vein, Anagnostopoulou & Tsekrekos (2015) find that firms publicly announce their intention to be acquired to engage in downward earnings management in the years surrounding the announcement year. Further, many studies document that firms manage earnings downwards in the event of changes in the statutory tax rate (Guenther, 1994; Scholes et al., 1992; Sundvik, 2017).

In sum, REM occurs when there is a change of the firm's underlying operational activities, whereas AEM is accomplished through the judgement on the choice of accounting methods to report those activities without changing underlying transactions. Regardless of which strategy managers choose, the ultimate purpose of either AEM or REM is to influence reported earnings number for particular objectives. That is, managers may either manage upward or downward earnings depending on the flexibility available within the framework of accounting standards to make discretions in particular events.

4.2.2. Tax Avoidance and Earnings Management

Tax avoidance activities are used by firms to reduce the amount of taxable income reported to tax authorities. However, conflicts between contracts a firm has with the state government and contracts a firm has with a capital market need to be fulfilled by a manager at the same time. While capital market motivates firms to report a high book income, firms do not want to pay more tax due to such higher book incomes. In other words, to meet market expectations, a manager of a firm needs to report high profits, but by making the firm very profitable would result in a much higher payment of taxes.

(a) Tax-induced earnings management

Although pressures from the stock market seem to be the main reason pushing managers to manage earnings, to respond to other stakeholders who make use of financial statements is also the motives

of earnings management. Tax authorities, among others, are one of the possible sources of earnings management motives. As a firm can be viewed as a nexus of contracts (Sundvik, 2017a), earnings management is generated from conflicts of contracts between a firm and its stakeholders. Corporate tax payment,⁴⁵ the contract between firms and government, is not consistent with the contract between firms and their shareholders. That is, shareholders expect to see high profits as the outcomes of firm performance, but at the same time, they must sacrifice a large portion of their profits to pay taxes. On the other hand, tax liability constrains the firm's profits, eventually reducing earnings per share - a key indicator of business performance. Managers thus may employ earnings management to minimize corporate tax obligation and/or to increase corporate net income. The corporate income tax expense is closely related to free cash flow of a firm, i.e., the amount of corporate income tax paid in the current period is cash outflow which reduces the net operating cash flow, and as a result, decreases the free cash flow. The limited firm's free cash flow also confines the firm's capability to pay the corporate income tax in current period. For example, when a firm has a low level of free cash flow, i.e., lacking excess cash to pay for corporate income tax, the firm needs to be very careful with the amount of corporate tax liability. In essence, tax saving could be an incentive for firms to manage earnings because tax calculation is based on accounting numbers (Monem, 2003). Furthermore, tax avoidance is a practice involving complicated and confidential corporate structures and transactions (Chen & Chu, 2005). It is complex by the fact that managers are more likely to have private information and know-how to use available legal channels to reduce the effective tax rate (Crocker & Slemrod, 2005).

(b) Theoretical perspective

The underlying factors of earnings management problem, which leads to the low quality of earnings, stems from two related issues, information asymmetry and agency problems. In a corporation, the owners are mostly separated from the management team that executes day-to-day tasks. This setting allows managers of firms to hold a more complete set of information at hand compared to outside shareholders. In tax planning engagement, the internal information and internal documentation processes are, therefore, the key factors and only insiders can access that information and processes. Supported by Gallemore & Labro (2015), the quality of internal information plays a significant role

⁴⁵ The amount of tax that a firm need to pay to government. Its calculation is based on the magnitude of firm's profit, thereby, the more profit firms have, the more corporate tax they pay.

in managerial decision-making in influencing the outcomes of the operation. In their study, they find that firms with a higher quality of internal information are more likely to be able to reduce ETR.

When information asymmetry exists, managers have opportunities to achieve their own self-interest at the expenses of shareholders, introducing the agency problem (Beatty & Harris, 1998). Under the notion of agency theory, managers are expected to act on behalf of shareholders (i.e., the owners) to maximize the value of the firm which could include the pursuit of activities to reduce tax burden as long as the benefits are over the costs (Desai & Dharmapala, 2009b). If the tax authority detects tax avoidance schemes, it may generate both explicit costs from fines and implicit costs from damaging the reputation (Christensen et al., 2015; Crocker & Slemrod, 2005; Putri et al., 2016). Nevertheless, Slemrod (2004) argues that tax avoidance itself does not reflect the agency problem. The principal-agent scheme occurs when agents' interests do not align with those of principals. Therefore, in such a situation, managers would not act their best to increase profit because profit maximization might not be in their personal interests. The agency could get involved in tax avoidance schemes when incentives for managers are tied with after-tax performance to align their interests with those of shareholders. Given the separation of ownership and control, the schemes are easier to be achieved. Managers who expect to gain benefit from compensation incentives would exert effort to minimize tax liability in order to achieve their own target (Crocker & Slemrod, 2005).

Building on the study of Slemrod (2004), Hanlon & Heitzman (2010) argue that if tax avoidance is a valuable activity (i.e., the marginal benefit of such activity exceeds the marginal cost), shareholders should create managerial incentives to ensure that managers would do their best on maximizing the after-tax wealth of the firm's owners. Therefore, the agency framework in this notion predicts that incentive-aligned managers engage in more tax avoidance (Desai & Dharmapala, 2009a; Hanlon & Heitzman, 2010; Slemrod, 2004). Yermack (2004) investigates the performance incentives of outside directors of leading companies in the U.S. during 1994-1996. By analysing the personal financial position of those directors, part of the results shows that the awards of stock and stock option (i.e., performance-based incentives) for directors occur in line with the tax benefit management, assuming they attempt to avoid tax. In the same vein, Rego & Wilson (2012) argue that as tax avoidance involves a high level of uncertainty of certain risks, managers must be motivated by incentives to engage in risky tax avoidance that could give positive net value in return to the firm, and also to themselves. Through several measures of tax avoidance including five-year cash ETR, tax shelter prediction score, and permanent discretionary differences, the results are consistent with their argument showing that greater equity risk incentives drive a higher level of participating in risk tax

avoidance. Armstrong, Blouin, Jagolinzer, & Larcker (2015) also indicate that risk-taking equity incentives are positively related to tax avoidance. More recently, Koester, Shevlin, & Wangerin (2017) find that managers with high abilities to manage their firms' resources efficiently are able to engage in greater state tax planning activities, shift more income to foreign tax havens, make greater investments in assets that generate accelerated depreciation deductions, and make more claims on research and development (R&D) credit.

4.2.3. Conforming and non-conforming book-tax on earnings management

In most jurisdictions, corporate income is calculated for two purposes in each accounting period: one is for financial reporting prepared under account standards, and the other for tax reporting prepared in accordance with corporate income tax law (Hanlon, 2005; Hu et al., 2015). Although both financial and tax accounting are prepared on an accrual basis, different rules lead to differences in the amount of book income and taxable income and those differences can be generated from either temporary or permanent differences⁴⁶ (Hanlon, 2005; Tang & Firth, 2011).

Due to conflicting objectives in developing the rules and incentives, they leave room for managers to employ techniques of earnings management. In addition, accounting standards offer firms' managers with substantial discretion in choices of accounting procedures (Frank et al., 2009; Manzon & Plesko, 2002; Watts & Zimmerman, 1986) such as accounting choices with respect to depreciation, asset valuation, and cost allocation (Mills & Newberry, 2001). Typically, managers manage earnings and taxation through transactions (discretionary part) which causes temporary differences,⁴⁷ (Miiller & Martinez, 2016). To manage earnings, managers may have incentives to choose either conforming strategies that affect both book and taxable income in the same direction or non-conforming strategies which can be three different ways. These are strategies that (i) affect both book income and taxable income but in the opposite direction such as reporting higher earnings and lower taxable income; (ii) affect only book income but does not affect taxable income such as taking a bath and boosting earnings; and (iii) affect only taxable income but keep book income constant such as smoothing taxes

⁴⁶ Permanent differences are caused by transactions which are allowed to recognise in one system (book or tax) but are not allowed in another system. For example, tax codes do not accept a fine as a revenue deduction, but fines are accepted as deductible expenses in book income. Temporary differences are differences between pre-tax book income and taxable income that will reverse itself in the future time of period. To put this another way, temporary differences occur from transactions which are acceptable items in both financial accounting and tax purposes but are recognized in different periods and will be eliminated in a certain future period. This type of difference generates deferred taxes, which is not happening in the case of permanent differences (Hanlon, 2005).

⁴⁷ Earnings management and tax management are rarely caused by permanent differences as it is non-discretionary part (Hanlon, 2005; Miiller & Martinez, 2016)

and reducing (deferring) taxes (Hu et al., 2015; Tang & Firth, 2011). Since some strategies influence only tax expense without affecting deferred tax expenses (i.e., conforming earnings management that boosts both book income and taxable income) while others affect deferred tax expense but not affecting on current income tax expenses (i.e., non-conforming earnings management that increases only book income), managers can adopt both types of strategies to reach optimal tax savings (Hu et al., 2015).

The conforming book-tax earnings management is used to manage book income and taxable income downward at the same time when the event of changes in the statutory tax rate (STR) occurs. Following the Tax Reform Act in 1986 which reduces the maximum tax rate from 46% to 34%, a number of US studies highlight that firms respond to such an incentive by lowering book and taxable income in the year before the act is enforced (Sundvik, 2017a). Observing changes in gross profits and SG&A expenses (selling, general and administrative expenses) in the fourth quarter in the year prior to the effective date of the act, Scholes et al. (1992) find that large firms (relative to small firms) are more active in income shifting (e.g. deferring sales) and by doing so, they reduce the taxable income. Guenther (1994) also documents that large firms report current negative accruals (i.e., decreased income accruals) in the year prior to the tax rate reduction, suggesting that the reduction of tax rate provides a substantial incentive to engage in downward earnings management. Similarly, Goncharov & Zimmermann (2006) investigate through data from Russian firms and find that firms manage earnings downwards to reduce tax expense. However, because of the dual role in preparing financial statements, managers face a trade-off dilemma where tax incentives must be weighed against financial reporting incentives (Mills, 1998; Shackelford & Shevlin, 2001). That is, managers have to trade off between tax costs occurring when they aim to enhance book income and financial report costs occurring when they attempt to lower taxable income.⁴⁸ Reducing tax liability by managing income downwards could make firms fail to deliver targeted earnings, which may then lead firms to be punished severely by stock markets.

Alternatively, the strategy of non-conforming book-tax management could be applied to achieve both goals: by simultaneously managing book income upwards and taxable income downwards. It has been increasingly documented in the literature that corporations have reported the large gap between income reported to the tax authorities and income reported to the shareholders (Desai, 2002; Manzon

⁴⁸ Reported income in financial statement is a key figure to be considered for specifying the term of financial contracts. Therefore, reporting lower income for tax saving must be exchanged with losing significant contracts with other stakeholders such as creditor, suppliers, lenders (Shackelford & Shevlin, 2001).

& Plesko, 2002; Mills et al., 2002). In particular, prior literature suggests that firm's managers may take advantage from accounting choices to increase book income reported to shareholders and simultaneously minimize taxable income reported to tax authorities (Desai, 2002; Frank et al., 2009; Hanlon et al., 2005; Manzon & Plesko, 2002). Frank et al. (2009) use the residual from a regression of permanent book-tax differences (BTDs)⁴⁹ on non-discretionary items and known items driving the differences to explore the relationship between aggressive tax reporting and aggressive financial reporting. They find that aggressive tax reporting is positively associated with aggressive financial reporting, suggesting that firms manage to inflate book income and deflate taxable income at the same time in the same accounting period. Wilson (2009) examines fifty-nine tax shelter firms accused by the government from 1975 to 2002 and finds that firms engaging in tax sheltering exhibit large book-tax differences and tendency towards aggressive financial reporting. Desai & Dharmapala (2007) find that incidence of tax sheltering is positively associated with BTDs (book income is greater than taxable income), suggesting firms that avoid tax also manage earnings upwards. This situation is also demonstrated in firms outside the US market. Using Malaysian listed firms, Rohaya, Noor, Mastuki, & Bardai, (2009) provide empirical evidence that firms report higher financial accounting income to shareholders and lower taxable income to tax authorities at the same time during the years 2000 to 2004. Wong, Lo, & Firth (2015) investigate the Chinese firms' reaction to the increase of tax rate and find that firms manage to increase taxable income in the period before tax rate increases in a manner of book-tax non-conforming strategies where managers manage taxable income upwards with no effect on book income.

4.2.4. Book-tax accounting conformity in BRICS

One of the primary factors influencing earnings management is the conformity of book and tax rules used in preparing financial statements reporting to shareholders and taxable incomes reporting tax authorities (Blaylock et al., 2015; Tang, 2015). The higher level of book-tax conformity is argued to reduce managerial discretion over financial reporting which consequently reduces upward earnings management (Desai, 2005; Whitaker, 2005). The conformity would also mitigate incentives for opportunistically reporting financial profits and taxable income. The notion under this argument is that when book incomes are managed upwards, taxable incomes would be increased at the same time, leading to higher tax liability. In contrast, downward earnings management to reduce the tax liability

⁴⁹ Book-tax differences are the gap between financial accounting income and taxable income that are commonly used to capture earnings management through the temporary portion of the differences which leave the room for managers to employ techniques to manipulate earnings.

may result in investors' dissatisfaction (Blaylock et al., 2012, 2015). However, as financial statement users and tax authorities require different kinds of information for decision making, opponents argue that increase in conformity would lead to a significant loss of financial information for capital markets (Hanlon et al., 2005; Hanlon & Shevlin, 2005). That is, managers would be more concerned with minimizing the taxes paid than conveying information if book and tax incomes are aligned (Atwood, Drake, & Myers 2010). Therefore, different levels of book-tax conformity may affect earnings management to varying degrees. The following section discusses differences in the level of book-tax conformity in BRICS member countries which is the focus of the current study.

Brazil

Prior to the full adoption of IFRS in 2010, the requirements of financial standards and tax rules in Brazil are virtually indistinguishable, i.e., Brazilian companies operate under “mandatory” book-tax conformity. Brazil was governed under a rigid system, and its very small stock market encouraged this practice. Although from 1977, listed companies had their own set of financial accounting standards, each set of standards was subordinated to federal law and consequently to its tax rules. These tax effects are one of the barriers to information quality improvement, information asymmetry reduction, and the country's stock market growth (Nakao & Gray, 2018). Moreover, due to the relatively small size of a stock market, Brazilian companies have highly concentrated ownership where large proportions of capital are held by the government, families and multinational companies. This governance setting is not designed to provide information to investors but rather to improve equity positions to avoid covenant violations driven by opportunistic motivations (Lopes & Walker, 2012).

During the 2000s, Brazil's stock market has increased in size, and some companies have begun trading stocks in the US. Consequently, their financial reporting must conform to US GAAP. However, according to the Brazilian GAAP, another financial report is required by Brazilian law for purposes of tax and dividends distribution. This situation remained in force until the end of 2007 (Martinez et al., 2014; Miiller & Martinez, 2016; Nakao & Gray, 2018). The Brazilian financial accounting standards issued by the Securities Exchange Commission of the Brazilian Government are required to comply with international accounting standards, leading to the approval of IFRS adoption. Nevertheless, all adjustments resulting from this compliance would not imply any tax effects (Martinez et al., 2014; Miiller & Martinez, 2016; Nakao & Gray, 2018). No changes related to tax enforcement have occurred after IFRS adoption in Brazil. Thus, tax avoidance practices are not expected to change because of IFRS compliance. Operating in a country where taxation system is a

key factor influencing the quality of information, Brazilian firms that engage in tax avoidance practices are not perceived as a risk in the eyes of the analysts of rating agencies, but engaging in earnings management are perceived as a risk (Miiller & Martinez, 2016). Therefore, the firms attempt to manage book and taxable income in the same direction and present the differences between them in level and variation around the breakeven in order to avoid a perception as of low earnings quality (Ferreira et al., 2012 in Martinez et al., 2014).

Russia

A company tax system in Russia was established in December 1991 around the break-up of the Soviet Union. Although there is a mismatch when certain expenses are not tax-deductible items and/or additional expenses can be claimed for deduction in a tax system, the Russian tax and financial accounting are highly aligned (Goncharov & Zimmermann, 2006). As a result of the enactment of Chapter 25 of the Second Part of the Tax Code in 2002, taxpayers and permanent establishments (PEs) are required by the Russian Tax Code to keep separate accounting records for tax purposes (Bakaev, 2002 in Goncharov & Zimmermann, 2006; Minyailo, 2016). In other words, firms have to develop two accounting policies: one for financial accounting and one for tax accounting. Both accounting systems are recorded in parallel during the period (Purina, 2015). This creates major differences in calculations as tax accounting rules differ from financial accounting principles. This also implies that firms do not face with trade-off dilemma between reducing taxable income and increasing book income.

India

Propelled by globalization, India is one of the emerging market economies. Indian firms are exposed to foreign competition and foreign investment since the liberalization of the Indian economy in 1991. Currently, India has only initiated some steps and is subject to a few carve-outs toward the convergence of its accounting standards issued by the Institute of Chartered Accountants of India with IFRS. However, since Indian accounting standards are based mainly on International Accounting Standards (IAS), taxable income is computed from accounting income following IAS12 by adjusting with the items specified by federal tax law. This suggests the extent of differences between financial income and taxable income. Consistent with Atwood et al. (2010), Blaylock, Gaertner, & Shevlin (2015) show that overall book-tax conformity level in India is quite low, i.e., it is ranked fifth in the Atwood et al. (2010)'s list and ranked sixth in the Blaylock et al. (2015)'s list.

China

Chinese financial and tax accounting have converged since 1985 (Tang & Firth, 2011) as a result of the China's Accounting Reform Project. Before that, the rules for calculating accounting profit and taxable income are the same, therefore there is no difference on book and tax accounting in China (Tang, Chow, & Cooper 2000; Davidson, Gelardi, & Li, 1996). In 1992, China reformed its accounting and legal systems and created a stock exchange in order to gain membership of the World Trade Organization. It is a condition that the Chinese financial reporting standards have to be in line with international standards (i.e., IFRS at the present time) and the profession of public accounting has to be developed (Rich, 2004). In the transition to a new business system, Chinese GAAP has departed from Chinese income tax laws, giving rise to a large portion of differences between financial income and taxable income (Tang & Firth, 2011). During the period from 1999 to 2004, Tang & Firth (2011) find that the aggregate differences between financial income and taxable income are negative which means that taxable income is higher than financial income in such a period. This can be interpreted that corporate income tax laws in China are more conservative in recognizing expenses than both Chinese GAAP and IFRS which is due to the limitation, and non-allowance, of deductible expenses.

South Africa

As one of the first countries in the world that implements IFRS in 2004 and uses it as the official reporting standard in 2005 (Verhoef, 2012), South Africa seems to have unalignment between financial accounting and tax accounting since 2005. The goal of mandatory IFRS adoption is to provide more information relevant to users of financial statements without any aim to give effect in the area of taxation. However, prior studies have documented that, after IFRS adoption, as the gap between the rules for financial statement preparation and those for taxation purposes becomes larger, thereby the level of book-tax conformity reduces (Chan, Lin, & Mo, 2010; Chan, Lin, & Tang, 2013; Chen & Gaviious, 2017). Incidentally, Atwood, Drake, & Myers, (2010) show that among major countries which have almost fully converged with IFRS, South Africa is ranked second in the list for the low level of book-tax conformity.

4.3. Hypotheses Development

Although the focus of extant literature on earnings management has clearly expanded and confirmed its widespread existence, most of the existing studies on earnings management have focused on

reporting practices of firms in advanced countries (Blkasem Elhaj & Mansor, 2019). However, Bhattacharya et al. (2003) state that the (higher) degree of earnings interference in less developed countries in relation to developed countries is determined by cross-country indications such as protection of minority investors, competition, and overall business productivity. As such, the practice of earnings management and tax avoidance may also be different in emerging economies compared to advanced economies. This study, therefore, aims to fill this gap by investigating its link in emerging markets (i.e., BRICS).

As discussed earlier, many factors driving managers of firms to engage in manipulating the artificial increase (or decrease) of earnings through accounting tactics available within the framework of GAAP. When information asymmetry exists, it is more convenient for managers to promote their self-interest, and thereby introducing the agency problem into the games. Actually, avoiding the tax is not the managers' personal incentives to engage in aggressive earnings management. They do so, in practice, because the firms' owners tie their self-benefits, usually in the forms of after-tax firm performance packages, with the owner's interests, i.e., achieving high profit as much as possible. Therefore, tax avoidance may be the very first incentive, among others, of managers to manage earnings downwards in order to reduce the amount of tax paid. It is important to note that if the managers choose to report the same book income and taxable income, they will be faced with relative costs incurred by not achieving the other target. If firms manage transactions to reduce earnings for gaining benefits from tax amount reduction, they may be liable for financial reporting costs (e.g., decline in stock prices). Conversely, firms engaging in upward-earnings management have to inevitably accept a higher tax liability as a result of higher book incomes. Alternatively, firms have a choice of book-tax non-conforming earnings management. Due to the differences between accounting standard and tax regulations, previous studies (Frank et al., 2009; Wong et al., 2015) show that firms can also achieve ideal tax management by manipulating taxable income downwards while keeping book income with high value.

The decision that the managers need to make is to choose between AEM or REM. AEM is accomplished through the judgement on the choice of accounting methods to represent those activities without changing underlying transactions, whereas REM involves in the change of the firm's underlying operational activities. One may argue that the simultaneous achievement between financial and taxable income can be succeeded through the use of AEM, not REM because increasing book income through REM (i.e., increasing temporary sales volumes, reducing discretionary expenditures, and overproducing in order to decrease COGS) will always result in the increment of

tax liability. As claimed in Zang (2012), a high marginal tax rate constrains firms to use REM in an effort to increase earnings. However, Desai (2005) argues that firms can simultaneously understate profits reported to tax authorities and inflate profits reported to the capital markets by keeping two sets of books. Therefore, following two distinct rules as well as other available tools, this study argues that it is possible that firms accelerating current-period incomes through REM can decelerate tax liability in the same period through the channels created by the dual reporting system.

In summary, there is strong evidence of earnings management achieved through various means of AEM and REM to increase or decrease book income for tax purposes. Building on the above discussion, the association between tax avoidance and earnings management can be in either a positive or negative direction. If a firm's manager decides to engage in conforming book-tax earnings management, the positive relationship between the two issues will be presented: lowering book income is to lower taxable income (an objective is to pay less tax), or increasing book income (an objective is to beat the targets) results in higher taxable income. The negative relation will be presented when managers engage in non-conforming book-tax earnings management: increasing-book income and decreasing-taxable income are achieved simultaneously. Therefore, to investigate what scenario describes the relationship between tax avoidance and earnings management in BRICS countries, the hypotheses are developed in an alternative form as follows:

H1a: Using conforming book-tax earnings management, tax avoidance is positively associated with earnings management captured through both AEM and REM.

H1b: Using non-conforming book-tax earnings management, tax avoidance is negatively associated with earnings management captured through both AEM and REM.

4.4. Research Design

4.4.1. Data and sample

The sample used for testing the proposed hypotheses consists of listed companies across five countries which are Brazil, Russia, India, China, and South Africa named as BRICS⁵⁰ for the period

⁵⁰ BRICS's main objectives are to cooperate between the member nations for development in the area such as finance, economy, agriculture, trade, science and technology, health, education, corporate and academic dialogue, crime, and security (<http://brics.itamaraty.gov.br/about-brics/information-about-brics>).

2006-2017. Data used in this study is sourced from WorldScope retrieved through the DataStream Thomson Reuters database. The statutory tax rate is collected from KPMG International Cooperative website⁵¹. The information about IFRS adoption is based on the IFRS[®] Foundation⁵². Lastly, the legal system is defined based on the JuriGlobe research group of the University of Ottawa⁵³. Following previous literature, financial firms are excluded from this study because of the unique practices of an accounting standard. Firms with no data in any year are also excluded from the analysis. The final sample consists of 5,710 firms with 23,214 firm-year observations, i.e., 50% from China, 37% from India, 5% from South Africa, 4% from Brazil, and 3% from Russia as presented in Table 4.1 Panel A. Since the discretionary accruals are assumed to vary across the industry (due to the difference in market expectation and detailed regulations), firms then are classified into an industry sector using the ICB code which categorizes an industry into ten industries, i.e., health care, consumer goods, consumer services, basic materials, utilities, telecommunications, industrials, technology, oil & gas, and financial. The sample distribution by industry is described in Panel B of Table 4.1. The table shows that main data, 70% of the firms belong to basic materials industry (30%), consumer goods industry (21%), and basic materials (18%). The least number of observations are from the technology industry accounted for only 1%.

⁵¹ Source: <https://home.kpmg/vg/en/home/services/tax1/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html>

⁵² Source: <https://www.ifrs.org>

⁵³ Source: <http://www.juriglobe.ca/eng/>

Table 4.1 Sample Distribution by Country and Industry

Panel A: Sample Distribution by Country				
Country	Observations		Firms	
	N	Pct.	N	Pct.
Brazil	963	4%	266	5%
Russia	761	3%	186	3%
India	8,531	37%	1,884	33%
China	11,632	50%	3,155	55%
South Africa	1,237	5%	219	4%
	23,124	100%	5,710	100%

Panel B: Sample Distribution by Industry				
Industry	Observations		Firms	
	N	Pct.	N	Pct.
Basic Materials	4,150	18%	1,018	18%
Consumer Goods	4,828	21%	1,224	21%
Consumer Services	1,954	8%	477	8%
Health Care	1,623	7%	404	7%
Industrials	6,986	30%	1,729	30%
Oil & Gas	585	3%	120	2%
Technology	1,689	7%	473	8%
Telecommunications	236	1%	51	1%
Utilities	1,073	5%	214	4%
	23,124	100%	5,710	100%

This table presents the sample distribution by *country and industry*. The total observations are 23,124 from 5,710 companies from the period of 2006-2017.

4.4.2. The measurement of variables*(a) Tax avoidance*

There are various proxies used in the literature to capture the tax avoidance of a firm. Most prior studies obtain data from a firm's financial statement to calculate the proxy of tax avoidance because tax returns are not publicly reported by a firm and it provides a limited assessment to external users (Hanlon & Heitzman, 2010). Following Hanlon & Heitzman (2010), in the context of this paper, tax avoidance is defined following as schemes that a corporation participates for the purpose of explicit tax reduction. This study does not put any attempt to distinguish between legal avoidance activities and illegal evasion activities. That is, tax avoidance in this context captures both certain tax positions (perfectly legal) and uncertain tax positions (either legal or illegal transactions). As such, this study focuses on the total amount of tax avoided, rather than on the specific actions, because specific actions taken provide different costs and benefits across countries. Moreover, specific actions taken are unobservable in the setting of this study.

Prior studies argues that the effective tax rate (ETR) captures a broad range of tax avoidance activities which is consistent with the objective of this study (e.g., Badertscher, Katz, & Rego, 2013; Chen et al., 2010; Gaertner, 2014; Huseynov & Klamm, 2012; Laguir, Staglianò, & Elbaz, 2015; Lanis & Richardson, 2012; Phillips, 2003; Steijvers & Niskanen, 2014). Several reasons support the use of GAAP-based ETR as a proxy for tax avoidance. First, it is a financial statement metric which is relevant to investors (Wang & Kong, 2011) which means that it communicates directly to the users of financial statement. Second, it has empirically shown the relationship between tax avoidance and the GAAP ETR. For example, Thornton & Jaafar (2015) document that both private and public firms with affiliates in tax havens present lower GAAP ETRs. Armstrong et al. (2015) and Minnick & Noga (2010) report that the GAAP ETR is statistically and significantly associated with the compensation package for tax executives and directors. This is achieved by setting the compensation contract that motivates them to lower tax liability in the long-run horizon and may hence better reveal tax-driven complexities which are generated by opportunistic rent-seeking manager. Moreover, Graham, Hanlon, Shevlin, & Shroff (2014) provide evidence from their survey showing that firms give the importance to the figure of GAAP ETR because it reflects the amount of after-tax accounting income.

Thus, this study employs the GAAP ETR to proxy the degree of tax avoidance. It is computed by dividing the total tax expense by pre-tax book income for a given firm i in year t , as follows:

$$ETR_{i,t} = \frac{Income\ Tax_{i,t}}{Pretax\ Book\ Income_{i,t}} \quad (1)$$

where $ETR_{i,t}$ is a one – year GAAP-based ETR.

Although Gebhart (2017) finds that ETR measure estimated under annual basis displays considerable correlation increasing due to similarity of computation and inputs used, and Hanlon & Heitzman (2010) and Salihu et al. (2013) suggest to use long- term ETR to deal with the volatility presenting in annual ETR, it is not suitable to use long-term ETR the context of this study. Typically, earnings management is the action undertaken in an effort to mislead the underlying value of the current period income which is used to calculate the amount of the income tax liability. Therefore, it is more reasonable to use the same period ETR to examine the association between tax avoidance and earnings management.

Almost all ETR studies exclude the year in which firms present losses and exhibit negative income tax expenses from their investigation in order to avoid the difficulty of economic interpretation for a negative value of ETR, (Atwood et al., 2010). In this study, however, negative values of numerator

and denominator in the ETR calculation model firstly are winsorized to be zero before the ETR is calculated. It is possible that the negative income tax and the negative pre-tax income might be the result of the manager's attempt to reduce earnings, to some extent, in order to reduce tax expenses. Therefore, such values should not be excluded from the analysis. Secondly, following recent research, ETR is also constrained to a range between 0 and 1 (Chen et al., 2010; Dyreng, Hanlon, & Maydew, 2008; Lisowsky, 2010).

(b) Accrual-Based Earnings Management (AEM)

Following prior study (e.g., Chen, Huang, & Fan, 2012; Cohen et al., 2008; Cohen & Zarowin, 2010; Ipino & Parbonetti, 2017; Zang, 2012), the current study uses the discretionary accruals (the difference between firms' actual accruals and the normal level of accruals) to proxy for accrual-based earnings management. In particular, four widely used approaches are employed in this study in order to control different dimensions of earnings management. An intercept term is included in all following models to anticipate problems about the omitting of size variable, and to yield a more symmetric measure (Kothari et al., 2005; Tang, 2015). All discretionary accrual models are estimated for each country, industry (ICB industry classification codes), and year (Bartov et al., 2000; Koh, 2003).

The Jones's discretionary accrual model

The first proxy for discretionary accruals uses the cross-sectional variation of the Jones model (Jones, 1991). The model is estimated by regressing the normal level of accruals as a function of sales growth (ΔREV) and PPE, as follows:

$$\frac{ToAccr_{i,t}}{TAss_{i,t-1}} = \alpha_0 + \alpha_1 \frac{1}{TAss_{i,t-1}} + \alpha_2 \frac{(\Delta REV)_{i,t}}{TAss_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{TAss_{i,t-1}} + \varepsilon_{i,t} \quad (2)$$

Then, Jones's discretionary accruals proxy (*Jones*) is obtained by fitting the accruals model (2) as below:

$$Jones_{i,t} = \frac{ToAccr_{i,t}}{TAss_{i,t-1}} - [\alpha_0 + \alpha_1 \frac{1}{TAss_{i,t-1}} + \alpha_2 \frac{(\Delta REV)_{i,t}}{TAss_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{TAss_{i,t-1}}] \quad (3)$$

Where $Jones_{i,t}$ is the discretionary accruals using the Jones (1991) model, $ToAccr_{i,t}$ is total accruals, measured as the change in current assets plus the change in short-term debt less the change in current liabilities less the change in cash, and less depreciation and amortization expenses for firm i in year

t . $\Delta REV_{i,t}$ is the change in sales for firm i from year $t-1$ to year t . $PPE_{i,t}$ is a firm's gross property, plant, and equipment for firm i in year t . All variables are scaled by lagged total assets ($TAss_{i,t-1}$).

The modified Jones discretionary accrual model

Dechow et al. (1995) point out that the estimate of earnings management would be biased if earnings are managed through discretionary revenue. For instance, the circumstance where firm managers use their discretion to accrue revenues at the end of the fiscal year. As a result, total accruals and revenues would increase through an increase in account receivables. The discretionary component of the Jones model would, therefore, be extracted from total accruals, causing the estimate of earnings management to be biased toward zero. To eliminate the conjectured error from the Jones model when discretion is exercised over revenues, the second proxy for accrual-based earnings management is used following the modified Jones model developed by Dechow et al. (1995) as follows:

$$\frac{ToAccr_{i,t}}{TAss_{i,t-1}} = \alpha_0 + \alpha_1 \frac{1}{TAss_{i,t-1}} + \alpha_2 \frac{(\Delta REV - \Delta AR)_{i,t}}{TAss_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{TAss_{i,t-1}} + \varepsilon_{i,t} \quad (4)$$

Again, the modified Jones discretionary accruals proxy (*MoJones*) is obtained by fitting the accruals model (4) as follows:

$$MoJones_{i,t} = \frac{ToAccr_{i,t}}{TAss_{i,t-1}} - [\alpha_0 + \alpha_1 \frac{1}{TAss_{i,t-1}} + \alpha_2 \frac{(\Delta REV - \Delta AR)_{i,t}}{TAss_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{TAss_{i,t-1}}] \quad (5)$$

where $MoJones_{i,t}$ is the discretionary accruals using the Dechow et al. (1995) model, $ToAccr_{i,t}$ is total accruals, measured as the change in current assets plus the change in short-term debt less the change in current liabilities less the change in cash, and less depreciation and amortization expenses for firm i in year t . $\Delta REV_{i,t}$ is the change in sales for firm i from year $t-1$ to year t . $\Delta AR_{i,t}$ is the change in accounts receivable for firm i from year $t-1$ to year t . $PPE_{i,t}$ is a firm's gross property, plant, and equipment for firm i in year t . All variables are scaled by lagged total assets ($TAss_{i,t-1}$).

Performance matched discretionary accrual approaches

Although the Jones model is modified by Dechow et al. (1995) by controlling for growth in credit sales in an attempt to reduce Type II errors (i.e., the failure to detect earnings management when it presents), the modified Jones model still suffers from Type I errors (i.e., the identification of earnings management when it does not present). To mitigate concerns about the correlations between performance and the Jones and modified Jones models, Kothari et al. (2005) suggest the controlling

of the normal level of accruals conditional with return on assets (ROA). It appears that the current state of the literature generally employs the modified Jones model including ROA to control for performance (Jackson, 2018) as follows:

$$\frac{ToAccr_{i,t}}{TAss_{i,t-1}} = \alpha_0 + \alpha_1 \frac{1}{TAss_{i,t-1}} + \alpha_2 \frac{(\Delta REV - \Delta AR)_{i,t}}{TAss_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{TAss_{i,t-1}} + \alpha_4 \frac{ROA_{i,t}}{TAss_{i,t-1}} + \varepsilon_{i,t} \quad (6)$$

Then, the discretionary accruals proxy is obtained by fitting the accruals model (6) as follows:

$$Matched_MoJones_{i,t} = \frac{ToAccr_{i,t}}{TAss_{i,t-1}} - [\alpha_0 + \alpha_1 \frac{1}{TAss_{i,t-1}} + \alpha_2 \frac{(\Delta REV - \Delta AR)_{i,t}}{TAss_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{TAss_{i,t-1}} + \alpha_4 \frac{ROA_{i,t}}{TAss_{i,t-1}}] \quad (7)$$

This study also includes ROA in the original Jones model as follows:

$$\frac{ToAccr_{i,t}}{TAss_{i,t-1}} = \alpha_0 + \alpha_1 \frac{1}{TAss_{i,t-1}} + \alpha_2 \frac{(\Delta REV)_{i,t}}{TAss_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{TAss_{i,t-1}} + \alpha_4 \frac{ROA_{i,t}}{TAss_{i,t-1}} + \varepsilon_{i,t} \quad (8)$$

Then, the discretionary accruals proxy is obtained by fitting the accruals model (8) as follows:

$$Matched_Jones_{i,t} = \frac{ToAccr_{i,t}}{TAss_{i,t-1}} - [\alpha_0 + \alpha_1 \frac{1}{TAss_{i,t-1}} + \alpha_2 \frac{(\Delta REV)_{i,t}}{TAss_{i,t-1}} + \alpha_3 \frac{PPE_{i,t}}{TAss_{i,t-1}} + \alpha_4 \frac{ROA_{i,t}}{TAss_{i,t-1}}] \quad (9)$$

Where $Matched_Jones_{i,t}$ and $Matched_MoJones_{i,t}$ are the discretionary accruals using the Kothari et al. (2005) model, $ToAccr_{i,t}$ is total accruals, measured as the change in current assets plus the change in short-term debt less the change in current liabilities less the change in cash, and less depreciation and amortization expenses for firm i in year t . $\Delta REV_{i,t}$ is the change in sales for firm i from year $t-1$ to year t . $\Delta AR_{i,t}$ is the change in accounts receivable for firm i from year $t-1$ to year t . $PPE_{i,t}$ is a firm's gross property, plant, and equipment for firm i in year t . $ROA_{i,t}$ is return on assets calculated by dividing pre-tax income by total assets. All variables are scaled by lagged total assets ($TAss_{i,t-1}$).

(c) Real-Activities Earnings Management (REM)

In capturing the increased revenue manipulation through real activities, the three proxies (i.e., sales manipulation, overproduction, and discretionary expenditures) proposed by Roychowhury (2006) and subsequently used by a number of studies (e.g., Cohen et al., 2008; Cohen & Zarowin, 2010; Ipino &

Parbonetti, 2017; Zang, 2012). Due to the missing data of research and development (R&D) expenses substantially reduce the number of observations, this study uses only two measures of Roychowhury (2006) to proxy for REM. These proxies are estimated on the basis of deviations from the normal levels of two manipulations methods to REM: abnormal cash flow from operating activities (sales manipulation) and abnormal production costs (overproduction).

Sales manipulation

Managers can temporarily boost sales volumes from the next fiscal year to the current year by offering limited-time discounts or more lenient credit terms. The accelerated volumes of sales as a result of these actions are likely to disappear when the offers end. These REM methods lead to lower operating current-period cash flow (*OCF*) as margins decrease. By offering sales discounts, total earnings are higher in the current period, but per given sales, the relative production costs are unusually high, which in turn lower margins. By offering more lenient credit terms, this is actually another way of price discounts which lead to the decline in cash inflow over the life cycle of sales if suppliers of the firm do not give the matching discounts. Therefore, the abnormal cash flow from operations (*AbnOCF*) is typically used to detect the level of sales manipulation. The normal *OCF* is expressed as a linear function of sales and changes in sales.

The normal *OCF* level is firstly estimated cross-sectional data for each industry and year by using the following equation developed by Dechow et al. (1998) and the capture *AbnOCF* through the residual from the model:

$$\frac{OCF_{i,t}}{TAss_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{TAss_{i,t-1}} \right) + \alpha_2 \left(\frac{Sales_{i,t}}{TAss_{i,t-1}} \right) + \alpha_3 \left(\frac{\Delta Sales_{i,t}}{TAss_{i,t-1}} \right) + \varepsilon_{i,t} \quad (10)$$

where $OCF_{i,t}$ is cash flow from operations, measured as the sum of net income and depreciation and amortization, minus total accruals for firm i in year t . $Sales_{i,t}$ is the sales for firm i in year t . $\Delta Sales_{i,t}$ is the change in sales for firm i from year $t-1$ to year t . All variables are scaled by lagged total assets ($TAss_{i,t-1}$) to reduce heteroskedasticity. Since some REM activities such as extending more generous credit terms (lead to increase sales but do not be mapped into cash flow) would result in a more negative *AbnOCF*, *AbnOCF* is thus multiplied by minus one so that positive value of *AbnOCF* reflects income-increasing REM. On the other word, higher values indicate greater amounts of *AbnOCF* manipulating by firms to increase reported earnings.

Overproduction

Another approach of REM to manage earnings upward is producing more products than necessary, so that fixed production costs are spread over the increased number of product units, hence reducing fixed costs per unit. Total costs per unit also decrease as long as the reduced fixed costs per unit are not offset by any increased marginal costs per unit. The normal level of production cost (*PROD*) is defined, following Roychowhury (2006), as the sum of the cost of goods sold (*COGS*) and change in inventory (*ΔINV*) during the year. The normal level of *COGS* and inventory growth can be estimated as a function of sales as follows:

$$\frac{COGS_{i,t}}{TAss_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{TAss_{i,t-1}} \right) + \alpha_2 \left(\frac{Sales_{i,t}}{TAss_{i,t-1}} \right) + \varepsilon_{i,t} \quad (11)$$

$$\frac{\Delta INV_{i,t}}{TAss_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{TAss_{i,t-1}} \right) + \alpha_2 \left(\frac{\Delta Sales_{i,t}}{TAss_{i,t-1}} \right) + \alpha_3 \left(\frac{\Delta Sales_{i,t-1}}{TAss_{i,t-1}} \right) + \varepsilon_{i,t} \quad (12)$$

As $PROD_{i,t}$ is defined as $COGS_{i,t} + \Delta INV_{i,t}$, Equation (5) and (6) are combined and normal production costs is depicted from the following country-industry-year regression model. Subsequently, the abnormal production costs (*AbnPROD*) is proxied by the residual from the model.

$$\frac{PROD_{i,t}}{TAss_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{TAss_{i,t-1}} \right) + \alpha_2 \left(\frac{Sales_{i,t}}{TAss_{i,t-1}} \right) + \alpha_3 \left(\frac{\Delta Sales_{i,t}}{TAss_{i,t-1}} \right) + \alpha_4 \left(\frac{\Delta Sales_{i,t-1}}{TAss_{i,t-1}} \right) + \varepsilon_{i,t} \quad (13)$$

where $PROD_{i,t}$ is production costs, measured as the sum *COGS* and *ΔINV* for firm *i* in year *t*. $Sales_{i,t-1}$ is the sales for firm *i* in year *t-1*. $\Delta Sales_{i,t}$ is the change in sales for firm *i* from year *t-1* to year *t*. $\Delta Sales_{i,t-1}$ is the change in sales for firm *i* from year *t-2* to year *t-1*. Again, all variables are scaled by lagged total assets ($TAss_{i,t-1}$). Since it indicates an overproduction and introduces lower costs of sales, positive *AbnPROD* value reflects income-increasing REM. In the other word, the higher the residual, the larger is the amount of inventory overproduction, and the greater is the increase in reported earnings by reducing the cost of goods sold.

4.4.3. Research model

In analysing how earnings management are related to tax avoidance (H1a and H1b), the following equation is estimated using the full sample:

$$\begin{aligned}
TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 EM_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} + \\
& \sum_{n=12}^{16} \alpha_n Fixed Effect_{i,t}^{country} + \sum_{n=17}^{26} \alpha_n Fixed Effect_{i,t}^{industry} + \\
& \sum_{n=27}^{39} \alpha_n Fixed Effect_{i,t}^{year} + \varepsilon_{i,t}
\end{aligned} \tag{14}$$

where:

$TaxAvoid_{i,t}$ = tax avoidance ($annualETR_{i,t}$) measured as income tax divided by pre-tax income for firm i in year t ;

$EM_{i,t}$ = (i) REM measured through the two following measures:

$AbnOCF_{i,t}$ = The abnormal cash flow from operations for firm i in year t ;

$AbnPROD_{i,t}$ = The abnormal production costs for firm i in year t ;

(ii) AEM measured through the following four approaches:

$Jones_{i,t}$ = The total discretionary accruals from Jones's model for firm i in year t ;

$MoJones_{i,t}$ = The total discretionary accruals from Modified Jones's model for firm i in year t ;

$Matched_Jones_{i,t}$ = The total discretionary accruals from performance-matched Jones's model for firm i in year t ;

$Matched_MoJones_{i,t}$ = The total discretionary accruals from performance-matched modified-Jones' model for firm i in year t ;

$CONTROLS_{i,t}$ = Control variables for firm i in year t .

Following prior studies (Dyreng et al., 2008; Gupta & Newberry, 1997; Lietz, 2013; Phillips, 2003; R. J. Wilson, 2009a), control variables that influence tax avoidance across firms are included in the estimation, i.e., firm size (*Size*), financial leverage (*Lev*), firm growth (*Growth*), firm net operating losses (*Loss*), firm capital intensity (*CapInt*), firm intangible intensity (*IntangInt*), dividend payout (*DivPayout*), and firm closely-held shares⁵⁴ (*CloseHeld*). As corporate organizations are economic units operating in environments modelled by and expected by institutions which influence their behaviour (Campbell and Lindberg, 1991; Campbell, 2007), it is worth controlling for institutional factors affecting the level of tax avoidance. Given that this study owes to the use of an international

⁵⁴ The closely-held share represents shares held by insiders. For companies with more than one class of common stock, closely held shares for each class is added together. It includes but is not restricted to shares held by cross holdings (corporations and holding companies), corporations (incl. real estate companies), holding Company, government, employees, and individuals/insiders (Thompson Reuter, 2019).

dataset with discrepancies in accounting standards and regulation enforcement across countries, the adoption of the International Financial Reporting Standards (*IFRS*) and the legal origin (*LawSys*) are used to control for country-level factors that may affect tax avoidance.

Firm size (*Size*) is measured by the natural logarithm of total assets. Dyreng et al. (2008) suggest that firm size may play a role in the firm's participation in tax avoidance. Based on the theory of political cost, Watts and Zimmerman (1986, p. 235) explain that firms with higher visibility are subjected to comply with greater regulatory activity, introducing a negative association between firm size and tax avoidance (Minnick & Noga, 2010; Rego, 2003). Nevertheless, others present the results in line with a positive relation assuming that larger companies having more resources to make more lobbying and participate in more complex tax planning activities (e.g. Siegfried (1972), p. 32-36, Siegfried (1974), Stickney and McGee (1982), Porcano (1986) in Lietz, 2013). Wilson, (2009b) finds that larger firms are more tax aggressive as presented in a positive relation between tax shelter participation and firm size.

Financial leverage (*Lev*) is defined as long-term debt liability divided by total assets. Highly leveraged firms, at first glance, could be more able to reduce taxes through the use of complicated financing transactions, suggesting a positive association between tax avoidance and firm leverage (Mill et al., 1998 in Dunbar et al., 2010; Lietz, 2013). Alternatively, leveraged firms may have a relatively strong incentive to avoid taxes to preserve cash to service the debt burden (Badertscher, Katz, & Rego, 2010). Since firms with a high level of leverage incur more interest expenses which are deducted from taxable income⁵⁵, they may exhibit less need to be tax aggressive as they face less pressure to draw on alternative non-debt tax shields (Graham & Tucker, 2006).

Firm growth (*Growth*) is defined as changes in net sales divided by total assets and firm net operating losses (*Loss*) is defined as a dummy variable equal to 1 if the firm's net income is less than 1 and 0 otherwise. More profitable firms have been argued to report a greater incentive to reduce their tax burden relative to lesser profitable firms (Dunbar et al., 2010). Similarly, Phillips (2003) concludes that firms with growth opportunities have greater ability to engage in tax avoidance activities. However, top-line growth firms are subjected to increasing applicable tax rates as their incomes increase, suggesting that such firms could have higher ETR. Conversely, loss firms (i.e., firms with

⁵⁵ Leveraged firms already have benefits from a tax shield (Wrightsmann, 1978) which thereby relatively a weak motivation to reduce more tax (Badertscher et al., 2010).

net operating losses) (*Loss*) should commonly have less incentive to participate in tax avoidance (Dunbar et al., 2010; Lietz, 2013; Minnick & Noga, 2010).

Capital intensity (*CapInt*) is defined as net property, plant & equipment (PP&E) divided by total assets and intangible intensity (*IntangInt*) is defined as the amount of intangible assets divided by total assets. Since firms with high intensity of physical plant and equipment (firms with high levels of PP&E) are more visible to the public (Clarkson et al., 2008), they are usually expected to have more tax planning opportunities (Dyreng et al., 2008). Gupta & Newberry (1997) reveal that firm capital intensity is related to tax benefits because of tax-deductible accelerated depreciation relative to the actual asset lives. Previous studies include R&D expenditures to control for tax credits available for particular R&D activities (Dyreng et al., 2008). Unfortunately, information about R&D expense is not widely available in the setting of this study. Thus, the amount of intangible assets, which is assumed to be positively correlated with the firm's level of R&D expenses (Markle & Shackelford, 2012), is used instead.

Dividend pay-out (*DivPayout*) is defined as dividends per share divided by earnings per share and then multiplied by 100, and firm closely-held shares (*CloseHeld*) is defined as the percentage of a number of closely held shares in relative to the common shares outstanding. Prior studies (Amiram, Bauer, & Frank, 2013; Chatty & Saez, 2005; Desai & Dharmapala, 2006) find that ownership and shareholder dividend tax policies influence managers to engage in corporate tax avoidance. If managers are committed to increasing the benefit of shareholders, the positive relation between tax avoidance and dividend pay-out is expected. On the other hand, managers are more likely to put their effort towards the strategy of upward book income and downward taxable income at the same time in order to increase profits which eventually increase the pay-out of dividends. Amiram et al. (2013) also argue that firms with a higher proportion of closely-held shares have more alignment between managers and shareholders, thereby accentuating the incentives to engage in corporate tax avoidance. Therefore, those firms are expected to have higher levels of tax avoidance to increase shareholder's profits.

The adoption of the International Financial Reporting Standards (*IFRS*) is defined as a dummy variable equal to 1 in the year and after, when firms adopt IFRS, and 0 otherwise. The shift to the use of IFRS leads to changes in accounting method, which also bring differences in the current treatment of tax basis. The adoption of IFRS, therefore, should be possible to give the impact on tax strategies because tax calculation is based on the measurement and recognition of accounting transactions. More specifically, it is argued that the adoption of IFRS reduces the level of book-tax conformity (Chan et

al., 2010; Chan et al., 2013; Chen & Gavigous, 2017; Karampinis & Hevas, 2013), thereby reducing the impact on tax after the post-IFRS period (Hung & Subramanyam, 2007). In line with this notion, Karampinis & Hevas (2013) find that ETR as a measure of tax pressure is significantly and negatively associated with discretionary accruals in the pre-IFRS period and the effect disperses after the IFRS has been implemented. The opponents argue that the reduction of book-tax conformity offers the convenient way for manager to avoid more tax because they do not face the trade-off decision between increasing book income and decreasing taxable income. Another possible condition that can explain the increased levels of tax avoidance after IFRS adoption is the possible increase in discretionary accruals available within IFRS framework (Ahmed et al., 2013; Lin et al., 2012). As reported by the studies of Atwood, Drake, Myers, & Myers (2012), Frank et al. (2009) and Wilson, (2009), an increased aggressiveness of accruals is associated with a greater tax avoidance. Similarly, Braga (2017) find that after the adoption of IFRS, firms are associated with higher levels of corporate tax avoidance.

The legal origin (*LawSys*) is defined as a dummy variable equal to 1 if firms are domiciled in country complying with civil law and 0 otherwise. Managers are less likely to engage in tax avoidance when managers perceive that government enforcement of tax rules is stronger. This is because they believe that strong enforcement introduces the higher expected probability of detection and tax authorities may impose additional taxes plus penalties (Atwood et al., 2012), thereby discouraging tax avoidance. Consistent with Desai, Dyck, & Zingales (2007), they find that tax payments increase, related party trades are curtailed, and tax haven entities are abandoned following an increase in tax enforcement after the 2000 election of Vladimir Putin. This study applies legal of origins to proxy for regulation enforcement where civil law is similarly argued, subject to judicial review, to have a higher standard of proof in legal suits and helps to decrease the scope of managerial decisions (Johnson et al., 2000 in Dyck & Zingales, 2004).

H1a predicts that firms manage earnings through conforming book-tax earnings management which suggests a positive association between $TaxAvoid_{i,t}$ and $EM_{i,t}$. Thus, α_1 is expected to be positive; that is, firms manage the book and taxable income downward or upward in the same direction. This hypothesis implies that managers apply a trade-off decision between increasing earnings and reducing tax liabilities. H1b predicts that firms manage earnings through non-conforming book-tax earnings management, suggesting a negative association between $TaxAvoid_{i,t}$ and $EM_{i,t}$. Since tax avoidance can be reflected by the lower amount of tax liabilities that firms pay (lower ETR), α_1 is predicted to

be negative in this situation; that is, firms manage book income upward and taxable income downward at the same time.

4.5. Results

4.5.1. Univariate analysis

(a) Descriptive statistics

Table 4.2 Panel A reports that, overall, the annual ETR mean value is around 6% lower than the statutory tax rate (i.e., the corporate tax rate imposed by law). Table 4.2 Panel B shows that all countries, except Russia, consistently show that the lower ETR than STR as follows: 10% lower in Brazil, 7% lower in India, 6% lower in China, and 3% lower in South Africa. Across industries, Table 4.2 Panel C demonstrates that all industries also report a lower percentage of ETR comparing with a percentage of STR. Specifically, while technology industry (Ind.7) presents the highest percent-differences between ETR and STR at around 10%, the industry of consumer services (Ind.3), oil & gas (Ind.6), and telecommunications (Ind.8) show the lowest percent-differences at 3% approximately. However, these four industries dominate only 12% of the dataset. Firms operating in basic materials, consumer goods, and basic materials report at around 6% difference between ETR and STR.

According to the magnitude of accrual-based earnings management for the full data set as shown in Table 4.2 Panel A, the mean values of the discretionary accruals are -0.067 from the Jones model, -0.089 from the modified Jones model, 0.020 and 0.022 from performance-matched Jones model and modified Jones model, respectively. Table 4.2 Panel B shows that the mean values of Jones and modified Jones discretionary accruals of all countries (except China) indicate that firms manage earnings downward which consistent with mean value of the full sample. Among firms that manage earnings downward, firms in India report the highest level of earnings downward (mean = -0.196 for Jones model and mean = -0.252 for modified Jones model). For the discretionary accruals from performance matched with both Jones and modified Jones models, only firms in China and South Africa manage earnings upward consistent with an overall mean value of the whole dataset. Based on the industry of operation, firms in all industries seem to manage earnings downwards when the discretionary accruals estimated via Jones and modified Jones models, but manage earnings upwards when the discretionary accruals estimated through performance-matched Jones and performance-

matched modified Jones models for firms in all industries except telecommunications (Ind.8) and utilities (Ind.9).

Looking at real-activity earnings management, the overall mean value of sales manipulation is -0.017, and the overall mean value of overproduction is 0.073. The results suggest that overall firms in the full sample manipulate sales to decrease earnings but overproduce inventory to increase earnings. More specifically, while all countries manage earnings downward through sales manipulation, firms domiciled in South Africa exhibit the highest level of earnings management. Moreover, firms domiciled in India and China manage to increase earnings through the technique of overproduction, whereas firms in Brazil, Russia, and South Africa engage in overproduction activity to manage earnings downward. In term of industry perspective, the firms in all industries, except the industry of industrials (Ind.5), engage in sales manipulation activity to manage earnings downward. However, firms in all industries, except the industries of health care (Ind.4), utilities (Ind.8) and telecommunications (Ind.9), engage in overproduction activity to manage earnings upward.

The descriptive statistics of other firm characteristic variables used in this study are reported in Table 4.2 Panel A. All variables are winsorized at percentiles 1% and 99% to mitigate the potential of extreme value distorting results. The size has a mean (median) of 12.99 (13.01), the mean (median) leverage ratio is 10.1% (4.8%) of total assets, the mean (median) property, plant, and equipment present 47.0% (41.7%) of total assets, as well as the mean (median) net intangible assets is 6.9% (2.8%) of total assets. The sample firms further exhibit growth as mean (median) changes in net sales to total assets is equal to 6.9% (5.2%) with only 0.7% of firms are in loss, and 53.3% of firms are held by insiders. The average payout of the dividends is \$23.77 per share. For country-level controls, 57.8% of the sample firms domiciled in the civil law, and 56.4% of the firms adopt the IFRS.

Table 4.2 Descriptive Statistics

Panel A: Overall variable summary						
Variables	N	Mean	25%	Median	75%	SD
Tax avoidance:						
annualETR	23124	0.231	0.139	0.220	0.310	0.152
Statutory tax rate	23124	0.290	0.250	0.250	0.340	0.046
Accrual-based management:						
Jones	23124	-0.067	-0.131	-0.028	0.045	0.267
MoJones	23124	-0.089	-0.147	-0.038	0.034	0.292
Matched-Jones	23124	0.020	-0.075	0.028	0.118	0.293
Matched-MoJones	23124	0.022	-0.074	0.029	0.123	0.296
Real-activity management:						
AbnOCF	23124	-0.017	-0.068	-0.007	0.043	0.116
AbnProd	23124	0.073	-0.104	0.016	0.199	0.317
Control variables:						
Firm level:						
Size	23124	12.994	11.886	13.007	14.139	1.792
CapInt	23124	0.470	0.217	0.417	0.680	0.319
IntangInt	23124	0.069	0.003	0.028	0.079	0.108
Lev	23124	0.101	0.000	0.048	0.160	0.131
Growth	23124	0.069	-0.018	0.052	0.147	0.221
DivPayout	23124	23.767	5.710	20.340	34.350	21.415
CloseShare (%)	23124	53.263	40.850	56.770	70.590	23.600
Loss	23124	0.007	0.000	0.000	0.000	0.084
Country level:						
IFRS	23124	0.564	0.000	1.000	1.000	0.496
LawSys	23124	0.578	0.000	1.000	1.000	0.494

Table 4.2 Descriptive Statistics (Cont'd)

Panel B: Country mean value for all variables						
Variables	Overall	Brazil	Russia	India	China	S. Africa
Tax avoidance:						
annualETR	0.231	0.249	0.267	0.267	0.194	0.296
Statutory tax rate	0.290	0.340	0.208	0.337	0.253	0.323
Accrual-based management:						
Jones	-0.067	-0.006	-0.013	-0.196	0.019	-0.060
MoJones	-0.089	-0.027	-0.031	-0.252	0.021	-0.090
Matched-Jones	0.020	-0.015	-0.008	-0.038	0.065	0.039
Matched-MoJones	0.022	-0.014	-0.005	-0.039	0.069	0.046
Real-activity management:						
AbnOCF	-0.017	-0.034	-0.070	-0.017	-0.006	-0.075
AbnProd	0.073	-0.064	-0.086	0.147	0.049	-0.004
Control variables:						
Firm level:						
Size	12.994	14.539	14.563	11.858	13.565	13.300
Lev	0.101	0.220	0.160	0.128	0.067	0.111
CapInt	0.470	0.454	0.765	0.528	0.408	0.485
IntangInt	0.069	0.171	0.041	0.038	0.079	0.125
Growth	0.069	0.017	0.043	0.074	0.073	0.051
DivPayout	23.767	38.041	20.027	18.054	25.857	34.711
CloseShare (%)	53.263	48.536	73.081	60.358	48.844	37.379
Loss	0.007	0.024	0.014	0.009	0.003	0.015
Country level:						
IFRS	0.564	0.868	0.453	0.000	0.959	0.570
LawSys	0.578	1.000	1.000	0.000	1.000	0.000

Table 4.2 Descriptive Statistics (Cont'd)

Panel C: Industry variable mean value against overall mean value

Variables	Overall	Ind.1	Ind.2	Ind.3	Ind.4	Ind.5	Ind.6	Ind.7	Ind.8	Ind.9
Tax avoidance:										
annualETR	0.231	0.240	0.230	0.264	0.211	0.229	0.254	0.186	0.259	0.240
Statutory tax rate	0.290	0.292	0.298	0.290	0.290	0.287	0.281	0.289	0.284	0.279
Accrual-based management:										
Jones	-0.067	-0.072	-0.097	-0.078	-0.051	-0.048	-0.025	-0.090	-0.066	-0.017
MoJones	-0.089	-0.096	-0.131	-0.102	-0.078	-0.064	-0.037	-0.110	-0.086	-0.031
Matched-Jones	0.020	0.009	0.003	0.018	0.059	0.030	0.032	0.041	-0.051	-0.005
Matched-MoJones	0.022	0.011	0.006	0.021	0.061	0.032	0.035	0.045	-0.050	-0.006
Real-activity management:										
AbnOCF	-0.017	-0.019	-0.021	-0.030	-0.026	0.001	-0.038	-0.024	-0.112	-0.028
AbnProd	0.073	0.108	0.123	0.024	-0.022	0.084	0.055	0.057	-0.125	-0.046
Control variables:										
Firm level:										
Size	12.994	13.092	12.539	12.980	12.683	13.015	14.449	12.438	14.918	14.682
CapInt	0.470	0.609	0.483	0.421	0.394	0.398	0.666	0.227	0.814	0.760
IntangInt	0.069	0.049	0.049	0.088	0.099	0.066	0.059	0.118	0.152	0.080
Lev	0.101	0.113	0.091	0.097	0.075	0.095	0.142	0.046	0.152	0.236
Growth	0.069	0.065	0.083	0.060	0.079	0.065	0.057	0.091	0.039	0.024
DivPayout	23.767	21.589	24.248	27.045	22.237	23.791	23.388	20.799	31.715	29.356
CloseShare	53.263	55.960	57.105	51.696	48.832	51.332	58.201	42.253	59.231	61.002
Loss	0.007	0.005	0.007	0.009	0.006	0.006	0.015	0.009	0.000	0.010
Country level:										
IFRS	0.564	0.516	0.486	0.639	0.579	0.611	0.513	0.575	0.432	0.677
LawSys	0.578	0.537	0.501	0.591	0.583	0.606	0.641	0.573	0.614	0.826

This table presents descriptive statistics for main variables used in this analysis (see Appendix 4.1).

The variables are measured as follows;

Tax avoidance:

annualETR	=	The ratio of income tax and pretax income;
Statutory tax rate	=	The corporate income tax that are established by the law;

Accrual-based management:

Jones	=	The residuals from Jones's model by Jones (1991);
MoJones	=	The residuals from Modified-Jones's model by Dechow et al. (1995);
Matched-Jones	=	The residuals from matched ROA with Jones's model by Kothari et al. (2005);
Matched-MoJones	=	The residuals from matched ROA with Modified-Jones's model by Kothari et al. (2005);

Real-activity management:

AbnOCF	=	The residuals from the normal operating cash flow level model
AbnProd	=	The residuals from the normal production costs model

Control variables:

Size	=	The natural logarithm of total assets;
CapInt	=	The ratio of net property, plant, and equipment and total assets;
IntangInt	=	The ratio of intangible assets and total assets;
Lev	=	The ratio of long-term debt liability and total assets;
Growth	=	The change in net sales divided by total assets;
DivPayout	=	The ratio of dividends per share and earnings per share multiplied by 100;
CloseShare	=	The percentage of number of closely held shares to common shares outstanding;
Loss	=	The dummy variable equal to 1 if the firm's net income less than 1, and 0 otherwise;
IFRS	=	The dummy variable equal to 1 in the year and after when firms adopt IFRS, and 0 otherwise;
LawSys	=	The dummy variable equal to 1 if firms are in the country obeying by civil law, and 0 otherwise.

Table 4.3 Variable Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) annualETR	1																
(2) Jones	-0.110 ***	1															
(3) MoJones	-0.123 ***	0.909 ***	1														
(4) Matched Jones	-0.086 ***	0.657 ***	0.534 ***	1													
(5) Matched MoJones	-0.089 ***	0.652 ***	0.546 ***	0.996 ***	1												
(6) AbnOCF	0.010 ***	0.056 ***	0.066 ***	-0.149 ***	-0.177 ***	1											
(7) AbnProd	0.032 ***	-0.173 ***	-0.057 ***	-0.051 ***	0.008	-0.045 ***	1										
(8) Size	-0.032 ***	0.511 ***	0.612 ***	0.161 ***	0.178 ***	-0.060 ***	-0.082 ***	1									
(9) Lev	0.092 ***	0.006	0.005	-0.126 ***	-0.126 ***	0.056 ***	-0.017 **	0.237 ***	1								
(10) Growth	-0.034 ***	-0.108 ***	0.019 *	0.058 ***	0.133 ***	-0.278 ***	0.716 ***	0.026 ***	-0.027 ***	1							
(11) DivPayout	-0.001	0.115 ***	0.112 ***	0.091 ***	0.091 ***	-0.151 ***	-0.106 ***	0.190 ***	-0.076 ***	-0.029 ***	1						
(12) CapInt	0.060 ***	-0.110 ***	-0.160 ***	-0.129 ***	-0.139 ***	-0.173 ***	-0.058 ***	0.038 ***	0.340 ***	-0.059 ***	-0.006	1					
(13) IntangInt	-0.051 ***	0.077 ***	0.112 ***	0.004	0.011	-0.039 ***	-0.094 ***	0.165 ***	0.073 ***	0.004	0.032 ***	-0.279 ***	1				
(14) CloseShare	0.075 ***	-0.074 ***	-0.090 ***	-0.015 *	-0.015 *	-0.077 ***	0.062 ***	-0.029 ***	0.057 ***	0.017 **	-0.016 *	0.152 ***	-0.160 ***	1			
(15) Loss	0.341 ***	-0.024 ***	-0.027 ***	-0.055 ***	-0.057 ***	0.044 ***	-0.014 *	-0.008	0.050 ***	-0.038 ***	-0.094 ***	0.005	0.010	0.010	1		
(16) IFRS	-0.203 ***	0.354 ***	0.397 ***	0.151 ***	0.152 ***	0.085 ***	-0.166 ***	0.405 ***	-0.181 ***	-0.059 ***	0.171 ***	-0.191 ***	0.215 ***	-0.241 ***	-0.022 ***	1	
(17) LawSys	-0.222 ***	0.360 ***	0.417 ***	0.140 ***	0.146 ***	0.055 ***	-0.149 ***	0.455 ***	-0.163 ***	-0.008 ***	0.144 ***	-0.141 ***	0.160 ***	-0.152 ***	-0.027 ***	0.849 ***	1
N	23124																

Standard errors in parentheses

*, ** and *** indicate the level of significance at $p < 0.05$, $p < 0.01$, and $p < 0.001$, respectively, using Pearson tests.

(b) Variable correlation

Table 4.3 presents the pairwise Pearson correlation matrix indicating the multicollinearity test results. The matrix reveals inclusive results that annual ETR is significantly and negatively associated with accrual-based earnings management for all models. On the contrary, annual ETR is significantly and positively associated with real-activity earnings management both through sales manipulation and overproduction. In addition to the results from Pearson correlation matrix, the results of variance inflation factors (VIFs) also show that no VIFs exceed six for any of the explanatory variables, endorsing none of the multicollinearity in the model.⁵⁶

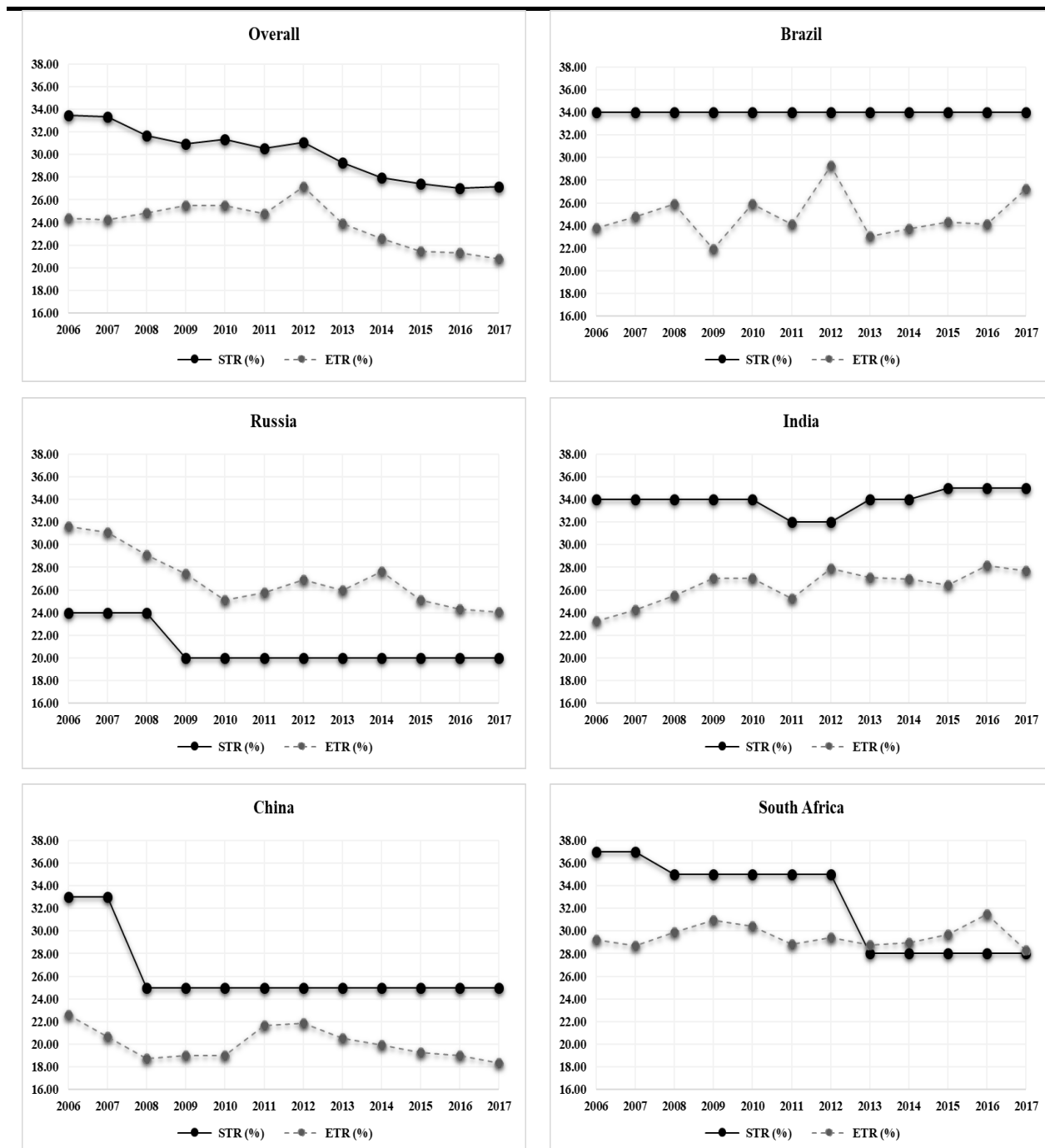
(c) Trends of tax avoidance and earnings management

Figure 4.1 Panel A shows the trend of averages of ETR over the sample period against those of the STR. The results show that both STR and ETR gradually decline over time. In particular, the STR has reduced from 33% to 27%, and the ETR has decreased by approximately 24% to 21%. Overall, the gap between STR and ETR has reduced over the sample period, from 9% in 2006 to 6% in 2017. Furthermore, Figure 4.1 Panel B reports the trend of BRICS firms' practices of earnings management through both AEM and REM techniques. The trend is estimated based on the average value of four measures of abnormal accruals proxied for AEM, as well as the average value between abnormal level of cash flow from operating and abnormal level of production proxied for REM. Overall, the results show that firms in BRICS use AEM to manage earnings downward as the average abnormal accruals are below zero, and use REM to manage earnings upward as the average abnormal level of activities is above zero. Although the levels of earnings management of both techniques fluctuate over the sample period, the level of earnings management of each technique starts gradually to decline from -0.16 in 2012 to -0.01 in 2014 for AEM, and from 0.05 in 2012 to 0.02 in 2014 for REM. Moreover, the technique that firms use to manage earnings upward and downward is switched in 2015. That is, firms use the technique of AEM to increase incomes and use REM to decrease incomes.

⁵⁶ The problem of multicollinearity among the explanatory variables is introduced to the model if a VIF value is above the threshold of ten (Hair et al., 2006 in Lanis & Richardson, 2012).

Figure 4.1 Trend of average tax avoidance, AEM, and REM

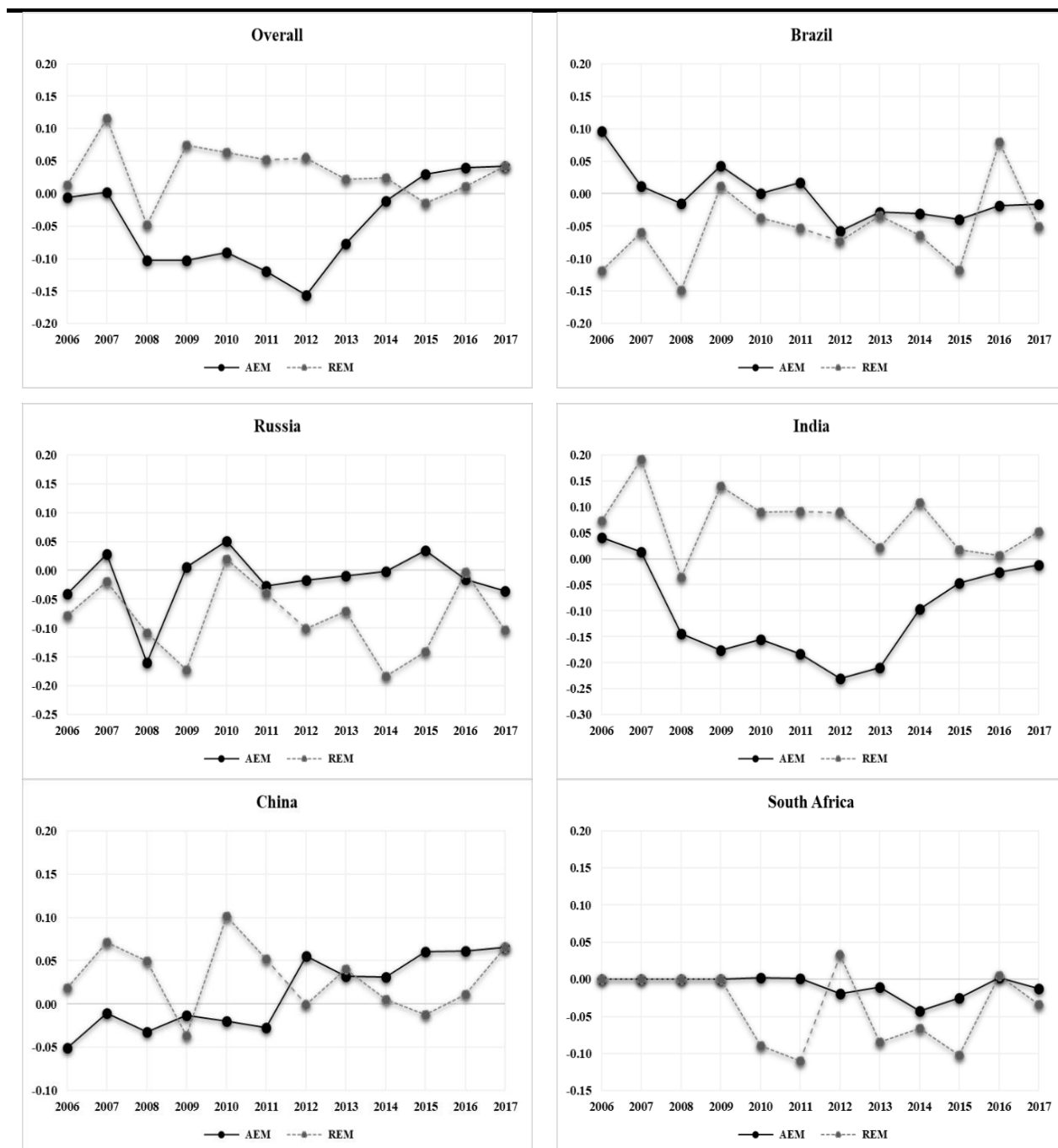
Panel A: Trend of average ETR against STR for pooled data



The figure above is plotted from the mean value of STR against the mean value of ETR for all sample as of 23,124 firm-year observations during the period of 2006-2017 (see Appendix 4.2).

Figure 4.1 Trend of average tax avoidance, AEM, and REM (Cont'd)

Panel B: Trend of average AEM and REM for pooled data



The figure above is plotted from the average mean value of four measures of AEM (Jones, MoJones, Matched_Jones, and Matched_MoJones) against the average mean value of two measures of REM for all sample as of 23,124 firm-year observation during the period of 2006-2017 (see Appendix 4.2).

4.5.2 Multivariate analysis

Prior to conducting the multivariate analysis, this study carried out a series of sample tests to ensure that the sample data satisfy the underlying assumptions of the classical linear regression model for an OLS estimator to be BLUE (Best Linear Unbiased Estimator) and the regression's results are verified. The Breusch Pagan/Cook Weisberg's test to detect heteroskedasticity problem and the Wooldridge's test to detect autocorrelation in panel data shows that the data is suspected of having both problems. Hence, the models in this study are regressed with the option of robust standard errors in order to mitigate both heteroskedasticity and autocorrelation issues.

(a) Tax avoidance and AEM versus REM

In analysing how earnings management practices in BRICS countries affect tax avoidance in the main test, Equation (14) has been separately regressed the annual GAAP ETR on each measure of AEM and REM across firm-year observations and controlled for other firm and country-specific variables. The results for the multivariate tests addressing the hypotheses are reported in Table 4.4.

In columns (1) - (4), the coefficients on accrual-based earnings management measures are negatively and significantly ($\beta_{\text{Jones}} = -0.04$, $p < 0.01$; $\beta_{\text{MoJones}} = -0.045$, $p < 0.01$; $\beta_{\text{Matched Jones}} = -0.022$, $p < 0.01$; $\beta_{\text{Matched MoJones}} = -0.022$, $p < 0.01$) associated with annual GAAP ETR, supporting the hypothesis (H1b) that managers of firms use non-conforming techniques to manage earnings which are able to increase book incomes (higher discretionary accruals) and decrease taxable incomes (lower the effective tax rate). This result is consistent with prior studies in developed economies (e.g., Desai, 2002; Frank et al., 2009). As the accounting standards used in BRICS is highly aligned with IFRS which is argued to reduce the level of book-tax conformity (Chan et al., 2010; Chan et al., 2013; Chen & Gavigous, 2017; Karampinis & Hevas, 2013), this finding can be interpreted that the reduction of book-tax conformity offers a convenient way for managers to avoid more tax because they are not faced with the trade-off decision between increasing book income and decreasing taxable income. Another possible condition that can explain the increased levels of tax avoidance after IFRS adoption is the increase in discretion on accruals available within the IFRS framework (Ahmed et al., 2013; Lin et al., 2012).

In contrast, columns (5) and (6) report positive and significant coefficients ($\beta_{\text{AbnOCF}} = 0.034$, $p < 0.01$, $\beta_{\text{AbnProd}} = 0.03$, $p < 0.01$) on the association between real-activity earnings management measures and annual GAAP ETR, supporting hypothesis H1a that managers of firms use conforming

techniques so that the higher income leads to a higher effective tax rate. This is consistent with the study by Zhang (2012) which finds that REM is costly due to tax incentives because when firms increase book income by manipulating sales or overproducing inventory, taxable income would increase and incur higher tax costs in the same period. This result is intuitive as the techniques of real-activity earnings management are operating practices intended to increase incomes. Consequently, firms bear higher tax liabilities caused by increased incomes.

However, before it can be concluded that firms' managers in the BRICS countries employ non-conforming earnings management through AEM to avoid tax, examining whether there is any substitution or complementary relation between REM and AEM has been conducted.⁵⁷ The extended test shows that the sample does not provide evidence for the simultaneous or substitute strategy used by managers, and the level of AEM is not adjusted based on the unexpected amount of REM (detailed in Appendix 4.3). Therefore, in the setting of this study, it can be concluded that firms in BRICS employ income-increasing AEM as a means to reduce taxes.

As for firm-specific control variables, the results are consistent in all cases for the measures of AEM and REM. The regression coefficient for firm size (Size) using the logarithm of total assets is positively significant with ETR, suggesting that the larger firms pay more tax (Dyreng et al., 2008; Huseynov & Klamm, 2012; Minnick & Noga, 2010). Conversely, the capital intensity (CapInt) is negatively and significantly associated with the effective tax rate, consistent with Huseynov & Klamm (2012). The intensity of intangible assets (IntangInt), a proxy of R&D expenses in this study, is negatively associated with the ETR. This result suggests that firms use tax avoidance techniques through the investments in assets that generate more claims on R&D credit (Belz et al., 2017; Gao et al., 2016b; Koester et al., 2017). The coefficients on firm leverage (Lev) is not significant, suggesting

⁵⁷ This is because it is possible that firms may use both AEM and REM as results of tax incentives but undertake one of the strategies under a condition of its cost of execution or different time orientation. There is empirical evidence revealing that managers use AEM and REM to manage earnings based on their relative costs (Badertscher, 2011; Cohen et al., 2008; Cohen & Zarowin, 2010; Enomoto et al., 2015; Ipino & Parbonetti, 2017; Joosten, 2012; Zang, 2012). In particular, decisions to use REM activities as substitute decisions to manage earnings through AEM occurs when the costs of AEM is higher than those of REM and vice versa. Under the notion of the complementary hypothesis, managers may use both AEM and REM, but at different timings. That is, managers can observe the outcome of REM on earnings at the end of the fiscal year, and then they can use less (more) AEM to offset any unexpectedly high (low) results from REM.

that the firm's financial leverage has no effect on tax avoidance level in the BRICS nations. A higher level of firm's growth (Growth) is significantly associated with the lower level of ETR (but not in the model measured through Matched-MoJones and AbnOCF), suggesting that firms with higher net sales avoid more tax as they have a greater incentive to reduce their tax burden relative to lesser profitable firms (Dunbar et al., 2010). As predicted, firms with negative income (Loss) are less incentive to reduce the tax rate, thereby positively associated with the ETR. The results also show that firms having more alignment between managers and shareholders (CloseHeld) pay more tax, consistent with the results of dividend pay-out per share (DivPayout) and ETR showing the positive and significant relationship for all models. That is, more aligned firms commit to increasing profits for shareholders, leading to a higher tax liability due to the result of increased incomes. Considering the results for country-specific variables, firms in the country with civil law (LawSys), categorized as low investor protection by the World Economic Forum's 2012/2013 Global Competitiveness Report, have lower ETR as expected because the low level of investor protection represents less enforcement of law and regulations.⁵⁸ After the adoption of IFRS, firms report lower GAAP ETR, supporting the argument that IFRS adoption reduces the level of book-tax conformity (Chan et al., 2010; Chan et al., 2013; Chen & Gavigan, 2017; Karampinis & Hevas, 2013) and, thereby more convenient way to engage in greater tax avoidance (Desai, 2005; Hanlon et al., 2005).

⁵⁸ Consistent with La Porta et al, 1998, common law origin presents characteristics in comply with attributes of strong investor protection.

Table 4.4 The Relationship between Tax Avoidance and Earnings Management

Variables	Exp. Sign	One-year ETR					
		Measure of tax avoidance					
AEM Measures:	(-/+)						
Jones		-0.04 ^{***} (0.004)					
MoJones			-0.045 ^{***} (0.004)				
Matched-Jones				-0.022 ^{***} (0.003)			
Matched-MoJones					-0.022 ^{***} (0.003)		
REM Measures:	(-/+)						
AbnOCF						0.034 ^{***} (0.009)	
AbnProd							0.03 ^{***} (0.005)
Control variables:							
Firm level:							
Size	(-/+)	0.007 ^{***} (0.001)	0.009 ^{***} (0.001)	0.005 ^{***} (0.001)	0.005 ^{***} (0.001)	0.005 ^{***} (0.001)	0.005 ^{***} (0.001)
CapInt	(-)	-0.015 ^{***} (0.004)	-0.018 ^{***} (0.004)	-0.014 ^{***} (0.004)	-0.014 ^{***} (0.004)	-0.009 ^{**} (0.004)	-0.01 ^{***} (0.004)
IntangInt	(-)	-0.043 ^{***} (0.010)	-0.042 ^{***} (0.010)	-0.04 ^{***} (0.010)	-0.04 ^{***} (0.010)	-0.033 ^{***} (0.010)	-0.031 ^{***} (0.010)
Lev	(-/+)	0.007 (0.010)	0.006 (0.010)	0.004 (0.010)	0.003 (0.010)	0.003 (0.011)	0.008 (0.010)
Growth	(-/+)	-0.017 ^{***} (0.005)	-0.012 ^{**} (0.005)	-0.01 ^{**} (0.005)	-0.007 (0.005)	-0.006 (0.005)	-0.041 ^{***} (0.007)
Loss	(+)	0.602 ^{***} (0.023)	0.602 ^{***} (0.023)	0.601 ^{***} (0.023)	0.601 ^{***} (0.023)	0.603 ^{***} (0.023)	0.603 ^{***} (0.023)
DivPayout	(-)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)
CloseShare	(-)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)	0.000 ^{***} (0.000)
Country level:							
IFRS	(-/+)	-0.024 ^{***} (0.005)	-0.024 ^{***} (0.005)	-0.023 ^{***} (0.005)	-0.023 ^{***} (0.005)	-0.025 ^{***} (0.005)	-0.026 ^{***} (0.005)
LawSys	(-)	-0.055 ^{***} (0.006)	-0.055 ^{***} (0.006)	-0.055 ^{***} (0.006)	-0.055 ^{***} (0.006)	-0.054 ^{***} (0.006)	-0.053 ^{***} (0.006)
Fixed effects:							
Industry, Year		Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.187 ^{***} (0.012)	0.169 ^{***} (0.012)	0.220 ^{***} (0.011)	0.219 ^{***} (0.011)	0.223 ^{***} (0.012)	0.223 ^{***} (0.012)
adj. R ²		0.192	0.193	0.190	0.190	0.189	0.190
F		95.622	97.838	92.48	92.57	91.55	92.973
n		23124	23124	23124	23124	23124	23124

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at p<0.1, p<0.05, and p<0.01, respectively, using two tailed tests.

The table reports regression results of the following fixed-effect model using OLS estimation with robustness of standard errors:

$$TaxAvoid_{i,t} = \alpha_0 + \alpha_1 EM_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} + \sum_{n=12}^{16} \alpha_n Fixed Effect_{i,t}^{country} \\ + \sum_{n=17}^{25} \alpha_n Fixed Effect_{i,t}^{industry} + \sum_{n=26}^{37} \alpha_n Fixed Effect_{i,t}^{year} + \varepsilon_{i,t}$$

where:

TaxAvoid is tax avoidance proxied through *annualETR*, calculated by dividing income tax by pretax income;

EM is earnings management proxied through set of the accrual-based managements measures {*Jones*, *MoJones*, *Matched-Jones*, and *Matched-MoJones*}, measured by the residuals of the total accrual regression models, and the set of real-activity managements {*AbnOCF* and *AbnProd*} where *AbnOCF* is an abnormal cash flow from operating activities, representing sales manipulation and *AbnProd* is an abnormal level of firm production,

Control^{firm} is set of control variables at a firm level including *Size* refers to size of firms based on total assets, *Lev* refers to firm leverage, *Growth* refers to firm growth, *Loss* refers to net operating losses, *CapInt* refers to the intensity of firms' capital assets, *IntangInt* refers to the intensity of firms' intangible assets, *CloseHeld* refers to the closely-held shares, *DivPayout* refers to dividend payout per share.

Control^{country} is set of control variables at a country level including *LawSys* refers to the country's law origins, and *IFRS* refers to the adoption of IFRS.

The variables are measured as follows;

Size	=	The natural logarithm of total assets;
CapInt	=	The ratio of gross property, plant, equipment and total assets;
IntangInt	=	The ratio of intangible assets and total assets;
Lev	=	The ratio of long-term debt liability and total assets;
Growth	=	The ratio of changes in net sale and total assets;
DivPayout	=	The ratio of dividends per share and earnings per share multiplied by 100;
CloseHeld	=	The percentage of number of closely held shares to common shares outstanding;
Loss	=	The dummy variable equal to 1 if the firm's net income less than 1, and 0 otherwise;
IFRS	=	The dummy variable equal to 1 in the year and after when firms adopt IFRS, and 0 otherwise;
LawSys	=	The dummy variable equal to 1 if firms are in country complying with civil law and 0 otherwise.

Fixed Effect^{country, industry, year} refer to country, industry, and year fixed effect: five countries, nine industries, and fourteen years.

(b) Robustness tests

Tax avoidance on upward AEM subsamples

Using the signed discretionary accruals (both positive and negative sign) in the main test, the results suggest that firms managing earnings through discretionary accruals employ a non-conforming approach to increase book incomes and to decrease taxable income at the same time. To check the robustness of the initial results, model (8) has been re-estimated with the positive signed AEM subsample, which represents only the firms that engage in increased book income management. The negative coefficients should be expected in order to confirm the main results. Indeed Table 4.5 reports the negative and significant association between ETR and positive AEM for all measures: Jones ($\beta = -0.056$, $p < 0.01$), MoJones ($\beta = -0.039$, $p < 0.01$), Matched_Jones ($\beta = -0.021$, $p < 0.01$), Matched_Jones ($\beta = -0.020$, $p < 0.01$). All results consistent with the main test and provide further support for the hypothesis of a non-conforming earnings management approach for the purpose of tax liability reduction. For other firm and country-specific control variables, the results show consistently with those in the main tests both in term of direction and magnitude of the regression coefficient.

Regression results based on a different level of tax avoidance

In analysing firms that engage in different levels of tax avoidance, all sample firms are partitioned into 12 different categories with equal interval value of 0.05 between each bin (except the ETRs in the first bin which is ranged from 0 to 0.15) according to the level of annual GAAP ETR. The samples with ETR above 0.70 are excluded from the analyses because such particularly high ETRs do not allow for a sound economic interpretation (Kubata et al., 2013). Then, the baseline regressions are re-estimated separately for the sample in each bin. In particular, the ETRs are regressed on the aggregated proxy of AEM and REM with controlling of the effect from country, industry, and year indicators. Table 4.6 presents the results of regression investigated based on the GAAP ETR partitioned firms. The results are qualitatively similar to that of baseline regressions, supporting the main analysis of the association between tax avoidance and earnings management through AEM and REM. More precisely, the ETRs in the first interval ranging from 0-0.15 show the strong negative association between ETR and earnings management through AEM, and the strong positive association between ETR and REM for the sample with the highest number of observations (equal to 7,063) and high value of the adjusted R^2 (equal to 54.2% in both models). This can be interpreted that

firms with relatively high levels of tax avoidance (as reflected by particularly low ETRs) appear to manage book income upward and taxable income downward at the same time through discretionary accruals. However, they seem to use real-activities earnings management to only increase book income and trade-off such benefit with the higher cost of tax payment (as reflected by higher ETRs).

Endogeneity concerns

In general, the problem of endogeneity occurs when an explanatory variable in a regression is correlated with the regression's disturbance term, which possibly arises from (i) omitted variables, (ii) reverse causality, and (iii) measurement error (Robert and Whited, 2012). This problem inherent in the OLS by giving the unbiased and consistent estimates of the causal effect of an explanatory variable on an outcome (Bound et al., 1995; Reed, 2015). In mitigating this concern, this study repeats the main analysis (the Equation 14) using instrumental variables (IV) with the Two-Stage Least Squares (2SLS) estimation and employing lagged values of the endogenous explanatory variable as instruments, thought to have no direct association with the outcome (Reed, 2015). The results are consistent with the OLS results reported in Table 4.7. To ensure the endogeneity problem of CSR variables, the null hypothesis testing that the AEM and REM variables are exogenous are estimated. Both Durbin test and Wu-Hausman test report a very small p-value which suggests rejecting the null hypothesis, and the model is correct in treating AEM and REM variables as endogenous variables. Further, all the R^2 statistics in the first-stage regression to confirm the relevance of instrumental variables are relatively high, suggesting that the instruments are sufficiently correlated with AEM and REM variables. Therefore, they do not imply a weak-instrument problem.

Table 4.5 Regression results for tax avoidance and sub-sample of AEM

Variables	Exp. Sign	One-year ETR			
		Measure of Tax Avoidance			
Positive AEM:					
Jones	(-)	-0.056 *** (0.009)			
MoJones	(-)		-0.039 *** (0.008)		
Matched_Jones	(-)			-0.020 *** (0.005)	
Matched_MoJones	(-)				-0.021 *** (0.005)
Controls		Yes	Yes	Yes	Yes
FE: Country, Industry, Year		Yes	Yes	Yes	Yes
Constant		0.165 *** (0.021)	0.135 *** (0.020)	0.218 *** (0.015)	0.218 *** (0.014)
Adj. R^2		0.200	0.164	0.208	0.211
F		41.649	34.319	74.48	77.999
N		9280	8308	13442	13567

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two-tailed tests.

The table reports regression results of the following fixed-effect model using OLS estimation with robustness of standard errors:

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 EM_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} + \sum_{n=12}^{16} \alpha_n Fixed\ Effect_{i,t}^{country} \\
 & + \sum_{n=17}^{25} \alpha_n Fixed\ Effect_{i,t}^{industry} + \sum_{n=26}^{37} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t}
 \end{aligned}$$

The variables are as described in Table 4.4.

Table 4.6 Regression results based on the ETR subsamples

Bin No.	N	ETR range	AEM		REM	
			Coef.	Adj. R2	Coef.	Adj. R2
1	7063	0.00-0.15	-0.008 *** (0.004)	0.542	0.036 *** (0.009)	0.542
2	3494	0.15-0.20	-0.003 *** (0.001)	0.057	0.007 *** (0.002)	0.057
3	3040	0.20-0.25	0.001 *** (0.001)	0.015	0.003 *** (0.002)	0.015
4	3314	0.25-0.30	-0.003 ** (0.001)	0.078	0.003 * (0.002)	0.077
5	3332	0.30-0.35	0.001 (0.001)	0.041	0.001 (0.002)	0.041
6	1312	0.35-0.40	-0.006 *** (0.002)	0.04	0.007 ** (0.003)	0.037
7	523	0.40-0.45	-0.001 (0.003)	0.001	0.004 (0.005)	0.003
8	280	0.45-0.50	-0.001 (0.004)	0.054	-0.005 (0.008)	0.056
9	198	0.50-0.55	-0.007 (0.006)	0.022	0.016 (0.012)	0.019
10	144	0.55-0.60	0.002 (0.006)	0.065	-0.003 (0.013)	0.065
11	109	0.60-0.65	-0.009 (0.010)	0.013	0.001 (0.020)	0.023
12	83	0.65-0.70	0.020 ** (0.009)	0.092	0.007 (0.016)	0.014

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two-tailed tests.

The following regressions are estimated cross-sectionally with a fixed-effect model for the sample of different bins of ETR value. The ordinary least square (OLS) is used with firm-level clustered standard errors for the estimation of the p-values.

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 EM_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} \\
 & + \sum_{n=12}^{16} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=17}^{25} \alpha_n Fixed\ Effect_{i,t}^{industry} \\
 & + \sum_{n=26}^{37} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t}
 \end{aligned}$$

The variables are as described in Table 4.4

Table 4.7 Tax avoidance and earnings management using 2SLS estimation

Variables	Exp. Sign	One-year ETR (measure of tax avoidance)					
		2SLS Estimation					
Accrual-based management:	(-)						
Jones		-0.108 *** (0.013)					
MoJones			-0.094 *** (0.011)				
Matched-Jones				-0.024 ** (0.010)			
Matched-MoJones					-0.024 ** (0.009)		
Real-activity management:	(+)						
AbnOCF					0.136 *** (0.026)		
AbnProd						0.350 *** (0.089)	
Controls included		Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects:							
Cntr, Inds, Yr		Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.131 *** (0.016)	0.113 *** (0.017)	0.221 *** (0.012)	0.219 *** (0.012)	0.222 *** (0.012)	0.207 *** (0.015)
Adj. R^2		0.187	0.193	0.195	0.195	0.184	0.011
Wald χ^2		2955.5 ***	2975.3 ***	2743.3 ***	2742.0 ***	2985.4 ***	2386.3 ***
Tests of endogeneity:							
Durbin chi2		34.796 ***	29.564 ***	0.023	0.008	16.583 ***	21.772 ***
Wu-Hausman F		35.233 ***	29.925 ***	0.023	0.008	16.379 ***	21.823 ***
First-stage regression:							
R^2		0.423	0.549	0.234	0.253	0.301	0.578
Adj. R^2		0.422	0.549	0.233	0.252	0.300	0.577
Part. R^2		0.117	0.169	0.16	0.162	0.116	0.004
F		1260.5 ***	1986.2 ***	990.18 ***	1017.4 ***	874.29 ***	33.816 ***
N		23124	23124	23124	23124	23124	23124

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

(c) Additional analysis

As suggested by institutional theory, the way corporations are governed varies across countries due to a variation of the motives of managers, shareholders, and other key stakeholders. All these factors are driven by the long-standing, historically entrenched institutions (Matten & Moon, 2008) which focus on the role of economic, political, and cultural context (Baughn et al., 2007). Therefore, the association between tax avoidance and earnings management may vary among countries in the BRICS group. The main regression model is re-estimated with the data of each country separately. Table 4.8 reports the regression results for the relationship between tax avoidance and earnings management at the country level. The findings show consistent results with the main findings only when the models are estimated with the sample data in India and China. Specifically, the coefficients on AEM measures are negatively and significantly ($\beta_{\text{Jones}} = -0.026$, $p < 0.01$; $\beta_{\text{MoJones}} = -0.029$, $p < 0.01$; $\beta_{\text{Matched_Jones}} = -0.008$, $p < 0.01$; $\beta_{\text{Matched_MoJones}} = -0.009$, $p < 0.1$ for India, and $\beta_{\text{Jones}} = -0.031$, $p < 0.01$; $\beta_{\text{MoJones}} = -0.034$, $p < 0.01$; $\beta_{\text{Matched_Jones}} = -0.035$, $p < 0.01$; $\beta_{\text{Matched_MoJones}} = -0.035$, $p < 0.1$ for China) associated with annual GAAP ETR, but the coefficients on REM measures present the positively and significantly ($\beta_{\text{AbnOCF}} = 0.016$, $p < 0.01$, $\beta_{\text{AbnProd}} = 0.015$, $p < 0.01$ for India, and $\beta_{\text{AbnOCF}} = 0.066$, $p < 0.01$, $\beta_{\text{AbnProd}} = 0.057$, $p < 0.01$ for China) with annual GAAP ETR. Therefore, it confirms that firms domiciled in India and China use non-conforming techniques to manage discretionary accruals which are able to increase book incomes (higher discretionary accruals) and decrease taxable incomes (lower the effective tax rate) at the same time (Desai, 2002; Frank et al., 2009; Hanlon et al., 2005; Manzon & Plesko, 2002). For firms using real-activities earnings management techniques, managers of the firms need to trade-off between taxable income and book income between as REM is conforming techniques where the higher income increasing leads to the higher effective tax rate.

For firms domiciled in Brazil, Russia, and South Africa, no relationship between tax avoidance and earnings management exists in the setting of this study. A possible explanation for this is that metric of tax avoidance used in these jurisdictions is only based on taxes on income, while the overall firm's tax burden includes other federal levies (at the state and municipal levels), all of which vary greatly based on the main sector of firm's activity.

Table 4.8 Tax avoidance and earnings management at country level

Countries	ETR-AEM				ETR-REM	
	Jones	MoJones	MatchedJ	MatchedMJ	AbnCFO	AbnProd
Brazil	-0.012 (0.036)	-0.012 (0.036)	-0.022 (0.028)	-0.020 (0.027)	-0.031 (0.057)	0.009 (0.028)
adj. R^2	0.324	0.324	0.324	0.324	0.324	0.324
F	11.986	12.091	12.161	12.17	12.136	11.937
N	963	963	963	963	963	963
Russia	-0.002 (0.033)	0.012 (0.041)	-0.035 (0.025)	-0.034 (0.025)	0.126 *** (0.044)	-0.003 (0.026)
adj. R^2	0.202	0.202	0.204	0.204	0.211	0.202
F	6.292	6.376	6.374	6.373	6.684	6.293
N	761	761	761	761	761	761
India	-0.026 *** (0.008)	-0.029 *** (0.007)	-0.008 *** (0.005)	-0.009 * (0.005)	0.016 *** (0.014)	0.015 *** (0.008)
adj. R^2	0.199	0.199	0.198	0.198	0.198	0.198
F	36.492	36.833	36.377	36.388	36.314	36.324
N	8531	8531	8531	8531	8531	8531
China	-0.031 *** (0.006)	-0.034 *** (0.006)	-0.035 *** (0.005)	-0.035 *** (0.005)	0.066 *** (0.012)	0.057 *** (0.007)
adj. R^2	0.106	0.106	0.107	0.107	0.106	0.109
F	27.353	27.348	28.681	28.585	25.857	27.046
N	11632	11632	11632	11632	11632	11632
S. Africa	0.034 (0.031)	0.006 (0.032)	-0.003 (0.024)	-0.003 (0.025)	-0.04 (0.033)	-0.019 ** (0.010)
adj. R^2	0.160	0.159	0.159	0.159	0.160	0.161
F	4.298	4.305	4.326	4.327	4.429	4.684
N	1237	1237	1237	1237	1237	1237

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

The following regressions are estimated cross-sectionally with fixed-effect model for the sample period 2006-2017. The ordinary least square (OLS) is used with firm-level clustered standard errors for the estimation of the p-values.

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 EM_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{18} \alpha_n Fixed\ Effect_{i,t}^{industry} \\
 & + \sum_{n=19}^{30} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t}
 \end{aligned}$$

where: the variables are as described in Table 4.4

4.6. Conclusion

This study attempts to fill the gap in the literature by exploring the relationship between tax avoidance and earnings management in emerging markets, and empirically analysing such strategies both in terms of discretion made on accruals and operational decision on real activities. Using a large sample of firms domiciled in Brazil, Russia, India, China, and South Africa (BRICS), the main result shows that firms use a non-conforming approach to manage earnings to increase book income, and to reduce taxable income in the same accounting period through the technique of accruals discretion, consistent with prior studies in the developed economies (e.g., Desai, 2002; Frank et al., 2009).

On the contrary, the technique of real-activities alteration provides a piece of additional evidence as the results show that firms with a high level of real-activities earnings management are likely to pay higher tax, suggesting that tax avoidance and real-activities management are subject to the conforming approach where firms may need to trade-off between increasing book income and decreasing taxable income. These results support the hypothesis that managers of firms use conforming techniques to manage earnings so that the higher book income, the higher taxable income. This finding is consistent with Zang (2012)'s argument indicating that REM is costly due to tax incentives because the practices of REM has direct cash flow effect in the current period and thereby affecting the level of tax liabilities in the same direction in the same period. However, these results hold only with the sample from India and China when the models are tested at the country level.

Nonconformity between financial accounting standards and corporate tax regulation allows tax planning by firms to manage earnings, especially through discretion on accrual transactions. As each member of BRICS comply with international accounting standards, i.e. IFRS, which are argued to reduce the level of book-tax conformity, it is important for standard setters to have a better understanding as to what extent earnings management is positively related to tax avoidance in the context of emerging markets. This study recommends that the high level of accrual-based earnings management could be used as a mechanism for tax avoidance. Therefore, the findings provide important implications for policymakers who seek to identify the conditions under which tax avoidance is more likely to be aggressive and suggests for them to take tax effects into account when developing and revising accounting standards. Finally, this study recommends analysts and investors who are interested in firms' tax avoidance activities and directly use the accounting numbers to evaluate the extent of tax avoidance when making investment decisions to adjust their portfolios. Awareness of firms' earnings management practices may help to investigate whether firms also

participate in tax avoidance practices. This study is subject to the following limitations: First, the sample is limited to publicly listed firms and limited to only five countries as the representatives of emerging countries. Second, the measures of tax avoidance (ETR) are based on external financial statement data and not financial data submitted to the tax authorities. Third, the measure of REM excludes expenditure discretion due to missing data; hence, the findings may not be fully comparable to studies investigating the same or similar aspects that use different measures. Therefore, future research on the relationship between tax avoidance and earnings management in emerging economies should consider expanding the sample size and using more countries. Future studies could also investigate whether firms that are exposed as tax avoiders used accrual-based earnings management exclusively to manage earnings or they use a combination of both accrual-based earnings management and real activities manipulation for the purpose of tax reduction.

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Appendices

Appendix 4.1: Definitions of Variables

The model

$$\begin{aligned} TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 EM_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} + \sum_{n=12}^{16} \alpha_n Fixed\ Effect_{i,t}^{country} \\ & + \sum_{n=17}^{25} \alpha_n Fixed\ Effect_{i,t}^{industry} + \sum_{n=26}^{37} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t} \end{aligned}$$

Tax avoidance (TaxAvoid)

ETR = The effective tax rate estimated by income tax divided by pretax book income.

Earning Management (EM)

Jones = The total discretionary accruals from Jones's model;
MoJones = The total discretionary accruals from Modified Jones's model;
Matched-Jones = The total discretionary accruals from performance matched Jones's model;
Matched-MoJones = The total discretionary accruals from performance matched modified-Jones' model.

Control Variables (CONTROLS)

Size = The natural logarithm of total assets;
CapInt = The ratio of gross property, plant, equipment and total assets;
IntangInt = The ratio of intangible assets and total assets;
Lev = The ratio of long-term debt liability and total assets;
Growth = The ratio of changes in net sale and total assets;
DivPayout = The ratio of dividends per share and earnings per share multiplied by 100;
CloseHeld = The percentage of number of closely held shares to common shares outstanding;
Loss = The dummy variable equal to 1 if the firm's net income less than 1, and 0 otherwise;
IFRS = The dummy variable equal to 1 in the year and after when firms adopt IFRS, and 0 otherwise;
LawSys = The dummy variable equal to 1 if firms are in country complying with civil law and 0 otherwise.

Appendix 4.2: The mean value of variables

The mean value of ETR and STR

Year	N	Overall		Brazil		Russia		India		China		S. Africa	
		STR	ETR	STR	ETR	STR	ETR	STR	ETR	STR	ETR	STR	ETR
2006	651	0.33	0.24	0.34	0.24	0.24	0.32	0.34	0.23	0.33	0.23	0.37	0.29
2007	703	0.33	0.24	0.34	0.25	0.24	0.31	0.34	0.24	0.33	0.21	0.37	0.29
2008	1,033	0.32	0.25	0.34	0.26	0.24	0.29	0.34	0.25	0.25	0.19	0.35	0.30
2009	1,059	0.31	0.25	0.34	0.22	0.20	0.27	0.34	0.27	0.25	0.19	0.35	0.31
2010	1,308	0.31	0.25	0.34	0.26	0.20	0.25	0.34	0.27	0.25	0.19	0.35	0.30
2011	1,521	0.31	0.25	0.34	0.24	0.20	0.26	0.32	0.25	0.25	0.22	0.35	0.29
2012	1,786	0.31	0.27	0.34	0.29	0.20	0.27	0.32	0.28	0.25	0.22	0.35	0.29
2013	2,647	0.29	0.24	0.34	0.23	0.20	0.26	0.34	0.27	0.25	0.21	0.28	0.29
2014	2,725	0.28	0.23	0.34	0.24	0.20	0.28	0.34	0.27	0.25	0.20	0.28	0.29
2015	2,927	0.27	0.21	0.34	0.24	0.20	0.25	0.35	0.26	0.25	0.19	0.28	0.30
2016	3,354	0.27	0.21	0.34	0.24	0.20	0.24	0.35	0.28	0.25	0.19	0.28	0.32
2017	3,410	0.27	0.21	0.34	0.27	0.20	0.24	0.35	0.28	0.25	0.18	0.28	0.28

The mean value of ETR and STR

Year	N	Overall		Brazil		Russia		India		China		S. Africa	
		AEM	REM	AEM	REM	AEM	REM	AEM	REM	AEM	REM	AEM	REM
2006	651	-0.01	0.01	0.10	-0.12	-0.04	-0.08	0.04	0.07	-0.05	0.02	0.00	0.00
2007	703	0.00	0.12	0.01	-0.06	0.03	-0.02	0.01	0.19	-0.01	0.07	0.00	0.00
2008	1,033	-0.10	-0.05	-0.02	-0.15	-0.16	-0.11	-0.14	-0.03	-0.03	0.05	0.00	0.00
2009	1,059	-0.10	0.08	0.04	0.01	0.01	-0.17	-0.18	0.14	-0.01	-0.04	0.00	0.00
2010	1,308	-0.09	0.06	0.00	-0.04	0.05	0.02	-0.15	0.09	-0.02	0.10	0.00	-0.09
2011	1,521	-0.12	0.05	0.02	-0.05	-0.03	-0.04	-0.18	0.09	-0.03	0.05	0.00	-0.11
2012	1,786	-0.16	0.05	-0.06	-0.07	-0.02	-0.10	-0.23	0.09	0.06	0.00	-0.02	0.03
2013	2,647	-0.08	0.02	-0.03	-0.03	-0.01	-0.07	-0.21	0.02	0.03	0.04	-0.01	-0.08
2014	2,725	-0.01	0.02	-0.03	-0.06	0.00	-0.18	-0.10	0.11	0.03	0.01	-0.04	-0.07
2015	2,927	0.03	-0.01	-0.04	-0.12	0.03	-0.14	-0.05	0.02	0.06	-0.01	-0.03	-0.10
2016	3,354	0.04	0.01	-0.02	0.08	-0.02	0.00	-0.03	0.01	0.06	0.01	0.00	0.01
2017	3,410	0.04	0.04	-0.02	-0.05	-0.04	-0.10	-0.01	0.05	0.07	0.07	-0.01	-0.03

The mean value of sample of 23,124 firm-year observations during the period of 2006-2017 used to plot

Appendix 4.3: Extended Test

Simultaneous and trade-off actions between AEM and REM

Since managers can employ AEM and REM to achieve the same objective, which is to manage earnings in their favour, these two techniques can be seen either as non-simultaneous strategies or as mutually exclusive strategies.

Following Zang (2007) and Chen, Huang & Fan (2012), this extended test adopts the simultaneous equations estimated by the two-stage least square (2SLS) regression to examine whether the levels of AEM and REM behave as endogenous variables that are simultaneously determined (Hausman 1978). In the first stage, AEM and REM are regressed on the exogenous variables (i.e., the costs relative to each approach of earnings management and the common control variables) to obtain instruments for AEM and REM (i.e., the predicted values from the equations). In the second stage, AEM is regressed on the exogenous variables, the instrument of REM, and REM itself. Similarly, REM is regressed on the exogenous variables, the instrument of AEM, and AEM itself. If one approach is defined by the other, the coefficients on the instruments of AEM in the REM equation and the coefficients on the instruments of REM in the AEM equation should not be significantly different from zero. The results show that the coefficients on the instrument of REM and AEM are significant in both equations. Specifically, the Hausman tests rejected both the exogeneity of REM in the AEM regression and the exogeneity of AEM in the REM regression (with Wu-Hausman F-value of 9.18 ($p < 0.01$) in the AEM model and with Wu-Hausman F-value of 26.38 ($p < 0.01$) in the REM model). These results suggest that there is a simultaneity issue between AEM and REM. Therefore, the following simultaneous equations are estimated using the 2SLS method:

$$AEM_PROXY_{i,t} = \alpha_0 + \delta_1 REM_PROXY_{i,t} + \sum_{n=2}^3 \delta_n Costs\ of\ AEM_{i,t} + \sum_{n=4}^8 \delta_n Controls_{i,t} + \varepsilon_{i,t} \quad (15)$$

$$REM_PROXY_{i,t} = \alpha_0 + \gamma_1 AEM_PROXY_{i,t} + \sum_{n=2}^3 \gamma_n Costs\ of\ REM_{i,t} + \sum_{n=4}^8 \gamma_n Controls_{i,t} + \varepsilon_{i,t} \quad (16)$$

Where AEM_PROXY is the aggregated AEM measure estimated by averaging the value of *Jones*, *MoJones*, *Matched_Jones*, and *Matched_MoJones*. REM_PROXY is the aggregated REM proxy measured by averaging the value of *AbnOCF* and *AbnProd*. Costs of AEM refer to the lagged value of AEM_PROXY and the dummy variable equal to 1 if the firm's auditor is a Big 4 firm. Costs of REM refer to the firm's production capacity and market share of the preceding year. Controls refer to the firm's

size, firm's market-to-book ratio, firm's leverage, firm's growth, and closely-held shares (see the definitions in Appendix A).

The substitutive hypothesis predicts that firms engage in REM more when the relative costs of AEM are high, and *vice versa*. Hence, δ_1 in Equation (15) and γ_1 in Equation (16) are expected to be negative ($\delta_1 < 0$ and $\gamma_1 < 0$). In contrast, the complementary hypothesis assumes that managers use both AEM and REM at the same time. δ_1 in Equation (15) and γ_1 in Equation (16) are thus expected to be positive ($\delta_1 > 0$ and $\gamma_1 > 0$). If the results turn out to be in a way that $\delta_1 < 0$ and $\gamma_1 > 0$ or $\delta_1 > 0$ and $\gamma_1 < 0$, it suggests that AEM and REM are independently used by the firm's managers.

Columns (1) and (2) in the table below report the regression results for the simultaneous versus substitutive practice between AEM and REM. Although the coefficient of REM in the AEM model and the coefficient of AEM in the REM model are positive consistent with the complementary hypothesis, both values are not statistically significant, suggesting that the sample does not provide evidence regarding a simultaneous or substitute strategy used by managers of firms in BRICS countries.

In addition to the empirical evidence documenting that managers use AEM and REM to manage earnings based on their relative costs (Badertscher, 2011; Cohen et al., 2008; Cohen & Zarowin, 2010; Enomoto et al., 2015; Ipino & Parbonetti, 2017; Joosten, 2012; Zang, 2012), another difference between AEM and REM influencing managers' decisions is timing differences in their application. REM activities can only take place before the fiscal year-end. Relying on REM alone is uncertain as a manager does not have perfect control over the exact amount of REM to be manipulated. This would be a problem if realised income falls below the threshold because after the year-end, a manager can no longer engage in REM. Similarly, although managers can manipulate accruals after the end of the fiscal period, engaging in AEM alone may lead to the risky circumstance that reported earnings are below the desired threshold and all accrual-based strategies to meet the threshold are exhausted. Managers then need to leave the shortfall between unmanaged earnings and the desired threshold because it cannot be adjusted through REM activities after the fiscal reporting period ends either. Therefore, a coordinated strategy between REM and AEM may be the optimal means to manage earnings. By doing so, managers can adjust earnings through AEM, which can be used to cover the missing amount, after REM actions are exhausted after the end of the fiscal year. That is, the managers can observe the outcomes of REM on earnings at the end of the fiscal year, and then they can use less (more) AEM to offset an unexpectedly high (low) result

from REM. Following Zang (2012), the following recursive equation system is conducted to capture this sequence of decisions:

$$REM_PROXY_{i,t} = \alpha_0 + \sum_{n=1}^2 \varphi_n \text{Costs of } REM_{i,t} + \sum_{n=3}^4 \varphi_n \text{Costs of } AEM_{i,t} + \sum_{n=5}^9 \varphi_n \text{Controls}_{i,t} + \varepsilon_{i,t} \quad (17)$$

$$AEM_PROXY_{i,t} = \alpha_0 + \sum_{n=1}^2 \sigma_n \text{Costs of } AEM_{i,t} + \sum_{n=3}^4 \sigma_n \text{Costs of } REM_{i,t} + \sigma_5 \text{Unexpected}REM_{i,t} + \sum_{n=6}^{10} \sigma_n \text{Controls}_{i,t} + \varepsilon_{i,t} \quad (18)$$

Where all variables used are measures the same as in the previous test.

The equations (17) is estimated to investigate to what extent REM is determined by the relative costs of AEM and REM as well as other firm characteristics, but not by the realised outcome of AEM. Unlike REM, the extent of AEM may be determined not only by the relative costs of AEM and REM and other firm characteristics but also by the unexpected amount of REM (which is revealed shortly after the fiscal year-end). Therefore, σ_5 in the equation (18) is expected to be negative.

Columns (3) and (4) show that the unexpected value of REM is insignificantly and positively associated with AEM, suggesting that this study cannot provide further support for evidence reported by Zang (2012), which indicates that the level of AEM is negatively related to the unexpected amount of REM. However, the results lend support, to some extent, for the argument that managers trade off earnings management methods based on their relative costs. The AEM model (column 4) shows that the coefficients of LagAEM_Proxy and Big4 (i.e., costs of AEM) are negatively related to AEM and the coefficient of LagShare (i.e., cost of REM) is positively associated to AEM. These results suggest that when AEM is constrained by its relative costliness, managers use a greater extent of REM. The REM model (column 3) shows that the level of REM is depended on its costs as the coefficients of LagShare and C_Prod (i.e., cost of REM) are positively associated with REM. The results mean that when the costs of REM increase (reduce), managers of the firms reduce (increase) the level of REM. Interestingly, the costs claimed to constrain the level of AEM (Big4) also constrain the level of REM in this study.

Regression results for simultaneous and trade-off actions between AEM and REM

Variables	Simultaneous action ^a		Sequential action ^b	
	AEM model	REM Model	REM model	AEM Model
Unexp_REM				0.004 (0.013)
Earnings management approach:				
REM_Proxy	0.012 (0.013)			
AEM_Proxy		0.008 (0.008)		
Costs of AEM:				
LagAEM_Proxy	0.092 *** (0.010)		-0.657 (0.862)	-3.935 *** (1.063)
Big4	-0.013 *** (0.004)		-0.022 *** (0.001)	-0.005 *** (0.002)
Costs of REM:				
LagShare		-0.241 (0.860)	-0.042 *** (0.008)	0.087 *** (0.010)
C_Prod		-0.022 *** (0.001)	-0.001 *** (0.003)	-0.013 *** (0.004)
Control variables	Yes	Yes	Yes	Yes
FE: Country, Industry, Year	Yes	Yes	Yes	Yes
Constant	-0.284 *** (0.024)	-0.006 (0.021)	-0.061 *** (0.023)	-0.386 *** (0.028)
Adj. R^2	0.164	0.158	0.161	0.165
Wald χ^2	751.490 ***	1453.810 ***		
F-statistic			57.160 ***	57.339 ***
Tests of endogeneity				
Durbin χ^2	8.201 ***	26.406 ***		
Wu-Hausman F	8.179 ***	26.388 ***		
First-stage regression:				
Adj. R^2	0.973	0.990		
F-statistic	285096 ***	814583 ***		
<i>N</i>	9376	9376	9376	9376

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

^a The following regressions are estimated cross-sectionally for the sample covering the period 2006-2017. The two-stage least square (2SLS) is used with firm-level robustness of standard errors for the estimation of the p-values.

$$\begin{aligned}
AEM_{PROXY_{i,t}} &= \alpha_0 + \delta_1 REM_{PROXY_{i,t}} + \sum_{n=2}^3 \delta_n Costs\ of\ AEM_{i,t} + \sum_{n=4}^8 \delta_n Controls_{i,t} + \\
&\quad \sum_{n=9}^{13} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=14}^{22} \alpha_n Fixed\ Effect_{i,t}^{industry} + \\
&\quad \sum_{n=23}^{34} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t} \\
REM_{PROXY_{i,t}} &= \alpha_0 + \gamma_1 AEM_{PROXY_{i,t}} + \sum_{n=2}^3 \gamma_n Costs\ of\ REM_{i,t} + \sum_{n=4}^8 \gamma_n Controls_{i,t} + \\
&\quad \sum_{n=9}^{13} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=14}^{22} \alpha_n Fixed\ Effect_{i,t}^{industry} + \\
&\quad \sum_{n=23}^{34} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t}
\end{aligned}$$

^b The following regressions are estimated cross-sectionally for the sample covering the period 2006-2017. The ordinary least square (OLS) is used with firm-level robustness standard errors for the estimation of the p-values.

$$\begin{aligned}
REM_{PROXY_{i,t}} &= \varphi_0 + \sum_{n=1}^2 \varphi_n Costs\ of\ REM_{i,t} + \sum_{n=3}^4 \varphi_n Costs\ of\ AEM_{i,t} + \sum_{n=5}^9 \varphi_n Controls_{i,t} + \\
&\quad \sum_{n=10}^{14} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=15}^{23} \alpha_n Fixed\ Effect_{i,t}^{industry} + \\
&\quad \sum_{n=24}^{35} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t} \\
AEM_{PROXY_{i,t}} &= \sigma_0 + \sum_{n=1}^2 \sigma_n Costs\ of\ AEM_{i,t} + \sum_{n=3}^4 \sigma_n Costs\ of\ REM_{i,t} + \sigma_5 Unexp.REM_{i,t} + \\
&\quad \sum_{n=6}^{10} \sigma_n Controls_{i,t} + \sum_{n=11}^{15} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=16}^{24} \alpha_n Fixed\ Effect_{i,t}^{industry} + \\
&\quad \sum_{n=25}^{36} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t}
\end{aligned}$$

where: *AEM_PROXY* is the aggregated AEM measure estimated by averaging the value of *Jones*, *MoJones*, *Matched_Jones*, and *Matched_MoJones*.

REM_PROXY the aggregated REM proxy measured by averaging the value of *AbnOCF* and *AbnProd*.

Costs of AEM refer to the lagged value of *AEM_PROXY* and the dummy variable equal to 1 if the firm's auditor is a Big 4 firm.

Costs of REM refer to the market share of firms to its industry and the firm's production capacity.

Controls refer to firm's size, firm's equity market-to-book ratio, firm's leverage, firm's net incomes, and firm's closely held shares, defined as follows:

Size	=	The natural logarithm of total assets;
Lev	=	The ratio of long-term debt liability and total assets;
NI	=	The ratio of net income and total assets;
MTBV	=	The market-to-book ratio;
CloseHeld	=	The percentage of number of closely held shares to common shares outstanding.

Fixed Effect^{country, industry, year} refer to country, industry, and year fixed effect: five countries, nine industries, and **fourteen years**.

Chapter 5

Tax Avoidance and Accounting Conservatism

5.1. Introduction

Corporate tax avoidance is traditionally viewed as one of the mechanisms used to maximize profit by reducing tax liabilities (Hanlon & Heitzman, 2010; Preuss, 2010). Prior empirical research shows that tax incentives play an important role in firms' behaviours such as engaging in earnings management (e.g., Desai & Dharmapala, 2009; Shane & Stock, 2006; Sundvik, 2017; Taylor & Richardson, 2014; Wong, Lo, & Firth, 2015), participating in corporate social responsibility (e.g., Lanis & Richardson, 2012, 2013, 2015; Preuss, 2010, 2012), and shifting profit to subsidiaries (e.g., Bartelsman & Beetsma, 2000; Fuest & Riedel, 2012; Janský & Prats, 2015; Omar & Zolkafilil, 2015). Thus far, the extant literature on the link between tax avoidance and conservatism is relatively under-examined. The current study aims to fill this gap by examining the relationship between conservatism and tax avoidance, specifically to answer the question of whether firms apply conservative accounting to reduce their tax liabilities.

Generally, conservatism is an accounting principle that makes liabilities/losses big or assets/incomes small when firms face the situations that there are more than one alternative available methods in the preparation of financial statements. In other words, firms are timelier in recognizing losses than gains. For example, firms would lower net assets and profits in response to bad news but do not increase net assets and profits in response to good news. This is because gains require higher standards of verification to be recorded in book income than losses (Basu, 1997; Watts, 2003a, 2003b). Although a firm's book income and its taxable income are determined by different rules and regulations, it is a well-known fact that taxable income is affected by book income. By conservatively delaying the recognition of book income, taxable income is simultaneously shifted, and tax payments are also deferred into the future

(Bornemann, 2018). Therefore, tax saving may be an incentive for firms to increase accounting conservatism in order to minimize tax liability. Managers, working on behalf of shareholders, would attempt to reduce taxable income in the current period by delaying the revenue recognition and accelerating the expense recognition.

Moreover, while the majority of extant research on this link focuses exclusively on the behaviour of firms in the US (e.g., Gan, 2018; Heltzer, 2009; Lara, Osma, & Penalva, 2009; Qiang, 2007), investors have drawn more attention to comparing related information to make investment decisions globally. As the emerging markets' GDPs (the gross domestic product) are estimated to be permanently surpassed that of all developed markets by 2035 (Wilson & Purushothaman, 2003), the emerging markets are considered the vital part of the world's economy. As such, emerging economies need to make the markets understandable and trustable by providing comparable and relevant information. Through this lens, investors would be more confident when making decisions on their investments (Meser, Veith, & Zimmermann, 2015). Due to differences between emerging and developed markets⁵⁹, the current study posits that emerging economies may provide further information regarding taxation and accounting conservatism in a specific and different way in relative to developed markets. Therefore, this study aims at providing a more comprehensive understanding of conservatism on tax avoidance in an emerging context, the BRICS: Brazil, Russia, India, China, and South Africa, the group of emerging countries that has been projected to exert an important influence over the world's economy⁶⁰.

Accounting conservatism can be classified as either conditional or unconditional conservatism. The conditional form is made upon the occurrence of a contemporaneous economic event (i.e., based on news) while the unconditional form is predetermined, and does not vary according to news (Basu, 1997; Watts, 2003a). In the context of taxation, there is no requirement of a particular form of conservatism to achieve tax incentives. Prior research shows that it is likely to be associated with unconditional conservatism. For example, Qiang (2007) argues that tax burdens tend to induce unconditional conservatism. Similarly, Kim & Jung (2007) find that unconditional conservatism, rather than

⁵⁹ Although an emerging country has some characteristics of a developed market, it does not meet the required standards to be termed a developed market. With lower standards, the emerging market may face different degrees and situations in a particular circumstance comparing to the developed market.

⁶⁰ BRICS have become the key debate in various facets including economy, politics, and development (Piper, 2015) as it is predicted to dominate the world's economy by 2050 (O'Neill, 2001).

conditional conservatism, is positively associated with the tax burden of firms. Heltzer (2009) finds that firms having taxable income more than book income present higher levels of unconditional conservatism. Asgari & Behpouri (2013) report a positive association between unconditional conservatism and tax burdens.

In contrast, other studies suggest that conditional conservatism can also effectively minimize firms' tax payments. Lara, Osma, & Penalva (2009) document that taxation induces not only unconditional conservatism but also conditional conservatism. Bornemann (2018) shows that conditional conservatism is positively associated with taxation when changes in tax rates are approaching. Furthermore, Gan (2018) sheds more light on this link by revealing that firms utilize conditional conservatism as a vehicle for tax avoidance to reduce actual tax payments. As prior studies report mixed results on whether conditional conservatism, or unconditional conservatism, or both are more likely to be related to tax burdens, this study fills this gap by investigating the tax-reduced effects of conservatism through both conditional and unconditional forms.

This study finds that firms' conditional conservatism is significantly and negatively associated with firms' annual effective tax rate (ETR), suggesting the positive association between accounting conservatism and tax avoidance. In contrast, firms' unconditional conservatism is significantly and positively associated with firms' annual effective tax rate, implying that increases in unconditional conservatism would lead to lower levels of tax avoidance. These effects of firms' conditional and unconditional conservatism hold only with Chinese firms when investigating at a country level and only unconditional conservatism is still positively associated with annual ETRs of firms in Brazil, India, and South Africa.

This study aims to contribute to several streams of literature: Firstly, by examining the impact of conservatism both in conditional form and unconditional form on tax avoidance, this study adds to the stream of literature on determinants of tax avoidance, sheds additional light on the consequences of accounting conservatism especially conservatism in response to the incentives of tax reduction, and contributes to the ongoing and topical debate whether conditional or unconditional forms of conservatism are more likely associated with taxation (Heltzer, 2009; Qiang, 2007; Watts, 2003a, 2003b) specifically with tax-reducing liabilities (Bornemann, 2018; Gan, 2018; Lara et al., 2009). While existing studies have focused on an ex-ante analysis of whether high tax pressure leads to more conservatism, this study

conversely provides analysis based on an ex-post perspective and presents direct evidence as to whether conditional or unconditional conservatism results in reductions in tax liabilities. Secondly, by focusing on the emerging markets, this study, to the best of the author's knowledge, is the first paper contributing to literature on tax avoidance and accounting conservatism in the context of BRICS. While most of existing studies have repeatedly documented empirical evidence from developed markets like the US, this study provides the results that help enhance a generalization ability of the test on the link between tax avoidance and conservatism into emerging economies. Furthermore, understanding the relationship between conservatism and a company's tax avoidance from this study provides implications to several parties. The findings potentially benefit (i) policymakers and standard setters in both evaluating and improving the existing policies and stimulating new policies to discourage firms from taking advantage of conservatism for the purpose of tax avoidance; (ii) tax authorities in developing methods to detect and deter firms' tax avoidance practices through information from financial statements; and (iii) researchers who are interested in the on-going and inclusive discussion of the conservatism-tax relationship.

Furthermore, this study provides the preliminary findings for future research to improve the methodology and to make the association between tax avoidance and accounting conservatism more pronounced. Anecdotal evidence shows that investors have expressed a heightened interest in firms' tax avoidance activities when making investment decisions (Drake et al., 2019; Mukhlisin & Anissa, 2018). Therefore, if investors are aware that a particular firm uses conservative accounting (tax avoidance), then they should also investigate whether the firm participates in tax avoidance (conservative accounting).

The rest of the chapter proceeds as follows: *Section 5.2* reviews relevant literature and elucidates underlying theory followed by *Section 5.3* on the development of hypotheses. *Section 5.4* discusses the research design, including the data, measurement of variables, and analysis model. *Section 5.5* presents the main findings and results from additional and robustness tests. Finally, *Section 5.6* provides a summary and conclusion.

5.2. Related Literature

5.2.1. Accounting conservatism

The main objective of accounting is to provide information reflecting firms' underlying economic circumstances. A firm's economic value can be decomposed into a realised part, which is objective and

recognised through cash flow, and unrealized part which is subjective and needs to be predicted (Zhong & Li, 2017). As an accounting transaction is recorded based on an accrual basis, how the unrealized part is recognised in earnings is important because it determines the properties of financial reporting. Accounting conservatism has been one of the most influential principles of the accounting process (Sterling, 1967). Traditionally defined by Bliss (1924), accounting conservatism is “anticipat[ing] no profits but anticipat[ing] all losses”. The US accounting standard setter includes the issue of conservatism in the Statement of Concepts No. 2 (FASB, 1980) and defines it as “[a] prudent reaction to uncertainty ... If two estimates of amounts to be received or paid in the future are about equally likely, conservatism dictates using the less optimistic estimate.” In other words, among the possible alternative values, the lowest value for assets and the highest value for liabilities should be chosen to be recognized (Watts & Zimmerman, 1986). Although these definitions are useful, they do not consider the actual economic environment. Basu (1997) proposes an alternative definition of accounting conservatism by taking the degree of verification for good news and bad news into account when recognizing them in accounting processes. According to Basu (1997), earnings should reflect bad news more quickly than good news. Although conservatism is not a desirable aspect of a faithful representation of financial reporting (IASB, 2006, BC2.22), some respondents to the Discussion Paper and Exposure Draft argue that conservatism should be included in the conceptual framework for financial reporting because “...bias should not always be assumed to be undesirable, especially in circumstances when bias, ..., produces information that is more relevant to some users.” (FASB, 2010).

Watts (2003) and Zhong & Li (2017) both argue the benefits of conservative financial reporting to various stakeholders. Watts (2003) proposes four explanations for conservatism: contracting, litigation, income tax, and regulatory. Zhong & Li (2017) describe a different party’s demand for conservatism: debtholders, shareholders, auditors, and regulators. This study thus explains the usefulness of conservatism from another perspective by discussing its demands based on contracting and non-contracting parties.

(a) Contracting-based implications

As part of a contract between firms and various stakeholders, managers are responsible for informing the firms’ performance to all parties in order to assess the firms. The majority of information is conveyed

through financial reports. Given that the managers have incentives to exaggerate reported performance,⁶¹ the credibility of the financial information needs to be assured. Conservatism constrains and offsets managerial biases caused by opportunistic managers through the high level of verifiability requirement. This offset increases firm value which would be shared among all parties related to the firms, i.e., increasing everyone's welfare, not only managers and shareholders. Watts (2003), thus, concludes that conservatism is an efficient mechanism for contracting. The first party that benefits from conservative accounting information is debtholder. Given that debtholders will lose their wealth if a firm suffers from financial trouble, debt covenants usually include criteria that may limit the payment of dividends and criteria in terms of the fixed-charge coverage ratio, leverage, and net worth (Nikolaev, 2010). Conservatism can improve the efficiency of debt contracting by triggering covenant violations through the recognition of loss at the right time and by requiring high verifiability for gain recognition (Watts, 2003a). Debtholders prefer timely losses realization to timely gains recognition due to asymmetric payoffs. While timely loss recognition allows debtholders to take actions to protect their wealth in a timely manner, timely gain recognition does not offer them any additional benefits apart from the principal and interest. Moreover, when high verifiability is required to recognize gains, it is difficult for managers to overstate earnings or net assets (Zhong & Li, 2017).

Shareholders also demand for conservatism. In business organizations, executive compensation contracts are linked to firm performance. Managers, as such, have incentives to inflate earnings and withhold bad news. Accounting conservatism as a principle of timely loss recognition facilitates shareholders' ability to mitigate the problem of agency conflicts and information asymmetry between them and managers (LaFond & Roychowdhury, 2008; LaFond & Watts, 2008). In line with this, Ball & Shivakumar (2005) reveal that conservative accounting information reduces managers' incentives to invest or continue negative NPV projects. Tax saving is another possible explanation for shareholders' demand for conservatism. As the last stakeholders to claim firm profits,⁶² shareholders have incentives to minimize tax liability. According to the link between tax system and accounting system, asymmetry in recognition of gains and losses generates conservatism in financial reporting. Managers, on behalf of shareholders,

⁶¹ The manager's incentives to embellish the performance reports better than reality are not only for management compensation purposes, but also for the manager's job opportunities in the labor market for management (Kothari et al., 2010).

⁶² Firm wealth is paid for interest to debtholders, compensation to managers, taxation to the government. The residual portion of firm profit then belongs to shareholders (Zhong & Li, 2017).

would try to reduce taxable income for deferring tax payment by delaying the revenue recognition and accelerating the expense recognition.

(b) Non-contracting implications

Under the litigation explanation, which is not consistent with the contracting perspective, if a firm's net assets are overstated, it is more likely to generate litigation costs on shareholders. Auditors are responsible for the validation and reliability of financial reporting. In a situation where firms are subject to financial fraud, auditors encounter with reputational harm and the risk of being prosecuted by shareholders. As conservatism refers to the accounting principles that understate the value of net assets, it reduces firm's litigation costs and thereby preferred by auditors. Basu (1997) documents that conservatism increases during periods when litigation against auditors increases. Basu, Hwang, & Jan (2001) find that Big Eight auditors report more conservative financial reporting than non-Big Eight auditors, especially when they are exposed to greater legal liability.

Like the litigation costs, political costs (another non-contracting perspective) are more likely to occur to standard setters and regulators if firms overstate earnings or net assets. That is, one consequence when firms face bankruptcy is a condemnation by the media and investors (Pinnuck, 2012). Therefore, shaped by market forces, conservatism and verifiability are critical features of a GAAP to ease criticism on firms, and consequently reduce political costs imposed on standard setters and regulators (Kothari et al., 2010).

5.2.2. Conditional versus unconditional conservatism

Although there are useful definitions of accounting conservatism, measuring conservatism is difficult, which thereby leads to contradicting conclusions in existing research. One of the possible reasons is that researchers do not consider types of conservatism and the actual economic environment in their studies. Distinguishing different types of conservatism have been considered in accounting research since Basu (1997). He proposes a new accounting conservatism definition that contributes to more understanding of the conservatism concept. Under Basu's definition of conservatism, types of income (i.e., economic gains and losses) are conditionally added into the traditional conservatism definition (an accounting bias toward reporting low book values of stockholder equity). By using stock returns to measure news and regressing earnings on unexpected returns, he finds that earnings are contemporaneously more sensitive to negative returns (bad news) than it is to positive returns (good news). In other words, earnings reflect

bad news in a timelier manner than good news. This implies that good news requires higher verifiability to recognize in financial reporting relative to bad news. As the bias toward understated reporting is conditional on contemporaneous economic losses that firms face, this type of conservatism is called conditional conservatism (Basu, 1997), which is also called news-dependent or *ex post* conservatism (Zhong & Li, 2017). Examples of conditional conservatism include goodwill impairment, long-lived tangible and intangible asset impairment, and inventory recorded at the lower of cost or market (Ruch & Taylor, 2015).

Unconditional conservatism, which is also called news-independent or *ex ante* conservatism, is the accounting process determined assets and liabilities at the beginning (Zhong & Li, 2017). Consequently, the under-recognition of net assets and the over-recognition of liabilities is consistent and does not depend on economic news events (Ruch & Taylor, 2015). Examples of unconditional conservatism include the immediate expensing of R&D costs, the accelerated depreciation methods long-lived assets, LIFO method for inventory, and accumulated reserves in excess of expected future costs (e.g., warranty allowance and allowance for doubtful accounts) (Ruch & Taylor, 2015; Zhong & Li, 2017). Although both types of conservatism result in understating book value of net assets compared with their market value, understanding the differences between conditional and unconditional forms of conservatism helps explain why conservatism has different effects on the financial statements. (Ruch & Taylor, 2015). Moreover, the application of one type affects the application of the other type of conservatism. Beaver & Ryan (2005) find that the unconditional conservatism, which understates assets at the inception, limits the magnitude of write-downs in the presence of bad news events. Therefore, the presence of unconditional conservatism may confound inferences made about the existence of conditional conservatism. Furthermore, two forms of conservatisms play different roles in different demanding parties. As Watts (2003a) proposes four explanations for conservatism: contracting, litigation, regulation, and taxation, Qiang (2007) further examines and finds that while conditional conservatism arises in settings where contracting and litigation costs are high, unconditional conservatism arises in settings where litigation, regulatory, and tax costs are high.

5.2.3. Institutional settings affecting conservatism in BRICS

Prior studies report that accounting conservatism is influenced by institutional factors (e.g., Andre & Filip, 2012; Ball, Kothari, & Robin, 2000; Bushman & Piotroski, 2006; Xu & Lu, 2008). For instance,

Bushman & Piotroski (2006) argue that accounting conservatism is influenced by institutional structures (legal/judicial systems, securities laws, and political economy) as they create incentives that influence the behaviours of market participants (e.g., corporate executives, regulators, investors). Ultimately, these behaviours affect the conservatism in firms' accounting practices. Given that BRICS is a group of five major emerging countries but with different backgrounds (i.e., different institutional contexts), this may cause variations in the demand for conservatism.

Previous research has documented that differences in demands for conservatism are attributable to differences in the quality of financial reporting (Pinnuck & Potter, 2009). The first institutional factors that may affect the level of conservatism in BRICS countries is the adoption of IFRS. According to a status of IFRS adoption, countries can be divided into three groups: (i) those that have already adopted mandatory IFRS; (ii) those that have set up a time frame for adoption; and (iii) those who have no full plan in place (Borker, 2012). In BRICS countries, they all have committed to adopt IFRS but currently are in the different stages towards the implementation. Moreover, different types of firms in each country may be required to use different standards. This section thus discusses only the extent of IFRS implementation of public firms as the sample data are focusing only on this type of firms. Brazil has already adopted IFRS standards for all firms publicly listed in stock markets since 2010. In Russia, IFRS has become mandatory for consolidated financial statements since 2012 under the Federal Law 208-FZ On Consolidated Financial Statements. Although India has made a public commitment towards IFRS standards as that single set of global accounting standards, it has not yet formally committed to adopting IFRS standards. However, the Indian Accounting Standards (Ind AS) that are mandated to all firms whose securities trade in a public market are based on and substantially converged with IFRS standard. Similarly, all Chinese public firms are required to use the Chinese Accounting Standards for Business Enterprises (ASBEs) which have issued since February 2006 and been substantially converged with IFRS, for financial reporting within mainland China. For firms listed in the Johannesburg Stock Exchange (JSE) in South Africa, they are required to use IFRS standards effective from 1 January 2005. In summary, currently, Brazil, Russia, and South Africa are categorized as countries in Group 1 that have already adopted mandatory IFRS while India and China are in Group 2 that have set up a period for adoption but not yet adopted. Within the conceptual framework of IFRS, prudence and conservatism are not desirable qualities of financial reporting information (IASB, 2006a, BC2.22) as it is believed that the consistent understatement of net assets is not an appropriate way to deal with uncertain transactions (Hellman, 2008). In line with this, Piot, Dumontier, & Janin (2010) find that the level of conditional

conservatism in European firms decreases under IFRS. Similarly, Andre & Filip (2012) find that after the adoption of IFRS, the conservatism of a sample of firms in 16 countries decreases overall, but this result holds at country-level data only in France, Germany, Netherlands, Portugal, and Switzerland.

In addition to the quality of financial accounting standards, Ball, Kothari, & Robin (2000) suggest that a law system, functioning as a proxy for the extent of political influence on accounting, also affects the conservatism of firms' accounting reports. By classifying countries into code-law (or civil-law) system and common-law system, they find that firms in countries domiciled in a common-law system recognize a loss in a timelier manner than firms in code-law countries. This is because code law is the system with strong political influences where national accounting standards are established and enforced by governments, following a planning-oriented and stakeholder model. Here, shareholdings are concentrated, and debt tends to be private, resolving information asymmetry through inside communication, and recognizing income based on each stakeholder interests. Conversely, accounting standards in common-law countries are determined mainly in the private sector. As common law is under the market-oriented and shareholder model where shareholders and bondholders are diverse, information asymmetry is resolved through public disclosure rather than through inside communication. This makes litigation costs of firms in common-law countries high, therefore, they are more demanded for conservative reports (Ball et al., 2000). In this study, Brazil, China, and Russia are classified as code-law countries while India and South Africa are classified as common-law countries. Taken together, firms in Brazil and Russia may report lower level of conservatism than other countries in BRICS group as they are in the institutional settings (mandatorily adopt IFRS and follow the code-law system) where there is less demand for being conservative in financial reporting.

5.2.4. Tax-motivated conservatism

Accounting numbers are usually estimated to serve two main objectives: (i) to be a basis for tax payments; and (ii) to reflect firms' economic situations for relevant stakeholders' decision making. While firms attempt to provide early and useful information to stakeholders through the use of conservative accounting, firms simultaneously shift taxable income into the future (by delaying the recognition of revenues) and defer tax payments (by accelerating the recognition of expenses). In other words, accounting conservatism enables firms to reduce the present value of tax payments, which in turn increases the value of a firm (Watts, 2003a). Therefore, tax avoidance can be an incentive for firms to

increase accounting conservatism, i.e., recording expenses and losses as early as possible (Qiang, 2007). However, there is no requirement of a particular form of conservatism to achieve tax incentives. Moreover, prior studies are still inconclusive on whether conditional conservatism (e.g., Bornemann, 2018; Gan, 2018) or unconditional conservatism (Asgari & Behpour, 2013; Kim & Jung, 2007; Purwantini, Chandrarin, & Assih, 2017; Qiang, 2007), or both (e.g., Lara, Osma, & Penalva, 2009) is related to tax burdens (see Appendix 5.1).

In general, while some rules in recognizing accounting transactions for tax purposes and accounting purposes are the same, others are somewhat different. For some particular transactions, tax codes are primarily on a cash basis, whereas standards for accounting are more on an accrual basis. Due to book-tax conformity, if firms are targeting to minimize taxable income, they usually manage book income. Under this view, tax codes offer rules which are unconditional conservatism in nature in reducing book income such as extra expenses to be deductible and expensing R&D expenses. Heltzer (2009) finds that firms with taxable income greater than book income exhibit higher levels of unconditional conservatism in their book income. Unlike unconditional losses which are realized from transactions, losses due to conditional conservatism are usually based on unrealized decreases in market value. Therefore, rules in the conditional form are barely allowed to be deductible in tax laws. Due to book-tax differences, firms need to be careful with large book-tax differences because they may trigger scrutiny from tax authority (Hoopes et al., 2012). As such, firms prefer to lower book income in order to narrow the difference between a book and taxable income when they intend to minimize taxable income. Although both forms can achieve this, Qiang (2007) argues that the unconditional form has some advantages over conditional form by the fact that (i) it recognizes losses earlier before news occurs; (ii) it is independent from the news so that easier to control; (iii) it has less costs to implement (e.g., no impairment test); and (iv) results in fewer shocks from unexpected news so that smoother earnings. By proxy tax costs with the estimated association between book and tax income, Qiang's (2007) results show that taxation induces unconditional conservatism. Several studies also provide support of a positive association between taxation and unconditional conservatism. For example, Asgari & Behpour (2013) find that firms use conservative accounting to reduce book-tax differences and corporate tax burdens drive unconditional conservatism.

However, Lara et al. (2009) contend that in addition to delaying tax payments through unconditional conservatism, firms can decrease their current net value of tax payments by shifting income from high

marginal tax rate periods to low marginal tax rate periods. The nature of unconditional conservative accounting does not support the latter because the feature of its pre-determination makes firms inflexible to shift income across periods. In contrast, under conditional conservatism, managers can use their discretion to choose between delaying the revenue recognition for good news and accelerating the recognition of losses for bad news. This makes conditional conservatism more flexible to conduct the income-shifting plan. In other words, Lara et al. (2009) explain that when firms face with high marginal tax rates, firms' managers can discretionarily shift income towards future periods which are expected to have lower marginal tax burdens through the strategies such as increasing the costs of goods sold and increasing bad debt expenses. Consistent with their argument, Lara et al. (2009) find that for firms with high marginal tax, managers respond to such pressure by increasing conditional conservatism. They further demonstrate that unconditional conservatism is associated with tax pressures only when such pressures do not change over time. Recently, Bornemann (2018) analyses the association between future tax rate cuts and the levels of accounting conservatism and finds that in periods of steady tax rates, conditional conservatism is strongly positive-associated with taxation, supporting the evidence of Lara et al. (2009). Regardless of consideration of changes in the tax rate, Gan (2018) reveals that firms use conditional conservatism to reduce actual tax burdens in the current period.

5.3. Hypotheses Development

As there is a strong association between taxable income and book income, it is not surprising that tax incentives affect financial accounting choices (Shackelford & Shevlin, 2001). To minimize tax liability, conservative accounting transactions is one mechanism to achieve it. This is because the accounting conservatism results in a decrease in net income, which eventually reduces taxable income and tax expenses, respectively. In other words, firms can reduce the current value of taxes by deferring their income (Watts, 2003a). However, thus far, extant empirical research on the link between tax avoidance and conservatism is relatively under-examined. Moreover, prior studies report that accounting conservatism is influenced by a number of institutional factors (e.g., Andre & Filip, 2012; Ball, Kothari, & Robin, 2000; Bushman & Piotroski, 2006; Xu & Lu, 2008). For instance, Bushman & Piotroski (2006) argue that accounting conservatism is influenced by economy's institutional structures such as the legal/judicial system, securities laws, and political economy because they create incentives that influence the behaviours of market participants. Therefore, different jurisdictions may cause variations in the demand for conservatism, particularly in jurisdictions located in less developed countries compared to

developed markets. The current study aims to fill this gap by examining the relationship between accounting conservatism and tax avoidance to answer the question of whether firms apply conservative accounting to reduce their tax liabilities in emerging markets.

Although prior literature demonstrates the relation between tax avoidance and accounting conservatism, the results are not exclusive about what forms of conservatism is tax-motivated conservatism. As tax codes, in general, do not allow firms to recognize losses if they do not yet occur, the tax deduction for conditional conservatism (more timely loss recognition) then is limited by this principle (Basu, 2005; Qiang, 2007). Conversely, unconditional conservatism allowing firms to carry out such actions as expensing R&D expenses or advertisement expenses to predetermine the understated value of assets since the record time (losses already occurred) facilitates the purpose of firm's tax reduction. In line with this notion, Heltzer (2009) finds that firms having taxable income more than book income present higher levels of unconditional conservatism. Kim & Jung (2007) find that unconditional conservatism, rather than conditional conservatism, is positively associated with the tax burden of firms. Qiang (2007) also determines that tax burdens tend to induce unconditional conservatism. Similarly, Asgari & Behpouri (2013) have reached the results that support the positive association between unconditional conservatism and tax burdens.

As discussed above, prior studies report that unconditional conservatism, by nature, influences tax burdens, and they have reached a consensus that taxation is associated with unconditional conservatism. However, this study approaches its relationship from another perspective by investigating whether the levels of unconditional conservatism in financial reporting results in levels of tax avoidance (reductions of tax payments). Based on the argument of the higher the tax pressure, the more unconditional conservatism, it is reasonable to expect that more unconditionally conservative accounting results in more aggressive tax avoidance (less tax payments). Thus, the hypothesis to test this argument is as follows:

H1: *Ceteris paribus*, unconditional conservatism is positively associated with tax avoidance

Nevertheless, the results of other empirical studies (e.g., Bornemann, 2018; Gan, 2018; Lara et al., 2009) suggest that conditional conservatism can also effectively minimize firms' tax payments. Watts (2003) explains that conservative accounting can be achieved in reducing the net present value of tax payments

by deferring tax payments through unconditional conservatism and by shifting income from periods when marginal tax rates are high to periods that ones are low. For the latter of the two strategies, the unconditional form of conservatism is not an efficient tool because it is not flexible to facilitate income shifting across periods (Lara et al., 2009). Under unconditional conservatism, assets understated in the current period are also translated into overstated net income in future periods. When statutory tax rates (STR) increase, firms may face higher marginal tax rates, but they cannot make an adjustment with those transactions that already recorded. In contrast, Lara et al. (2009) argue that when firms face with high marginal tax rates, the principle of conditional conservatism allows managers to be more flexible in making discretion on strategies, recognizing current losses on a very timely basis or delaying the recognition of current gains to future periods in order to reduce current tax burdens. Their results show that taxation induces not only unconditional conservatism, but also conditional conservatism. Based on the above arguments, Bornemann (2018) shows that conditional conservatism is positively associated with taxation when changes in tax rates are approaching. Moreover, Gan (2018) sheds more light on this link by documenting that firms utilize conditional conservatism as a vehicle for tax avoidance to reduce actual tax payments. Taken together, it is reasonable to expect that conditional conservatism can reduce tax burdens even though change in tax rate is not taken into account. Thus, the second hypothesis to examine the conjecture is as follows:

H2: *Ceteris paribus*, conditional conservatism is positively associated with tax avoidance

5.4. Research Design

5.4.1. Data and sample description

The sample chosen to investigate the effect of accounting conservatism on tax avoidance in this study is BRICS group of countries, i.e., Brazil, Russia, India, China, and South Africa⁶³ during the period spanning from 2006 to 2018. Financial data used in this study is sourced from Worldscope retrieved through the Datastream Thomson Reuters database. The STR is collected from KPMG International

⁶³ BRICS's main objectives are to cooperate between the member nations for development in the area such as finance, economy, agriculture, trade, science and technology, health, education, corporate and academic dialogue, crime, and security (<http://brics.itamaraty.gov.br/about-brics/information-about-brics>).

Cooperative website.⁶⁴ The information about IFRS adoption is retrieved from the IFRS[®] Foundation website.⁶⁵ Lastly, following Hoon, Selmier, & Lien (2011), the legal system is defined based on the JuriGlobe research group of the University of Ottawa.⁶⁶ Due to the unique accounting practices, financial firms are excluded from the study. Firms with no data in any year are also excluded from the sample. To mitigate the effect of outliers, all continuous variables are winsorised at 1st and 99th percentile. This results in a final sample containing 30,178 firm-year observations, corresponding to 5,568 unique firms. As reported in Panel A of Table 5.1, the highest percentage of the total sample is from China (57%) followed by India (37%), South Africa (3%), Brazil (3%) and Russia (2%). The sample distribution by industry is given in Panel B of Table 5.1. It shows that 70% of the sample firms consist of those from industrial sector (25%), consumer goods sector (20%), and basic materials sector (18%).

Table 5.1 Sample Distribution by Country and Industry

Panel A: Sample Distribution by Country				
Country	Observations		Firms	
	<i>N</i>	Pct.	<i>N</i>	Pct.
Brazil	594	2%	158	3%
Russia	427	1%	114	2%
India	11,525	38%	1,961	35%
China	15,098	50%	3,150	57%
South Africa	2,534	8%	185	3%
	30,178	100%	5,568	100%

Panel B: Sample Distribution by Industry				
Industry	Observations		Firms	
	<i>N</i>	Pct.	<i>N</i>	Pct.
Basic Materials	5,232	17%	987	18%
Consumer Goods	6,099	20%	1,101	20%
Consumer Services	2,385	8%	400	7%
Energy	882	3%	161	3%
Health Care	2,030	7%	382	7%
Industrials	7,767	26%	1,408	25%
Oil & Gas	1,477	5%	261	5%
Technology	2,365	8%	487	9%
Telecommunications	848	3%	173	3%
Utilities	1,093	4%	208	4%
	30,178	100%	5,568	100%

This table presents the sample distribution by *country and industry*. The total observations are 30,178 from 5,568 companies from the period of 2006-2018.

⁶⁴ Source: <https://home.kpmg/vg/en/home/services/tax1/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html>

⁶⁵ Source: <https://www.ifrs.org>

⁶⁶ Source: <http://www.juriglobe.ca/eng/>

5.4.2. The measures of variables

(a) Tax avoidance

Several methods are used in the literature to estimate the degree of tax avoidance. Most studies obtain data from a firm's financial statement to calculate the proxy of tax avoidance because tax returns are not publicly reported by a firm, and it provides a limited assessment to external users (Hanlon & Heitzman, 2010). Following the definition offered by Hanlon and Heitzman (2010), tax avoidance is defined as schemes that a corporation engages for the purpose of explicit tax reduction. This study does not distinguish between legal avoidance activities and illegal evasion activities. That is, tax avoidance in this context captures both certain tax positions (perfectly legal) and uncertain tax positions (either legal or illegal transactions). As such, this study focuses on the total amount of tax avoided, rather than on the specific actions, because specific actions taken provide different costs and benefits across countries. Moreover, specific actions taken are unobservable in the setting of this study.

Prior research claims that the effective tax rate (ETR) captures a broad range of tax avoidance activities which is consistent with the objective of this study (e.g., Badertscher, Katz, & Rego, 2013; Chen et al., 2010; Gaertner, 2014; Huseynov & Klamm, 2012; Laguir, Staglianò, & Elbaz, 2015; Lanis & Richardson, 2012; Phillips, 2003; Steijvers & Niskanen, 2014). Justifications in using the GAAP-based ETR as a proxy for tax avoidance are as follows: First, it is a financial statement metric which is visible to investors (Wang & Kong, 2011) which means that it communicates directly to the users of financial statement. Second, prior studies empirically report the relationship between tax avoidance and the GAAP ETR. For instance, Thornton & Jaafar (2015) document that both private and public firms with affiliates in tax havens present lower GAAP ETRs. Similarly, Armstrong et al. (2015) and Minnick & Noga (2010) report that the GAAP ETR is statistically significantly associated with a compensation package for tax executives and directors by setting the compensation contract that motives them to lower tax liability in the long-run horizon. Moreover, Graham, Hanlon, Shevlin, & Shroff (2014) provide evidence from their survey indicating that firms give the importance to the figure of GAAP ETR because it eventually reflects the amount of after-tax accounting income.

Thus, this study employs the GAAP ETR to proxy the total consequences of tax avoidance. It is computed by dividing the total tax expense by pre-tax book income for a given firm i in year t , as follows:

$$ETR_{i,t} = \frac{Income\ Tax_{i,t}}{Pretax\ Book\ Income_{i,t}} \quad (1)$$

where $ETR_{i,t}$ is a one – year GAAP-based ETR⁶⁷.

In this study, negative values of numerator and denominator in the ETR calculation model firstly are winsorized to be zero before the ETR is calculated. It is possible that the negative income tax and the negative pre-tax income might be the result of the manager's attempt to reduce earnings, to some extent, in order to reduce tax expenses. Therefore, such values should not be excluded from the investigation. Secondly, following extant research, ETR is constrained to range between 0 and 1 (Chen et al., 2010; Dyreng, Hanlon, & Maydew, 2008; Lisowsky, 2010).

(b) Accounting conservatism

In assessing the effects of firms' level of conservatism on tax avoidance, this study uses two measures of accounting conservatism to proxy for conservative accounting: C-score by Khan & Watts (2009) to proxy for conditional conservatism, and negative accruals by Givoly & Hayn (2000) to proxy for unconditional conservatism.

The conditional Conservatism

The first proxy is to measure the conditional conservatism, the so-called C-score. The C-score of Khan & Watts (2009) is further developed based on Basu's (1997) seminal asymmetric timeliness model in order to allow firm-year estimations.⁶⁸ In capital markets, all related information including reported earnings by firms are incorporated in stock prices on a timely basis. Therefore, changes in stock prices can be proxied for news arriving during the period. Under conservative accounting, bad news is reflected in earnings faster than good news because good news requires higher standards of recognition than bad news. To capture this differential timing of good news and bad news being recognized and reflected in

⁶⁷ The context of this study is not suitable to use long-term ETR because long- term ETR is suggested to use for dealing with the volatility presenting in annual ETR (Hanlon & Heitzman, 2010; Salihu et al., 2013). Typically, earnings management is the action undertaken in an effort to mislead the true position of the current period income which is used to calculate the amount of the income tax liability. Therefore, it is more reasonable to use the same period ETR to examine the association between tax avoidance and earnings management.

⁶⁸ The measure of Basu's (1997) asymmetric timeliness is based on data providing variation in conservatism only over time, and not across firms.

earnings, Basu's (1997) uses stock return (results of stock price changes) to proxy for good news (positive returns) and bad news (negative returns) and expects a higher association between negative returns and earnings from the following model:

$$X_i = \beta_0 + \beta_1 D_i + \beta_2 RET_i + \beta_3 (D_i * RET_i) + \varepsilon_i \quad (2)$$

where X_i is net income before extraordinary items scaled by the firm's market value of equity at the beginning of the year. RET_i is the closing price of the company's stock at their fiscal year end. D_i denotes a dummy variable that equals 1 if $RET_i < 0$ (bad news) and set to 0 otherwise (good news).

In this equation, if earnings are conservative, it would incorporate bad news earlier than good news and indicate a positive coefficient on the interaction term (β_3), the incremental timeliness of earnings to bad news relative to good news. That is, the larger β_3 , the higher the levels of conditional conservatism. For other coefficients, β_2 captures the responsiveness of earnings to positive return (good news), and $\beta_2 + \beta_3$ captures the responsiveness to negative return (bad news). As the Basu's model does not capture the variation of conservatism across firms, Khan & Watts (2009) propose that a level of conditional conservatism of a certain firm depends on its size, leverage, and market-to-book ratio. They then develop the C-score method to measure the asymmetric timeliness of earnings to bad news over good news at the firm level as presented below:

$$G - score = \beta_2 = \gamma_0 + \gamma_1 Size_i + \gamma_2 MTB_i + \gamma_3 Lev_i \quad (2a)$$

$$C - score = \beta_3 = \mu_0 + \mu_1 Size_i + \mu_2 MTB_i + \mu_3 Lev_i \quad (2b)$$

where $Size_i$ is the natural log of market value of equity, MTB_i is the firm's market-to-book ratio and Lev_i denotes total debt scaled by market value of equity at the beginning of the year. These three firm-specific factors are incorporated into the linear functions to estimate the earnings responsiveness to good news (G-Score) and the incremental timeliness response of bad news (C-Score) at the firm level. Substituting equations (2a) and (2b) into equation (2) derives the annual cross-sectional regression model proposed by Khan and Watts (2009):

$$X_i = \beta_0 + \beta_1 D_i + \beta_2 RET_i (\gamma_0 + \gamma_1 Size_i + \gamma_2 MTB_i + \gamma_3 Lev_i) + \beta_3 (D_i * RET_i) (\mu_0 + \mu_1 Size_i + \mu_2 MTB_i + \mu_3 Lev_i) + \partial_1 Size_i + \partial_2 MTB_i + \partial_3 Lev_i + \partial_4 (D_i * Size_i) + \partial_5 (D_i * MTB_i) + \partial_6 (D_i * Lev_i) + \varepsilon_i \quad (3)$$

Under the C-score method in equation (3), the coefficients γ_i and μ_i are estimated using annual cross-sectional regressions and therefore vary over time, but not in the cross-section. The annual coefficients γ_i and μ_i are then used to estimate G-score (2a) and C-score (2b). Cross-sectional variation in C-score is added through cross-sectional variation in firm-level characteristics (size, the market-to-book ratio and leverage). Thus, the C-score measures firm-level conservatism across years with higher reliability and validity for empirical testing. As the C-score indicates the incremental timeliness response of bad news, the larger β_3 , the more conditionally conservative the firm. After deriving the C-score, it is included as an independent variable in the regression model in this study to examine whether conditional conservatism is associated with higher tax avoidance.

The unconditional conservatism

The second measure is the accrual-based method proposed by Givoly & Hayn, 2000 and generally used to measure the degree of unconditional conservatism (e.g., Asgari & Behpour, 2013; Kim & Jung, 2007; Qiang, 2007; Yuniarsih, 2018). Although conservatism is an accounting criterion selected in order to minimize the cumulative reported earnings either by faster (slower) expense (revenue) recognition, or low (higher) asset (liability) valuation, the sum of earnings over a business life cycle must be the same regardless of the accounting choice (Givoly & Hayn, 2000). Under this view, Givoly & Hayn (2000) argue that the cumulative net income before depreciation and amortization are then expected to converge to cash flow from operation in the long run. Given that net income is recognized on an accrual basis which tends to be reversed in the future period, conservatism can be identified by the magnitude and sign of the accumulated accruals over a long period of time. That is, if firms report a consistent and prominent negative-accruals over a long period, their financial reporting can be identified as conservative reporting.

Following prior research (e.g., Ahmed, Billings, Morton, & Stanford-Harris, 2002; Ahmed & Duellman, 2013; Bornemann, 2018; Givoly & Hayn, 2000), this study defines the accrual-based measure (i.e., the persistent use of negative accruals) as net income before extraordinary items less cash flow from operations plus depreciation expense deflated by average total assets and averaged over the previous

three years, multiplied by negative one. The larger estimated values indicate the greater unconditional conservatism.

5.4.3. Research model

To test whether firms' level of accounting conservatism is positively associated with tax avoidance (H1 and H2), this study uses the following model estimating with the whole sample:

$$\begin{aligned} TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 Acc_Con_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} + \\ & \sum_{n=12}^{16} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=17}^{26} \alpha_n Fixed\ Effect_{i,t}^{industry} + \\ & \sum_{n=27}^{39} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t} \end{aligned} \quad (4)$$

where $TaxAvoid_{i,t}$ is an annual effective tax rate, a proxy for tax avoidance measured as income tax divided by pre-tax income for firm i in year t . $Acc_Con_{i,t}$ indicates firms' level of accounting conservatism: i) the conditional form measured as the C-score of Khan & Watts (2009), and ii) the unconditional form measured as the cumulative negative accruals of Givoly & Hayn (2000). $Control_{i,t}^{firm}$ and $Control_{i,t}^{country}$ are control variables at a firm level and a country level, respectively, for firm i in year t . $Fixed\ Effect_{i,t}^{country}$, $Fixed\ Effect_{i,t}^{industry}$, and $Fixed\ Effect_{i,t}^{year}$ are country-, industry-, and year-fixed effects, respectively.

Prior studies (Dyreng et al., 2008; Gupta & Newberry, 1997; Lietz, 2013; Phillips, 2003; Wilson, 2009a) show that a range of control variables which influence tax avoidance include firm size (*Size*), financial leverage (*Lev*), firm growth (*Growth*), firm net operating losses (*Loss*), firm firm capital intensity (*CapInt*), firm intangible intensity (*IntangInt*), dividend payout (*DivPayout*), and firm closely-held shares⁶⁹ (*CloseHeld*). As firms are economic units operating in environments modelled by and expected by institutions which influence their behaviour (Campbell and Lindberg, 1991; Campbell, 2007), it is worth controlling for institutional factors affecting the level of tax avoidance. Given that this study uses an international dataset with differences in accounting standards and regulation enforcement across

⁶⁹ The closely-held share represents shares held by insiders. For companies with more than one class of common stock, closely held shares for each class is added together. It includes but is not restricted to shares held by cross holdings (corporations and holding companies), corporations (incl. real estate companies), holding Company, government, employees, and individuals/insiders (Thompson Reuter, 2019).

countries, the adoption of the International Financial Reporting Standards (*IFRS*) and the legal origin (*LawSys*) are used to control for country-level factors.

Firm size (*Size*) is measured by the natural logarithm of total assets. Dyreng et al. (2008) suggest that firm size may play a role in the firm's engagement in tax avoidance. Based on the theory of political cost, Watts and Zimmerman (1986, p. 235) explain that firms with higher visibility are subjected to comply with greater regulatory activity, hence, a negative association between firm size and tax avoidance (Minnick & Noga, 2010; Rego, 2003). Nevertheless, others report the results in line with a positive relation (under the notion of the political power or clout theory), assuming that larger companies having more resources to make more lobbying and participate in more complex tax planning activities (e.g. Siegfried (1972), p. 32-36, Siegfried (1974), Stickney and McGee (1982), Porcano (1986) in Lietz, 2013). Wilson, (2009b) finds that larger firms are more tax aggressive as shown in a positive relation between tax shelter participation and firm size.

Financial leverage (*Lev*) is defined as long-term debt liability divided by total assets. Generally, leverage represents the degree of complexities of firms' financial transactions. Highly leveraged firms, at first glance, could be more able to reduce taxes through the use of complicated financing transactions, suggesting a positive association between tax avoidance and firm leverage (Mill et al., 1998 in Dunbar et al., 2010; Lietz, 2013). Alternatively, leveraged firms may have a relatively strong incentive to avoid taxes to preserve cash to service the debt burden (Badertscher, Katz, & Rego, 2010). However, since firms with a high level of leverage incur more interest expenses which are deducted from taxable income⁷⁰, they may have less need to be tax aggressive as they face less pressure to draw on alternative non-debt tax shields (Graham & Tucker, 2006).

Capital intensity (*CapInt*) is defined as net property, plant & equipment (PP&E) divided by total assets, and intangible intensity (*IntangInt*) is defined as the total of intangible assets divided by total assets. Since firms with high intensity of physical plant and equipment (firms with high levels of PP&E) are more visible to the public (Clarkson et al., 2008), they are usually expected to have more tax planning opportunities (Dyreng et al., 2008). Gupta & Newberry (1997) report that firm capital intensity is related

⁷⁰ Leveraged firms already have benefits from a tax shield (Wrightsmann, 1978) which thereby relatively a weak motivation to reduce more tax (Badertscher et al., 2010).

to tax benefits because of tax-deductible accelerated depreciation relative to the actual asset lives. Previous studies include R&D expenditures to control for tax credits available for particular R&D activities (Dyreng et al., 2008). Unfortunately, information about R&D expense is not available in the setting of this study. Thus, the amount of intangible assets, which is assumed to be positively correlated with the firm's level of R&D expenses (Markle & Shackelford, 2012), is observed instead.

Firm growth (*SalesGrowth*) is defined as changes in net sales divided by total assets. More profitable firms have been argued that they have a greater incentive to reduce their tax burden relative to lesser profitable firms (Dunbar et al., 2010). Similarly, Phillips (2003) concludes that firms with growth opportunities exhibit greater ability to engage in tax avoidance activities. However, top-line growth firms are subjected to increasing applicable tax rates as their incomes increase, suggesting that such firms could report higher ETR.

Dividend pay-out (*DivPayout*) is defined as dividends per share divided by earnings per share and then multiplied by 100. Several studies (Amiram, Bauer, & Frank, 2013; Chatty & Saez, 2005; Desai & Dharmapala, 2006) find that tax policies of ownership and shareholder dividends influence managers to engage in corporate tax avoidance. If managers are committed to increasing the benefit of shareholders, the positive relation between tax avoidance and dividend pay-out is expected. On the other hand, managers are more likely to put their effort towards the strategy of upward book income and downward taxable income at the same time in order to increase profits which eventually increase the pay-out of dividends.

Firm closely-held shares (*CloseHeld*) is defined as the percentage of a number of closely held shares in relative to the common shares outstanding. Amiram et al. (2013) argue that firms with a higher proportion of closely-held shares have more alignment between managers and shareholders, thereby accentuating the incentives to engage in corporate tax avoidance. Therefore, those firms are expected to have higher levels of tax avoidance to increase shareholder's profits.

The legal origin (*LawSys*) is defined as a dummy variable equal to 1 if firms are domiciled in country complying with civil law and 0 otherwise. Managers are less likely to engage in tax avoidance when managers perceive that government enforcement of tax rules is strong. This is because they believe that strong enforcement leads to higher expected probability of detection and tax authorities may impose additional taxes plus penalties (Atwood et al., 2012), thereby discouraging tax avoidance. Consistent with

Desai, Dyck, & Zingales (2007), they find that tax payments increase, related party trades are curtailed, and tax haven entities are abandoned following an increase in tax enforcement after. This study uses the legal origins to proxy for political influence on accounting standards. As civil law is categorized as less strength of law enforcement due to the influence of institutional characteristics (e.g., family and political connections) (Gassen et al., 2006; Lara and Mora, 2004), and as low investor protection by the World Economic Forum's 2012/2013 Global Competitiveness Report, the positive association between a law origins and tax avoidance is expected.

The adoption of the International Financial Reporting Standards (*IFRS*) is defined as a dummy variable equal to 1 in the year and after, when firms adopt IFRS, and 0 otherwise. The shift to the use of IFRS leads to changes in accounting method, which also bring differences in the current treatment of tax basis. The adoption of IFRS, therefore, should be possible to give the impact on tax strategies because tax calculation is based on the measurement and recognition of accounting transactions. More specifically, it is argued that the adoption of IFRS reduces the level of book-tax conformity (Chan et al., 2010; Chan et al., 2013; Chen & Gavigous, 2017; Karampinis & Hevas, 2013), thereby reducing the impact on tax after the post-IFRS period (Hung & Subramanyam, 2007). The opponents argue that the reduction of book-tax conformity offers a convenient way for a manager to avoid more tax because they do not face the trade-off decision between increasing book income and decreasing taxable income. Another possible condition that can explain the increased levels of tax avoidance after IFRS adoption is the possible increase in discretionary accruals available within IFRS framework (Ahmed et al., 2013; Lin et al., 2012). Atwood, Drake, Myers, & Myers (2012), Frank et al. (2009) and Wilson, (2009) report that an increased aggressiveness of accruals is associated with greater tax avoidance. Similarly, Braga (2017) find that after the adoption of IFRS, firms are associated with higher levels of corporate tax avoidance. All variables are summarized in Appendix 5.2.

Both H1 and H2 predict that the levels of accounting conservatism, either conditional or unconditional form, are positively associated with tax avoidance. The coefficients of proxies for conservatism are then expected to be negative where the higher the levels of conservatism, the lower the effective tax rate (i.e., the higher tax avoidance).

5.5. Results

5.5.1. Univariate analysis

(a) Trends of tax avoidance and accounting conservatism

Figure 5.1 Panel A shows the trends of averages of ETR and the STR over the sample period. Overall, the average STR is higher than the average of ETR, suggesting avoidance of tax to some extent. The trends demonstrate that STR and ETR gradually decline over time, i.e., STR has reduced from 34% to 28%, and the ETR has decreased from 24% to approximately 22%. Overall, the averages of STR and ETR converge, leading the reduced gap between them from 10.29% difference in 2006 to 4.98% difference in 2013. From 2014, the averages of STR and ETR have gradually diverged, making the increased gap between STR and ETR.

Figure 5.1 Panel B reports the trends of firms' practices of conservative accounting both in forms of conditional conservatism (the C-score) and unconditional conservatism (accumulated negative accruals). Overall, while the accumulated negative accruals are likely stable at range of -0.01 to -0.03, the averages of C-score are clearly fluctuated by alternating up and down every year with the highest value of 0.35 in 2010 and the lowest value of -0.18 in 2013.

(b) Descriptive statistics

Table 5.2 summarizes descriptive statistics of the sample. Based on the full sample, Panel A shows that the annual ETR mean value is 23% which is 6% lower than the mean value of STR. The mean (median) of C_Score is 0.083 (0.098) while the mean (median) of Acc_NegAccru is -0.023 (-0.016). For other firm-characteristic variables, the mean (median) of Size is 12.867 (12.957), of Lev is 0.103 (0.05), of CapInt is 0.311 (0.273), of SalesGrowth is 0.066 (0.047), of IntangInt is 0.066 (0.023), of Cashholding is 0.061 (0.021), DivPay is 23.404 (19.67), of CloseShare is 50.935 (54.770). In the case of country-specific characteristics, 53.4% of the sample firms domiciled in civil law countries, and 55.7% adopt IFRS during the sample period.

Table 5.2 Panel B depicts descriptive statistics at the country level. Consistent with overall results, the mean of annual ETR is lower the mean of STR in all countries, except for Russia. In particular, Brazil has 9% ETR lower than STR, India has 7% ETR lower than STR, China has 6% ETR lower STR, and

South Africa has 3% ETR lower than STR. The possible reason leading ETR in Russian firms higher than STR is that they are charged other withholding taxes as a part of the corporate tax. In particular, 9% tax on dividends and 15% when they are international firms, 20% on royalties and interests if firms operating in a country which has no tax treaty signed with Russia, 30% on social contribution tax for firms having income of around 567,000 Russian rubles and 10% more if the profit exceeds this amount. With respect to accounting conservatism variables, China presents the highest mean value of C_Score and is the only country having the mean value higher than the overall mean value. For Acc_NegAccr, Russia has the highest mean value, while India has the lowest value and is the only country having lower mean value than overall mean value. Based on descriptive statistics at industry level, Table 5.2 Panel C demonstrates that all industries exhibit lower mean value of ETR comparing to the mean value of STR. Specifically, while technology industry (Ind.8) presents the highest differences between ETR and STR of around 10%, the energy industry (Ind.4) shows the lowest differences of 3%. The difference between ETR and STR of firms in other industries (basic materials, consumer goods, and industrials) of the sample seems to be at a moderate level at around 6%. The industry of technology shows the highest mean value of C_Score, while the utility industry presents the highest mean value of Acc_NegAccr.

(c) Variables correlation

Table 5.3 presents the Pearson correlations for the variables used in the main regression analysis. The annual ETR are negatively correlated with C_Score ($p < .001$) as expected, but it is positively correlated with Acc_NegAccru ($p < .001$). Among the correlation between annual ETR and other firm- and country-control variables, the annual ETR is unlikely to be correlated only with DivPay and it can be readily observed that none of them is larger than 0.3. However, some correlations between other determinants present strong linear relationship; that is, the correlation between IFRS and LawSys with the coefficient of 0.822 ($p < .001$) and the correlation between IFRS and Size with the coefficient of 0.502 ($p < .001$).

In addition to the results from Pearson correlation matrix, the results of the variance inflation factor (VIFs) also show that no VIFs exceed four for any of the explanatory variables, suggesting that multicollinearity in the model is not an issue.

Figure 5.1 Trend of tax avoidance and accounting conservatism

Panel A: Trend of the average ETR against the average STR

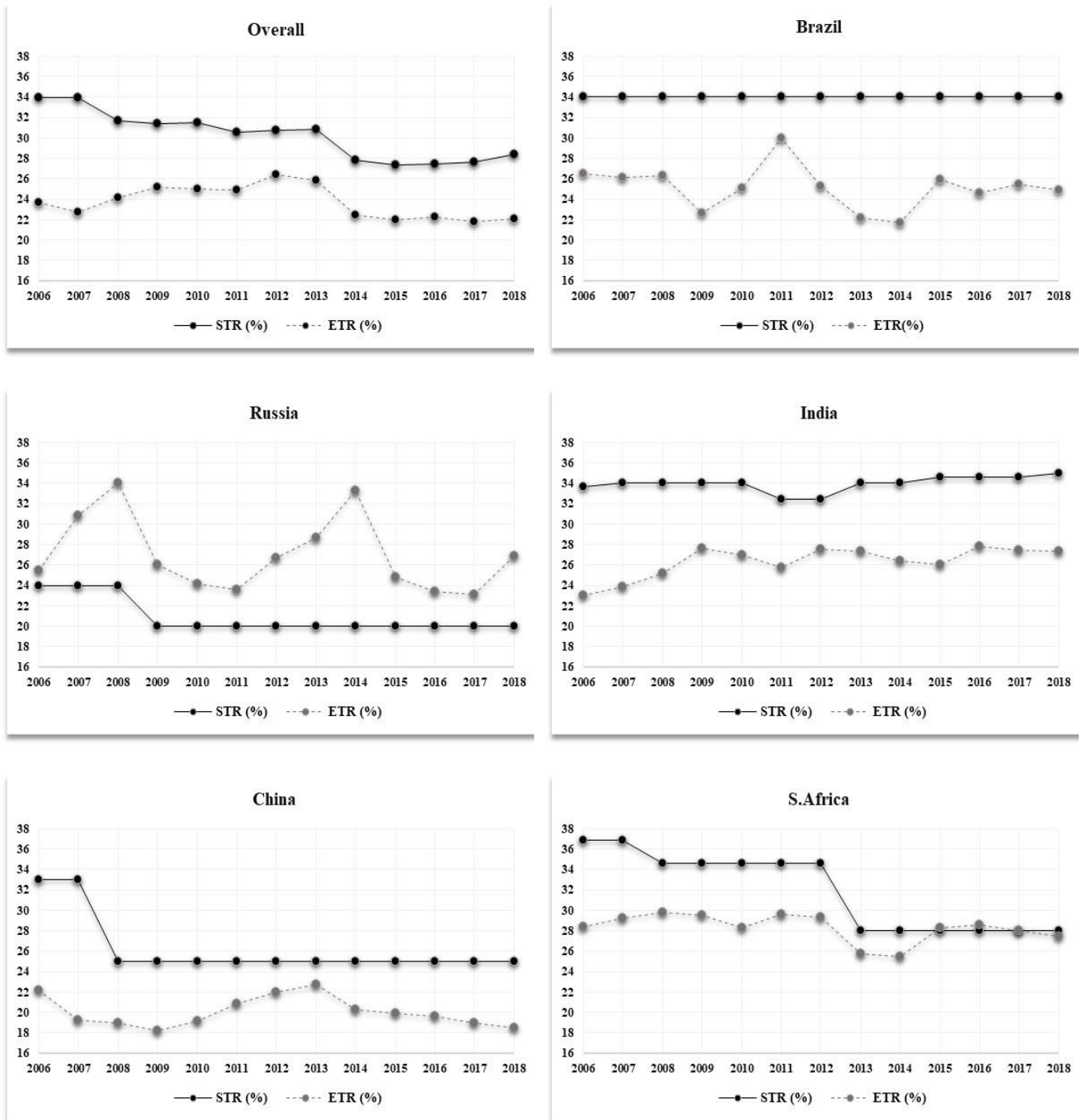
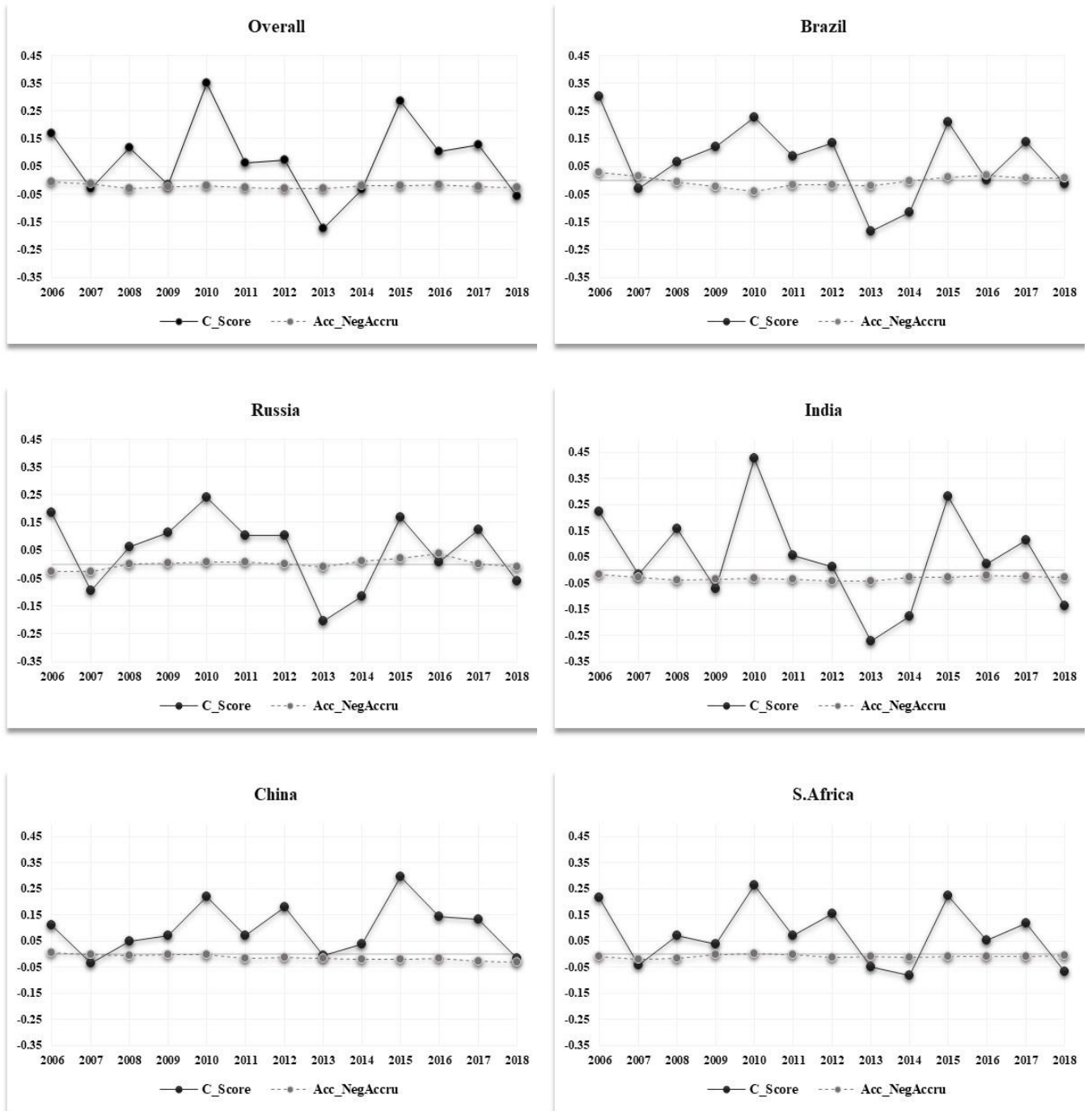


Figure 5.1 Trend of tax avoidance and accounting conservatism

Panel B: Trend of the average C_score and accumulated negative accruals



The figures in Panel A are plotted from the mean value of STR against the mean value of ETR. The figures in Panel B are plotted from the mean value of the measure of conditional conservatism (C_Score) against the mean value of measure of unconditional conservatism (accumulated negative accruals). The summarized data used to plot all figures are provided in Appendix 5.3.

Table 5.2 Descriptive Statistics

Panel A: Overall variable summary						
Variables	<i>N</i>	Mean	25%	Median	75%	SD
Tax avoidance:						
annualETR	30178	0.232	0.137	0.225	0.314	0.154
Statutory tax rate	30178	0.293	0.25	0.28	0.34	0.045
Accounting Conservatism:						
C_Score	30178	0.083	-0.016	0.098	0.182	0.206
Acc_NegAccru	30178	-0.023	-0.049	-0.016	0.01	0.064
Control variables:						
Firm-level:						
Size	30178	12.867	11.662	12.957	14.114	1.911
Lev	30178	0.103	0	0.05	0.162	0.132
CapInt	30178	0.311	0.134	0.273	0.461	0.218
SalesGrowth	30178	0.066	-0.018	0.047	0.142	0.215
IntangInt	30178	0.066	0.001	0.023	0.075	0.108
Cashholding	30178	0.061	0.002	0.021	0.087	0.090
DivPay	30178	23.404	3.14	19.67	34.48	21.782
CloseShare	30178	50.935	38.16	54.77	68.43	23.753
Country-level:						
LawSys	30178	0.534	0.000	1.000	1.000	0.499
IFRS	30178	0.557	0.000	1.000	1.000	0.497

Table 5.2 Descriptive Statistics (Cont'd)

Panel B: Country mean value for all variables						
Variables	Overall	Brazil	Russia	India	China	S. Africa
Tax avoidance:						
annualETR	0.232	0.249	0.257	0.267	0.197	0.283
Statutory tax rate	0.293	0.34	0.202	0.339	0.254	0.315
Accounting Conservatism:						
C_Score	0.083	0.052	0.052	0.042	0.117	0.076
Acc_NegAccru	-0.023	0.000	0.009	-0.032	-0.019	-0.010
Control variables:						
Firm-level:						
Size	12.867	14.444	14.724	11.509	13.7	13.399
Lev	0.103	0.213	0.189	0.127	0.075	0.128
CapInt	0.311	0.262	0.518	0.339	0.276	0.367
SalesGrowth	0.066	-0.004	0.021	0.073	0.068	0.043
IntangInt	0.066	0.173	0.044	0.032	0.082	0.102
Cashholding	0.061	0.061	0.053	0.033	0.077	0.099
DivPay	23.404	37.552	27.176	17.175	25.014	38.190
CloseShare	50.935	48.246	71.721	59.792	46.370	34.980
Country-level:						
LawSys	0.534	1.000	1.000	0.000	1.000	0.000
IFRS	0.557	0.926	0.754	0.000	0.944	0.662
<i>N</i>	30,178	594	427	11,525	15,098	2,534

Table 5.2 Descriptive Statistics (Cont'd)

Panel C: Industry variable mean value against overall mean value											
Variables	Overall	Ind.1	Ind.2	Ind.3	Ind.4	Ind.5	Ind.6	Ind.7	Ind.8	Ind.9	Ind.10
Tax avoidance:											
annualETR	0.232	0.240	0.241	0.246	0.251	0.214	0.236	0.237	0.182	0.213	0.235
Statutory tax rate	0.293	0.300	0.298	0.302	0.281	0.289	0.292	0.285	0.283	0.287	0.274
Accounting Conservatism:											
C_Score	0.083	0.067	0.083	0.094	0.085	0.108	0.079	0.059	0.114	0.100	0.059
Acc_NegAccru	-0.023	-0.023	-0.019	-0.018	-0.007	-0.029	-0.026	-0.042	-0.026	-0.018	0.005
Control variables:											
Firm-level:											
Size	12.867	12.747	12.550	12.542	14.415	12.611	12.907	13.599	12.398	13.276	14.557
Lev	0.103	0.111	0.097	0.076	0.134	0.078	0.100	0.185	0.049	0.074	0.240
CapInt	0.311	0.396	0.309	0.324	0.440	0.289	0.277	0.212	0.180	0.230	0.549
SalesGrowth	0.066	0.069	0.067	0.086	0.067	0.076	0.062	0.024	0.085	0.061	0.028
IntangInt	0.066	0.042	0.060	0.058	0.070	0.099	0.067	0.023	0.114	0.111	0.073
Cashholding	0.061	0.047	0.063	0.062	0.064	0.064	0.065	0.055	0.080	0.079	0.042
DivPay	23.404	21.069	23.655	28.049	21.595	23.209	23.859	21.914	21.010	23.880	28.458
CloseShare	50.935	53.940	53.504	54.019	55.266	47.612	49.713	50.183	39.319	45.769	57.008
Country-level:											
LawSys	0.534	0.448	0.494	0.415	0.672	0.580	0.542	0.628	0.629	0.571	0.814
IFRS	0.557	0.470	0.516	0.475	0.664	0.588	0.570	0.689	0.638	0.634	0.727
<i>n</i>	30178	5232	6099	2385	882	2030	7767	1477	2365	848	1093

This table presents descriptive statistics for the main variables used in this analysis.

The variable computations are described in Appendix 5.2 unless definitions noted here: *annualETR* refers to annual effective tax rate, *STR* refers to the statutory tax rate, *C_Score* refers to the proxy for conditional conservatism, *Acc_NegAccru* is accumulated negative accruals (the proxy for unconditional conservatism) *Size* refers to size of firms based on total assets, *Lev* refers to firm leverage, *CapInt* refers to the intensity of firms' capital, *SalesGrowth* refers to firms' growth, *IntangInt* refers to intensity of firm's intangible assets, *Cashholding* refers to cash that firms are holding, *DivPay* refers to dividend payout, *CloseShare* refers to the number of closely held shares, *LawSys* refers to the country's law origin, *IFRS* refers to the adoption of IFRS.

Table 5.3 Variable Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) annualETR	1												
(2) C_Score	-0.05 ***	1											
(3) Acc_NegAccru	0.055 ***	0.024 ***	1										
(4) Size	-0.05 ***	0.125 ***	0.098 ***	1									
(5) Lev	0.080 ***	-0.13 ***	0.023 ***	0.194 ***	1								
(6) CapInt	0.032 ***	-0.09 ***	0.200 ***	0.059 ***	0.411 ***	1							
(7) SalesGrowth	-0.030 ***	0.044 ***	-0.05 ***	0.028 ***	-0.01 *	-0.04 ***	1						
(8) IntangInt	-0.06 ***	0.062 ***	0.079 ***	0.164 ***	0.014 *	-0.24 ***	0.005	1					
(9) Cashholding	-0.02 **	0.039 ***	0.108 ***	0.156 ***	-0.13 ***	-0.2 ***	0.047 ***	0.003	1				
(10) DivPay	0.009	0.068 ***	0.097 ***	0.223 ***	-0.06 ***	0.027 ***	-0.03 ***	0.044 ***	0.097 ***	1			
(11) CloseShare	0.085 ***	-0.1 ***	0.020 ***	-0.08 ***	0.062 ***	0.106 ***	-0	-0.16 ***	-0.05 ***	-0.04 ***	1		
(12) LawSys	-0.22 ***	0.158 ***	0.082 ***	0.497 ***	-0.17 ***	-0.14 ***	-0.01	0.180 ***	0.169 ***	0.105 ***	-0.17 ***	1	
(13) IFRS	-0.18 ***	0.156 ***	0.080 ***	0.502 ***	-0.14 ***	-0.14 ***	-0.07 ***	0.245 ***	0.157 ***	0.175 ***	-0.27 ***	0.82 ***	1
N	30178												

Standard errors in parentheses

*, ** and *** indicate the level of significance at $p < 0.05$, $p < 0.01$, and $p < 0.001$, respectively, using Pearson tests.

5.5.2. Multivariate analysis

The current study performs a series of tests to ensure that the sample data satisfy the underlying assumptions of the classical OLS linear regression model and the regression's results would be reliable. The results show that both heteroskedasticity and autocorrelation may be an issue. Thus, the models are regressed with the robust standard errors in order to mitigate those two issues.

(a) The effect of accounting conservatism on tax avoidance

In analysing whether accounting conservatism affects tax avoidance in BRICS countries, the Equation (4) has been separately regressed on each measure of conservatism (i.e., C_Score for conditional form and Acc_NegAccru for unconditional form) across firm-year observations and controlled for other firm- and country-specific variables. In order to choose an appropriate model, this study firstly conducts F-test to determine whether the pooled OLS model or fixed effect model is more suitable with the sample. The statistic of 3.67 ($p < .001$) in the model with C_Score and of 3.65 ($p < .001$) in the model with Acc_NegAccru indicate that the fixed-effects model is more appropriate for both. Then, the Hausman test is conducted to compare between the fixed-effects model and random-effects model. The statistics of the Hausman test is 84.82 ($p < .001$) in the model with C_Score and 112.87 ($p < .001$) in the model with Acc_NegAccru, suggesting that the fixed-effects model is more suitable to use in investigating the hypotheses of this study.

Table 5.4 presents the regression results addressing H1 and H2. The results indicate that Acc_NegAccru is positively associated with the annual ETR ($\alpha = 0.185$, $p < 0.01$), implying that unconditional conservatism is negatively associated with tax avoidance. Although the result contradicts to the H1, this negative association between accumulated negative accruals and tax avoidance is consistent with Purwantini, Chandrarin, & Assih (2017) and Yuniarsih (2018), who also find that tax avoidance is not the reason behind the practice of conservatism accounting. The C_Score is negatively associated with the annual ETR ($\alpha = -0.016$, $p < 0.05$), lending support to H2 predicting that conditional conservatism is positively associated with tax avoidance. This negative association between the C_Score and the annual ETR is consistent with the results in the study of Gan (2018) and also confirms the study of Lara, Osma, & Penalva (2009), which report that taxation does induce not only unconditional conservatism but also conditional conservatism.

Regarding control variables, all variables are statistically associated with the annual ETR, except cash intensity (Cashholding) in the model regressed with Acc_NegAccru. The regression coefficient for firm size (Size) using the logarithm of total assets is positively significant with ETR, suggesting that the larger firms pay more tax as shown at higher levels of the annual ETR (Dyreng et al., 2008; Huseynov & Klamm, 2012; Minnick & Noga, 2010). The coefficients on firm leverage (Lev) is positively associated with the annual ETR, suggesting that high leveraged firms are unlikely to engage in tax avoidance. This may be due to a high level of leverage incurs more interest expenses which are deducted from taxable income, high leveraged firms hence have less incentive to avoid tax. The coefficients on the capital intensity (CapInt) is negatively associated with the annual ETR, consistent with Huseynov & Klamm (2012). The intensity of intangible assets (IntangInt), a proxy of R&D expenses in this study, is also negatively associated with the annual ETR. These results suggest that firms avoid tax through the investments in assets that generate more claims on R&D credit (Belz et al., 2017; Gao et al., 2016b; Koester et al., 2017). A higher level of sales growth (SalesGrowth) is significantly associated with a lower level of the annual ETR, suggesting that firms with higher net sales avoid more tax as they have a greater incentive to reduce their tax burden (Dunbar et al., 2010).

Inconsistent with the prediction, the results also show that firms having more alignment between managers and shareholders (CloseHeld) pay more tax. Similarly, the dividend pay-out per share (DivPayout) and the annual ETR are positively associated. These results can be explained that more aligned firms commit to increasing profits for shareholders, leading to higher tax liability due to the result of increased incomes. Considering the country-specific variables, firms in the country with civil law (LawSys) have lower annual ETR as expected because the low level of investor protection represents less enforcement of law and regulations.⁷¹ After the adoption of IFRS, firms report lower annual ETR, supporting the argument asserting that IFRS adoption reduces the level of book-tax conformity (Chan et al., 2010; Chan et al., 2013; Chen & Gavigous, 2017; Karampinis & Hevas, 2013). That is, it is plausible that IFRS adoption allows managers not to face with the trade-off decision between book and taxable income, and thereby more convenient way to engage in greater tax avoidance (Desai, 2005; Hanlon et al., 2005).

⁷¹ Consistent with La Porta et al, 1998, common law origin presents characteristics in comply with attributes of strong investor protection.

Table 5.4 The Relation between Tax Avoidance and Accounting Conservatism

Variables	Exp. Sign	Tax Avoidance Measure as one-year ETR			
Accounting Conservatism:					
C_Score	(-)	-0.016 (0.007)	**		
Acc_Negaccru	(-)			0.185 (0.016)	***
Control Variables:					
Firm-level:					
Size	(+/-)	0.005 (0.001)	***	0.005 (0.001)	***
Lev	(+/-)	0.037 (0.010)	***	0.047 (0.010)	***
CapInt	(-)	-0.04 (0.005)	***	-0.054 (0.006)	***
IntangInt	(-)	-0.046 (0.009)	***	-0.061 (0.009)	***
SalesGrowth	(-)	-0.018 (0.005)	***	-0.016 (0.005)	***
Cashholding	(-)	0.021 (0.010)	**	0.005 (0.010)	
DivPay	(-)	0.000 (0.000)	**	0.000 (0.000)	*
CloseShare	(-)	0.000 (0.000)	***	0.000 (0.000)	***
Country-level:					
LawSys	(-)	-0.044 (0.009)	***	-0.047 (0.008)	***
IFRS	(-)	-0.028 (0.005)	***	-0.03 (0.005)	***
Fixed effects:					
Country, Industry, Year		Yes		Yes	
Constant		0.226 (0.011)	***	0.236 (0.011)	***
<hr/>					
adj. R^2		0.072		0.077	
F		77.797		83.737	
N		30178		30178	

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

The table reports regression results of the following fixed-effect model using OLS estimation with robustness of standard errors:

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 Acc_Con_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} \\
 & + \sum_{n=12}^{16} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=17}^{26} \alpha_n Fixed\ Effect_{i,t}^{industry} + \sum_{n=27}^{39} \alpha_n Fixed\ Effect_{i,t}^{year} \\
 & + \varepsilon_{i,t}
 \end{aligned}$$

where: *TaxAvoid* is tax avoidance proxied through *annualETR*, calculated by dividing income tax by pretax income;

Acc_Con refers to accounting conservatism proxied through *C_Score*, a measure of conditional conservatism, and *Acc_NegAccru*, a measure of unconditional conservatism;

CONTROLS are set of control variables where *Size* refers to size of firms based on total assets, *Lev* refers to firm leverage, *SalesGrowth* refers to firm growth, *Cashholding* refers to cash that firms are holding, *CapInt* refers to the intensity of firms' capital assets, *IntangInt* refers to the intensity of firms' intangible assets, *CloseHeld* refers to the closely-held shares, *DivPayout* refers to dividend payout per share, *LawSys* refers to the country's law origins, and *IFRS* refers to the adoption of IFRS. The variables are measured as follows;

Firm-level:

Size	The natural logarithm of total assets;
Lev	The ratio of long-term debt liability and total assets;
CapInt	The ratio of gross property, plant, equipment and total assets;
IntangInt	The ratio of intangible assets and total assets;
Cashholding	The ratio of cash and total assets;
SalesGrowth	The ratio of changes in net sale and total assets;
DivPayout	The ratio of dividends per share and earnings per share multiplied by 100;
CloseHeld	The ratio of number of closely held shares and common shares outstanding;

Country-level:

IFRS	The dummy variable equal to 1 in the year and after when firms adopt IFRS, and 0 otherwise;
LawSys	The dummy variable equal to 1 if firms are in country complying with civil law and 0 otherwise.

FIXED EFFECTS refer to country, industry, and year fixed effect: five countries, ten industries, and thirteen years.

(b) Robustness tests

Alternative measures of ETRs

As a denominator of ETR calculation in the main analysis is pre-tax book incomes which is subject to accounting standards mandated in each country, the results may be distorted due to differences in accounting choices across countries. In mitigating such possible problem, this study follows Jaafar & Thornton (2015) using the alternative ETR calculated as firms' current tax expense divided by their operating cash flows. Gupta & Newberry (1997) and Zimmerman (1983) indicate that cash flows from operations help reduce systematic differences in the selection of accounting methods across different jurisdictions. Furthermore, prior studies have used cash effective tax rate as a proxy of tax avoidance (e.g., Chen et al., 2010; Dyreng, Hanlon, & Maydew, 2010; Rego, 2003). Dyreng et al. (2010) state that the cash ETR, measured as cash tax paid divided by pre-tax income, can capture firms' strategies of tax deferring, and also represents a summary of the explicit reductions in tax burdens. As tax deferring (by deferring income) is considered as one important way to reduce taxes through conservative accounting, Gan (2018) argues that cash ETR can be more effectively captured the results of tax reductions through conservatism. The cash ETR thus is employed as the second alternative measure of ETR. As in the main analysis, cash ETRs are truncated between the value of 0 and 1 to facilitate an interpretable outcome (Dyreng et al., 2008). By replacing tax avoidance measure in Equation (4) with Cash ETRs, the results are consistent with the main results for both ETR measures as demonstrated in Table 5.5.

Table 5.5 Tax avoidance and accounting conservatism using alternative measures of ETRs

Variables	Exp. Sign	Tax Avoidance			
		Cash tax paid / Pretax book income		Income tax / Operating cash flow	
Conservatism:					
C_Score	(-)	-0.043 *** (0.012)		-0.126 ** (0.124)	
Acc_NegAccru	(+)		0.382 *** (0.031)		0.578 *** (0.216)
Controls included		Yes	Yes	Yes	Yes
Fixed Effects:					
Cntry, Ind, Yr		Yes	Yes	Yes	Yes
Constant		0.403 *** (0.021)	0.425 *** (0.021)	0.362 *** (0.051)	0.395 *** (0.061)
adj. R^2		0.166	0.171	0.003	0.003
F		192.493	194.843	17.922	17.945
N		30178	30178	30178	30178

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

The table reports regression results of the following fixed-effect model using OLS estimation with robustness of standard errors:

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 Acc_Con_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} \\
 & + \sum_{n=12}^{16} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=17}^{26} \alpha_n Fixed\ Effect_{i,t}^{industry} + \sum_{n=27}^{39} \alpha_n Fixed\ Effect_{i,t}^{year} \\
 & + \varepsilon_{i,t}
 \end{aligned}$$

where: *TaxAvoid* is tax avoidance proxied through *CashETR*, calculated by dividing cash tax paid by pre-tax income, and *ETR* calculated by dividing income tax by cash flow from operating activities. Other variables are as defined in Table 5.4.

Sensitivity test with the 2SLS analysis for endogeneity concern

Although this study examines the effect of accounting conservatism on tax avoidance, the nature of taxation and conservatism may cause reverse relationship, one of endogeneity problem.⁷² To mitigate this concern, this study repeats the main analysis (the Equation 4) using instrumental variables (IV) with the Two-Stage Least Squares (2SLS) estimation and employs lagged conservatism (i.e., lagged C_Score and lagged Acc_NegAccru) as instruments. Lagged conservatism variables are closely associated with current conservatism variables (because firms would avoid to make significant changes in accounting conservatism so that their earnings keeping smooth) and thought to have no direct association with the outcome (Gan, 2018). The results are consistent with OLS results reported earlier as reported in Table 5.6. To ensure the endogeneity problem of conservatism variables, the hypothesis testing whether the C_Score and Acc_NegAccru are exogenous are executed. Both Durbin test and Wu-Hausman test report a very small p-value which suggests rejecting the null hypothesis, and the model is correct in treating C_Score and Acc_NegAccru as endogenous variables. In addition, all the R^2 statistics in the first-stage regression to confirm the relevance of instrumental variables are relatively high, suggesting that the instruments are sufficiently correlated with C_Score and Acc_NegAccru. Therefore, they do not imply a weak-instrument problem.

(c) Additional analyses

Tax avoidance and accounting conservatism at a country level

The association between tax avoidance and accounting conservatism may vary across countries due to differences in institutional settings. This study thus investigates the relationship at the country level by re-estimating the main regression model with the sample data of each country separately. Table 5.7 reports the regression results for the relationship between tax avoidance and earnings management at the country level. The findings show that only China has consistent results with the main findings. Specifically, the coefficients on C_Score is negatively and significantly associated with the annual ETR ($\alpha = -0.047$, $p < 0.01$) and Acc_NegAccru are positively and significantly associated with the annual

⁷² In general, the problem of endogeneity occurs when an explanatory variable in a regression is correlated with the regression's disturbance term, which possibly arises from (i) omitted variables, (ii) reverse causality, and (iii) measurement error (Robert and Whited, 2012).

ETR ($\alpha = 0.173$, $p < 0.01$). These results imply that firms in China use conditional conservatism as a tool in lowering their tax burden. Firms in Brazil, India, and South Africa presents statistically significant results only on the measure of unconditional conservatism, consistent with the main results. For Russia firms, it is not statistically significant on both measures of accounting conservatism, suggesting that conservatism cannot be explained in the context of tax avoidance in Russian firms.

Table 5.6 Tax avoidance and accounting conservatism using 2SLS estimation

Variables	Exp. Sign	Tax Avoidance					
		OLS Estimation ^a			2SLS Estimation		
Accounting Conservatism:							
C_Score	(-)	-0.016	**		-0.021	*	
		-0.007			-0.051		
Acc_NegAccru	(+)			0.185	***		0.064
				-0.016			-0.024
Controls included		Yes		Yes		Yes	Yes
Fixed Effects:							
Country, Industry, Year		Yes		Yes		Yes	Yes
Constant		0.226	***	0.236	***	0.229	***
		-0.011		-0.011		-0.011	-0.012
Adj. R^2		0.072		0.077		0.071	0.068
Wald Chi^2						2575.42	***
						1895.48	***
Tests of endogeneity:							
(Ho: variables are exogenous)							
Durbin chi2						3.437	**
Wu-Hausman F						3.436	**
							73.111
							73.272
First-stage regression:							
R^2						0.0623	
							0.546
Adj. R^2						0.062	
							0.546
Part. R^2						0.0002	
							0.498
F						8.7038	***
							27116
N		30,178		30,178		30,178	30,178

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

^a Results from table 5.4

The table reports regression results of the following fixed-effect model using 2SLS estimation with robustness of standard errors:

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 AccCon_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{11} \alpha_n Control_{i,t}^{country} + \sum_{n=12}^{16} \alpha_n Fixed Effect_{i,t}^{country} \\
 & + \sum_{n=17}^{26} \alpha_n Fixed Effect_{i,t}^{industry} + \sum_{n=27}^{39} \alpha_n Fixed Effect_{i,t}^{year} + \varepsilon_{i,t}
 \end{aligned}$$

All variables are as defined in Table 5.4.

Table 5.7 Tax avoidance and accounting conservatism at country level

Countries	annualETR - Conservatism		
	C_Score	Acc_NegAccru	
Brazil	0.038 (0.057)	0.302 (0.158)	*
FE: Ind and Yr	Yes	Yes	
adj. R^2	0.036	0.045	
F	2.252	2.264	
N	594	594	

Countries	annualETR - Conservatism		
	C_Score	Acc_NegAccru	
India	-0.011 (0.011)	0.078 (0.03)	***
FE: Ind and Yr	Yes	Yes	
adj. R^2	0.030	0.030	
F	12.709	13.081	
N	11525	11525	

Countries	annualETR - Conservatism		
	C_Score	Acc_NegAccru	
China	-0.047 (0.012)	0.173 (0.019)	***
FE: Ind and Yr	Yes	Yes	
adj. R^2	0.054	0.058	
F	29.382	32.470	
N	15098	15098	

Countries	annualETR - Conservatism		
	C_Score	Acc_NegAccru	
S.Africa	0.03 (0.024)	0.437 (0.066)	***
FE: Ind and Yr	Yes	Yes	
adj. R^2	0.177	0.202	
F	22.553	24.975	
N	2534	2534	

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

The following regressions are estimated cross-sectionally with fixed-effect model for the sample period 2006-2018. The ordinary least square (OLS) is used with firm-level clustered standard errors for the estimation of the p-values.

$$TaxAvoid_{i,t} = \alpha_0 + \alpha_1 Acc_Con_{i,t} + \sum_{n=2}^9 \alpha_n Control_{i,t}^{firm} + \sum_{n=10}^{19} \alpha_n Fixed\ Effect_{i,t}^{industry} + \sum_{n=20}^{32} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t}$$

The definitions are as described above in Table 5.4.

The effect of Big4 auditors on tax avoidance and accounting conservatism relationship

Using tax consulting services from accounting audit firms is one of the options for firms to succeed in their tax-saving goal. Many prior studies find that synergies between audit and tax work within the same audit firm help in planning opportunities for tax savings (Dhaliwal et al., 2013; Seetharaman, Sun, & Wang, 2011). In this line, Omer, Bedard, & Falsetta (2006) find a negative relationship between using auditor-provided tax services and subsequent changes in tax rates. Gleason & Mills (2011) note that using auditor-provided tax services is associated with lower US tax expenses. Hogan & Noga (2015) also find that the auditor-provided tax services are negatively associated with the five-year average annual cash ETRs. In the extant literature, many studies use Big4 firms as representative of large audit firms⁷³ to investigate the audit quality (e.g., Behn et al., 2008; Cassell et al., 2013; Francis & Yu, 2009; Lai, 2013).

McGuire, Omer, & Wang (2012) and Janssen, Vandenbussche, & Crabbé (2005) find that clients using tax services from their audit firm engage in greater tax avoidance when their external audit firm is tax expertise proxied through Big4. Using Big4 audit firms may also have an impact on accounting conservatism because as offering higher audit quality compared to their peers, Big4 firms are not likely to compromise their reputation with clients' questionable accounting practices. As such, the tendency to use conservative accounting for tax purposes may be constrained. However, it can be the case that the tax-reducing effects of accounting conservatism is more pronounced for firms hiring Big4 firms as their external auditors. In order to reduce risks from shareholder lawsuits, typically argue that liabilities and expenses are understated and/or that revenues and assets are overstated, auditors are motivated to report earnings conservatively (Basu, Hwang, & Jan, 2001).

In analysing the effect of audit expertise on the relationship between tax avoidance and accounting conservatism, Big4 audit firms measured as a dichotomous variable equal to 1 if firms use Big4 audit and 0, otherwise. Further, an interaction term of Big4 and accounting conservatism are added into the model (Equation (4)). Table 5.8 shows that the coefficients of Big4 are positively associated with the annual ETR, suggesting that firms using services from Big4 firms pay higher tax (i.e. less tax avoidance).

⁷³ DeAngelo (1981) claims that audit quality is driven by many factors including the size of audit firm which can measure through a market share; the larger market shares the audit firm has, the more expert the audit firm is.

However, the coefficients of the interaction terms are insignificant, suggesting that hiring Big4 as the firms' external auditor does not affect the tax reducing impact of accounting conservatism.

Table 5.8 The effect of Big4 auditor on tax induced conservatism

Variables	Exp. Sign	Tax Avoidance	
		Measure as one-year ETR	
C_Score	-	-0.021 (0.014)	
Acc_NegAccru	-		0.277 *** (0.028)
Big4 Auditor	/	0.013 *** (0.004)	0.015 *** (0.003)
C_Score * Big 4 Auditor	+	0.023 (0.018)	
Acc_NegAccru * Big 4 Auditor	+		0.034 -0.047
FE: Country, Industry, and Year		Yes	Yes
adj. R^2		0.084	0.097
F		34.36	40.545
N		11800	11800

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

The table reports regression results of the following fixed-effect model using OLS estimation with robustness of standard errors:

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 Acc_Con_{i,t} + \alpha_2 Auditor_{i,t} + \alpha_3 (Acc_Con_{i,t} * Auditor_{i,t}) + \sum_{n=4}^{11} \alpha_n Control_{i,t}^{firm} \\
 & + \sum_{n=12}^{13} \alpha_n Control_{i,t}^{country} + \sum_{n=14}^{18} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=19}^{28} \alpha_n Fixed\ Effect_{i,t}^{industry} \\
 & + \sum_{n=29}^{41} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t}
 \end{aligned}$$

where: *Auditory* refers to the dummy variable equal to 1 if firms use the audit service from Deloitte & Touche, Ernst & Young, PricewaterhouseCoopers, and KPMG, and 0 otherwise. Other variables are as defined in Table 5.4.

Net operating loss and the relationship between tax avoidance and conservatism

Generally, losses from business operation are considered as a net operating losses (NOL) which can be carried forward to offset with firm profits in the following periods. Therefore, firms with NOL at the beginning of the current period may have less incentive to participate in tax avoidance (Dunbar et al., 2010; Lietz, 2013; Minnick & Noga, 2010). Moreover, having NOL may influence the effect of accounting conservatism on tax reduction. Because the brought forward NOL in the current period might be results of firms being conservative in the previous period, the existence of NOL may reduce the sensitivity of tax-reducing effect of accounting conservatism. Therefore, the effect of accounting conservatism on tax avoidance may be less pronounced for firms having NOL at the beginning of the current period.

To test the prediction above, NOL, measured as 1 if firms have negative net incomes in the previous year, and 0 otherwise, and an interaction term of NOL and accounting conservatism are added into the model (Equation 4). The coefficient of NOL is expected to be positive, of accounting conservatism to be negative, and of the interaction term to be positive so that the overall tax reduction effect can be moderated. Table 5.9 reports the regression results indicating that the coefficients of accounting conservatism and of NOL are significant with the expected sign while the coefficients of the interaction terms are not significant. The results suggest that firm with operating losses have less incentives to reduce their tax burden, but such losses do not influence the tax reducing effect of accounting conservatism.

Table 5.9 Regression results for the effect of NOL on tax induced conservatism

Variables	Exp. Sign	Tax Avoidance	
		Measure as one-year ETR	
C_Score	-	-0.015 ** (0.007)	
Acc_NegAccru	-		0.184 *** (0.016)
NOL	+	0.012 ** (0.006)	0.006 ** (0.005)
C_Score * NOL	+	-0.005 (0.021)	
Acc_NegAccru * NOL	+		-0.021 -0.069
FE: Country, Industry, and Year		Yes	Yes
adj. R^2		0.072	0.077
F		73.806	80.333
N		30178	30178

Robust standard errors clustered at the firm level are in parentheses.

*, ** and *** indicate the level of significance at $p < 0.1$, $p < 0.05$, and $p < 0.01$, respectively, using two tailed tests.

The table reports regression results of the following fixed-effect model using OLS estimation with robustness of standard errors:

$$\begin{aligned}
 TaxAvoid_{i,t} = & \alpha_0 + \alpha_1 Acc_Con_{i,t} + \alpha_2 NOL_{i,t} + \alpha_3 (Acc_Con_{i,t} * NOL_{i,t}) + \sum_{n=4}^{11} \alpha_n Control_{i,t}^{firm} \\
 & + \sum_{n=12}^{13} \alpha_n Control_{i,t}^{country} + \sum_{n=14}^{18} \alpha_n Fixed\ Effect_{i,t}^{country} + \sum_{n=19}^{28} \alpha_n Fixed\ Effect_{i,t}^{industry} \\
 & + \sum_{n=29}^{41} \alpha_n Fixed\ Effect_{i,t}^{year} + \varepsilon_{i,t}
 \end{aligned}$$

where: *NOL* refers to the dummy variable equal to 1 if the firm's net income less than 1, and 0 otherwise. Other variables are as defined in Table 5.4.

5.6. Conclusion

This study attempts to fill the gap in the literature by empirically examining the relationship between tax avoidance and accounting conservatism in emerging countries. In particular, the current study analyses whether tax-reducing incentive drives firms to be conservative in the form of conditional and/or unconditional conservatism in their financial accounting. Using a large sample of firms domiciled in BRICS (Brazil, Russia, India, China, and South Africa), the evidence shows that conditional

conservatism is negatively associated with firms' annual effective tax rate. On the contrary, unconditional conservatism is positively related to the annual effective tax rate of the sample firms. These results suggest that firms in BRICS use conditional, rather unconditional, conservative accounting to reduce tax liabilities. However, these results hold only with the sample from China when the models are tested at the country level. Although the tax-motivated conservatism is not detected when the measure of conditional conservatism is used, the positive association between the effective tax rate and unconditional conservatism does significantly hold for the sample data in Brazil, India, and South Africa. This study does not detect tax-motivated conservatism in either form in Russian firms. Furthermore, the findings also show that firms using services from Big4 firms pay higher tax (i.e. less tax avoidance), but it does not affect the tax-reducing impact of accounting conservatism. Similarly, firms with operating losses have less incentives to reduce their tax burden, but such losses do not influence the tax reducing effect of accounting conservatism.

The findings of this study have implications for several interested parties. This study contributes to academia by providing evidence for the unresolved debate about what forms of accounting conservatism can reduce tax liabilities. Although several studies lean on the premise that taxation induces unconditional conservatism, this study provides evidence that conditional conservatism has a direct impact on tax reductions, supporting the findings of Lara et al. (2009), who find that a high tax rate creates incentives for manager to shift income to a period with a lower tax rate and this strategy induces conditional conservatism. Shedding additional insights on the association between accounting conservatism and tax avoidance allows standard setters to have a better understanding of accounting conservatism's overall effects, which could help them to improve policies for discouraging firms from using accounting conservatism to avoid taxes. This study can assist tax authorities in developing methods to detect firms' tax avoidance practices through information from financial statements. Moreover, this study alerts investors, who have a heightened interest in firms' tax avoidance activities when making investment decisions, to be aware of firms' using conservative accounting, because they may also engage in tax avoidance activities.

However, this study is subject to some limitations. First, the sample is limited to publicly listed firms and to only five countries as the representatives of advanced emerging countries. Secondly, the measures of tax avoidance (the GAAP ETR) are based on financial statement data whose accuracy cannot be guaranteed. Further, the accounting standard and tax ruled firms complying with are different across

countries in the sample. Finally, even though this study captures accounting conservatism in the form of both conditional and unconditional conservatism, each form is proxied by only one measure. This is where the ability to generalize the findings is limited and the results may be suffered from estimation errors to some extent. Thus, caution should be taken when interpreting the results. For further research, additional work could investigate which specific firms' characteristics affect the managers' decision in choosing the approach to manage earnings through accounting conservatism to diminish tax burden. Furthermore, it would be relevant to examine the extent to which the use of a particular form of conservatism for the purposes of tax avoidance is influenced by managerial self-interests and how the markets and a firm's stakeholders respond to the firm's choices.

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Appendices

Appendix 5.1: Prior studies on accounting conservatism and taxation

Author(s)	Research question	Sample	Type of conservatism		Findings
			Conditional	Unconditional	
Bornemann (2018)		18 countries (1995-2010)	C-Score	- Negative accruals (Givoly & Hayn, 2000) - Skewness	Only conditional conservatism is positively associated with future tax rate cuts when book-tax conformity is high.
Gan (2018)		U.S. firms (2009-2016)	- C-Score - Skewness		Firms use conditional conservatism as a vehicle to reduce actual tax burdens.
Yuniarsih (2018)		Indonesian firms (2014-2016)		Negative accruals (Givoly & Hayn, 2000)	Unconditional conservatism is not a factor that encourages firms to engage in tax avoidance.
Purwantini, Chandrarin, & Assih (2017)	Do firms minimize tax by employing conservatism accounting through book tax differences?	Indonesian firms (2014-2015)		Negative accruals (Givoly & Hayn, 2000)	Tax avoidance is not the reason behind the practice of conservatism accounting.
Vale & Nakao (2017)	Does the advent of tax neutrality influence unconditional conservatism in publicly-traded companies in Brazil?	Brazilian firms (2002-2014)		The bias component (Beaver & Ryan, 2000)	Unconditional conservatism is only found in companies that are subject to greater market monitoring. Taxation does not induce unconditional conservatism in reported earnings, which is expected in a tax neutrality context
Asgari & Behpouri (2013)	Is there a relationship between accounting conservatism and financial burden of tax?	Tehran firms (2004-2009)		Negative accruals (Givoly & Hayn, 2000)	Unconditional conservatism is positively related with corporate tax burden, and the motivation behind conservatism is to reduce the difference between taxable income and accounting income.
Heltzer (2009)		U.S. firms (1994-2003)	Basu (1997)'s model	The intercept of Basu (1997)'s regression	The conditional and unconditional financial statement conservatism of firms with large positive BTDs is similar to that of other sample firms, while the

					<p>conditional and unconditional conservatism in taxable income of firms with large positive BTDs is greater than that of other sample firms.</p> <p>Large positive BTDs do not reveal information about a firm's relative level of financial statement conservatism. The unconditional conservatism among firm-years with large negative BTDs is greater than that of other sample firm-years.</p> <p>The conditional and unconditional conservatism in taxable income among firm-years with large negative BTDs is less than that of other sample firm-years.</p>
Lara, Osma, & Penalva (2009)		U.S. firms (1964-2005)	Basu (1997)'s model	The bias component (Beaver & Ryan, 2000)	<p>Contracting induces only conditional conservatism.</p> <p>Taxation, litigation, and regulation induce both conditional conservatism and unconditional conservatism.</p>
Qiang (2007)		U.S. firms (1982-2002)	<ul style="list-style-type: none"> - The bias component (Beaver & Ryan, 2000) - Negative accruals (Givoly & Hayn, 2000) 	<ul style="list-style-type: none"> - The bias component (Beaver & Ryan, 2000) - Negative accruals (Givoly & Hayn, 2000) 	Debt contracting costs induce conditional conservatism, whereas tax reduction costs and accounting regulation costs induce unconditional conservatism. However, litigation costs induce both conditional and unconditional conservatism.
Kim & Jung (2007)	Does tax cost influence accounting conservatism?	Korean firms (1997-2002)	Basu (1997)'s model	<ul style="list-style-type: none"> - Negative accruals (Givoly & Hayn, 2000) - The bias component (Beaver & Ryan, 2000) - The level of estimated reserves (Penman and Zhang, 2002) 	<p>The level of unconditional, but not conditional, conservatism is positively associated with tax burden.</p> <p>Firms with a closer link between book and taxable income are likely to have a stronger relation between tax costs and conservatism.</p> <p>Tax motivated conservatism is more prevalent for the firms with low non-tax cost.</p>

Related tax avoidance – conservatism issues

Authors	Research Questions	Samples	Measures	Findings
Clemente-Almendros & Sogorb-Mira (2018)	Are firms less leveraged than they should be comparing with tax benefits from interest deduction?	Spanish firms (2007-2015)	Graham's (2000) kink variable to measure the degree of leverage conservativeness	The conservative firms in terms of debt financing are not acting sub-optimally about debt tax advantage.
Crabtree & Kubick (2014)	What extent does tax avoidance contribute to a delay in the timing of the annual earnings announcement?	U.S. firms (1993–2010)	The timeliness of the annual earnings announcement	Tax avoidance manifesting through greater temporary and permanent book-tax differences shows a less timely annual earnings announcement.

Appendix 5.2: Definitions of Variables

Tax avoidance (TaxAvoid)

ETR = The effective tax rate estimated by income tax divided by pretax book income.

Earning Management (EM)

C_Score = The proxy for conditional conservatism measured as Khan & Watts (2009)'s model;

Acc_NegAccru = The proxy for conditional conservatism measured as Givoly & Hayn (2000)'s model.

Control Variables (CONTROLS)

Size = The natural logarithm of total assets;

Lev = The ratio of long-term debt liability and total assets;

CapInt = The ratio of gross property, plant, equipment and total assets;

IntangInt = The ratio of intangible assets and total assets;

Cashholding = The ratio of cash and total assets;

SalesGrowth = The ratio of changes in net sale and total assets;

DivPayout = The ratio of dividends per share and earnings per share multiplied by 100;

CloseHeld = The ratio of number of closely held shares and common shares outstanding;

IFRS = The dummy variable equal to 1 in the year and after when firms adopt IFRS, and 0 otherwise;

LawSys = The dummy variable equal to 1 if firms are in country complying with civil law and 0 otherwise.

Appendix 5.3: The mean value of interested variables

The mean value of ETR and STR

Year	N	Overall		Brazil		Russia		India		China		S. Africa	
		STR	ETR	STR	ETR	STR	ETR	STR	ETR	STR	ETR	STR	ETR
		(%)		(%)		(%)		(%)		(%)		(%)	
2006	866	33.92	23.63	34.00	26.47	24.00	25.49	33.66	22.99	33.00	22.14	36.89	28.41
2007	980	33.96	22.75	34.00	26.16	24.00	30.84	33.99	23.83	33.00	19.28	36.89	29.21
2008	1,642	31.70	24.19	34.00	26.31	24.00	33.99	33.99	25.17	25.00	19.00	34.55	29.84
2009	1,628	31.36	25.15	34.00	22.66	20.00	26.00	33.99	27.63	25.00	18.18	34.55	29.55
2010	1,868	31.47	24.97	34.00	25.11	20.00	24.16	33.99	26.99	25.00	19.12	34.55	28.25
2011	1,928	30.58	24.91	34.00	30.01	20.00	23.59	32.44	25.75	25.00	20.88	34.55	29.60
2012	1,760	30.77	26.37	34.00	25.32	20.00	26.67	32.45	27.55	25.00	21.98	34.55	29.32
2013	1,669	30.84	25.85	34.00	22.20	20.00	28.69	33.99	27.36	25.00	22.74	28.00	25.76
2014	2,765	27.85	22.45	34.00	21.71	20.00	33.23	33.99	26.40	25.00	20.27	28.00	25.48
2015	3,495	27.33	21.98	34.00	25.97	20.00	24.80	34.61	26.03	25.00	19.95	28.00	28.28
2016	3,926	27.47	22.25	34.00	24.61	20.00	23.36	34.61	27.85	25.00	19.66	28.00	28.55
2017	3,989	27.61	21.78	34.00	25.48	20.00	23.09	34.61	27.43	25.00	19.01	28.00	28.02
2018	3,662	28.42	22.09	34.00	24.93	20.00	26.86	35.00	27.36	25.00	18.50	28.00	27.48

The mean value of conservatism: conditional form and unconditional form

Year	N	Overall		Brazil		Russia		India		China		S. Africa	
		Con ^a	Uncon ^b	Con ^a	Uncon ^b	Con ^a	Uncon ^b	Con ^a	Uncon ^b	Con ^a	Uncon ^b	Con ^a	Uncon ^b
2006	866	0.17	-0.01	0.30	0.03	0.19	-0.03	0.22	-0.02	0.11	0.00	0.22	-0.01
2007	980	-0.03	-0.01	-0.03	0.02	-0.10	-0.02	-0.02	-0.03	-0.03	0.00	-0.04	-0.02
2008	1,642	0.12	-0.03	0.07	0.00	0.06	0.00	0.16	-0.04	0.05	-0.01	0.07	-0.02
2009	1,628	-0.02	-0.02	0.12	-0.02	0.11	0.00	-0.07	-0.04	0.07	0.00	0.04	0.00
2010	1,868	0.35	-0.02	0.23	-0.04	0.24	0.01	0.43	-0.03	0.22	0.00	0.26	0.00
2011	1,928	0.06	-0.03	0.09	-0.02	0.10	0.01	0.06	-0.04	0.07	-0.02	0.07	0.00
2012	1,760	0.07	-0.03	0.14	-0.02	0.10	0.00	0.01	-0.04	0.18	-0.01	0.16	-0.01
2013	1,669	-0.18	-0.03	-0.18	-0.02	-0.20	-0.01	-0.27	-0.04	-0.01	-0.02	-0.05	-0.01
2014	2,765	-0.03	-0.02	-0.12	0.00	-0.12	0.01	-0.18	-0.03	0.04	-0.02	-0.08	-0.01
2015	3,495	0.28	-0.02	0.21	0.01	0.17	0.02	0.28	-0.03	0.30	-0.02	0.22	-0.01
2016	3,926	0.11	-0.02	0.00	0.02	0.01	0.04	0.02	-0.02	0.14	-0.02	0.05	-0.01
2017	3,989	0.13	-0.02	0.14	0.01	0.12	0.00	0.11	-0.02	0.13	-0.03	0.12	-0.01
2018	3,662	-0.06	-0.03	-0.01	0.01	-0.06	-0.01	-0.14	-0.03	-0.02	-0.03	-0.07	-0.01

^a Con refers conditional conservatism measured through the C_Score.

^b Uncon refers to unconditional conservatism measured through accumulated negative accruals.

Chapter 6

Summary and Conclusion

This thesis investigates the association between corporate tax avoidance in BRICS countries and three topics: corporate social responsibility (Chapter 3), earnings management (Chapter 4), and accounting conservatism (Chapter 5). Furthermore, the current study discusses relevant issues related to corporate tax avoidance including (i) definitions of corporate tax avoidance; (ii) theoretical frameworks used in connection with tax avoidance; (iii) alternative perspectives on tax avoidance, (iv) prior studies on corporate tax avoidance; (v) the importance of BRICS economy and; (vi) issues of tax avoidance in BRICS (Chapter 2).

6.1. Summary of the Thesis

The common thread running through the thesis is the focus on tax avoidance. The consequences of tax avoidance have damaging effects in nearly all countries, but the effects of tax avoidance for lower-income nations are even more acute. This thesis hence emphasises the unique setting of emerging BRICS countries because they are key players in the global economy yet remain under-researched in the literature. These countries differ markedly from other emerging countries by their large, fast-growing economies and their significant influence on regional and global affairs (Piper, 2015). This thesis specifically examines the association between tax avoidance and three distinct, but related areas, namely CSR, earnings management, and accounting conservatism.

Tax avoidance can be viewed as two sides of a coin. On one side, it facilitates the increasing of firm profits. On the other side, it damages the well-being of people in society as a whole. Therefore, tax avoidance should be understood from both perspectives, i.e. the economic perspective and the

ethical perspective. Although tax avoidance is a legal practice using loopholes in tax law, it is viewed as socially irresponsible/unethical behaviour (Dowling, 2014), because corporations do not act as a good citizen by not paying their fair share of taxes (Huseynov & Klamm, 2012). As such, it is difficult for tax authorities to tackle the practice of tax avoidance by law enforcement. Given that CSR emphasises a firm's social commitment to various stakeholders which would allow society to put pressure on firms to comply with the corporate responsibility to pay responsible taxes, research on corporate tax avoidance in the boundary of corporate social responsibility (CSR) is encouraged (Avi-Yonah, 2014; Desai & Dharmapala, 2006; Dowling, 2014; Sikka, 2010). In addition to legal features, in order to avoid taxes, a firm's management team needs to make tax avoidance transactions complicated and difficult to be discovered by stakeholders. As such, determining the level of tax avoidance through a firm's other behaviours is encouraged. Although a firm's book income and its taxable income are determined by different rules and regulations, it is a well-known fact that taxable income is affected by book income. Therefore, engaging in earnings management and using accounting conservatism are well-known corporate behaviours which are closely linked to the practice of tax avoidance, as tax avoidance is argued to be an incentive for engaging in earnings management and using accounting conservatism.

Shareholders expect to see high profits as the outcomes of firm performance, but at the same time, they must sacrifice a large portion of their profits to pay taxes. However, according to the separation of ownership and control in corporate organisations, which may lead to agency problems, managers may not aim to increase profits if it is not in their personal interests. Shareholders hence tie their interests with managers' interests by means of after-tax performance compensation. Managers who aim to gain benefit from compensation incentives would then aim to minimise the tax liability in order to achieve their own target (Crocker & Slemrod, 2005). Managers may thus employ earnings management to minimise corporate tax obligation and to increase corporate net income. Similarly, firms' managers may attempt to reduce taxable income in the current period by employing the principle of accounting conservatism which allows them to delay revenue recognition and accelerate expense recognition. The principle of accounting conservatism entails overstating the values of liabilities/losses or understating the values of assets/incomes when firms face the situation that there are more than one alternative available

methods in the preparation of financial statements. In other words, firms are timelier in recognising losses than gains. By conservatively delaying recognition of book income, taxable income is simultaneously shifted, and tax payments are also deferred into the future (Bornemann, 2018). Therefore, tax saving may be an incentive for firms to increase accounting conservatism in order to minimise tax liability.

Therefore, this thesis investigates the following research questions:

RQ1: Is firms' CSR engagement associated with the levels of tax avoidance?

RQ2: Is firm's level of earnings management associated with the levels of tax avoidance?

RQ3: Is firms' level of accounting conservatism associated with the levels of tax avoidance?

This thesis provides answers to these questions by providing evidence that tax avoidance is significantly associated with all three areas. More precisely, in line with the economic perspective on tax avoidance, the results indicate that firms with high levels of accruals earnings management and conditional accounting conservatism are likely to engage in more aggressive tax avoidance. However, from the ethical perspective on tax avoidance, firms in BRICS implement CSR activities by taking into consideration social well-being, and do not engage in the practice of tax avoidance.

6.2. Summary of Empirical Studies

Tax Avoidance and CSR

Responding to the call of prior research to include responsible tax payments in firms' CSR policies (Avi-Yonah, 2014; Desai & Dharmapala, 2006; Dowling, 2014; Sikka, 2010), the first study of the thesis examines the association between tax avoidance and CSR. Specifically, this study explores whether firms address the interests of a broad range of stakeholders by implementing the strategy of tax compliance along with CSR. Alternatively, firms may engage in organized hypocrisy by involving in tax avoidance activities whilst demonstrating to be socially responsible in order to maintain legitimacy and mitigate the risks of severe sanctions for dodging tax.

The results show tax avoidance is negatively associated with CSR for both social activities and environmental activities, suggesting that firms engaging in more CSR activities are less likely to

avoid tax. The findings lend credential to the idea that the corporate behaviour of firms in BRICS promotes the commitment to a wide range of stakeholders, instead of shareholders exclusively, thereby executing a strategy of tax compliance and CSR engagement. This also supports the findings of prior studies that economic development does not explain variations of CSR across nations in BRIC, as shown in the case of India, where GDP per capita is lower than in China, but CSR is more intensive (Alon et al., 2010; Ramasamy & Yeung, 2009; Shaomin Li, Marc Fetscherin, Ilan Alon, 2010). Similarly, Alon et al. (2010) find that Chinese firms do not perceive economic responsibility as the most important responsibility, but their ability to provide jobs, housing and food. This finding is consistent with results of prior studies on developed countries that firms with higher levels of CSR are less likely to engage in tax avoidance (e.g., Hoi et al., 2013; Laguir et al., 2015; Lanis & Richardson, 2012, 2015). As BRICS are currently in the process of convergence towards international benchmarks in several fronts,⁷⁴ it is possible that firms in BRICS also converge their CSR activities with global CSR norms and standards.

At the country level, the results for Russia, India, and China are consistent with the main test, in which tax avoidance is negatively associated with CSR. Results for Brazil and South Africa are not statistically significant. Additional tests show that firms' CSR disclosures (social disclosure, but not environmental disclosure) are negatively associated with tax avoidance. This means that firms with higher levels of disclosure in social activities are less likely in tax avoidance. As the results are consistent with social performance, it can be implied that firms' social disclosure does reflect their actual social performance. Furthermore, firms with higher levels of CSR that employ external auditors from Big4 firms tend to pay less tax. Firms' foreign listing status has no significant effect on the relationship between tax avoidance and CSR. These results are robust using alternative measures of CSR and tax avoidance, as well as performing 2SLS tests. Table 6.1 summarizes the main results of the first study.

⁷⁴ For example, the convergence towards the United Nations' Sustainable Development Goals (Ali et al., 2018), the convergence towards internal audit effectiveness (Barac et al., 2016), and the convergence towards the International Tax Regime (ITR) (Baistrocchi, 2013).

Tax Avoidance and Earnings Management

The second study investigates the relationship between tax avoidance and the degree of earnings management. In particular, this study investigates whether and, if so, how managers use AEM and REM to achieve their goal. The results show that firms with a higher level of earnings management through AEM are more likely to engage in tax avoidance. These results support the hypothesis that firms' managers use non-conforming techniques to increase book incomes and decrease taxable incomes at the same time. This finding is consistent with findings of prior studies in developed economies (e.g., Desai, 2002; Frank et al., 2009). As the accounting standards used in BRICS are aligned with IFRS which is argued as one of the factors in reducing the level of book-tax conformity (Chan et al., 2010; Chan et al., 2013; Chen & Gavigous, 2017; Karampinis & Hevas, 2013). Reducing the level of book-tax conformity offers a convenient way for managers to avoid higher taxes, because they are not faced with the trade-off decision between increasing book income and decreasing taxable income.

Another condition that can explain the increased levels of tax avoidance after IFRS adoption is the increase in discretionary accruals available within IFRS (Ahmed et al., 2013; Lin et al., 2012). In contrast, tax avoidance is negatively associated with earnings management through the use of REM. These results support the hypothesis that managers use conforming techniques to manage earnings, so that the higher the book income, the higher the taxable income. This finding is consistent with Zang's (2012) argument that REM is costly if firms aim to engage in tax reduction. This is due to the fact that the practice of REM has direct cash flow implications in the current period, thereby affecting the level of tax liabilities in the same direction with the level of book income in the same period. That is, though the technique of REM, if firms intend to decrease tax liabilities, they have to reduce book income, leading to lower earnings per share reported to stock markets. At the country level, only results for India and China are consistent with the main tests for both AEM and REM. Results for Russia and South Africa are consistent with the main results only for one measure of REM, namely sales manipulations in the case of Russia, and overproduction in the case of South Africa. Moreover, the main results are robust after performing additional tests including (i) estimating tax avoidance with an AEM subsample and (ii) employing

a 2SLS method to mitigate potential biases caused by endogeneity problems. Table 6.2 summarizes the main results of the second study.

Tax Avoidance and Accounting Conservatism

The third study investigates the relationship between tax avoidance and the degree of accounting conservatism. It investigates in particular whether the level of tax avoidance is affected through both forms of accounting conservatism, namely conditional and unconditional. The results show that firms' conditional conservatism is positively associated with tax avoidance. In contrast, firms' unconditional conservatism is negatively associated with tax avoidance. The findings suggest that firms using conditional methods of accounting conservatism, but not unconditional methods of accounting conservatism, indicate higher levels of tax avoidance. The positive association is consistent with findings by Gan (2018) that conditional conservatism results in a reduced tax burden, and also confirms findings by Lara, Osma, & Penalva (2009), which report that taxation does induce not only unconditional conservatism but also conditional conservatism.

At the country level, these results hold only for Chinese firms. Brazilian and South African firms indicate consistent results for unconditional conservatism, but no evidence has been shown for conditional form. Furthermore, the findings show that firms engage in Big4 firms pay higher tax (i.e. less tax avoidance), but this does not affect the tax-reducing impact of accounting conservatism. Similarly, firms with operating losses have less incentives to reduce their tax burden, but such losses do not influence the tax-reducing effect of accounting conservatism.

6.3. Research Implications

This thesis expands our understanding of the variation of tax avoidance in BRICS and has several potential implications for policymakers and regulators who seek to identify the conditions under which tax avoidance is more likely to be aggressive. First, the thesis provides further insights into the association between tax avoidance and CSR engagement. Explaining through legitimacy theory, stakeholder theory, and corporate culture, the results show that BRICS firms with strong CSR engagement are less likely to engage in tax avoidance. This findings imply that firms in BRICS legitimate themselves by having culture of doing good things; that is, they place the importance on CSR in accordance with their corporate culture to take responsible to society as a whole, not doing CSR activities to create good image for the organization to be continued its operation. Therefore, these findings provide important insights for policymakers and allow them to formulate effective regulations that can improve firm's tax compliance through institutionalized CSR. Moreover, these results support the call for made by non-governmental organisations such as ActionAid, Oxfam, Christian Aid, and the Tax Justice Network to frame corporate taxation as a CSR issue.⁷⁵ The recommendation of including responsible tax payment as part of global CSR agenda may make firms align their behaviours regarding tax payment.

Second, this thesis provides a recommendation to relevant regulatory agencies that the high level of accrual-based earnings management and the high level of conditional conservative accounting could indicate tax avoidance engagement. Nonconformity between financial accounting standards and corporate tax regulation allows tax planning by firms to manage earnings, primarily through discretionary accruals transactions. As each member of BRICS adopts or converges their accounting standards to IFRS, it is important for standard setters to have a better understanding about the extent to which earnings management and conservatism are related to tax avoidance in the context of emerging markets. In particular, they should take into account the effects of tax avoidance when drafting new and updating old accounting standards. Finally, analysts and investors who are interested in firms' tax avoidance activities and use the accounting numbers to

⁷⁵ https://www.actionaid.org.uk/sites/default/files/publications/tax_responsibility.pdf

evaluate the extent of tax avoidance when making investment decisions should take into consideration the effects of earnings management and accounting conservatism.

6.4. Limitations and Suggestion for Future Research

This thesis is also subject to the following limitations. First, according to the MSCI Emerging Markets Index, twenty-seven countries are currently classified as emerging markets.⁷⁶ The current study uses a sample which is limited to publicly listed firms in five countries representing emerging economies. This may constrain the generalizability of findings for emerging countries as a whole. Exploring the practice of tax avoidance in other emerging countries would be a useful avenue for future research. Moreover, this thesis focuses on the sample of BRICS which comprises of countries in different continents. The results can only present tax avoidance practice in BRICS countries between tax avoidance and CSR, earnings management, and accounting conservatism. Therefore, investigating and comparing these practices for a particular continent would provide better understanding about tax avoidance in emerging countries across continents.

Second, measures of tax avoidance in this thesis are based on financial statement data whose accuracy cannot be guaranteed. The firms' level of tax avoidance is assumed by a lower level of ETR. That is, a lower ETR is assumed to be the result of firms avoiding tax. Although ETR is a reasonable, powerful, and accepted measure of tax avoidance in the literature, it cannot be guaranteed that firms with a low value of ETR all engage in tax avoidance activities. Taken together, future research on tax avoidance is encouraged to measure tax avoidance through other proxies, for example, using a sample of corporations accused by tax authorities or other parties of tax avoidance, so that firms' engagement in tax avoidance can be assured.

Third, the dependent variables in all three studies are restricted due to the limitation of data availability. In the study of tax avoidance and CSR, CSR is proxied by the ASSET4's ESG score in the main test, and the Bloomberg's ESG score in the additional test. Although both databases

⁷⁶ Source: <https://www.msci.com/market-classification>

are widely used in the extant empirical work, they suffer limitations in term of reliability. ESG scores are based on disclosure-based information that firms provide, and they may thus not be based on actual actions. It is estimated that 70% of the ESG data points measure whether the firms have a relevant policy but having a policy in place does not guarantee the level of commitment (Funds Global Asia, 2018). Future research may seek a measure of CSR that can pair policy disclosures with actual performance to ensure firms' CSR engagement.

In the study of tax avoidance and earnings management, the measures of REM, proposed by Roychowhury (2006) and mostly used in literature, should be included sales manipulation, overproduction, and discretionary expenditures. While most prior studies employ all three measures, this thesis excludes expenditure discretion due to the lack data of R&D expenses. Similarly, in the study of tax avoidance and accounting conservatism, this thesis captures conservatism in both conditional and unconditional forms but uses only one measure for each form. Due to these limitations, the findings from this thesis may not be completely comparable to prior studies investigating similar issues.

Finally, this thesis investigates three aspects, i.e., CSR, earnings management and accounting conservatism, that may help in explaining practices of tax avoidance in BRICS. Therefore, it would be interesting if future research further examines these three aspects in more details. For example, investigating whether the relation between tax avoidance and earnings management is mediated by CSR engagement, examining whether the relation between tax avoidance and CSR is depended on characteristics of corporate governance, exploring the association between tax avoidance and earnings management using other techniques of earnings management such as classification shifting, investigating whether suspect tax avoidants use multiple techniques of earnings management substitute or complementarily.

It may also be interesting to explore other aspects related to the practice of tax avoidance, such as different disclosure practices, corporate governance, or attributes of both internal and external auditors, that may help in explaining tax avoidance in BRICS in order to assist policy-makers in drawing effective regulation to tackled tax avoidance both at the national and international level.

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