Related Party Transactions, State Ownership, the Cost of Corporate Debt, and Corporate Tax Avoidance: Evidence from Vietnam

Trinh Thi My Nguyen

Thesis submitted to the Adelaide Business School, the University of Adelaide, in fulfilment of the requirements for the degree of Doctor of Philosophy

September 2020

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Abstract

This thesis consists of three papers examining determinants and implications of related party transactions (RPTs) in Vietnam, a transitional economy in South East Asia with features of concentrated state ownership and weak minority investor protection. Specifically, these papers describe RPTs and examine (i) the association between RPTs and state ownership, (ii) the association between the cost of corporate debt and RPTs, and the moderating role of state ownership on the association between the cost of debt and RPTs, and (iii) the association between corporate tax avoidance and RPTs, and the moderating role of state ownership on this potential association.

The first paper describes the nature and extent of RPTs in Vietnamese listed firms and examines the association between RPTs and state ownership. The results from this paper demonstrate that related party transactions are prevalent in Vietnam. Findings show that the presence of state ownership is related to a lower extent of RPTs. However, among firms with state ownership, the extent of RPTs is positively associated with percentage of state ownership.

The second paper reveals that the cost of debt is higher in firms having a higher level of RPTs, implying that RPTs are viewed as a potential risk to firms from the point of view of lenders. However, the presence of state ownership can reduce the effect of RPTs on the cost of debt.

The third paper provides evidence that firms with RPTs demonstrate more tax avoidance than their counterparts without RPTs. Further, among firms with RPTs, firms with a higher extent of related net credit and related sales are found to exhibit even higher levels of tax avoidance. However, the association between tax avoidance and RPTs is moderated by the presence of state ownership. Finally, in firms with RPTs, the presence of state ownership reduces tax avoidance measured by effective tax rates.

Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint award of this degree.

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Signature Trinh Thi My Nguyen Date: 24 September 2020

Acknowledgements

I would like to express my special gratitude to Professor Pamela Kent, my principal supervisor, for her invaluable guidance, her patience, her persistent encouragement and support during my studies. Especially, her optimism lifted me up whenever I struggled with my studies and lost confidence in myself. She was always there when I needed advice to deal with issues arising from my studies, making me feel that I was well looked after. I am also grateful to Professor Grant Richardson, my co-supervisor, for his immense knowledge, constructive comments, and his trust in my abilities.

My sincere gratitude also goes to Professor Paul Coram and my former supervisors, Associate Professor George Shan, Associate Professor Robyn Davidson, and Associate Professor Janice Loftus, for their support during the beginning of the PhD program. I am also thankful to my coursework lecturers, Associate Professor Bryan Howieson and Dr George Mihaylov, who provided me with some fundamental knowledge to conduct my research.

I gratefully acknowledge the Vietnamese Government and the University of Adelaide for providing me with a VIED - Adelaide Joint Scholarship. Without this support, I would not have had the chance to pursue my studies at the University of Adelaide.

I wish to send special thanks to my colleague and friend at the Academy of Finance, Vu Thi Phuong Lien, who supported me to organise data collection for my study. Thanks to my friends at Adelaide Business School, for sharing all up and down moments with me. Particularly to Lan Nguyen, Thuy Lien Nguyen and Shihe Li, for their kindness and timely advice, and especially to Anutchanat Jaroenjitrkam, who started her PhD journey on the same day as me, for patiently supporting me, even after she left Adelaide and went back to her country.

I am forever indebted to my parents for their unconditional and continuous support. I could not have started my study without the huge support from them, especially my mom, who travelled to Adelaide to help me with settling down here in the first six months.

Finally, thanks to my daughters, Lam and My Anh, for their endless love and company. You are the greatest motivation for me to overcome all difficulties during my PhD studies.

Chapter 1: Introduction

This thesis describes the nature and extent of related party transactions (RPTs, hereafter), and their potential association with state ownership, the cost of corporate debt and corporate tax avoidance in Vietnam, a transition economy with concentrated state ownership and weak minority investor protection (Robinett et al. 2013; World Bank 2016). The thesis answers the following questions. First, what is the nature and extent of RPTs by listed firms in Vietnam? Second, is the presence and percentage of state ownership associated with RPTs? Third, is there an association between the cost of corporate debt and RPTs, and does the presence of state ownership moderate the association between the cost of debt and RPTs? Finally, is there an association between corporate tax avoidance and RPTs and does the presence of state ownership moderate this association?

A RPT is defined as a transfer of resources, services, or obligations between related parties, regardless of whether or not a price is charged, where a related party is a person or entity related to the reporting entity (International Accounting Standard 24.9, International Accounting Standards Board (IASB) 2009). Such transactions are varied, often complicated business transactions between a firm and its related parties, including its managers, directors, shareholders, and associates (Habib et al. 2015).

RPTs are initiated for legitimate business reasons, such as reducing transaction costs or ensuring the quality of products (Khanna and Palepu 2000). However, RPTs are often considered to breach the rules and violate arm's-length market transactions (Habib et al. 2015). This violation is often related to financial fraud and expropriation of minority shareholders (Cheung et al. 2006; Jiang et al. 2010). In addition, RPTs have been widely criticised for contributing to corporate failures in developed countries, such as Enron in the U.S., Health International Holdings (HIH) in Australia (both liquidations were in 2001) and some finance firms in New Zealand (Wu 2013). Therefore, firms are required to disclose information on transactions, balances, and relationships with related parties to

enable users of financial reports to evaluate the entity's operations, including opportunities and challenges faced by the entity associated with RPTs (International Accounting Standard 24.8, International Accounting Standards Board (IASB) 2009).

This thesis is motivated by several important factors. First, there is a concern that weak disclosure requirements and ineffective governance mechanisms in Vietnam allow directors and controlling shareholders to use RPTs for personal benefit at the expense of the firm. RPTs are assessed to be prevalent among state-owned enterprises (SOEs hereafter) in Vietnam (Robinett et al. 2013). The involvement of RPTs is linked to some high-profile scandals[1] in Vietnam since 2010. However, little research on RPTs has been conducted using Vietnamese data. There is no study assessing the nature and the extent of RPTs in Vietnam, its determinants and implications as being beneficial or detrimental to stakeholders.

Second, the implications of RPTs have been assessed from different perspectives, such as those of auditors and shareholders (Kohlbeck and Mayhew 2010; Hwang et al. 2013; Habib et al. 2015; Balsam et al. 2017; Habib et al. 2019). However, there is limited evidence on whether lenders price the risks and benefits of the existence and extent of RPTs in the cost of debt, even though debt financing is a dominant channel to organise capital for firms in many economies. Given competing theories about the nature of RPTs (Gordon et al. 2004b; Kohlbeck and Mayhew 2004b), it is important to understand how these transactions relate to the cost of debt.

Third, RPTs are found to be associated with tunnelling activities in firms and tunnelling activities are found to be associated with tax avoidance (Chan et al. 2016). However, whether there is an association between RPTs and tax avoidance is not clear. In addition, there is a lack of empirical research on RPTs and tax avoidance in Vietnam.

Finally, state ownership has grown more prevalent in the world economy (Pargendler 2011). However, there is limited research examining the role of state ownership as a corporate governance

[1] Vinashin, ACB and Ocean Bank.

mechanism in determining RPTs and in moderating the association between RPTs and the cost of debt and the association between RPTs and tax avoidance.

Vietnam offers an interesting context to answer the above research questions. First, being a small emerging economy in South East Asia, Vietnam features as a concentrated ownership economy with a prevalence of state ownership. The concentration of ownership enables RPTs, making RPTs substantial in Vietnam. State ownership is dominant in Vietnam, although the government has conducted a reform in SOEs as part of the economic reforms introduced in 1986 (Nguyen and Richard 2011; Nguyen 2019). Second, debt financing (mainly bank lending) is a major source of capital for firms as firms in Vietnam rely on loans rather than equity capital for their sources of finance (Nguyen et al. 2014; Sarath and Pham 2015; Phan 2018; Vuong 2019). Finally, Vietnamese firms have strong incentives to take part in tax avoidance activities, given the complexity and abundance of tax incentives resulting from continuous reforms in corporate income tax, along with the lack of efficiency in the tax administration process.

To examine RPTs, their determinants and implications, this thesis is separated into three studies. The main variable of interest is RPTs. This is the dependent variable in the first paper which examines the determinant of RPTs in firms. In the second and third studies, RPTs are the main independent variable of interest to explore its implications regarding the cost of debt and tax avoidance. In this thesis, I use a variety of proxies to measure the presence and extent of RPTs engaged in by firms. Besides the dummy variable indicating if a firm has RPTs, I follow Jian and Wong (2010), Habib et al. (2017) and Habib et al. (2019) to use related sales ratios and related net credit ratios as the main measures of the extent of RPTs. These two measures are calculated as a proportion of net sales (related sales) or a proportion of total assets (related net credit) to remove the difference due to the scale of a firm. Applying the model by Jian and Wong (2010), I separate normal and abnormal values of these two above proxies of RPTs to gain a better understanding of the determinants of normal and abnormal levels of RPTs and the economic consequences of normal and abnormal levels of RPTs.

The first paper, Chapter 2 of this thesis, describes the nature and extent of RPTs in Vietnamese listed firms and examines the association between RPTs and state ownership. I classify transactions and balances with related parties by their natures and by their counterparts using information disclosed in notes to financial statements of firms in a sample of Vietnamese listed firms from 2010 to 2016. There are 16 types of transactions and six types of balances representing categories of RPTs. To examine the association between RPTs and state ownership, regression of state ownership (measured as a dummy variable and percentage of shares owned by the state) on RPTs was applied. A propensity score matching characteristics of firms and an alternative measure of RPTs were employed as robustness tests.

In this chapter, I find that RPTs are prevalent in Vietnamese listed firms with nearly 80 percent of firms disclosing at least one transaction or balance with related parties. The most frequently reported transactions in the sample are sales of goods and services and purchases of goods/services. These two types of transaction account respectively for about 53 and 44 percent of total RPTs disclosed in the sample. Loans, borrowings, sales, or purchases of assets with related parties are not frequent transactions disclosed in the sample. The most frequent balances with related parties in the sample are account receivables and payables, with about 53 and 45 percent, respectively. The most common party that a firm has transactions with is associates, accounting for about 24 percent of total firm-year RPTs observations. However, entities under common control are the party with which firms have the highest transaction in terms of average value.

I find that the presence of state ownership is related to a lower extent of RPTs measured by related net credit. In other words, firms with state ownership have fewer RPTs relating to net credit than their non-state ownership counterparts. Specifically, the levels of normal net credit and abnormal net credit to related parties in firms with state ownership are about three percent lower than in firms without state ownership.

However, among firms with state ownership, the percentage of shares owned by state shareholders is found to be positively associated with the extent of RPTs. For example, one standard deviation increase in state ownership percentage inflates related sales by 26 percent of total sales relative to the mean value of related sales over net sales ratio. The positive association between state ownership percentage and the extent of abnormal RPTs is extremely high. One standard deviation increase in state ownership percentage is associated with a 792 percent increase in abnormal related sales ratio to its mean value.

The second paper, presented in Chapter 3, examines the association between RPTs and the cost of corporate debt, and the moderating role of state ownership on this association. In line with previous research on the cost of debt (Pittman and Fortin 2004; Bliss and Gul 2012; Shailer and Wang 2015; Liu et al. 2016; Fonseka et al. 2019), I use the effective interest rate to measure the cost of debt. Regressions of RPTs on the cost of debt are run with both the presence of RPTs (dummy variable) and the extent of RPTs measured by related sales and related net credit. Regarding the extent of RPTs, I separate normal and abnormal values of RPTs to see if RPTs abuse is associated with the cost of debt. Interaction variables of state ownership presence and different measures of RPTs are added in the regression to estimate the moderating role of state ownership in the association between RPTs and the cost of debt. I also use the propensity score matching approach to ensure that the findings from the baseline regression are robust.

I find that the cost of debt is positively correlated with the extent of RPTs determined by related sales and related net credit. This evidence indicates lenders assess RPTs as a possible risk to firms. The lenders thus charge a higher rate for firms with a higher extent of RPTs. This finding supports the agency theory view of RPTs. I also find that state ownership moderates the association between RPTs and the cost of debt. The association between the cost of debt and RPTs is less pronounced for firms with state ownership, indicating that the presence of state ownership reduces possible risks from RPTs in lenders' assessment.

In the final paper, in Chapter 4, the association between RPTs and corporate tax avoidance, and the moderating role of state ownership on this association are examined. Tax avoidance is defined as any transaction or event (*passive* or *aggressive*) that leads to a reduction in corporate taxes that a firm is required to pay (Dyreng et al. 2008; Hanlon and Heitzman 2010). To capture tax avoidance, two proxy measures drawn from prior literature (e.g., Taylor and Richardson 2014; Khan et al. 2017) are employed. These measures are the accounting effective tax rate (ETR hereafter), and the cash ETR. These measures calculate the average tax rate per dollar of pre-tax accounting income and reflect the ability of a firm to lower its income tax expense (cash taxes paid) compared to its pre-tax accounting income (Richardson et al. 2016). Higher ETR indicates lower tax avoidance activities by firms. Regressions of different measures of RPTs on ETRs are employed to test whether firms with RPTs engage in more tax avoidance activities than firms without RPTs. The potential moderating role of state ownership in the association between RPTs and tax avoidance is also explored. Propensity score matching was used as a robustness test to reduce any heterogeneity in the characteristics of firms.

In this paper, it is found that firms with RPTs demonstrate more tax avoidance than their counterparts with non-RPT. Specifically, firms with RPTs have approximately one percent accounting ETR lower than firms without RPTs, suggesting that these firms participate in more tax avoidance activities. Furthermore, among firms with RPTs, firms with a higher extent of related net credit and related sales are found to exhibit even higher levels of tax avoidance. Overall, findings from this paper are consistent with the agency theory view of RPTs. The presence of state shareholders is found to moderate the association between RPTs and tax avoidance by reducing corporate tax avoidance in the form of increasing ETRs. Thus, the presence of state shareholders in firms with RPTs is seen to reduce aggressive tax avoidance activities engaged in by those firms.

This thesis makes several contributions. First, this is the first thesis to comprehensively describe RPTs and the characteristics of firms associated with RPTs in Vietnam, an emerging market where state ownership is pervasive. There are significant studies examining RPTs and their implications in

China, a big transitional economy with dominant state ownership, where RPTs are found to be prevalent (Berkman et al. 2009; Cheung et al. 2009a; Aharony et al. 2010; Jian and Wong 2010; Peng et al. 2011; Habib et al. 2015). While there are some parallels between Vietnamese and Chinese economies (Nguyen and Richard 2011), the substantial gap in economic scale between Vietnam and China makes an analysis of RPTs in Vietnam of interest to various stakeholders, such as international academics, policymakers and investors.

Second, by exploring the association between RPTs and the cost of debt, and between RPTs and tax avoidance, this thesis helps to gain a better understanding of the implications of RPTs for lenders and tax authorities. Prior literature on RPTs typically considers the impacts of RPTs on equity shareholders or auditors (Gordon et al. 2007; Kohlbeck and Mayhew 2010; Bennouri et al. 2015; Habib et al. 2015; Kohlbeck and Mayhew 2017; Habib et al. 2019). However, previous research has not considered the implications of RPTs from the perspectives of lenders or tax authorities. This thesis provides evidence about the negative implications of RPTs from both lenders and tax authorities' perspectives. RPTs are found to be associated with a higher cost of debt and a higher level of tax avoidance activities. The evidence from this thesis supports the agency theory view of the nature of RPTs, raising awareness of the potential abuse of RPTs in firms.

Third, this thesis adds to the literature on the determinants of the cost of debt and corporate tax avoidance. RPTs are found to be an important factor determining the cost of debt and tax avoidance activities by firms. The existence and the extent of RPTs increase the cost of debt and the level of tax avoidance activities measured according to the effective tax rates.

Finally, the thesis contributes to the literature on state ownership, as a corporate governance mechanism. State ownership is found to restrain RPTs engaged in by firms in Vietnam. However, among firms with state ownership, there is a positive association between the percentage of shares owned by the state and the extent of RPTs. There is limited research on the association between state ownership and the extent of RPTs disclosed by firms, given the growing prevalence of state

ownership in the world economy (Pargendler 2011), especially following the global financial crisis in 2008 (Borisova et al. 2012; Peng et al. 2016). State ownership also moderates the association between RPTs and the cost of debt and between RPTs and tax avoidance.

In summary, RPTs can be part of the normal course of business but have been under scrutiny due to their potential abuse. The findings of this thesis provide policymakers and investors with insights into RPTs in the context of Vietnam and their implications for different stakeholders. Given the prevalence of state ownership in Vietnam, the thesis also provides evidence of the role of state ownership and its implication for corporate governance.

The remainder of this thesis is organised as follows. Chapter 2 describes RPTs and explores the association between RPTs and state ownership in Vietnamese listed firms. Chapter 3 examines the association between RPTs and the cost of debt, with consideration of the moderating role of state ownership in this association in Vietnamese listed firms. Chapter 4 investigates the association between RPTs and tax avoidance and the moderating role of state ownership in this association. Chapter 5 concludes the thesis.

Chapter 2: Related party transactions and state ownership: Evidence from Vietnam

2.1. Introduction

In this paper, I describe RPTs[2] and explore the potential association between state ownership and RPTs in Vietnam. I examine RPTs disclosed by 650 firms in two stock exchanges in Vietnam for the period from 2010 to 2016 by identifying whether a firm discloses the existence and value of its RPTs. In addition, for those that disclose RPTs, the identity of the parties and the nature of the transaction or balances are examined. Finally, I analyse whether the presence and level of state ownership are associated with RPTs in Vietnamese listed firms.

This paper is motivated by the concern that weak disclosure requirements and ineffective governance mechanisms in Vietnam allow directors and controlling shareholders to use RPTs for personal benefit at the expense of the firm. The involvement of RPTs is linked to several high-profile scandals in Vietnam since 2010. The Vinashin scandal in 2010 is considered the most serious economic scandal in Vietnam. Vinashin was the largest shipbuilder and one of the largest state economic groups[3] in Vietnam (Mishra 2011). It was the fifth largest shipbuilder in the world at its peak in 2008 and employed 50,000 people in the region[4]. RPTs were seen to be involved in concealing Vinashin's financial problems, resulting from the inefficient operations of its 200 subsidiaries, including firms operating in unrelated businesses, such as securities, real estate, and tourism. In 2010, the group almost went bankrupt with debts of about US$4.4 billion.[5] Its executives were given severe

[2] I can only access RPTs disclosed in the reported financial statements of firms. Therefore, I could not access information about RPTs if firms refuse to disclose.
[3] State economic groups (SEGs) were established by the Vietnamese government in the hope that Vietnam would achieve competitiveness with foreign firms after it joined the World Trade Organisation. There were 12 SEGs created during the 2005-2010 period.
[4] Available at: http://www.allenovery.com/publications/en-gb/Pages/Vinashin-%E2%80%93-An-English-solution-for-an-Asian-problem.aspx.
[5] According to the Guardian, Vinashin's debt at that time was equal to 5 percent of Vietnam's GDP in 2009 (https://www.businessinsider.com.au/vinashin-vietnam-asian-hard-landing-2011-1?r=US&IR=T).

prison sentences for their role in the near-collapse of the group. Its former chairman was given the maximum sentence of 20 years in jail for falsifying the group's financial reports to disguise the group's financial situation.[6]

Another scandal involved RPTs conducted by the top officials of the Asia Commercial Bank (ACB), which is one of the largest joint-stock commercial banks in Vietnam. ACB's founder, Nguyen Duc Kien, established six firms to borrow loans from ACB to invest in stocks of different firms, and later used these stocks as collateral assets to borrow more money from ACB.[7] He was subsequently sentenced to 30 years in prison for his role in a series of complicated financial scams worth US$1.1 billion that has become one of the highest-profile banking scandals in Vietnam.[8]

Vietnam is an example of a transition economy with concentrated state ownership and weak minority investor protection (Robinett et al. 2013; World Bank 2016). However, little research on RPTs has been conducted using data from Vietnam. Specifically, there is no study which explores RPTs in Vietnam, and its implication as being beneficial or detrimental to stakeholders. The association between state ownership and RPTs in the context of a country with high state ownership and a number of RPTs scandals is a research issue requiring empirical evidence to understand their potential relationship.

The nature of RPTs and the impact of RPTs on the financial performance of firms have been investigated in existing research in developed and developing markets, such as the U.S., France, Italy, Japan, Hong Kong, Taiwan, South Korea, Indonesia, and especially in China. The focus of these studies has been the role of controlling shareholders regarding engagement in RPTs because there has been concern about the expropriation of wealth from minority shareholders by controlling shareholders through the use of RPTs in ownership-concentrated economies, such as Taiwan, Hong

[6] Available at: https://www.wsj.com/articles/SB10001424052970203568004576043180815719282.

[7] Available at: https://vnexpress.net/co-quan-dieu-tra-giai-ma-cac-nguon-tien-cua-bau-kien-2431353.html; https://vnexpress.net/bau-kien-gian-lan-kinh-doanh-lat-leo-qua-6-cong-ty-2926704.html.

[8] Available at: https://www.nbcnews.com/news/world/vietnam-tycoon-nguyen-duc-kien-jailed-30-years-over-fraud-n126001.

Kong or China (Cheung et al. 2006; Cheung et al. 2009a; Aharony et al. 2010; Peng et al. 2011; Yeh et al. 2012). Some studies use Chinese data and explore tunnelling and propping[9] activities between listed firms and their state controlling shareholders (Cheung et al. 2009a; Jian and Wong 2010; Peng et al. 2011). However, there has been no study exploring the association between state ownership and the extent of RPTs, although state ownership remains pervasive in transitional economies, including China and Vietnam. Therefore, a study on RPTs concerning state ownership in Vietnam increases our understanding of RPTs and the role of state ownership in motivating firms to use these transactions in the context of an emerging transitional economy with dominant state ownership.

Vietnam offers an excellent setting for a study regarding the potential association between state ownership and RPTs for two reasons. First, state ownership is dominant in Vietnam, although the equitisation process has made substantial progress since the economic reform launched in 1986 (Robinett et al. 2013). Second, the use of RPTs is widespread in Vietnam due to highly concentrated firm ownership, week corporate governance, and little protection to minority shareholders (Robinett et al. 2013).

I hand-collect RPTs for a sample of 650 firms listed on stock exchanges in Vietnam from 2010 to 2016. RPTs are frequent in the sample with nearly 80 percent of firms disclosing at least one transaction or a balance with related parties. Vietnam, like other countries, does not prohibit transactions with related parties. However, transactions with related parties that reach a threshold, (i.e., 20 percent of the total assets – for listed firms), must be approved by a majority vote at an annual general meeting.[10] In addition, firms are required to disclose a list of their related parties and transactions with these parties.[11] Detailed requirements about disclosing transactions with related

[9] Tunnelling is defined as activities to transfer wealth from firms to their controlling shareholders (Johnson et al. 2000). Propping is defined as the situation in which a listed affiliate's earnings are managed by its controlling shareholder through the use of the controlling shareholders' resources (Jian and Wong 2010).
[10] Article 162 *Law on Enterprise* (2014) states that transactions shall be approved by the General Meeting of Shareholders. Only non-related-interest shareholders have the right to vote. Conditions for passing resolutions at the General Meeting of Shareholders are stated in Article 144 of *Law on Enterprise* (2014) (National Assembly of Vietnam 2014).
[11] According to article 159, *Law on Enterprise* (2014) (National Assembly of Vietnam 2014).

parties are regulated by the *Vietnamese Accounting Standard (VAS) No 26 – Related Party Disclosures* (Ministry of Finance 2003). Firms are required to disclose transactions with related parties regarding the nature and the amount of transactions and the nature of the relationship with a related party in the notes to the financial statements. In my sample, sales of goods and services to related parties are the most frequently disclosed RPTs, accounting for around 53 percent, followed by purchases of goods and services at around 44 percent. Loans and borrowing transactions are not frequent transactions with related parties. These transactions account for about 8 and 11 percent, respectively. In terms of balances with related parties, accounts receivables and payables are the most reported balances by firms in the sample, with around 53 and 45 percent, respectively.

I then examine the association between state ownership and RPTs. I test this association with two measures of state ownership: (1) the presence of state ownership; and (2) the percentage of shares owned by state shareholders. I use related sales as a proportion of net sales and related net credit (defined as all related receivables minus all related payables) as a proportion of total assets to measure RPTs. These two measures of RPTs have been used widely in the literature on RPTs (Jian and Wong 2010; Habib et al. 2017; Habib et al. 2019). Abnormal related sales are typically used to proxy for propping activities, while abnormal related net credit is used to proxy for tunnelling activities (Habib et al. 2017).

I use panel data of 3921 firm-year observations over the 2010 to 2016 period. I find that the higher the percentage of shares owned by the state, the higher the extent of RPTs among firms with state shareholders. This result holds across four measures of RPTs. These results suggest that firms with a higher percentage of state ownership are more likely to make use of RPTs. Finally, I also find that the presence of state ownership is related to a lower level of net credit for related parties.

This paper contributes to the literature in the following ways. First, it describes RPTs and the characteristics of firms associated with RPTs in Vietnam, an emerging market where state ownership is pervasive. The Vietnam economy has many similarities to the Chinese economy in that they are

both communist regimes and have applied a gradual process to conduct economic reform (Nguyen and Richard 2011). However, Vietnam is different as it has historically been influenced by countries, such as France, the U.S., the Soviet Union and China (Nguyen and Richard 2011). This fact makes Vietnam a unique context for this study. Moreover, the notable difference in the economic scale between Vietnam and China also makes a study about RPTs in Vietnam of interest to different stakeholders, such as international academics, policymakers and investors. In fact, little is known of the exact nature of RPTs in Vietnam, so I provide detailed descriptive evidence on this.

Second, the paper extends previous research by examining the association between state ownership and RPTs to determine the implication of state ownership on corporate governance. There is limited research on the association between state ownership and the extent of RPTs disclosed by firms, given the fact that state ownership has grown more prevalent in the world economy (Pargendler 2011), especially after the global financial crisis in 2008 (Borisova et al. 2012; Peng et al. 2016). I find that the presence of state ownership is associated with fewer RPTs employed by firms. However, my analysis reveals that the extent of RPTs is associated with a higher percentage of shares owned by state shareholders. My findings provide comprehensive evidence about the association between state ownership and RPTs in an emerging market. Finally, I use both normal and abnormal values of two widely used measures for RPTs to enhance the robustness of my empirical results.

The remainder of this paper is organised as follows. In section 2.2, I present the institutional context of Vietnam, with an overview of the general context, the corporate governance environment, and regulations about RPT disclosure. Section 2.3 reviews the literature and develops a hypothesis. Section 2.4 describes the sample selection process followed by the research design. Section 2.5 reports and analyses the empirical results. Section 2.6 concludes the paper.

2.2. State ownership and RPTs in Vietnam

2.2.1. State ownership in Vietnam

Vietnam is an ownership-concentrated economy (Nguyen et al. 2017), similar to many other emerging markets. However, the highly concentrated corporate ownership in Vietnam is characterised by prominent state shareholders (Robinett et al. 2013). Vietnam has been conducting economic reforms to transform from a centrally planned economy to a market economy since 1986. Vietnam differs from other transitional economies in Eastern Europe by adopting a gradual approach to economic reform towards a *socialist market-oriented economy* while maintaining the ruling role of the Communist Party and the dominance of the state sector (Nguyen and Richard 2011; Wacker 2017). Almost all firms in Vietnam were solely state-owned before the beginning of economic reforms in 1986. The private sector existed informally until 1990 with the promulgation of *Company Law*, which recognised the right of the domestic private sector to operate in stipulated areas (Cao et al. 2016). As part of the economic transition there is an increased number of private firms, either newly founded or being converted from SOEs in the equitisation process. The equitisation process in Vietnam began as a trial early in the 1990s and was conducted on a large scale from 1998 to 2008 to transform SOEs into joint-stock firms (Wacker 2017). Overall, this process is not the same as privatisation as it is considered that an equitised enterprise is one that has less than 100 percent state ownership (Cao et al. 2016).

Although SOEs have had a declining role in the economy since the early 2000s, there is still a large SOE presence in many important economic sectors, such as the oil and gas industry, coal and minerals, infrastructure, transportation, aviation, rail and electricity (Vu-Thanh 2017). The statistics in this study show that the state is the pervasive shareholder with more than 65 percent (2558 observations) of firms reporting some level of state ownership. Among these firms, the state remains a controlling shareholder (i.e., holding at least 20 percent of shares in a firm) in about 51 percent

(2015 observations) of firms. SOEs also account for a large share of employment, bank credit and fixed assets in Vietnam (Robinett et al. 2013).

Recent reforms in Vietnam seek to further rationalise the role of SOEs in the economy. The legal framework for equitisation, divestment, and reform of SOEs was improved with the creation of an independent State Capital Management Committee (SCIC). The SCIC was established in 2005 to manage and invest state capital in enterprises, regardless of their ownership structure (Mishra 2011). This committee oversees all large SOEs to improve accountability and efficiency while leaving management and regulation with line ministries and regulatory bodies (Robinett et al. 2013).

Finally, state ownership in listed firms in Vietnam is present in the form of investments by state-owned corporations or state-owned groups[12], provincial people's committees, and the SCIC (Robinett et al. 2013).

2.2.2. RPTs regulations in Vietnam

Regulations about RPTs in Vietnam are governed by the *Law on Enterprise*, *Law on Securities*, and *Vietnamese Accounting Standards (VAS).* The *Law on Enterprise* and *Law on Securities* dictate regulations about approval and supervision of RPTs in listed firms, while VAS 26 provides another channel to supervise RPTs by requiring firms to disclose information about RPTs and related parties. A related party transaction was first defined in *VAS 26 – Related Party Disclosures,* issued in 2003[13] as a transfer of resources, services, or obligation between related parties, regardless of whether or not a price is charged (VAS 26.5, Ministry of Finance 2003). VAS 26 defines a related party as a party that controls or has significant influence over another party and itself is controlled or significantly influenced by the other (VAS 26.5, Ministry of Finance 2003). From this description, related parties

[12] Since the 1st of July 2015, an SOE is defined in the *Law on Enterprise* (2014) as an enterprise where the state owns 100 percent of its equity. This definition differs from the one in *Law on Enterprise* (2005) which defined an SOE as a firm where the state holds from 50 percent or more of its equity (Phan 2018).
[13] VAS 26 was issued with the content mainly based on the 1999 version of *International Accounting Standard (IAS) 24 – Related Party Disclosures* (Robinett et al. 2013, 22).

include entities such as parent companies; subsidiaries; associates; shareholders who have voting power; close members of the family (parents, spouse and siblings) and key management personnel (directors and managers) (VAS 26.3, Ministry of Finance 2003). Meanwhile, definitions of a related party in the *Law on Enterprise* (1999, 2005, and 2014 versions, article 4.17) and the *Law on Securities* (2006 and 2010 versions, article 6.34) are slightly different from VAS 26 but still cover similar groups as those stated in VAS 26 (National Assembly of Vietnam 1999, 2005, 2006, 2010, 2014). However, in the revised *Law on Enterprise* (2014), a wider definition of family members is prescribed, with brothers and sisters-in-law of key management personnel or controlling shareholders also being considered as related parties of an entity.[14]

RPTs are not prohibited in Vietnam, which is consistent with other countries, however there are regulations to supervise these transactions. In Vietnam, transactions with shareholders who own ten percent or more of total common shares of a firm, key management personnel (i.e., board members and management officials), and their related entities and individuals need approval from the general meeting of shareholders[15] or board of directors.[16] Details of transactions are required to be given to shareholders in advance and only disinterested shareholders can approve the transactions (Robinett et al. 2013). However, transactions with a major shareholder do not require shareholder approval (Robinett et al. 2013). Under VAS 26, firms are required to disclose, in the notes to financial statements, information about transactions and balances with related parties regarding their nature and amount, and the identity of their related parties (VAS 26.22, Ministry of Finance 2003). In particular, VAS 26 focuses on disclosing information about the relationship with specific related parties, such as key management personnel (i.e., members of the board of directors and executive directors), controlling persons or controlling groups, and transactions and balances with these parties (VAS 26.18, VAS 26.20, Ministry of Finance 2003). Although regulations on RPTs have been

[14] *Law on Enterprise* (revised 2014), article 4.17 (National Assembly of Vietnam 2014).
[15] Resolutions on these transactions are passed when there is an approval of at least 51 percent of all attending shareholders at the meeting (*Law on Enterprise* (revised 2014), article 144.2) (National Assembly of Vietnam 2014).
[16] *Law on Enterprise* (revised 2014), article 162 (National Assembly of Vietnam 2014).

stipulated in Vietnam since the early 2000s, enforcement of these regulations is weak. Indeed, shareholders do not always have the opportunity to approve material RPTs, even though the regulations allow for voting rights (Robinett et al. 2013). Finally, information about RPTs is frequently not completely disclosed by listed firms (Robinett et al. 2013).

2.3. Literature review and hypothesis development

2.3.1. RPTs

There are two opposing theories in the literature explaining the motivation underlying RPTs. The efficient contracting theory argues that RPTs can be used to add value to the firm because these transactions can optimise the internal resource allocation and reduce transaction costs, especially in the context of imperfect markets, such as emerging markets (Khanna and Palepu 2000; Ryngaert and Thomas 2012; Habib et al. 2015; Fang et al. 2018).

Alternatively, agency theory suggests that managers or controlling shareholders of the firm can opportunistically use RPTs to expropriate wealth from shareholders or minority shareholders to related parties (Gordon et al. 2004b). In particular, this involves both types of agency conflicts referred to as "principal-agent" and "principal-principal" conflicts. Some studies provide evidence of RPTs being abused to manipulate earnings (e.g., Thomas et al. 2004; Chen et al. 2011), and to tunnel or prop-up earnings between listed firms and their controlling shareholders (e.g., Cheung et al. 2006; Cheung et al. 2009a; Aharony et al. 2010; Jian and Wong 2010; Peng et al. 2011; Yeh et al. 2012; Habib et al. 2017).

Prior research has examined the implications of RPTs on several aspects of firms, such as performance, valuation, or audit fees using samples in both developed and developing markets including the U.S., France, and China. Although findings from these studies are mixed, there is evidence supporting the agency theory explanation of incentives for engagement in RPTs. For example, findings from Cheung et al. (2009a), Aharony et al. (2010), Jian and Wong (2010) and Peng

et al. (2011) provide evidence about opportunistically using RPTs by controlling shareholders in Chinese listed firms to manage earnings upwards to meet earnings targets or to exploit wealth from minority shareholders through tunnelling. Kohlbeck and Mayhew (2010) and Nekhili and Cherif (2011) report that investors and markets in the U.S and France react negatively to RPTs. Chen et al. (2009) provide evidence about the negative correlation between the extent of RPTs and the operational performance of firms, using Chinese data. Ryngaert and Thomas (2012) support this finding with evidence about the negative association between ex-post RPTs, defined as transactions initiated after a counterparty becomes a related party, with operating profitability. RPTs can be seen as a potential risk for restatement in the U.S (Kohlbeck and Mayhew 2017) or for increases in audit fees in China (Habib et al. 2015). Bennouri et al. (2015) report a negative relationship between auditor reputation and the number of RPTs reported, suggesting that RPTs result in accounting uncertainty. Finally, Habib et al. (2019) provide evidence of a positive association between RPTs and stock price crash risk in China. They argue that RPTs are used opportunistically and consequently increase the risk of a stock price crash.

However, prior research also finds that not all RPTs are the same. For example, Kohlbeck and Mayhew (2004b) provide evidence that not all RPTs have negative connotations. Related party investments appear to be associated with efficient contracting (Kohlbeck and Mayhew 2004a, 2004b; Kohlbeck and Mayhew 2010). When a firm is in financial distress, RPTs (such as related loans) can be used by controlling shareholders to support earnings, although these earnings are temporary and do not really add value to a firm in the long term. However, this action usually receives favourable reactions from the market (Peng et al. 2011). Wong et al. (2015) find that related party sales increase firm value in China, even though this value enhancement disappears for firms with a large proportion of parent directors, high state ownership, or tax avoidance incentives.

2.3.2. RPTs and state ownership

The literature on determinants of RPTs is limited (Balsam et al. 2017), with existing research mainly focusing on the association between RPTs and corporate governance mechanisms, including ownership structure and board characteristics (e.g., Gordon et al. 2004a; Yeh et al. 2012; Kang et al. 2014). Ownership structure is an important corporate governance mechanism that can be significantly associated with the extent of RPTs in firms because RPTs are found to be prevalent in concentrated ownership contexts, such as in China, Hong Kong, Taiwan, Indonesia and Korea (e.g., Cheung et al. 2006; Jian and Wong 2010; Yeh et al. 2012; Kang et al. 2014; Habib et al. 2017).

There has been some debate in the literature about the effect of state ownership on corporate governance and the efficiency of firms. This debate results from two broad views of the state's role in markets; these views are classified by La Porta et al. (2002) as development and political. The development view of the state implies that, when necessary, firms can receive support from the state's interference through its legal powers (La Porta et al. 2002). Therefore, the presence of state ownership possibly improves corporate governance through extensive monitoring and directly implementing recommended policies (Borisova et al. 2012). By contrast, the political view of the state relates to the desire of politicians to use a firm's investments to pursue political goals, such as increased employment and tax collection (La Porta et al. 2002). Consequently, state ownership might have negative implications on corporate governance and a firm's efficiency because the state's interests are not always aligned with shareholders' wealth maximisation goals (Pargendler 2011; Borisova et al. 2012).

Prior studies provide mixed evidence about the association between state ownership and RPTs due to conflicting arguments about the role of state ownership in corporate governance and two conflicting views about the nature of RPTs. For example, Lo et al. (2010b) find a positive association between tunnelling activities through related party sales and a higher percentage of government share ownership. Lo et al. (2010b) also shows that it is more likely that profits shift through related-party

sales for the benefit of the parent in China when there is a higher percentage of shares owned by the state controlling shareholder. Again, in China, when investigating the involvement of state ownership as one of the characteristics of firms that conduct tunnelling and propping using RPTs, Cheung et al. (2009a) also find a positive association between state ownership and tunnelling and propping activities using RPTs. Cheung et al. (2009a) find that firms with larger state ownership tend to conduct more tunnelling and propping using RPTs. Overall, this evidence supports the political view of state ownership where the controlling state shareholders use RPTs to exploit resources from listed firms to pursue their political goals.

Conversely, state ownership in China is found to constrain tunnelling activity by issuing related guarantees (Berkman et al. 2009). Berkman et al. (2009) provide evidence that firms with state non-corporate shareholders (i.e., state agencies and bureaus) as controlling block holders are less likely to issue related guarantees because they are likely to use their direct relationship with the government to obtain a bank loan if needed. This finding supports the development view of state ownership where state ownership plays a positive role in firms' efficiency through refraining from undertaking detrimental activities (i.e., tunnelling activities) to related firms.

In summary, although there is mixed evidence from prior studies concerning the potential association between state ownership and the extent of RPTs, state ownership (whether from the development or political view) is found to be associated with the extent of RPTs. Given the above discussion, the following non-directional hypothesis is developed:

H1: There is an association between state ownership and the extent of RPTs in Vietnam.

2.4. Research design

2.4.1. Data collection and sample selection

My sample consists of 650 firms listed on the two stock exchanges in Vietnam in 2016: Ho Chi Minh City Stock Exchange and Hanoi Stock Exchange. Ho Chi Minh City Stock Exchange was the first

stock market in Vietnam, established in 2000. On average, firms listed on this stock exchange have a much larger size compared to firms listed on the Hanoi Stock Exchange, which was formed in 2005 (Robinett et al. 2013). A comparison of some features of firms listed on these two exchanges is presented in Table 2.3 – Panel A (presented in Section 2.5.1).

The sample period for this paper is from 2010 to 2016, because before 2010 the number of listed firms in the two stock exchanges was limited and the disclosure practices by listed firms were very poor. I begin with 4,209 firm-year observations. I exclude 271 firm-year observations for financial firms as these firms are subject to different regulatory constraints. Due to unavailable information for the control variables, 17 firm-year observations are also deleted. My final sample consists of 3,921 firm-year observations.

Data concerning RPTs, including the amounts, types and parties involved, are collected manually from the notes of audited financial statements of listed firms (consolidated financial statements for firms that have subsidiaries) during the period under investigation. Similarly, corporate governance data are also hand-collected from the annual reports and corporate governance reports declared by listed firms (corporate governance reports are prepared and disclosed by public firms in Vietnam at six-month intervals as required by the Corporate Governance Code promulgated by Circular 121)[17]. This includes the percentage of state ownership, the percentage of the largest shareholders, dual leadership, board size, number of non-executive members on the board, and the names of audit firms. Financial statement data and market data are obtained from OSIRIS. The data are hand collected directly from the annual reports of Vietnamese listed firms when not available in OSIRIS.

[17] Circular 121/2012/TT-BTC (i.e., Circular 121) issued by the Ministry of Finance on July 26, 2012 with effect from September 17, 2012. Circular 121 promulgates corporate governance regulation applicable to public firms in Vietnam. This regulation replaced Decision 12/2007/QD-BTC issued by the Ministry of Finance on March 13, 2007, promulgating corporate governance regulation applicable to listed firms in Vietnam (Robinett et al. 2013).

2.4.2. Dependent variable

The dependent variable is related party transactions (RPT). Following research by Habib et al. (2017), I proxy RPT according to the following categories of RPTs: (1) RP sales (RP_SALE), measured as the amount of sales with related parties scaled by net sales, and (2) RP net credit (RP_CREDIT), measured by total receivables minus total payables, scaled by total assets. RP sales are widely used in the literature as a proxy for propping activities (Aharony et al. 2010; Jian and Wong 2010; Habib et al. 2017). Meanwhile, RP net credit is used as a proxy for tunnelling activities (Chan et al. 2016; Habib et al. 2017).

Specifically, I use both normal and abnormal amounts of the above categories to test the sensitivity of my results. RPTs might be used to fulfil the economic need of firms in a large business group or to exploit wealth from shareholders. Abnormal amounts of RPTs reveal exploiting activities by firms (Jian and Wong 2010; Yeh et al. 2012). To calculate the abnormal RPTs, I adopt the approach of Jian and Wong (2010) approach as in the Eqn. (1) as follows:

$$RPT_{i.t} = \beta_0 + \beta_1 SIZE_{i.t} + \beta_2 LEV_{i.t} + \beta_3 GROWTH_{i.t} + \beta_4 MB_{i.t} + YEAR_t + INDUSTRY_t + \varepsilon_{i.t} \quad (1)$$

where SIZE = the natural log of total assets, LEV = total liabilities divided by total assets, GROWTH = sales growth, MB (measured as the ratio of market value to the book value of equity) = the market-to-book ratio, and $YEAR_t$ and $INDUSTRY_t$ represent year and industry fixed effects, respectively. I run two sets of regressions, one each for RP sales and RP net credit, and the residuals from these regressions are the abnormal value for RP sales and RP net credit, respectively.

2.4.3. Independent variables

2.4.3.1. Test variable

The variable of interest is state ownership. Following research by Borisova et al. (2015), state ownership is proxied by the presence of state ownership (SO_PRESENCE) and the percentage of shares owned by state shareholders (SO_PERCENT).

2.4.3.2. Control variables

Drawing from prior literature on RPTs (e.g., Jian and Wong 2010; Bennouri et al. 2015; Habib et al. 2017; Bennouri et al. 2015), I include the following control variables in my regression models that are likely to determine the extent of RPTs: firm size (SIZE), leverage (LEV), the market-to-book ratio (MB), adjusted return on assets (ADJ_ROA), ownership concentration (BLOCK), foreign ownership (FOWN), board size (BOARD), the proportion of non-executive member on the board (NONEXE), dual leadership (DUAL), and Big 4 auditor (BIG4).

SIZE, LEV and MB are explained as for Eqn. (1). MB proxies for growth opportunities. ADJ_ROA is measured as the firm's return on assets (ROA) minus the industry median ROA to remove any industry effects. ROA is net income divided by total assets. I make no sign predictions for these variables because there are contrasting views about RPTs, leading to conflicting arguments about the association between each control variable with RPTs. Prior studies also provide inconsistent results about the association between these variables with different proxies of RPTs. For example, regarding the association between SIZE and RPTs, Cheung et al. (2009b) find that SIZE is negatively associated with all connected transactions (i.e., transactions with related parties), regardless of whether these transactions are beneficial or detrimental. Meanwhile, Kang et al. (2014) show that SIZE has a significantly positive association with RPTs. RP sales are also found to be positively associated with SIZE by Jian and Wong (2010) and Balsam et al. (2017)

I also control further in my regression model for the quality of corporate governance using several variables, specifically BLOCK, FOWN, BIG4, DUAL, BOARD and NONEXE. [18]

The extent of RPT is closely linked to the firm's ownership concentration, measured by the voting rights of the largest shareholders. Such ownership features show the potential of major shareholders to expropriate a firm's wealth (Bennouri et al. 2015). As concentrated ownership is prevalent in Vietnamese listed firms, I include BLOCK, measured as the proportion of shares owned by the largest

[18] I could not directly measure the proportion of the independent directors on the board as many firms do not disclose this information in their annual reports.

shareholder, to control for the influence of dominant shareholders on the extent of RPTs disclosed. I do not predict the sign of BLOCK as large shareholders are associated with positive and negative implications as a corporate governance mechanism. Large shareholders can improve the effectiveness of corporate governance as an external monitoring mechanism (Shleifer and Vishny 1997; Gordon et al. 2004a; Lo et al. 2010a). Alternatively, larger shareholders may expropriate a firm's resources from minority shareholders and other stakeholders (Shleifer and Vishny 1997).

FOWN is measured as the total percentage of shares owned by foreign investors. BIG4 is a dummy variable, coded as 1 if the firm is audited by a Big 4 audit firm, and 0 otherwise. DUAL is a dummy variable, coded as 1 if the chairperson is also the CEO of a firm, and 0 otherwise. BOARD is the number of directors on the board. NONEXE is measured by non-executive members on the board divided by the total number of directors. If RPTs are viewed as conflicts of interest, good corporate governance mechanisms constrain the extent of opportunistic RPTs (Yeh et al. 2012). Foreign ownership, Big 4 auditor, a smaller board size, and a high proportion of non-executive directors are considered to be effective corporate governance mechanisms in preventing potential detrimental activities to firms (see Gordon et al. 2004a; Gordon et al. 2004b; Fan and Wong 2005; Bennouri et al. 2015; Shan 2019). I therefore expect negative coefficients on FOWN, BIG4, and NONEXE and a positive coefficient on BOARD. I predict a positive coefficient for DUAL as dual leadership in firms is normally considered as a proxy for poor corporate governance, making the board less effective in monitoring management (Jensen 1993; Gordon et al. 2004a). Alternatively, there is a positive or no association between corporate governance mechanisms and the extent of RPTs if RPTs are viewed under efficient contracting theory.

Finally, I also control for year and industry effects in my regression model by including dummy variables for $YEAR_{t,}$ which ranges from 2010 to 2016 and $INDUSTRY_t$.[19]

[19] The industry classification used is based on the General Industry Classification Standard (GICS), which is used by the OSIRIS database for the data relating to listed firms in Vietnam.

2.4.4. Model specification

To test H1, I estimate the following regression model:

$$RPT_{i.t} = \beta_0 + \beta_1 SO_{i.t} + \beta_2 SIZE_{i.t} + \beta_3 LEV_{i.t} + \beta_4 MB_{i.t} + \beta_5 ADJ\_ROA_{i.t} + \beta_6 BLOCK_{i.t} + \beta_7 FOWN_{i.t} + \beta_8 DUAL_{i.t} + \beta_9 BOARD_{i.t} + \beta_{10} NONEXE_{i.t} + \beta_{11} BIG4_{i.t+} + YEAR_{t+} INDUSTRY_t + \varepsilon \quad (2)$$

where RPT = a proxy for related party transactions including normal and abnormal values (RP_SALE, ABN_RP_SALE, RP_CREDIT and ABN_RP_CREDIT); SO = a proxy for state ownership that is measured by SO_PRESENCE and SO_PERCENT; SIZE= the natural logarithm of total assets; LEV = total liabilities scaled by total assets; MB = the market value of equity scaled by the book value of equity; ADJ_ROA = a firm's ROA minus the industry median ROA; BLOCK = percentage of shares owned by the largest shareholder; FOWN = percentage of shares owned by foreign shareholders; DUAL = a dummy variable, coded as 1 if a firm has dual leadership, and 0 otherwise; BOARD = number of members on the board; NONEXE= proportion of non-executive members on the board; BIG4 = a dummy variable, coded as 1 if a firm is audited by a Big 4 audit firm, and 0 otherwise; YEAR = year dummy variables, coded as 1 if the year falls within a specific year category, and 0 otherwise, and INDUSTRY = industry dummy variables, coded as 1 if a firm is represented in a particular GICS category, and 0 otherwise.

All continuous variables are winsorised by the top and bottom of three percent to reduce the effect of outliers on my empirical results. Finally, the definitions for all variables used in this study are summarised in Table 2.1.

Table 2.1: Variable definitions

Abbreviation	Description	Measurement
RP_SALE	Related sales	Related sales, divided by net sales
ABN_RP_SALE	Abnormal related sales	Abnormal value of related sales ratio
RP_CREDIT	Related net credit	Total receivables minus total payables, scales by total assets
ABN_RP_CREDIT	Abnormal related net credit	Abnormal value of related net credit ratio
SO_PRESENCE	State ownership dummy variable	Dummy variable, coded as 1 if a firm has state shareholder and 0 otherwise in the end-of-year t
SO_PERCENT	State ownership percentage	Percentage of shares owned by state shareholders
SIZE	Firm size	Natural log of total assets in the end-of-year t
LEV	Leverage	Ratio of total liabilities to total assets in the end-of-year t
MB	Market-to-book ratio	Ratio between market value to the book value of a firm's equity
ADJ_ROA	Adjusted Return on asset	Net income scaled by total assets in the end-of-year t minus the industry median ROA
BLOCK	Ownership concentration	Percentage of share held by the largest single shareholder
FOWN	Foreign Ownership	Percentage of share held by foreign shareholders
DUAL	leadership duality	Dummy variable, coded as 1 if the chief executive officer is also the chair of the board and 0 otherwise
BOARD	Board size	Number of directors in a firm
NONEXE	Proportion of non-executive directors on the board	Number of non-executive members on the board, divided by total members of the board
BIG4	Auditor size	Dummy variable, coded as 1 if a firm is audited by a Big 4 audit firm and 0 otherwise in the end-of-year t

2.5. Results and discussion

2.5.1. Descriptive statistics

Table 2.2 summarises the sample distribution based on firm-year observations. This table reports the sample distribution for firms disclosing at least one RPT or balance with related parties by industries defined by the ten GICS industries and by the stock exchange in which a firm's stock is traded. For the whole sample period, nearly 80 percent of firms disclose information about at least one transaction or balance with related parties (3,132 observations, 79.878 percent). The number of firms disclosing RPTs and balances with related parties is 2,868 observations for RPTs and 2,867 observations for RP balances. Overall, the Ho Chi Minh City Stock Exchange has a higher number of firms disclosing information about RPTs compared to the Hanoi Stock Exchange. Firms in the utilities (power generation and distribution, and water supply) and communication services industries have the highest proportion of information disclosed about RPTs. This result could be explained by the strong

connection between these listed firms and their controlling shareholders who are state-owned groups and currently dominate in these industries in Vietnam.

Table 2.2: Sample distribution

Industry	Total	%	Exchange		Observations with at least one RPT or RP balance disclosed			
			HOSE[20]	HNX[21]	Total	%	HOSE	HNX
Communication Services	105	2.678	7	98	89	84.762	7	82
Consumer Discretionary	342	8.722	213	129	260	76.023	163	97
Consumer Staples	383	9.768	224	159	309	80.679	190	119
Energy	219	5.585	60	159	178	81.279	56	122
Health Care	118	3.009	62	56	89	75.424	53	36
Industrials	1,432	36.521	527	905	1,134	79.190	428	706
Information Technology	124	3.162	37	87	98	79.032	33	65
Materials	745	19.000	335	410	583	78.255	264	319
Real Estate	307	7.830	233	74	257	83.713	202	55
Utilities	146	3.724	118	28	135	92.466	114	21
Total	3,921	100	1,816	2,105	3,132	79.878	1,510	1,622

Table 2.3 describes the financial characteristics of firms in terms of exchange and of the existence of RPTs. From Panel A of Table 2.3, I find that firms listed on Ho Chi Minh City Stock Exchange are much larger than firms listed on the Hanoi Stock Exchange in terms of total assets, net sales, net income, and market capitalisation. On average, firms on the Ho Chi Minh City Stock Exchange also have higher profitability ratios, such as ROA. Firms on the Ho Chi Minh City Stock Exchange also have higher sales growth, higher market-to-book ratios, a larger board size, and a higher proportion of non-executive directors on the board. In addition, there are more firms on the Ho Chi Minh City Stock Exchange that are audited by Big 4 auditing firms. However, firms listed on the Ho Chi Minh City Stock Exchange are found to have lower leverage and lower percentages of shares owned by state shareholders than firms listed on the Hanoi Stock Exchange.

Panel B of Table 2.3 presents the financial characteristics of firms with and without RPTs. On average, RPT firms are significantly larger in terms of market capitalisation, assets, liabilities, net

[20] Ho Chi Minh City Stock Exchange.
[21] Hanoi Stock Exchange.

sales, and net income (p<0.05 or better). However, the profitability ratio (measured as ROA) of RPT firms is significantly lower than that of non-RPT firms (p<0.10). RPT firms also have a significantly higher percentage of state ownership and foreign ownership, and a higher proportion of non-executive directors on the board (p<0.01). Further, the proportion of RPT firms with dual leadership is also significantly lower than non-RPT firms (p<0.01). However, there are no significant differences in terms of leverage, the market-to-book ratio, and board size between firms with and without RPTs.

Table 2.3: Firms' characteristics by the Exchanges and by the existence of RPTs

Panel A: Characteristics of firms by Exchanges

Variable	HOSE (N=1816)						HNX (N=2105)						Mean difference (t-statistics)
	N	mean	sd	Q1	median	Q3	N	mean	sd	Q1	median	Q3	
Market capitalisation (billion VND)	1816	2,354.618	10,927.239	178.265	408.599	1,055.525	2105	228.502	715.836	32.561	74.400	162.000	-8.905***
Total assets (billion VND)	1816	3,026.900	8,538.451	466.590	1,035.868	2,311.842	2105	749.914	2,342.020	112.370	233.677	556.750	-11.734***
Total liabilities (billion VND)	1816	1,701.421	5,760.152	179.101	512.380	1,307.700	2105	510.114	1,753.504	39.457	112.585	372.796	-9.017***
Net Sales (billion VND)	1816	2,240.316	5,640.063	314.607	727.447	1,886.308	2105	717.150	1,826.028	91.127	237.856	609.525	-11.700***
Net income (billion VND)	1816	194.405	798.439	15.623	45.689	111.951	2105	25.252	110.111	2.220	8.845	22.366	-9.615***
ROA	1816	0.082	0.106	0.022	0.063	0.123	2105	0.064	0.086	0.016	0.050	0.103	-5.733***
Leverage	1816	0.478	0.212	0.304	0.502	0.640	2105	0.521	0.226	0.347	0.547	0.709	6.080***
Market - to - book	1816	1.143	0.926	0.570	0.909	1.450	2105	0.928	0.893	0.444	0.698	1.077	-7.403***
State ownership (%)	1092	0.384	0.210	0.193	0.442	0.518	1466	0.405	0.185	0.289	0.452	0.512	2.705***
Foreign ownership	1766	0.133	0.160	0.012	0.065	0.196	1900	0.058	0.106	0.003	0.016	0.067	-16.725***
Board size	1816	5.726	1.244	5	5	7	2105	5.246	0.860	5	5	5	-14.194***
Non-executive directors (%)	1816	0.600	0.204	0.429	0.600	0.800	2105	0.561	0.202	0.400	0.600	0.714	-6.038***
Dual leadership	1816	0.330	0.470	0	0	1	2105	0.336	0.473	0	0	1	0.430
Big 4 auditor	1816	0.312	0.463	0	0	1	2105	0.133	0.339	0	0	0	-13.932***

Note: ***, ** and * indicate significance at 1%, 5% and 10%, respectively.

Panel B: Descriptive statistics partitioned by the existence of RPTs or balances

Variable	Firms with RPT or RP balance disclosed (N=3132)						Firms with no RPT or RP balance disclosed (N=789)						Mean difference (t-statistics)
	N	mean	sd	Q1	median	Q3	N	mean	sd	Q1	median	Q3	
Market capitalisation (billion VND)	3132	1,357.885	8,280.443	61.224	170.274	544.155	789	638.892	3,022.603	46.800	121.001	306.000	-2.439**
Total assets (billion VND)	3132	1,992.461	6,707.503	212.435	526.658	1,511.216	789	1,058.342	3,085.615	155.251	328.016	821.484	-3.857***
Total liabilities (billion VND)	3132	1,168.342	4,542.699	73.979	259.093	892.782	789	639.193	2,041.869	50.708	156.301	491.272	-3.237***
Net Sales (billion VND)	3132	1,516.151	4,344.006	166.120	438.943	1,228.661	789	1,051.241	3,144.916	112.845	307.487	798.668	-2.874***
Net income (billion VND)	3132	111.832	596.677	4.547	19.519	62.757	789	70.899	346.688	3.960	14.587	42.427	-1.893*
ROA	3132	0.071	0.098	0.018	0.053	0.109	789	0.078	0.089	0.022	0.062	0.121	1.876*
Leverage	3132	0.502	0.220	0.330	0.528	0.675	789	0.497	0.221	0.318	0.522	0.666	-0.509
Market - to - book	3132	1.021	0.920	0.478	0.776	1.235	789	1.052	0.895	0.518	0.827	1.322	0.666
State ownership	2071	0.414	0.193	0.279	0.490	0.519	487	0.320	0.192	0.151	0.300	0.500	-9.762***
Foreign ownership	2938	0.097	0.143	0.005	0.032	0.129	728	0.083	0.125	0.005	0.033	0.103	-2.399***
Board size	3132	5.474	1.085	5	5	5	789	5.445	1.069	5	5	5	-0.608
Non-executive directors (%)	3132	0.585	0.203	0.400	0.600	0.800	789	0.556	0.207	0.400	0.600	0.700	-3.714***
Dual leadership	3132	0.302	0.459	0	0	1	789	0.458	0.499	0	0	1	8.251***
Big 4 auditor	3132	0.240	0.427	0	0	0	789	0.118	0.323	0	0	0	-7.610***

Note: ***, ** and * indicate significance at 1%, 5% and 10% respectively

Table 2.4 provides data about state ownership in my sample. In Panel A, I compare the firm-level characteristics of firms with and without state ownership. Table 2.4 Panel A shows that about 65 percent (2,558 observations) of firms have state shareholders.[22] The main reason for this is that most listed firms were converted from state-owned enterprises as a result of the equitisation process (Robinett et al. 2013). In my sample, about 67 percent of listed firms are SOE-converted (2,650 observations), and nearly 85 percent of these firms report some state ownership (2,242 observations). Moreover, some firms are newly founded with investment from state-owned enterprises (316 observations).[23] On average, firms with state ownership are smaller in terms of assets and liabilities than firms without state ownership. However, firms with state ownership seem to have significantly better financial performance than firms without state ownership, with performance measured by ROA (p<0.01). Firms with state owners also have significantly higher leverage and market-to-book ratios compared to firms without state ownership (p<0.01). Regarding corporate governance characteristics, firms with state ownership have a significantly lower percentage of shares owned by foreign investors, smaller board sizes, and a lower proportion of non-executive directors on the board (p<0.01). Further, the proportion of firms with state ownership having a dual leadership is also significantly lower than firms without state ownership (p<0.01). I find no significant differences in market capitalisation, net sales, net income, and the proportion of firms audited by Big 4 audit firms between firms with and without state ownership.

In Panel B, I break down firm-level characteristics into state ownership categories of 5, 20, and 50 percent.[24] Among firms in this group, nearly 45 percent of firms (1,145 observations over 2,558 of firms with state ownership) have ultimate state controlling shareholders (i.e., SO percent is equal or more than 50 percent). On average, firms with state shareholders as ultimate controlling shareholders are the largest in terms of market capitalisation, total assets, total liabilities, net sales, and net income.

[22] The ownership data may not include all indirect ownership through state-controlled firms.
[23] Untabulated data.
[24] These different levels of state ownership show whether the state is a major, controlling or ultimate controlling shareholder of a firm.

However, these firms' profitability (measured by ROA) is lower than the profitability of firms in the group with controlling state shareholders. Interestingly, firms with ultimate state controlling shareholders are the group having the lowest proportion of dual leadership. This group also has the highest proportion of firms employing Big 4 audit firms.

Panel C breaks-down the percentage of state ownership by year. On average, the percentage of shares owned by state shareholders in the sample is approximately 40 percent. Generally, the number of listed firms with state ownership each year gradually decreased between 2013 and 2016. However, the average percentage of shares owned by state shareholders in listed firms tended to increase between 2011 and 2016. This increasing percentage of state ownership in listed firms confirms that state ownership continues to maintain its important role in the Vietnamese economy, although the process of equitisation has made substantial progress since the late 1990s.

Table 2.4: Data about state ownership

Panel A: Descriptive statistics partitioned by the presence of state ownership

Variable	Firms with RPT or RP balance disclosed and state ownership						Firms with RPT or RP balance disclosed and no state ownership						Mean difference (t-statistics)
	N	mean	sd	Q1	median	Q3	N	mean	sd	Q1	median	Q3	
Market capitalisation (billion VND)	2558	1,121.375	8,028.577	54.400	148.912	424.000	1363	1,385.550	6,487.485	64.096	176.400	569.812	1.046
Total assets (billion VND)	2558	1,511.443	3,930.855	187.531	450.830	1,263.199	1363	2,354.475	8,936.729	219.404	515.527	1,613.646	4.087***
Total liabilities (billion VND)	2558	867.127	2,161.166	67.991	230.063	760.764	1363	1,427.337	6,403.675	68.052	237.967	874.234	4.016***
Net Sales (billion VND)	2558	1,427.428	4,270.884	167.116	438.106	1,182.237	1363	1,413.539	3,867.491	120.377	354.083	1,082.832	-0.100
Net income (billion VND)	2558	108.003	618.653	5.306	19.867	57.726	1363	95.323	412.443	2.564	15.314	58.820	-0.680
ROA	2558	0.082	0.093	0.024	0.063	0.118	1363	0.055	0.099	0.009	0.044	0.097	-8.431***
Leverage	2558	0.516	0.221	0.335	0.544	0.692	1363	0.474	0.217	0.309	0.493	0.638	-5.695***
Market-to-book	2558	1.054	0.958	0.510	0.800	1.260	1363	0.976	0.826	0.443	0.753	1.225	-2.544**
Foreign ownership	2401	0.084	0.120	0.005	0.030	0.111	1265	0.113	0.169	0.005	0.039	0.140	6.085***
Board size	2558	5.407	1.002	5	5	5	1363	5.583	1.210	5	5	6	4.874***
Non-executive directors (%)	2558	0.567	0.201	0.400	0.600	0.750	1363	0.601	0.207	0.429	0.600	0.800	4.964***
Dual leadership	2558	0.299	0.458	0	0	1	1363	0.397	0.489	0	0	1	6.194***
Big 4 auditor	2558	0.218	0.413	0	0	0	1363	0.211	0.408	0	0	0	-0.468

Note: ***, ** and * indicate significance at 1%, 5% and 10%, respectively

Panel A: Descriptive statistics of firms with state ownership, breakdown at some levels of percentage of shares owned by state shareholders

variable	SO% < 0.05		0.05 ≤ SO% < 0.2		0.2 ≤ SO% < 0.5		0.5 ≤ SO%	
	N	mean	N	mean	N	mean	N	mean
Market capitalisation (billion VND)	100	478.476	443	682.615	870	1,174.290	1,145	1307.073
Total assets (billion VND)	100	1,305.180	443	1,442.057	870	846.273	1,145	2061.715
Total liabilities (billion VND)	100	716.469	443	877.539	870	422.552	1,145	1214.055
Net Sales (billion VND)	100	663.594	443	1,347.904	870	977.297	1,145	1866.928
Net income (billion VND)	100	41.384	443	80.009	870	88.631	1,145	139.372
ROA	100	0.045	443	0.069	870	0.094	1,145	0.08
Leverage	100	0.580	443	0.507	870	0.468	1,145	0.55
Market-to-book	100	0.847	443	1.018	870	1.141	1,145	1.021
State ownership	100	0.024	443	0.126	870	0.348	1,145	0.569
Foreign ownership	94	0.092	420	0.113	801	0.096	1,086	0.063
Board size	100	5.68	443	5.831	870	5.367	1,145	5.25
Non-executive directors (%)	100	0.545	443	0.580	870	0.575	1,145	0.558
Dual leadership	100	0.56	443	0.454	870	0.318	1,145	0.203
Big 4 auditor	100	0.12	443	0.187	870	0.189	1,145	0.26

Panel B: State ownership percentage breakdown by year						
Year	N	mean	sd	Q1	median	Q3
2010	327	0.386	0.189	0.215	0.428	0.510
2011	363	0.384	0.187	0.217	0.434	0.510
2012	381	0.389	0.190	0.229	0.442	0.512
2013	383	0.395	0.195	0.233	0.442	0.515
2014	378	0.391	0.197	0.230	0.442	0.513
2015	373	0.405	0.206	0.244	0.466	0.525
2016	353	0.422	0.205	0.269	0.490	0.536
Total observations	2,558	0.396	0.196	0.237	0.448	0.513

Table 2.5 decomposes disclosed information about related parties by listed firms according to: (1) the nature of the transaction, (2) the type of the balance, and (3) the relations – the parties involved in the RPT or the related balance.

Vietnamese listed firms have been required to disclose RPTs since 2003, in accordance with VAS 26. During the time under investigation, most firms reported in their notes to the financial statement the identity of their related parties, the relation with these related parties (e.g., parents, holding, major shareholder, entities under common control, associates, key management personnel (KMP) or KMP's related entities), and the types and amounts of RPTs or related balances.

Based on the notes to the consolidated financial statements, data about RPTs were hand-collected and classified by the nature of the transaction or balance and the related party involved. RPTs were classified into 16 types of transactions and six types of balances based on guidance from VAS 26 (VAS 26.19, Ministry of Finance 2003). Other RPTs and other balances were types of transactions or balances that could not be grouped into the 16 specific categories of transactions or six groups of balances.

Panel A of Table 2.5 reports that the most frequent transaction disclosed is sale of goods/services, followed by purchase of goods/services that respectively account for about 53 and 44 percent of total RPTs disclosed in the sample. Cash outflows to related parties and dividends received from related parties come next with a much lower proportion, being around 18 and 13 percent, respectively. Loans, borrowings, sales, or purchases of assets are not frequently disclosed transactions in my sample.

Guarantees to and from related parties are disclosed the least with only around 0.459 and 0.485 percent of the sample, respectively. This feature distinguishes Vietnamese listed firms from Chinese listed firms where intercompany loans and related guarantees are found to be more prevalent and frequent (Habib et al. 2015).

In addition, account receivables and payables represent the most frequent balances with related parties in the sample with around 53 and 45 percent, respectively. Compared with the balances of loans and borrowing, which account for about 9 and 12 percent, respectively, account receivables and payables have a much higher disclosure frequency, although their average values are much lower.

I classify the identity of the related party and categorise these parties into groups. These groups are holding, parent, major shareholder, associate, joint venture, and KMP (including members of the director board, the management board and supervisory board, KMP related entities, KMP related individuals). A group entitled 'other related entities' includes invested entities, associate/joint venture of parent/major shareholders of firms or related entities whose relationships with the reporting firm are not disclosed clearly. A further inclusion is 'other related individuals', such as related individuals whose relationships with the reporting firm are not specified in the notes.

Panel B of Table 2.5 shows that listed firms conduct RPTs and have balances mainly with their associates, parents, and entities under common control accounting for about 24 percent, 21 percent, and 20 percent respectively, of total firm-year RPT observations. RPTs or balances with 'other related entities' group account for 23 percent, but this category of the related party consists of a variety of parties that are not classified into particular groups. They can be entities that receive less than 20 percent investment from listed firms, ex-related associates, joint ventures, or parents. However, the average value of the transaction with entities under common control and balances with the holding entity is the largest, while the average values of transactions or balances with associates are modest. Although I collected all information about related parties in the consolidated financial statements, I still observed some firms disclosing information about transactions or balances with their

subsidiaries. However, I excluded data about transactions or balances with subsidiaries from my analysis because almost all firms offset transactions or balances with subsidiaries in their consolidated financial statements.

Table 2.5: Data about RPTs

Panel A: Descriptive data on RPTs by nature of the transaction and balance

Variable	Obs	frequency (%)	mean	sd	Q1	median	Q3
Unit: billion VND		3921					
Transaction with RP							
Sales	2089	53.277	368.314	1,276.537	5.891	36.837	207.072
Purchases	1755	44.759	330.845	1,381.475	3.359	25.752	165.073
Loans	330	8.416	121.931	409.844	2.000	10.056	42.482
Borrowing	432	11.018	118.105	398.040	3.284	15.050	75.986
Asset sale	155	3.953	74.458	234.622	1.037	12.000	58.311
Asset purchase	154	3.928	157.408	499.642	1.600	12.251	55.000
Guarantee for RP	18	0.459	251.925	575.184	1.665	54.099	149.064
Guarantee from RP	19	0.485	198.945	396.251	1.992	23.061	153.352
Investment in RP	354	9.028	80.156	227.844	4.231	16.370	62.435
Investment from RP	90	2.295	131.501	283.262	4.610	23.078	75.000
Dividends received	407	10.380	24.445	167.013	0.564	2.832	11.488
Dividends paid	530	13.517	59.154	275.397	3.300	10.093	25.960
Interest revenue	415	10.584	23.297	84.732	0.414	1.636	10.798
Interest expense	439	11.196	17.016	53.244	0.397	1.972	7.421
Cash inflows	452	11.528	160.275	561.304	1.550	13.080	52.965
Cash outflows	718	18.312	137.155	601.765	1.488	9.374	51.378
Other RPTs	350	8.926	69.666	332.671	0.896	7.618	41.104
Balance with RP							
Trade receivables	2102	53.609	91.540	258.500	2.548	13.927	69.806
Other receivables	1130	28.819	73.715	280.507	0.637	4.308	30.660
Loans receivables	372	9.487	190.546	712.038	4.000	12.733	73.730
Trade payables	1777	45.320	84.745	323.365	1.421	8.445	43.791
Other payables	1060	27.034	51.096	188.302	0.742	4.990	21.378
Borrowings	496	12.650	247.232	915.983	5.086	28.139	112.088
All receivables	2467	62.918	140.494	527.931	3.415	18.225	89.207
All payables	2310	58.914	145.185	629.265	2.045	12.465	63.802

Panel B: Descriptive data on RPTs and RP balances by transacting parties

	Transacting party for RPTs							Transacting party for RP balances					
Related party Unit: billion VND	Obs 3921	frequency (%)	mean	sd	Q1	median	Q3	Obs	frequency (%)	sd	Q1	median	Q3
Holding	58	1.479	125.573	243.810	0.432	6.604	119.233	45	1.148	1953.927	6.097	23.795	111.638
Parent	819	20.888	398.903	1311.051	9.773	58.193	274.296	826	21.066	825.314	4.224	21.246	91.772
Major shareholder	678	17.292	200.345	589.377	2.767	18.731	94.660	619	15.787	145.048	1.246	6.745	38.473
Entities under common control	787	20.071	715.423	1850.551	15.270	110.933	530.231	850	21.678	626.653	5.893	29.518	129.736
Associate	958	24.433	158.459	571.903	5.581	24.930	98.640	898	22.902	262.057	2.561	11.093	45.556
Joint venture	113	2.882	504.524	1728.799	2.007	11.408	153.526	101	2.576	430.454	0.519	7.686	104.548
Other related entities	914	23.310	400.436	1601.073	5.638	35.173	206.960	901	22.979	700.333	2.765	18.463	103.348
KMP and KMP related entities, individuals	429	10.941	47.468	117.356	1.247	6.200	30.502	497	12.675	93.121	1.050	5.211	21.625
Subsidiary	184	4.693	374.894	2026.388	3.821	24.124	100.569	171	4.361	355.736	1.950	9.695	36.087
Other related individuals	84	2.142	231.954	880.356	2.707	15.492	75.619	109	2.780	92.334	0.740	6.675	28.666

Table 2.6 provides descriptive statistics for all variables used in my regression model. The mean of RP_SALE is 0.270, showing that related sales account for 27 percent of net sales, on average. RP_CREDIT has a mean of 0.026, indicating that net credit to related parties by firms in the sample is approximately three percent of these firms' total assets. The means (medians) of ABN_RP_SALE and ABN_RP_CREDIT are 0.010 (-0.094), and 0.002 (-0.016) respectively, estimated by the residual model. The negative (positive) values of ABN_RP_SALE and ABN_RP_CREDIT suggest that the firms have a lower (higher) level of RPTs than the normal level. The values of abnormal related sales and related net credit show that firms do not have a significantly different level of RPT from normal levels. For example, the level of abnormal related sales is just 0.010 or one percent higher than the normal level. However, both ABN_RP_SALE and ABN_RP_CREDIT are greater than zero, suggesting that both propping and tunnelling activities are likely to occur in listed Vietnamese firms (Habib et al. 2017).

State shareholders are present in nearly 66 percent of total firm-year observations. The mean (median) of the percentage of shares owned by state owners is 0.395 (0.191) or approximately 40 (19) percent. This number is lower compared to state ownership in Chinese listed firms in the study by Shan (2019). Sample firms have high leverage (an average of 0.501 or about 50 percent). On average, the largest shareholder of a firm holds 0.354 or about 35 percent of shares in that firm. Foreign investors hold about nine percent of shares in a firm, on average. Finally, about 58 percent of members on the board are non-executive directors.

Table 2.6: Descriptive statistics of variables used in the models

variable	N	mean	sd	Q1	median	Q3
RP_SALE	2089	0.270	0.325	0.013	0.116	0.448
ABN_RP_SALE	1900	0.010	0.324	-0.213	-0.094	0.200
RP_CREDIT	2858	0.026	0.121	-0.022	0.004	0.056
ABN_RP_CREDIT	2802	0.002	0.128	-0.060	-0.016	0.046
SO_PRESENCE	3921	0.652	0.476	0.000	1.000	1.000
SO_PERCENT	2558	0.395	0.191	0.237	0.448	0.513
SIZE	3921	13.144	1.403	12.190	13.068	14.114
LEV	3921	0.501	0.216	0.328	0.527	0.674
MB	3921	0.978	0.665	0.486	0.786	1.252
ADJ_ROA	3921	0.015	0.071	-0.031	0.000	0.050
BLOCK	3884	0.354	0.186	0.192	0.346	0.510
FOWN	3666	0.091	0.128	0.005	0.032	0.123
DUAL	3921	0.333	0.471	0	0	1
BOARD	3921	5.463	1.029	5	5	5
NONEXE	3921	0.582	0.197	0.400	0.600	0.800
BIG 4	3921	0.216	0.411	0	0	0

All continuous variables are winsorised at the 3rd and 97th percentiles. Variables are defined in Table 2.1.

2.5.2. Pearson correlation results

Table 2.7 provides correlations among the variables. I find significantly positive correlations for RP_SALE and ABN_RP_SALE with SO_PERCENT (p<0.01). This suggests that firms with a higher proportion of state shareholders are more likely to have a higher extent of RPTs. I report negative correlations between RPTs and SIZE, MB, ADJ_ROA, FOWN, DUAL, BOARD, and BIG 4 (p<0.01). However, the correlations between RPTs and LEV and BLOCK are mixed across different measures of RPTs (p<0.10 or better).

Overall, the results of correlations reported in Table 2.7 show that the correlations between most of the explanatory variables are not high (apart from the correlation between state ownership percentage and block shareholders). Finally, I compute variance inflation factors (VIFs) for the explanatory variables. I find that the VIF values of the variables in the regression model are below the critical value of ten, which suggests that multicollinearity is not a major issue in my study (Kutner et al. 2005).

Table 2.7: Correlation results

	1.	2.	3.	4.	5.	6.	7.	8.
1. RP_SALE	1.000							
2. ABN_RP_SALE	0.852***	1.000						
3. RP_CREDIT	0.354***	0.385***	1.000					
4. ABN_RP_CREDIT	0.351***	0.414***	0.914***	1.000				
5. SO_PERCENT	0.198***	0.132***	0.014	0.015	1.000			
6. SIZE	-0.074***	-0.235***	-0.157***	-0.158***	0.134***	1.000		
7. LEV	0.042*	-0.059**	-0.112***	-0.035*	0.055***	0.340***	1.000	
8. MB	-0.102***	-0.032	-0.071***	-0.022	0.012	0.112***	-0.116***	1.000
9. ADJ_ROA	-0.078***	-0.018	0.009	-0.007	0.086***	-0.060***	-0.420***	0.447***
10. BLOCK	0.170***	0.101***	-0.033*	-0.009	0.902***	0.123***	0.119***	0.077***
11. FOWN	-0.148***	-0.153***	-0.065***	-0.073***	-0.175***	0.298***	-0.202***	0.230***
12. DUAL	-0.069***	-0.020	-0.013	-0.009	-0.239***	-0.084***	0.009	-0.041**
13. BOARD	-0.232***	-0.189***	-0.080***	-0.089***	-0.171***	0.295***	-0.020	0.145***
14. NONEXE	0.038*	0.002	-0.005	-0.013	-0.008	0.076***	-0.132***	0.093***
15. BIG 4	0.007	-0.074***	-0.098***	-0.087***	0.119***	0.470***	0.048***	0.154***

Table 2.7: Correlation results (continued)

	9.	10.	11.	12.	13.	14.	15.
9. ADJ_ROA	1.000						
10. BLOCK	0.094***	1.000					
11. FOWN	0.231***	-0.069***	1.000				
12. DUAL	-0.016	-0.222***	-0.006	1.000			
13. BOARD	0.058***	-0.117***	0.320***	-0.015	1.000		
14. NONEXE	-0.004	-0.019	0.029*	-0.301***	0.080***	1.000	
15. BIG 4	0.040**	0.179***	0.317***	-0.107***	0.167***	0.120***	1.000

Note: ***, ** and * indicate significance at 1%. 5% and 10%, respectively (two-tailed test). All continuous variables are winsorised at the 3rd and 97th percentiles. The detailed definitions of the variables are provided in Table 2.1

2.5.3. Regression results

Columns 1-4 of Table 2.8 present the regression results for the estimation of Eqn. (2) where state ownership is measured as a dummy variable. I find the coefficient on SO_PRESENCE, my main variable of interest, to be negative and significant to RP_CREDIT and ABN_RP_CREDIT (p<0.01). The negative coefficients suggest that the presence of state ownership is associated with a lower extent of related net credit (both normal and abnormal values) compared to their non-state ownership counterparts. Specifically, firms with state ownership deflate both normal and abnormal related net credit by approximately three percent of total assets compared to firms without state ownership. These results show that firms with state ownership are less likely to use RPTs (i.e., related net credit) than firms with no state shareholders. While related net credit is usually proxied for tunnelling activities (Habib et al. 2015) to exploit wealth from (minority) shareholders, this finding supports the argument concerning the positive role of state ownership on corporate efficiency in constraining firms' tunnelling activities.

Columns 5-8 of Table 2.8 presents the test results for the association between the extent of RPTs and the percentage of shares owned by state shareholders in the group of firms with state ownership only. The coefficient on SO_PERCENT is positive and significant for all proxies of RPTs (p<0.10 or better). This result shows that among firms reporting state ownership, firms with a higher state share percentage report a significantly higher extent of RPTs.

The economic significance of this result can be explained as one standard deviation increase in the variable of SO_PERCENT inflates related sales by 26 percent of total sales relative to RP_SALE's mean value. The economic significance value of 0.260 on RP_SALE is computed following Ball et al. (2012) by taking the coefficient on the variable SO_PERCENT of 0.368 which is multiplied by the standard deviation value of SO_PERCENT of 0.191, then dividing by RP_SALE mean value of 0.270 (i.e., 0.368*0.191/0.270 = 0.260 or 26 percent). Similarly, one standard deviation increase in

SO_PERCENT is each associated respectively with 7.888, 0.478, and 6.876 in ABN_RP_SALE, RP_CREDIT and ABN_RP_CREDIT relative to their mean values.

Regarding the control variables, the coefficients on SIZE and MB are negatively significant (p<0.10 or better) in the full sample and the sample of firms with state ownership only. These results are consistent with prior studies which indicate that RPTs are less prevalent in large firms (Cheung et al. 2009b) and in firms with high growth opportunities (Berkman et al. 2009; Kang et al. 2014). I also find that RPTs are less prevalent in firms with dual leadership and firms with a larger board size (p<0.10 or better). However, these results are not in line with prior studies (Gordon et al. 2004a; Berkman et al. 2009; Yeh et al. 2012; Kang et al. 2014; Bennouri et al. 2015; Balsam et al. 2017). In addition, I find that NONEXE is positively associated with RPTs (p<0.10 or better). Thus, the higher the number of non-executive directors on the board, the more likely a firm is to have a higher extent of RPTs (measured by RP sales).

There appears to be some inconsistency in the association between RPT and some of the control variables, such as LEV, ADJ_ROA, BLOCK and FOWN when I consider the whole sample and when I focus on firms with state ownership only. For example, in the whole sample, the coefficient on LEV is significantly negative (p<0.01) with RP_CREDIT. This result suggests that firms with higher leverage are less likely to provide credit to their related parties. However, among firms with state ownership, LEV is positively significant with RP_SALE and ABN_RP_CREDIT (p<0.01). Similarly, the coefficients on ADJ_ROA and FOWN are significantly negative when testing the full sample (p<0.05) but is significantly positive among firms with state ownership (p<0.10 or better).

In contrast, BLOCK is positively significant with RPTs, measured by RP_SALE and ABN_RP_SALE, in the total sample (p<0.01), whereas among state ownership firms, there is a negative association between BLOCK and RPTs, measured by RP_CREDIT and ABN_RP_CREDIT (p<0.10). Finally, I do not find a significant association between BIG4 and the extent of RPTs.

Table 2.8: Regression results for testing H1

Variable	Predicted sign	RP_SALE	ABN_RP_SALE	RP_CREDIT	ABN_RP_CREDIT	RP_SALE	ABN_RP_SALE	RP_CREDIT	ABN_RP_CREDIT
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
SO_PRESENCE	?	0.002	0.009	-0.029***	-0.026***				
		(0.129)	(0.450)	(-5.132)	(-4.134)				
SO_PERCENT	?					0.368***	0.413***	0.065*	0.072*
						(3.744)	(3.732)	(1.902)	(1.960)
SIZE	?	-0.025***	-0.047***	-0.009***	-0.015***	-0.043***	-0.067***	-0.016***	-0.024***
		(-3.789)	(-6.373)	(-4.033)	(-6.418)	(-5.376)	(-7.228)	(-5.688)	(-7.764)
LEV	?	0.044	-0.067	-0.060***	0.002	0.164***	0.042	-0.008	0.052***
		(1.041)	(-1.414)	(-4.225)	(0.106)	(3.160)	(0.704)	(-0.418)	(2.595)
MB	?	-0.043***	0.013	-0.008*	0.007	-0.065***	0.002	-0.013**	0.004
		(-3.307)	(0.893)	(-1.778)	(1.448)	(-4.103)	(0.115)	(-2.220)	(0.595)
ADJ_ROA	?	-0.197	-0.365**	-0.024	-0.058	0.091	-0.164	0.112*	0.044
		(-1.500)	(-2.435)	(-0.544)	(-1.173)	(0.548)	(-0.848)	(1.920)	(0.691)
BLOCK	?	0.185***	0.182***	0.014	0.014	-0.098	-0.119	-0.068*	-0.074*
		(4.399)	(3.902)	(0.953)	(0.882)	(-0.882)	(-0.954)	(-1.770)	(-1.774)
FOWN	?	-0.062	-0.160**	-0.027	-0.016	0.228**	0.094	0.057*	0.084**
		(-0.983)	(-2.184)	(-1.264)	(-0.698)	(2.524)	(0.855)	(1.895)	(2.505)
DUAL	?	0.005	-0.005	-0.015***	-0.014**	0.029	0.019	-0.012*	-0.012
		(0.312)	(-0.257)	(-2.735)	(-2.379)	(1.396)	(0.798)	(-1.756)	(-1.616)
BOARD	?	-0.039***	-0.035***	-0.006***	-0.006**	-0.040***	-0.038***	-0.006*	-0.005
		(-5.481)	(-4.349)	(-2.687)	(-2.364)	(-4.254)	(-3.489)	(-1.768)	(-1.257)
NONEXE	?	0.081**	0.065	-0.013	-0.005	0.132***	0.117**	-0.013	-0.001
		(2.219)	(1.567)	(-1.049)	(-0.342)	(2.856)	(2.208)	(-0.853)	(-0.051)
BIG 4	?	0.011	0.014	-0.002	-0.005	0.006	0.007	-0.009	-0.011
		(0.619)	(0.712)	(-0.388)	(-0.696)	(0.266)	(0.302)	(-1.229)	(-1.344)
YEAR	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.832***	0.711***	0.196***	0.261***	0.956***	0.857***	0.223***	0.303***
		(9.413)	(7.140)	(6.372)	(7.812)	(9.116)	(7.226)	(5.974)	(7.473)

Observations	1,954	1,780	2,657	2,606	1,390	1,249	1,791	1,745
R-squared	0.232	0.088	0.074	0.042	0.268	0.113	0.104	0.067

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 2.1.

2.5.4 Robustness tests

I perform some additional tests to verify the empirical findings reported in the previous section. First, I use an alternative proxy for RPTs by replacing the components of RPTs with gross RPTs and re-ran my regression. More specifically, I use abnormal operating and abnormal total RPTs. Operating RPTs include sale and purchase of goods/services with related parties, while total RPTs are the gross dollar amount of all RPTs disclosed by a firm. These proxies have been used in the previous literature on RPTs to examine the association between RPTs and stock price crash (Habib et al. 2019). The results obtained from these regressions are consistent with those reported in Section 2.5.3. Hence, the additional results, reported in Table 2.9, further confirm the robustness of my main findings.

Table 2.9: Regression results for testing H1 with alternative measures of RPTs

Variable	Predicted sign	ABN_RPT	ABN_OPERRPT	ABN_RPT	ABN_OPERRPT
		(1)	(2)	(3)	(4)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
SO_PRESENCE	?	-0.280***	-0.105		
		(-2.971)	(-0.842)		
SO_PERCENT	?			1.432***	2.181***
				(2.722)	(3.327)
SIZE	?	-0.004	-0.646***	-0.137***	-0.775***
		(-0.105)	(-13.563)	(-3.032)	(-13.868)
LEV	?	-0.007	0.568*	0.783***	0.781**
		(-0.031)	(1.846)	(2.704)	(2.146)
MB	?	-0.164**	-0.371***	-0.199**	-0.309***
		(-2.200)	(-3.833)	(-2.233)	(-2.759)
ADJ_ROA	?	3.090***	5.068***	4.154***	5.376***
		(4.153)	(5.224)	(4.539)	(4.681)
BLOCK	?	3.013***	2.186***	2.182***	0.995
		(12.681)	(7.118)	(3.651)	(1.345)
FOWN	?	-0.966***	-1.055**	0.117	-0.904
		(-2.805)	(-2.335)	(0.247)	(-1.491)
DUAL	?	-0.197**	-0.224*	-0.152	-0.184
		(-2.184)	(-1.887)	(-1.363)	(-1.300)
BOARD	?	-0.216***	-0.272***	-0.272***	-0.369***
		(-5.362)	(-5.198)	(-5.188)	(-5.583)
NONEXE	?	-0.024	-0.348	0.222	-0.213
		(-0.113)	(-1.288)	(0.880)	(-0.675)
BIG 4	?	0.174*	0.160	0.224*	0.387***
		(1.709)	(1.244)	(1.896)	(2.680)
YEAR	?	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes
Constant		0.236	9.633***	1.269**	11.048***
		(0.457)	(14.566)	(2.115)	(15.102)
Observations		2,641	2,169	1,787	1,540
R-squared		0.109	0.204	0.154	0.268

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 2.1.

Another robustness test conducted to alleviate any heterogeneity in the characteristics of firms is propensity score matching (see Tucker 2010; Lennox et al. 2012). Prior research indicates that factors such as size, leverage, market-to-book ratio, a firm's performance (measured as return on assets),

ownership concentration, foreign ownership, and some corporate governance characteristics could influence the extent of RPTs engaged in by firms (e.g., Jian and Wong 2010; Bennouri et al. 2015; Habib et al. 2017). I, therefore, employ the propensity score matching approach to confirm that changes in the extent of RPTs in firms are related to the presence or percentage of state ownership and not to the above factors (Blanco et al. 2020).

I first estimate a logistic model for each year where the dependent variable is SO_PRESENCE, a dummy variable for firms with state ownership, and the independent variables are all the control variables in Eqn. (2). I use propensity scores generated from this logistic model to match observations with state ownership with those without state ownership.

I next compute a dummy variable, HIGH_SO, which is coded 1 if the firm has SO_PERCENT greater than the sample's yearly median among firms with state ownership, and 0 otherwise. I then estimate a logistic regression where HIGH_SO is the dependent variable and the covariates are all of the control variables in Eqn. (2). I match each observation from the high state ownership percentage subsample with an observation from the low state ownership percentage one based on the propensity scores.

In both matching processes, I use a closest neighbour matching process with no replacement and with a calliper of one percent. These procedures result in a sample of matched pairs of treatment and control firms that are similar regarding size, leverage, and other characteristics. Table 2.10 - Panel A reports the descriptive statistics of the covariates used to match treatment and control firms in the regression for SO_PRESENCE and SO_PERCENT. The matching process was successful, with all variables being not statistically different across the two matched sample groups. These results suggest that I have a properly matched sample of treatment and control firms that differ only in the presence of state ownership or percentage of state ownership.

I then estimate the regressions in Eqn. (2) using the propensity score-matched sample to verify my previous results. Panel B of Table 2.10 reports the results from the regression estimated using the

propensity score-matched samples. Although the number of observations reduces significantly, the coefficient on SO_PRESENCE remains negative and significant to RP_CREDIT and ABN_RP_CREDIT (p<0.01) as shown in columns 3 and 4. These results confirm that firms with state ownership have a lower extent of RPTs. Results from columns 5 to 8 of Panel B, Table 2.10, are consistent with my main results of a positive association between SO_PERCENT and extent of RPTs (p<0.01). These results confirm the robustness of my findings of the association between state ownership percentage and RPTs.

Table 2.10: Propensity Score Matching

Panel A: Propensity – matched variables

	SO_PRESENCE =1		SO_PRESENCE =0		Difference Tests:	HIGH_ SO =1		HIGH_ SO =1		Difference Tests:
Variable	n	mean	n	mean	p-value	n	mean	n	mean	p-value
SIZE	322	13.502	322	13.554	0.631	372	13.297	372	13.289	0.934
LEV	322	0.499	322	0.509	0.570	372	0.491	372	0.507	0.327
MB	322	0.012	322	0.012	0.666	372	0.018	372	0.021	0.379
ADJ_ROA	322	0.039	322	0.032	0.917	372	0.049	372	0.095	0.555
BLOCK	322	0.333	322	0.348	0.303	372	0.296	372	0.318	0.067
FOWN	322	0.103	322	0.099	0.734	372	0.104	372	0.100	0.702
DUAL	322	0.351	322	0.311	0.277	372	0.266	372	0.272	0.013
BOARD	322	5.634	322	5.556	0.350	372	5.503	372	5.484	0.806
NONEXE	322	0.628	322	0.606	0.150	372	0.617	372	0.615	0.884
BIG 4	322	0.264	322	0.273	0.790	372	0.277	372	0.272	0.870

Panel B: Regression results

Variable	Predicted sign	RP_SALE	ABN_RP_SALE	RP_CREDIT	ABN_RP_CREDIT	RP_SALE	ABN_RP_SALE	RP_CREDIT	ABN_RP_CREDIT
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
SO_PRESENCE	?	-0.006	-0.002	-0.029***	-0.025***				
		(-0.310)	(-0.093)	(-3.352)	(-2.623)				
SO_PERCENT	?					0.571***	0.500***	0.171***	0.182***
						(0.122)	(0.128)	(0.049)	(0.053)
SIZE	?	-0.025***	-0.045***	-0.009**	-0.014***	-0.023*	-0.057***	-0.014**	-0.024***
		(-2.681)	(-4.371)	(-2.129)	(-2.922)	(-1.737)	(-4.070)	(-2.554)	(-4.079)
LEV	?	0.058	-0.014	-0.062**	-0.018	-0.091	-0.138	-0.076**	0.005
		(0.990)	(-0.216)	(-2.305)	(-0.620)	(-1.088)	(-1.578)	(-2.243)	(0.132)
MB	?	-0.002	0.018	-0.000	0.015	0.011	0.073***	-0.001	0.012
		(-0.088)	(0.805)	(-0.002)	(1.468)	(0.425)	(2.758)	(-0.125)	(1.100)
ADJ_ROA	?	-0.319*	-0.232	-0.057	-0.067	-0.689***	-0.688**	-0.213**	-0.254**
		(-1.685)	(-1.108)	(-0.656)	(-0.704)	(-2.643)	(-2.513)	(-2.015)	(-2.262)
BLOCK	?	0.227***	0.218***	0.020	0.038	-0.104	-0.094	-0.145***	-0.147**
		(3.999)	(3.483)	(0.766)	(1.342)	(-0.783)	(-0.673)	(-2.685)	(-2.560)
FOWN	?	-0.182**	-0.192**	-0.091**	-0.091**	-0.036	-0.097	0.005	0.022
		(-2.227)	(-2.129)	(-2.452)	(-2.219)	(-0.264)	(-0.680)	(0.084)	(0.369)
DUAL	?	-0.017	-0.028	-0.016	-0.018	0.026	0.008	-0.007	-0.008
		(-0.783)	(-1.150)	(-1.629)	(-1.614)	(0.785)	(0.235)	(-0.522)	(-0.527)
BOARD	?	-0.037***	-0.039***	-0.010**	-0.011**	-0.028*	-0.013	-0.003	-0.001
		(-3.780)	(-3.566)	(-2.299)	(-2.263)	(-1.837)	(-0.791)	(-0.447)	(-0.216)
NONEXE	?	-0.020	-0.006	-0.004	-0.006	-0.048	-0.062	-0.055*	-0.042
		(-0.360)	(-0.102)	(-0.168)	(-0.205)	(-0.615)	(-0.769)	(-1.752)	(-1.259)
BIG 4	?	0.040	0.039	0.016	0.010	0.037	0.035	-0.010	-0.014
		(1.528)	(1.367)	(1.386)	(0.787)	(1.045)	(0.941)	(-0.682)	(-0.935)
YEAR	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Constant	0.767***	0.601***	0.221***	0.288***	0.605***	0.603***	0.190**	0.279***
	(5.548)	(3.934)	(3.496)	(4.141)	(3.279)	(3.112)	(2.540)	(3.512)
Observations	644	644	644	644	499	499	499	499
R-squared	0.254	0.132	0.109	0.089	0.310	0.173	0.168	0.133

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 2.1.

2.6. Conclusion

This paper provides a detailed description of RPTs in Vietnam, and firm-level characteristics of firms with RPTs, in comparison with their non-RPT counterparts. RPTs are found to be prevalent in the sample of listed firms in Vietnam, regardless of their ownership structure. I examined the association between RPTs and state ownership because of the dominance of state ownership in the Vietnamese economy and the important role of state ownership in corporate governance. Despite extant studies about RPTs since the early 2000s and the prevalence of state ownership in publicly traded firms around the world, the association between state ownership and RPTs remains under-researched. In this paper, I identify that the presence of state shareholders restrains the extent of RPTs engaged in by Vietnamese listed firms. However, among firms with state ownership, I find a positive association between the level of state ownership and the extent of RPTs. The positive association is consistent across RPT measures, ranging from normal and abnormal values of RPTs. These associations are also economically significant. The results support H1, which states that there is an association between state ownership and the extent of RPTs.

This paper contributes to the existing literature by describing RPTs in an emerging transitional economy with state concentrated ownership and characteristics associated with RPTs firms. I also provide comprehensive evidence of the association between state ownership and the extent of RPTs. I have tested this association using different proxies for state ownership and RPTs. Thus, my results are robust to alternative specifications.

My findings have significant implications for investors and regulators in Vietnam and other countries where state ownership and RPTs prevail. Specifically, the findings suggest that investors considering investing in firms with state ownership are recommended to obtain information on RPTs and their related parties to make more informed investment choices.

This paper is subject to some limitations. First, due to the limited information disclosed by firms, I do not have access to information about indirect state ownership. Such data would enable further

analysis of the role of state shareholders, direct and indirect, in the extent of RPTs engaged in by firms. Second, my paper is conducted during a period that has considerable variation in the application of corporate governance regulations. This leads to potential inconsistency in the way firms disclose information about RPTs. For example, listed firms have been subject to regulation by the Corporate Governance Code (revised 2012) since 2012 (Robinett et al. 2013).[25] The regulation requires listed firms to prepare corporate governance reports every six months[26]. Information about the identities of all shareholders owning five percent or more of shares in a firm is required to be disclosed in this report.

Given this is the first paper exploring RPTs in Vietnam, some potential topics might be further explored in the future to reveal implications of RPTs in the context of Vietnam. For example, the association between RPTs and stock liquidity, or the association between RPTs and the cost of equity for listed firms could be investigated to provide investors with knowledge of the possible economic consequences of RPTs.

[25] Before 2012, listed firms were regulated by the initial Corporate Governance Code (2007), which did not have the requirement of preparing corporate governance report.
[26] Corporate Governance Code (revised 2012), article 27 (2) (Ministry of Finance. 2012).

Chapter 3: Related party transactions, state ownership, and the cost of corporate debt: Evidence from Vietnam

3.1. Introduction

This paper investigates the potential association between the cost of corporate debt and RPTs reported by firms in Vietnam, a transition economy with concentrated state ownership (Robinett et al. 2013). I address the following questions. First, is there an association between the cost of debt and the presence and extent of RPTs reported by firms? Second, does the presence of state ownership moderate the association between the cost of debt and RPTs?

A RPT is defined as a transfer of resources, services, or obligations between related parties, regardless of whether a price is charged, where a related party is a person or entity related to the reporting entity (International Accounting Standard 24.9, International Accounting Standards Board (IASB) 2009). RPTs are various and frequently complicated transactions between a firm and its related parties, such as the firm's managers, directors, shareholders and associates (Habib et al. 2015).

RPTs can be initiated for genuine business purposes, such as lowering transaction costs or assuring product quality (Khanna and Palepu 2000). However, RPTs are also perceived to violate arm's-length market transaction principles (Habib et al. 2015), which is associated with financial fraud and minority shareholder expropriations (Cheung et al. 2006; Jiang et al. 2010). Firms are required to disclose information about transactions, balances, and relationships with related parties to allow users of financial reports to assess the entity's operations, including the risks and opportunities facing the entity associated with RPTs (International Accounting Standard 24.8, International Accounting Standards Board (IASB) 2009).

The literature on RPTs has mainly focused on the consequences of RPTs from different perspectives, such as firm performance, earnings quality, audit fees, CEO compensation or a price

crash perspective (e.g., Kohlbeck and Mayhew 2010; Hwang et al. 2013; Habib et al. 2015; Balsam et al. 2017; Habib et al. 2019). However, there is limited evidence in the literature on whether lenders price the risks and benefits of the existence and extent of RPTs into the cost of debt.

Prior studies apply efficient contracting theory and agency theory to explain the nature of RPTs (e.g., Gordon et al. 2004b; Kohlbeck and Mayhew 2004b). The efficient contracting theory documents that RPTs are part of normal business to fulfil economic needs. Therefore, RPTs enhance a firm's value by lowering transaction costs, especially in the context of underdeveloped markets (Khanna and Palepu 2000). Hence, I expect a negative association between the cost of debt and RPTs. Alternatively, agency theory argues that RPTs could be used opportunistically by managers and controlling shareholders to exploit wealth from shareholders/minority shareholders (Kohlbeck and Mayhew 2010). Thus, the opportunistic use of RPTs is viewed as being detrimental to a firm's value and increases the risk to firms (see Kohlbeck and Mayhew 2010; Nekhili and Cherif 2011; Habib et al. 2015; Kohlbeck and Mayhew 2017; Habib et al. 2019). Lenders, therefore, are expected to assess firms reporting more RPTs as having a higher level of potential financial risk, which increases the cost of debt. This leads to an expected positive association between the cost of debt and RPTs.

I test for these competing arguments regarding the cost of debt using data from Vietnam. Vietnam offers an interesting context to study the association between RPTs and the cost of debt because of its institutional features as a concentrated ownership economy and the prevalence of debt financing. First, ownership concentration facilitates RPTs, making RPTs substantial in Vietnam. Almost 80 percent of listed firms in Vietnam report RPTs[27]. Second, debt financing (mainly bank lending) is an important source of capital for firms, as firms in Vietnam rely on loans rather than equity capital for their sources of finance (Nguyen et al. 2014; Sarath and Pham 2015; Phan 2018; Vuong 2019). In

[27] Data from my sample of listed firms is from 2010 to 2016.

2018, twice as much funding of capital for listed firms was from banks rather than equity funding.[28] This results from a long tradition of state and state-owned banks providing capital to firms.

I conduct my main empirical analysis by regressing the cost of debt on the presence and magnitude of RPTs, controlling for a variety of cost of debt determinants. I also consider the moderating role of state ownership in the association between RPTs and the cost of debt. State ownership is a corporate governance mechanism that has been found to be associated with RPTs (e.g., Cheung et al. 2009a; Lo et al. 2010a; Habib et al. 2017) and the cost of debt (e.g., Borisova et al. 2015; Shailer and Wang 2015). However, state ownership as a moderating role for the association between RPTs and the cost of debt has not been investigated. Given the dominance of state ownership in Vietnam with more than 65 percent of listed firms having state shareholders[29], Vietnam is a useful setting for exploring the role of state ownership in this association.

Consistent with research on the cost of debt (e.g., Pittman and Fortin 2004; Bliss and Gul 2012; Shailer and Wang 2015; Liu et al. 2016; Fonseka et al. 2019), I use the effective interest rate as a proxy for the cost of debt. In addition, I use both a dummy variable to detect firms reporting RPTs and the relative dollar value of transactions to proxy for RPT activity. Following Habib et al. (2017), I use related sales and related net credit reported to measure the relative dollar value of RPTs.

Based on panel data from 2010 to 2016, I find that the cost of debt is positively associated with the value of RPTs measured by related sales and related net credit, for both normal and abnormal values. This evidence suggests that lenders perceive RPTs as a potential default risk to firms. Therefore, the lenders charge a higher rate for firms with a higher amount of RPTs. This result supports agency theory in explaining the nature of RPTs reported by firms. I also find that state ownership has a moderating role in the association between RPTs and the cost of debt. This relation

[28] Data in 2018 is available at: https://vietnamnews.vn/economy/talking-shop/425677/future-bright-for-viet-nams-capital-market.html#FWcd58cWvDszuLyV.97).
[29] Data from my sample of listed firms is from 2010 to 2016.

is less pronounced for firms with state ownership, suggesting that the presence of state shareholders lessens potential risks from RPTs in lenders' assessment.

This paper contributes to the existing literature in several ways. First, it adds to the literature on RPT research in Vietnam and to the cost of debt research in general. Prior literature on RPTs generally focuses on RPTs consequences to equity shareholders or auditors (Gordon et al. 2007; Kohlbeck and Mayhew 2010; Bennouri et al. 2015; Habib et al. 2015; Kohlbeck and Mayhew 2017; Habib et al. 2019). However, very little research has considered lenders' response in terms of the cost of debt to the presence and extent of RPTs. I address this gap in the literature.

Second, the paper contributes to the cost of debt literature by documenting a positive association between RPTs and the cost of debt in my sample of firms. Although a sizable volume of academic literature has investigated the determinants of the cost of debt, evidence on this from Vietnam is limited and, no prior studies have investigated the implication of RPTs on the cost of debt.

Finally, this paper adds to the state ownership literature by documenting that the cost of debt-RPTs association varies between firms with and without state ownership. Specifically, state ownership moderates this relation by reducing the cost of debt and the magnitude of RPTs, and makes this relation less pronounced.

The remainder of the paper is organised as follows. Section 3.2 considers the institutional background of RPTs, state ownership, and debt financing in Vietnam. Section 3.3 reviews the literature and develops hypotheses. Section 3.4 describes my sample selection and research design. Section 5 reports the empirical results. Section 3.6 concludes the paper.

3.2. Institutional background

3.2.1. Debt financing in Vietnam

The introduction of economic reforms in 1986 was the beginning of Vietnam's remarkable development success story. During this period, Vietnam had one of the highest sustained GDP growth

rates in the world, second only to China. Per capita income increased from less than US$500 in 1986 to US$2,590 in 2018[30], making it a lower-middle-income country after being one of the world's poorest countries. The financial market was transformed following banking reforms in 1988-1989. Only the State Bank of Vietnam existed before the reforms with a two-tier banking system with a variety of banks under diverse ownership following the reforms (Sarath and Pham 2015; Vuong 2019). The stock market was established in 2000 to provide an additional channel to organise capital for the economy. The banking system is still the main channel for finance in Vietnam despite the rapid development of the stock market. In 2017, domestic credit provided by the financial sector was nearly 142 percent of GDP[31], compared to the stock market capitalisation of about 52 percent of the GDP[32]. Meanwhile, the corporate bond market remains modest (Phan 2018) with corporate bonds representing just about six percent of GDP[33]. The undeveloped corporate bond market results from many tight regulations in issuing bonds and a lack of a secondary market to increase the liquidity of corporate bonds.

The banking system in Vietnam is dominated by four state-owned commercial banks (Vuong 2019). They are the largest banks in terms of total equity and assets. In addition, there are 31 joint-stock commercial banks and nine foreign commercial banks[34]. The banking system in Vietnam has joint ownership among banks, between banks and firms – being either private or state-owned enterprises (Vu-Thanh et al. 2013). This results in the frequently used practice of favourable credit to firms that own shares in banks (Vu-Thanh et al. 2013). A ceiling on lending[35] and deposit rates

[30] Data retrieved from https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=VN on 3rd December 2019.
[31] Data retrieved from https://www.ceicdata.com/en/vietnam/bank-loans on 3rd December 2019.
[32] Data retrieved from https://www.ceicdata.com/en/indicator/vietnam/market-capitalisation--nominal-gdp on 3rd December 2019.
[33] Retrieved from https://e.vnexpress.net/news/business/economy/vietnam-corporate-bonds-outstanding-tops-4-billion-3898077.html on 3rd December 2019.
[34] As by the 30th of June 2019, data retrieved from the State Bank of Vietnam at https://www.sbv.gov.vn.
[35] SBV controls the ceiling on lending rates to firms operating in agriculture, exporting, supporting industries, or high technology industry, and small and medium enterprises (Article 13, Circular 39/2016/TT-NHNN issued on 30/12/2016, State Bank of Vietnam 2016). For example, the ceiling of short-term lending rate for capital (in Vietnam dong) used by firms in the above list since March 2020 is 5.500 percent (Decision 420/QD-NHNN dated 16/03/2020, State Bank of Vietnam 2020).

continues to be maintained and controlled by the State Bank of Vietnam. Access to credit is affected by the bank-by-bank credit growth ceiling established by the State Bank of Vietnam, government guidance on the sectoral priorities for bank lending, and capital shortfalls in state-owned commercial banks (Vu-Thanh et al. 2013).

3.2.2. RPTs in Vietnam

As a highly concentrated ownership economy, RPTs are perceived to be substantial in Vietnam, especially among firms with state ownership (Robinett et al. 2013). RPTs are frequently regarded as being related to circumstances open to a possible conflict of interest between managers and shareholders, or between controlling and minority shareholders, and should be subject to thorough scrutiny (see Yeh et al. 2012; Bennouri et al. 2015; Kohlbeck and Mayhew 2017; Habib et al. 2019). This is the case with the involvement of fraud in Vietnam firms, such as Vinashin[36], Asia Commercial Bank (ACB), and unlawful lending by Ocean Bank (OCB)[37] (IFC 2015). International Finance Corporation (IFC), a member of the World Bank Group, has released the Vietnam guidebook for banks about RPTs to raise bank awareness of RPTs. This guidebook aims to enable commercial banks to become more conscious of good corporate governance (IFC 2015). The guidebook also attempts to explain the complex RPTs and conflicts of interest present in banking, and their management

[36] Vietnam Shipbuilding Industry Group, or Vinashin, one of the largest state economic groups in Vietnam, almost went bankrupt in 2010 with US$4.4 billion in debts, much of which was provided by state-owned banks. Vinashin, a long-time ship builder, diversified into a variety of unrelated activities, including securities and tourism, and had been given privileged access to overseas borrowing. In addition to the related loans from state owned banks, there were a range of other suspicious transactions involving its holdings (Robinett et al. 2013, 16). Its executives were given harsh prison sentences for their role in the near-collapse of the group. Its former chairman was given the maximum sentence of 20 years in jail for violation of state rules, including falsifying the group's financial reports to disguise the group's financial situation.

[37] ACB and OCB are two stock commercial banks, involved in unethical lending transactions between the bank and their related entities. Long prison sentences were imposed on the two top bank officials. ACB's founder – Nguyen Duc Kien – was sentenced to 30 years in prison for his role in a series of financial frauds worth US$1.1 billion that has become one of the highest-profile banking scandals in Vietnam (https://www.nbcnews.com/news/world/vietnam-tycoon-nguyen-duc-kien-jailed-30-years-over-fraud-n126001). OCB's ex-chairman – Ha Van Tham – was given a life sentence for breaching lending rules. OCB's former general director, Nguyen Xuan Son, was sentenced to death for his involvement in millions of dollars of unlawful loans (https://www.bbc.com/news/world-asia-41439866).

through lending practices (IFC 2015). This is more important in Vietnamese banks – being a crucial industry in the economy, because bank ownership structures are complex with many cross-shareholdings between private entities, state-owned enterprises, and economic groups. This guidebook is use by banks for approving loans with their related parties. It does not necessarily provide a guideline for banks to assess the risk of borrowers with RPTs when they apply for debt financing from banks.

3.2.3. State ownership in Vietnam

SOE restructuring is a critical part of the economic reforms launched in 1986 in Vietnam with the promotion of private sector development. Only profitable small or medium-size SOEs are the goal of the equitisation process in the first stage (Ngo et al. 2014). However, SOEs still account for a large share of employment, bank credit, and fixed assets (Robinett et al. 2013). The government continues to hold a large proportion of ownership in large formerly state-owned economic enterprise/state corporations and firms in strategic sectors, namely mining, quarrying, electricity, oil and gas (Vu-Thanh 2017).

In Vietnam, the presence of state ownership in listed firms is in the form of investments by state-owned corporations or state-owned groups,[38] provincial people's committees, and the State Capital Investment Corporation (SCIC)[39] (Robinett et al. 2013).

[38] Since the 1st of July 2015, an SOE is defined in the *Law on Enterprise* (2014) as an enterprise where the state retains 100 percent of its equity. This definition differs from the one in *Law on Enterprise* (2005) which defined an SOE as a firm where the state owns from 50 percent or more of its equity (Phan 2018).

[39] SCIC was established in 2005 with a goal to manage and invest State capital in enterprises, regardless of their ownership structure. SCIC represents the State's investments in firms and oversees large SOEs to enhance accountability and efficiency while leaving management and regulation with line ministries and regulators (Robinett et al. 2013).

3.3. Literature review and hypotheses development

3.3.1. Determinants of the cost of debt

Previous studies have examined the determinants of debt pricing. Bhojraj and Sengupta (2003) and Valta (2012) state that the cost of debt depends primarily on lenders' estimate of the risk of default by borrowers. There is a variety of factors associated with the default risk of a firm. Fisher (1959) lists three factors that could influence the estimate of default risk. They are variability of earnings, reliability in meeting obligations, and the capital structure of firms. Jiang (2008) finds that firms beating earnings benchmarks have a lower cost of debt, suggesting that firms' profitability has a significant influence on debt pricing. Meanwhile, firms with low earnings quality, for example through earnings management, are charged a higher cost of debt due to the low reliability of earnings (see Prevost et al. 2008; Shen and Huang 2013; Ge and Kim 2014).

Increased quality of information disclosure is another factor influencing the cost of debt as it reduces information asymmetry, associated with reduced agency costs. Sengupta (1998) finds a negative association between disclosure quality and the cost of debt for US firms. Francis et al. (2005) provide evidence that firms with higher voluntary disclosure levels have a lower cost of debt. For example, energy firms in China that disclose environmental information incur a lower cost of debt (Fonseka et al. 2019). The higher creditability of financial statements audited by Big 4 in Finland or Big 6 in the U.S is also associated with decreased cost of debt capital (Pittman and Fortin 2004; Karjalainen 2011). Kent and Bu (2020) find that firms reporting the indirect method of cash flow statement incur a higher cost of equity but not a higher cost of debt relative to firms reporting the direct method, suggesting that there are differences in the information provided in the choice of cash flow statements associated with the cost of capital.

Prior studies also indicate that lenders rely on the firm's corporate governance structure to price the cost of a loan. For instance, Boubakri and Ghouma (2010) and Byun et al. (2013) find that lenders

charge a higher cost of debt to firms with anticipated potential wealth expropriation by controlling shareholders or managers.

3.3.2. Cost of debt and RPTs

RPTs are defined as "a transfer of resources, services or obligations between related parties, regardless of whether a price is charged" (VAS 26.5, Ministry of Finance 2003). The literature identifies two alternative views about the nature of RPTs (e.g., Gordon et al. 2004b). RPTs can be viewed as either a *conflict of interest* or *efficient transactions*. Under the *conflicts of interest* view, which is supported by agency theory, RPTs are potentially harmful to shareholders because they "compromise management's agency responsibility to shareholders or a board of directors' monitoring function" (Gordon et al. 2004b, 4). RPTs can be opportunistically used by managers or controlling shareholders in expropriating wealth from shareholders or minority shareholders. In contrast, RPTs are viewed as *efficient transactions* because these transactions can lower transaction costs and enhance firms' performance, especially in economies where the capital, technology, and labour markets are underdeveloped (e.g., Khanna and Palepu 2000; Ryngaert and Thomas 2012; Habib et al. 2015; Fang et al. 2018).

The two contrasting views offer different implications regarding the potential costs and benefits of transacting with related parties. For example, evidence supporting the agency theory of RPTs finds that firms with RPTs have lower performance, lower market valuation, and higher audit fees due to high risk to auditors (e.g., Chen et al. 2009; Kohlbeck and Mayhew 2010; Nekhili and Cherif 2011; Ryngaert and Thomas 2012; Habib et al. 2015). RPTs can be seen as a potential risk of restatement, as indicated in a U.S. sample (see Kohlbeck and Mayhew 2017). Bennouri et al. (2015) find a negative relationship between auditor reputation and the number of RPTs reported, implying that RPTs result in accounting reporting uncertainty. Further, Habib et al. (2019) provide evidence of a positive association between RPTs and the risk of a stock price crash in China. Such evidence suggests that

opportunistic RPTs can be potentially detrimental to (minority) shareholders and lenders because these RPTs result in negative economic consequences for a firm, including higher potential default risk. Therefore, lenders take precautionary measures to reduce the risks associated with RPTs. One of these measures is raising interest rates for firms with RPTs. This leads to a higher cost of debt to firms with RPTs.

Although there has been less evidence supporting the efficient contracting theory of RPTs, RPTs (for example, related sales) are found to enhance the performance of firms in China as these transactions could be used to inflate firms' income before their IPO or when they are in financial distress (Jian and Wong 2010; Wong et al. 2015). Peng et al. (2011) show that related loans can be used by controlling shareholders to support earnings when a firm is in financial distress. Although these earnings are temporary and do not add value to a firm in the long term, this action usually receives favourable reactions from the market. With evidence of a positive association between RPTs and firms' efficiency, the conflict between lenders and shareholders could be minimised. Consequently, lenders are likely to charge firms engaged in RPTs a lower cost on debt.

Given the above discussion, I develop the following non-directional hypothesis:

H1: The cost of debt is associated with RPTs.

3.3.3. State ownership and the association between the cost of debt and RPTs

In assessing the determinants of the cost of debt, previous studies have provided evidence about ownership structure as an influencing factor (e.g., Boubakri and Ghouma 2010; Lin et al. 2011; Sánchez-Ballesta and García-Meca 2011). For example, state ownership has been identified as an important determinant of the cost of debt (see Borisova and Megginson 2011; Sánchez-Ballesta and García-Meca 2011; Borisova et al. 2015; Shailer and Wang 2015; Liu et al. 2016). However, the literature on the cost of debt provides mixed evidence about the association between state ownership and the cost of debt. In a study investigating the relation between state ownership and the cost of debt

in privatised European firms, Borisova and Megginson (2011) find privatised firms that retained state ownership are charged a lower cost of debt as bondholders are more secure about debt recovery from these firms due to the implicit government guarantee. The negative relation between the cost of debt and state ownership is also found in a Spanish sample by Sánchez-Ballesta and García-Meca (2011) with the argument being that state ownership lowers the cost of debt through state financial agency.[40] Using a sample of Chinese firms, Shailer and Wang (2015) and Liu et al. (2016) provide evidence that the presence of controlling state shareholders is related to a lower cost of debt, measured by the average interest rate. Shailer and Wang (2015) argue that in China, financial institutions tend to prefer firms with state ownership in a system where state-owned banks are still dominated. Liu et al. (2016) document that many firms with state ownership are in industries that are crucial to the country's security. Therefore, it is likely that the state wants to ensure these firms are financially sustainable. In contrast, Borisova et al. (2015) find that higher state ownership is associated with a higher cost of debt, measured by bond credit spreads from a sample of 43 countries. However, this association is negative during financial crises and for firms more likely to be distressed (Borisova et al. 2015).

In the context of Vietnam, most listed firms have converted from state-owned enterprises,[41] and the state retains significant ownership in these firms. While state-owned commercial banks still dominate the economy, firms with state ownership are perceived to access bank credits on preferential terms (Phan 2018). In addition, there is some evidence of the positive association between RPTs and state ownership (Cheung et al. 2009a). Therefore, I expect the relation between RPTs and the cost of debt to be moderated by state ownership, leading to the following hypothesis:

H2: The association between the cost of debt and RPTs is less pronounced for firms with state ownership than for firms without state ownership.

[40] The state financial agency is attached to the Spanish Ministry of Economy (Sánchez-Ballesta and García-Meca 2011, 394).
[41] Data from my sample shows that about 68% of listed firms are SOE-converted (2,250 observations).

3.4. Research design

3.4.1. Data and sample selection

My sample consists of all firms listed in 2016 in the two stock exchanges in Vietnam: Ho Chi Minh City Stock Exchange (HOSE) and the Hanoi Stock Exchange (HNX)[42]. I begin with 4,209 firm-year observations from 2010 to 2016. The sample period starts in 2010 because the number of listed firms in the two stock exchanges was limited and the disclosure practices by listed firms were very poor before 2010. I exclude 271 firm-year observations for financial firms as these firms are subject to different regulatory constraints. Missing interest expense and debt data yield a reduced sample of 635 observations. Because of unavailable information for control variables, 17 firm-year observations are further deleted. My final sample consists of 3,286 firm-year observations that meet all the selection criteria.

I use the OSIRIS database to obtain financial data, including data of debt and interest expense, and market data. Data about RPTs, including the amounts, types, parties involved, are collected manually from the notes to audited financial statements of listed firms (consolidated financial statements for firms which have subsidiaries) during the period under investigation. Similarly, data concerning state ownership, percentage of the largest shareholders, dual leadership, board size, identity of audit firms, and firm age are also hand-collected from the annual reports and corporate governance reports.

3.4.2. Dependent variable

The dependent variable is the cost of debt (COD). Consistent with prior studies (e.g., Pittman and Fortin 2004; Francis et al. 2005; Karjalainen 2011; Bliss and Gul 2012; Shailer and Wang 2015; Liu et al. 2016; Fonseka et al. 2019), I use the interest rate on a firm's debts[43] to proxy for the cost of

[42] HOSE is the first stock market in Vietnam, being established in 2000. On average, firms listed on this stock exchange are larger and tend to have more foreign ownership, but less state ownership than firms listed on HNX, which was formed in 2005 (Robinett et al. 2013).

[43] Credit spread over corporate bonds are used in some studies of cost of debt (e.g., Byun et al. 2013; Houston et al. 2014; Borisova et al. 2015; Liu et al. 2016). However, I could not use this measure in this paper because corporate bonds were

debt. The interest rate is measured as the interest expense for the year divided by the average short-term and long-term debt, with the average based on the beginning- and end-of-year total debt. I convert this ratio to a percentage for ease of coefficient interpretation.

3.4.3. Independent variables

3.4.3.1. Test variables

My first variable of interest is the existence and the extent of related party transactions (RPT). Due to competing arguments regarding the implications of RPTs, I make no sign prediction for this variable.

I first use an indicator variable – RPT_DUMMY, which is coded 1 if the firm discloses at least one transaction or one balance with related parties, and 0 otherwise. This is used to compare the cost of debt between firms with and without RPTs.

I then examine the relation between the cost of debt and the value of RPTs. Following research by Habib et al. (2017), I proxy RPT according to the following categories of RPTs: (i) RP sales (RP_SALE), measured by the amount of sales with related parties scaled by net sales, and (ii) RP net credit (RP_CREDIT), measured by total receivables minus total payables, scaled by total assets. RP sales are widely used as a proxy for propping activities (Jian and Wong 2010; Habib et al. 2017; Aharony et al. 2010). Meanwhile, RP net credit is used as a proxy for tunnelling activities (see Habib et al. 2017; Chan et al. 2016).

I use the normal and abnormal values of these measures to test the robustness of my results. However, I am interested in the abnormal level of RPT in testing the relationship between the cost of debt and RPT, as RPT may be part of normal business activities or used to exploit wealth from

not common in Vietnam during my sample period. Most firms were relying on accessing bank loans for their debt financing.

shareholders and debtholders. I separate those transactions that are a normal part of the business by adopting Jian and Wong's (2010) approach to calculate the abnormal RPTs as in the equation (1)

$$RPT_{i.t} = \beta_0 + \beta_1 SIZE_{i.t} + \beta_2 LEV_{i.t} + \beta_3 GROWTH_{i.t} + \beta_4 MB_{i.t} + YEAR_t + INDUSTRY_t + \varepsilon_{i.t} \quad (1)$$

where SIZE = the natural log of total assets, LEV = total liabilities scaled by total assets, GROWTH = sales growth, MB (measured as the ratio of market value to the book value of equity) = the market-to-book ratio, and $YEAR_t$ and $INDUSTRY_t$ represent year and industry fixed effects, respectively.

I estimate the regression in Eqn. (1) separately for the two RPT proxies above. The residuals from these regressions represent the abnormal amount of RPTs.

Another variable of interest is the interaction term between RPT and the presence of state ownership (SO_PRESENCE) computed as RPT*SO_PRESENCE. SO_PRESENCE is a dummy variable, coded as 1 if a firm has state shareholders, and 0 otherwise. I predict the coefficient sign of this variable to be negative.

3.4.3.2. Control variables

I include several control variables in my regression models to control for the influence of other factors on a firm's cost of debt. I control for the presence of state ownership (SO_PRESENCE) as this form of ownership is found to be associated with the cost of debt (e.g., Borisova and Megginson 2011; Shailer and Wang 2015; Liu et al. 2016). Consistent with prior studies, such as Pittman and Fortin (2004), Shailer and Wang (2015), Liu et al. (2016), and Fonseka et al. (2019), I control for the following variables in the regression model: firm size (SIZE), leverage (LEV), return on asset (ROA), cash flow from operations (CFO), sales growth (GROWTH), the market-to-book ratio (MB), tangible asset intensity (CAPINT), agency costs (AGENCY), ownership concentration (BLOCK), leadership duality (DUAL), board size (BOARD), auditor (BIG4), and firm age (AGE).

Recall that SO_PRESENCE is defined as the presence of state shareholders in a firm. I expect the coefficient on the state ownership variable to be negative, as found in studies by Shailer and Wang (2015) and Liu et al. (2016), indicating that state-owned firms have a lower cost of debt.

Pittman and Fortin 2004 argue that large firms have less default risk thanks to their economies of scale. Thus, I expect that SIZE is negatively associated with COD. Firms with different financial structures may be exposed to different levels of risk. Firms have a higher risk to lenders when they have higher leverage (Bliss and Gul 2012; Fonseka et al. 2019). Therefore, LEV, measured as total liabilities scaled by total assets, is expected to be positively associated with COD.

More profitable firms and those with higher sales growth are more likely to meet their debt obligations and have lower default risk (Bliss and Gul 2012; Fonseka et al. 2019). Thus, ROA (earnings scaled by total assets) and GROWTH (changes in sales relative to last year divided by last year sales) are expected to be negatively associated with COD. Similarly, MB (measured as the ratio between market value to the book value of a firm's equity) proxies for growth opportunities. It is expected to be negatively associated with COD as firms with higher growth opportunities have a greater likelihood to repay their debt (Shailer and Wang 2015; Fonseka et al. 2019).

I do not make a direction prediction for CFO (operating cash flows divided by total assets). Firms with higher cash flows may have a lower cost of debt because they are more likely to repay their debt. Alternatively, lenders may assess firms with higher cash flows with potentially lower earnings and charge these firms a higher cost of debt (Shailer and Wang 2015).

CAPINT, measured as total tangible assets scaled by total assets, is predicted to be negatively associated with COD as it may be easier for tangible assets to be used as collateral (Shailer and Wang 2015; Liu et al. 2016).

The following variables relate to firms' corporate governance mechanisms as there is evidence showing that the cost of debt is influenced by the quality of corporate governance (e.g., Bhojraj and Sengupta 2003; Boubakri and Ghouma 2010; Byun et al. 2013; Shailer and Wang 2015). AGENCY

(measured as administrative expenses over net sales) shows firms' operation efficiency. Firms with higher agency costs are assumed to have lower operation efficiency, leading to higher default risk (Shailer and Wang 2015). Therefore, I predict AGENCY to be positively associated with the COD.

Large shareholders can improve the effectiveness of corporate governance as an external corporate governance mechanism (Shleifer and Vishny 1997), and thus reduce the cost of debt. Alternatively, large shareholders may also facilitate wealth expropriation from minority shareholders and other stakeholders, including lenders (Shleifer and Vishny 1997). Given the competing arguments, I do not predict the sign of BLOCK (measured as the percentage of shares held by the largest single shareholder).

DUAL (a dummy variable, coded as 1 if the chief executive officer is also the chair of the board, and 0 otherwise) proxies for poor corporate governance practice (Bliss and Gul 2012; Shailer and Wang 2015). I expect to find a negative association between DUAL and COD.

The board size of a firm could be related to the quality of the firm's corporate governance. Fonseka et al. (2019) suggest that a larger board size indicates better corporate governance practice as a higher number of directors in a firm provides more expertise to the board. Conversely, larger board size is argued to be less effective in monitoring (e.g., Gordon et al. 2004a; Bennouri et al. 2015). Thus, I make no sign prediction for BOARD.

I also control for auditor size as large auditors could lower the cost of debt by improving the reliability of information disclosed in financial statements (Pittman and Fortin 2004). I use BIG4 (a dummy variable, coded as 1 if the firm is audited by a Big 4 audit firm, and 0 otherwise) to control for auditor size. Further, I expect AGE to be negatively associated with COD because older firms can have good credit records over time that lower the risks to lenders (Fonseka et al. 2019).

YEAR dummy variables are included to control for possible differences in the borrowing interest rates in Vietnam during the 2010to 2016 financial years. The YEAR dummies are coded as 1 if the

year is within a particular year category, and 0 otherwise. I make no sign predictions for the YEAR dummies.

I include INDUSTRY dummy variables because firms in different industries could access debt at different rates. Ten INDUSTRY dummies based on the General Industry Classification Standard (GICS) are included in the regression model. The INDUSTRY dummies are coded as 1 if the firm is in a specific GICS category, and 0 otherwise. No sign predictions are made for the INDUSTRY dummies.

Finally, definitions for all variables used in the paper are shown in Table 3.1.

Table 3.1: Variable definitions

Abbreviation	Description	Measurement
COD	Cost of debt	Interest expense during the year scaled by the average total debt multiplied by 100
RPT_DUMMY	RPT dummy variable	Dummy variable, coded as 1 if firms disclose at least one transaction or one balance with related parties, 0 otherwise
RP_SALE	Related sales	Related sales to net sales
ABN_RP_SALE	Abnormal related sales	Abnormal value of related sales ratio
RP_CREDIT	Related net credit	Total receivables minus total payables, scales by total assets
ABN_RP_CREDIT	Abnormal related net credit	Abnormal value of related net credit ratio
SO_PRESENCE	State ownership dummy variable	Dummy variable, coded as 1 if a firm has state shareholder and 0 otherwise in the end-of-year t
RPT*SO_PRESENCE	Interaction variable	RPT multiplied by SO_PRESENCE
SIZE	Firm size	Natural log of total assets in the end-of-year t
LEV	Leverage	Ratio of total liabilities to total assets in the end-of-year t
ROA	Return on asset	Net income scaled by total assets in the end-of-year t
CFO	Operating cash flows	Cash flow from operations scaled by total assets in the end-of-year t
GROWTH	Sales growth	Change in sales relative to last year divided by last year sales
MB	Market-to-book ratio	Ratio between market value to the book value of a firm's equity
CAPINT	Tangible assets intensity	Total tangible assets divided by total assets
AGENCY	Agency cost	Ratio of administrative expenses to net sales
BLOCK	Ownership concentration	Percentage of share held by the largest single shareholder
DUAL	Leadership duality	Dummy variable, coded as 1 if the chief executive officer is also the chair of the board and 0 otherwise
BOARD	Board size	Number of directors in a firm
BIG4	Auditor size	Dummy variable, coded as 1 if a firm is audited by a Big 4 audit firm and 0 otherwise in the end-of-year t
AGE	Firm age	Number of years since its inception year

3.4.4. Model specification

To examine the association between RPTs and COD (H1), I estimate the following baseline regression model:

$$COD_{i.t} = \beta_0 + \beta_1 RPT_{i.t} + \beta_2 SO\_PRESENCE_{i.t} + \beta_3 SIZE_{i.t} + \beta_4 LEV_{i.t} + \beta_5 ROA_{i.t} + \beta_6 CFO_{i.t} + \beta_7 GROWTH_{i.t} + \beta_8 MB_{i.t} + \beta_9 CAPINT_{i.t} + \beta_{10} AGENCY_{i.t} + \beta_{11} BLOCK_{i.t} + \beta_{12} DUAL_{i.t} + \beta_{13} BOARD_{i.t} + \beta_{14} BIG4_{i.t} + \beta_{15} AGE_{i.t} + YEAR_t + INDUSTRY_t + \varepsilon \quad (2)$$

where COD = interest expense scaled by average total debt then multiplied by 100; RPT = a proxy for related party transactions including normal and abnormal values (RP_SALE, ABN_RP_SALE, RP_CREDIT and ABN_RP_CREDIT) and RPT_DUMMY, coded as 1 if the firm discloses at least one transaction or one balance with related parties, and 0 otherwise; SO_PRESENCE = a dummy variable, coded as 1 if a firm has state ownership, and 0 otherwise; SIZE= the natural logarithm of total assets; LEV = total liabilities scaled by total assets; ROA = pre-tax income scaled by total assets; CFO = cash flow from operations scaled by total assets; GROWTH = change in sales relative to last year scaled by the last year sales; MB = the market value of equity scaled by the book value of equity; CAPINT = total tangible assets scaled by total assets; AGENCY = administrative expenses scaled by net sales; BLOCK = percentage of shares owned by the largest shareholder; DUAL = a dummy variable, coded 1 if a firm has dual leadership, and 0 otherwise; BOARD = number of members on the board; BIG4 = a dummy variable, coded as 1 if the firm is audited by a Big 4 audit firm, and 0 otherwise; AGE= the number of years since the firm was first listed on the stock exchange; YEAR = a year dummy variable, coded as 1 if the year falls within a specific year category, and 0 otherwise; and INDUSTRY = industry dummy variables, coded as 1 if the firm is represented in a particular GICS category, and 0 otherwise.

To test H2 regarding whether the interaction effect of RPT and state ownership is negatively associated with the COD, I add the interaction variables of RPT*SO_PRESENCE to estimate the following regression model:

$$COD_{i.t} = \beta_0 + \beta_1 RPT_{i.t} + \beta_2 SO\_PRESENCE_{i.t} + \beta_3 RPT_{i.t} * SO\_PRESENCE_{i.t} + \beta_4 SIZE_{i.t} + \beta_5 LEV_{i.t} + \beta_6 ROA_{i.t} + \beta_7 CFO_{i.t} + \beta_8 GROWTH_{i.t} + \beta_9 MB_{i.t} + \beta_{10} CAPINT_{i.t} + \beta_{11} AGENCY_{i.t} + \beta_{12} BLOCK_{i.t} + \beta_{13} DUAL_{i.t} + \beta_{14} BOARD_{i.t} + \beta_{15} BIG4_{i.t} + \beta_{16} AGE_{i.t} + YEAR_t + INDUSTRY_t + \varepsilon \quad (3)$$

where RPT*SO_PRESENCE = an interaction variable computed by multiplying RPT by SO_PRESENCE.

Finally, I winsorise all the continuous variables at the top and bottom three percent of their distribution to reduce the influence of outliers.

3.5. Results and discussion

3.5.1. Descriptive statistics

Table 3.2 provides descriptive statistics for the variables in my models. The mean (median) interest rate on a firm's debt is 8.521 percent (7.754 percent). The mean of RP_SALE is 0.270, showing that RP sales account for 27 percent of net sales, on average. RP_CREDIT has a mean of 0.026, indicating that net credit to related parties by firms in the sample is nearly three of the firms' total assets. The means (medians) of ABN_RP_SALE and ABN_RP_CREDIT are 0.010 (-0.094), and 0.002 (-0.016), estimated by the model in equation (1). The positive (negative) values of the ABN_RP_SALE and ABN_RP_CREDIT imply that the underlying firms have a higher (lower) level of related party transactions than the normal level. As the means of ABN_RP_SALE and ABN_RP_CREDIT are low, the amount of abnormal related sales and the related net credit of firms in the sample is not high.

Nearly 66 percent of firm-year observations have state shareholders. On average, the state owns approximately 40 percent of shares in a firm. Meanwhile, on average the largest shareholder owns about 35 percent of shares in a firm. Sample firms are highly leveraged (an average of 0.501). Big 4 audit firms audit about 22 percent of firm-year observations. Dual leadership is not frequent in the sample with about 33 percent of firm-year observations having dual leadership.

Table 3.2: Descriptive statistics for variables used in the analysis

Variable	N	mean	sd	Q1	median	Q3
COD	3,286	8.521	5.024	4.879	7.754	11.355
RPT_DUMMY	3,921	0.796	0.403	1	1	1
RP_SALE	2,089	0.270	0.325	0.013	0.116	0.448
ABN_RP_SALE	1,900	0.010	0.324	-0.213	-0.094	0.200
RP_CREDIT	2,858	0.026	0.121	-0.022	0.004	0.056
ABN_RP_CREDIT	2,802	0.002	0.128	-0.060	-0.016	0.046
SO_PRESENCE	3,921	0.652	0.476	0.000	1.000	1.000
SIZE	3,921	13.144	1.403	12.190	13.068	14.114
LEV	3,921	0.501	0.216	0.328	0.527	0.674
ROA	3,921	0.073	0.074	0.018	0.055	0.111
CFO	3,910	0.050	0.119	-0.026	0.041	0.123
GROWTH	3,921	0.155	0.440	-0.076	0.087	0.267
MB	3,921	0.978	0.665	0.486	0.786	1.252
CAPINT	3,921	0.248	0.207	0.082	0.189	0.360
AGENCY	3,536	0.067	0.060	0.028	0.049	0.081
BLOCK	3,884	0.354	0.186	0.192	0.346	0.510
DUAL	3,921	0.333	0.471	0.000	0.000	1.000
BOARD	3,921	5.463	1.029	5.000	5.000	5.000
BIG 4	3,921	0.216	0.411	0.000	0.000	0.000
AGE	3,921	4.659	2.994	2.000	4.000	7.000

All continuous variables are winsorised at the 3rd and 97th percentiles. Variables are defined in Table 3.1

Table 3.3 provides descriptive statistics of the cost of debt by industry (Panel A) and year (Panel B). Whereas firms in Communication Services have the highest average debt costs of 11.406 percent, firms in Utilities have the lowest cost of debt of just 6.496 percent. The cost of debt in the year 2011 is the highest at 11.909 compared to other years. This is explained by high inflation in Vietnam in 2011, which was up to about 18 percent in that year (Vuong 2019). The cost of debt in 2015 and 2016 is low at 6.304 and 6.420 percent, which is nearly half of the highest interest rate during the sample period.

Table 3.3: Descriptive statistics of the cost of debt by industry and by year

Panel A: Descriptive statistics of the cost of debt by industry

Industry description	N	mean	sd	Q1	median	Q3
Communication Services	70	11.406	5.967	6.730	10.837	15.408
Consumer Discretionary	279	7.943	4.678	4.387	6.780	10.529
Consumer Staples	324	8.305	5.064	4.995	6.975	10.711
Energy	188	8.762	4.863	5.287	8.076	11.811
Health Care	100	9.666	4.628	5.962	8.902	13.017
Industrials	1,213	8.985	4.949	5.292	8.236	12.087
Information Technology	99	9.043	5.039	5.537	7.599	12.599
Materials	629	8.519	4.771	5.368	7.886	10.916
Real Estate	266	6.621	5.565	1.857	5.610	9.940
Utilities	118	6.496	4.439	2.929	5.756	9.408
Total	3,286	8.521	5.024	4.879	7.754	11.355

Panel B: Descriptive statistics of the cost of debt by year

Year	N	mean	sd	Q1	median	Q3
2010	422	8.956	4.822	5.406	8.801	12.206
2011	423	11.909	6.078	6.823	11.675	17.341
2012	462	11.098	5.539	6.609	11.132	15.390
2013	475	8.615	4.557	5.254	8.547	11.583
2014	487	7.167	3.811	4.450	6.955	9.425
2015	486	6.304	3.517	3.937	6.172	8.300
2016	531	6.420	3.596	4.066	6.225	8.113
Total	3,286	8.521	5.024	4.879	7.754	11.355

3.5.2. Pearson correlation results

Table 3.4 provides the correlations among the variables. I find a significantly positive correlation between COD and four measures of RPTs ($p<0.05$ or better), suggesting that firms with a higher extent of related sales and related net credit are more likely to have a higher cost of debt. The correlation between COD and the SO_PRESENCE is negative but not significant. There are also negative and significant correlations of the cost of debt with firm size ($p<0.01$), ROA ($p<0.01$), MB ($p<0.01$), BLOCK ($p<0.05$), BOARD ($p<0.01$), BIG 4 ($p<0.01$) and AGE ($p<0.01$), as I predicted. In contrast, COD is positively associated with AGENCY and DUAL ($p<0.01$). Overall, the correlation results reported in Table 3.4 show that the correlations between the explanatory variables are not

high. Moreover, when variance inflation factors (VIFs) for the explanatory variables are calculated, the VIF values of the variables in the regressions are found to be less than the critical value of ten, which indicates that multi-collinearity is not threatening the computational accuracy of the results (Kutner et al. 2005).

Table 3.4: Correlation results

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. COD	1.000									
2. RP_SALE	0.056**	1.000								
3. ABN_RP_SALE	0.113***	0.852***	1.000							
4. RP_CREDIT	0.116***	0.354***	0.385***	1.000						
5. ABN_RP_CREDIT	0.118***	0.351***	0.414***	0.914***	1.000					
6. SO_PRESENCE	-0.002	0.131***	0.071***	-0.084***	-0.046**	1.000				
7. SIZE	-0.281***	-0.074***	-0.235***	-0.157***	-0.158***	-0.063***	1.000			
8. LEV	-0.002	0.042*	-0.059**	-0.112***	-0.035*	0.089***	0.340***	1.000		
9. ROA	-0.046***	-0.069***	-0.018	-0.001	-0.006	0.130***	-0.086***	-0.462***	1.000	
10. CFO	0.012	0.008	0.017	-0.091***	-0.073***	0.129***	-0.062***	-0.216***	0.411***	1.000
11. GROWTH	0.011	-0.001	0.002	-0.003	-0.002	-0.134***	0.076***	0.012	0.138***	-0.027*
12. MB	-0.175***	-0.102***	-0.032	-0.071***	-0.022	0.038**	0.112***	-0.116***	0.506***	0.237***
13. CAPINT	-0.062***	0.091***	0.006	-0.118***	-0.098***	0.108***	0.097***	0.000	-0.018	0.198***
14. AGENCY	0.035*	0.091***	0.124***	0.136***	0.121***	-0.064***	-0.213***	-0.186***	-0.156***	-0.087***
15. BLOCK	-0.041**	0.170***	0.101***	-0.033*	-0.009	0.408***	0.123***	0.119***	0.097***	0.137***
16. DUAL	0.050***	-0.069***	-0.020	-0.013	-0.009	-0.098***	-0.084***	0.009	-0.015	-0.052***
17. BOARD	-0.096***	-0.232***	-0.189***	-0.080***	-0.089***	-0.081***	0.295***	-0.020	0.062***	0.019
18. BIG 4	-0.167***	0.007	-0.074***	-0.098***	-0.087***	0.007	0.470***	0.048***	0.042***	0.024
19. AGE	-0.214***	-0.054**	-0.076***	0.007	-0.018	0.122***	0.118***	-0.039**	-0.056***	0.029*

Table 3.4: Correlation results (continued)

	11.	12.	13.	14.	15.	16.	17.	18.	19.
11. GROWTH	1.000								
12. MB	0.101***	1.000							
13. CAPINT	-0.047***	0.031*	1.000						
14. AGENCY	-0.186***	-0.062***	-0.039**	1.000					
15. BLOCK	-0.069***	0.077***	0.153***	-0.083***	1.000				
16. DUAL	-0.002	-0.041**	-0.084***	-0.038**	-0.222***	1.000			
17. BOARD	0.023	0.145***	0.084***	-0.017	-0.117***	-0.015	1.000		
18. BIG 4	0.019	0.154***	-0.001	0.000	0.179***	-0.107***	0.167***	1.000	
19. AGE	-0.120***	0.014	0.016	-0.023	-0.007	-0.115***	0.082***	0.100***	1.000

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed). Variables are defined in Table 3.1

3.5.3. Regression results

Table 3.5 presents the cost of debt regression estimates across five measures of RPTs. The coefficients on the four measures of RPTs, except for the dummy variable detecting RPTs reported by firms, are positive and significant (p<0.05 or better). These results show that a relatively high cost of debt is associated with RPTs, either normal or abnormal values. This result supports the conjecture that RPTs are evaluated as a potential risk to firms' performance and ability to repay debt. Therefore, lenders charge a higher cost of debt for firms with a higher value of RPTs. This result supports agency theory in explaining the implications of RPTs.

There is a limited difference in testing between normal and abnormal values of RPTs with COD. For instance, the coefficients on RP_SALE and ABN_RP_SALE are 0.825 and 0.889 (p<0.05) respectively, with corresponding standard error values being 0.375 and 0.360. This may result from the fact that the levels of abnormal value of related sales and related net credit are not high (see mean values in Table 3.2). The level of abnormal related sales to total sales is just 0.010 (1 percent) higher than the normal proportion of related sales over total sales.

In terms of economic significance, results from Table 3.5 reflect the influence of change in the extent of RPTs on COD. For example, the coefficient of 3.408 and corresponding standard deviation of 0.121 on RP_CREDIT implies that a one standard deviation increase in RP_CREDIT is associated with a 0.048 percent increase in COD relative to the mean, which is 8.521 percent. According to Ball et al. (2012), the economic significance value on COD of 0.048 percent is calculated by taking the coefficient on the variable (RP_CREDIT) multiplied by the standard deviation then dividing by the mean of COD (i.e., 3.408*0.121/8.521).

The coefficient on SO_PRESENCE is negative and significant across all models (p<0.01) for the cost of debt and state ownership association. The coefficient on SO_PRESENCE in column (1) of Table 3.5 is -0.734 indicating that the COD for firms with state shareholders is about 0.734 percent less than that of firms without state shareholders. This result is economically significant, in that a firm

with a state shareholder with a mean level of debt (VND641 billion, equivalent to about US$ 27.869 million) has interest costs that are VND 4.704 billion or about US$ 204.563 thousand (i.e. VND 641 billion*0.734 percent) less than a firm without a state shareholder with the same level of debt. This finding is consistent with the findings of the negative association between the cost of debt and state ownership by Shailer and Wang (2015) and Liu et al. (2016) using samples from China. The result suggests that firms with state ownership have a lower cost of debt due to the implicit guarantee of the government and potential preferential treatment from banks (Liu et al. 2016).

Table 3.5: Regression results for testing H1

Variable	Predicted sign	COD				
		(1)	(2)	(3)	(4)	(5)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
RPT_DUMMY	?	0.092				
		(0.445)				
RP_SALE	?		0.825**			
			(2.201)			
ABN_RP_SALE	?			0.889**		
				(2.469)		
RP_CREDIT	?				3.408***	
					(4.178)	
ABN_RP_CREDIT	?					2.718***
						(3.564)
SO_PRESENCE	-	-0.734***	-0.782***	-0.828***	-0.688***	-0.746***
		(-3.653)	(-2.704)	(-2.776)	(-2.877)	(-3.111)
SIZE	-	-0.813***	-0.971***	-0.975***	-0.846***	-0.855***
		(-10.242)	(-9.050)	(-8.763)	(-9.255)	(-9.255)
LEV	+	0.959*	2.199***	2.433***	0.798	0.649
		(1.850)	(3.071)	(3.300)	(1.337)	(1.084)
ROA	-	-2.239	-0.462	-0.796	-2.961	-3.137
		(-1.289)	(-0.190)	(-0.318)	(-1.438)	(-1.514)
CFO	?	2.266***	2.356**	2.421**	2.356**	2.313**
		(2.888)	(2.199)	(2.171)	(2.567)	(2.507)
GROWTH	-	0.678***	0.293	0.236	0.589***	0.587***
		(3.411)	(1.075)	(0.842)	(2.619)	(2.601)
MB	-	-0.519***	-0.635***	-0.659***	-0.429**	-0.487**
		(-3.289)	(-2.936)	(-2.976)	(-2.286)	(-2.576)
CAPINT	-	-1.276***	-1.305**	-1.312**	-1.153**	-1.067**
		(-2.945)	(-2.244)	(-2.213)	(-2.332)	(-2.145)
AGENCY	+	2.447	1.072	0.515	1.207	1.292
		(1.464)	(0.453)	(0.209)	(0.632)	(0.674)
BLOCK	?	0.278	0.562	0.528	0.408	0.466
		(0.549)	(0.792)	(0.723)	(0.701)	(0.796)
DUAL	-	-0.062	-0.087	-0.108	-0.096	-0.105
		(-0.348)	(-0.343)	(-0.409)	(-0.460)	(-0.494)
BOARD	+	-0.016	0.069	0.108	-0.073	-0.070
		(-0.197)	(0.572)	(0.874)	(-0.746)	(-0.708)
BIG 4	?	-0.270	-0.092	-0.067	-0.236	-0.192
		(-1.195)	(-0.325)	(-0.230)	(-0.938)	(-0.758)
AGE	-	-0.012	-0.035	-0.039	-0.052	-0.049
		(-0.325)	(-0.672)	(-0.727)	(-1.195)	(-1.123)
YEAR	?	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes
Constant		21.212***	21.397***	21.548***	22.110***	22.170***

	(19.067)	(13.940)	(13.791)	(16.943)	(16.771)
Observations	2,994	1,591	1,476	2,188	2,149
R-squared	0.267	0.315	0.312	0.301	0.295

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 3.1.

In assessing the moderating role of state ownership on the relation between the cost of debt and RPTs, the model in Eqn. (3) is employed. Table 3.6 reports the result of this model. Strong results are provided about the negative association between the cost of debt and state ownership (p<0.05 or better). However, the positive association between COD and RPTs holds for three measures of RPTs that are ABN_RP_SALE (p<0.10), RP_CREDIT, and ABN_RP_CREDIT (p<0.01). The interaction terms between RPT and SO_PRESENCE are significantly negative for only RP_CREDIT and ABN_RP_CREDIT (p<0.10). This result suggests that among firms with RPTs, if there is a presence of state ownership, COD is lower. In other words, the association between RPTs and the cost of debt is less pronounced.

Regarding the control variables, COD is positively associated with LEV and negatively related to SIZE (p<0.01), MB (p<0.05 or better), and CAPINT (p<0.05 or better), as predicted. However, the positive association between the cost of debt and GROWTH is not in the predicted direction (p<0.01). I find that CFO is positively related to the cost of debt (p<0.05), suggesting that lenders judge firms with higher operating cash flows as firms likely to make lower returns, and thus charge these firms a higher cost of debt.

I do not find a significant association between other control variables, such as ROA, AGENCY, BLOCK, DUAL, BIG 4, or AGE with COD. This could be explained by the fact that firms in Vietnam usually obtain loans from the bank based on political connections between managers and banks, the age of this relationship, and the value of their collateral assets (Phan 2018).

Table 3.6: Regression results for testing H2

Variable	Predicted sign	COD				
		(1) Coef. (t-value)	(2) Coef. (t-value)	(3) Coef. (t-value)	(4) Coef. (t-value)	(5) Coef. (t-value)
RPT_DUMMY	?	0.059				
		(0.175)				
RPT_DUMMY*SO_PRESENCE	-	0.052				
		(0.124)				
RP_SALE	?		0.216			
			(0.282)			
RP_SALE*SO_PRESENCE	-		0.794			
			(0.916)			
ABN_RP_SALE	?			1.202*		
				(1.655)		
ABN_RP_SALE*SO_PRESENCE	-			-0.415		
				(-0.496)		
RP_CREDIT	?				5.674***	
					(3.752)	
RP_CREDIT*SO_PRESENCE	-				-3.192*	
					(-1.779)	
ABN_RP_CREDIT	?					4.681***
						(3.457)
ABN_RP_CREDIT*SO_PRESENCE	-					-2.868*
						(-1.754)
SO_PRESENCE	-	-0.774**	-0.937***	-0.848***	-0.585**	-0.730***
		(-2.046)	(-2.797)	(-2.817)	(-2.380)	(-3.044)
SIZE	-	-0.812***	-0.967***	-0.980***	-0.864***	-0.873***
		(-10.217)	(-8.994)	(-8.771)	(-9.401)	(-9.398)
LEV	+	0.956*	2.120***	2.484***	0.903	0.731
		(1.844)	(2.940)	(3.336)	(1.505)	(1.217)
ROA	-	-2.239	-0.710	-0.654	-2.708	-2.951
		(-1.289)	(-0.290)	(-0.259)	(-1.313)	(-1.423)
CFO	?	2.267***	2.344**	2.427**	2.311**	2.279**
		(2.889)	(2.188)	(2.175)	(2.519)	(2.471)
GROWTH	-	0.679***	0.291	0.238	0.587***	0.594***
		(3.412)	(1.067)	(0.849)	(2.607)	(2.633)
MB	-	-0.520***	-0.627***	-0.662***	-0.423**	-0.484**
		(-3.291)	(-2.899)	(-2.986)	(-2.257)	(-2.562)
CAPINT	-	-1.275***	-1.350**	-1.283**	-1.184**	-1.095**
		(-2.940)	(-2.314)	(-2.154)	(-2.394)	(-2.200)
AGENCY	+	2.451	0.908	0.593	1.136	1.253
		(1.466)	(0.382)	(0.241)	(0.595)	(0.654)
BLOCK	?	0.276	0.567	0.530	0.415	0.449
		(0.544)	(0.799)	(0.726)	(0.713)	(0.767)
DUAL	-	-0.062	-0.105	-0.097	-0.079	-0.093

		(-0.347)	(-0.413)	(-0.365)	(-0.379)	(-0.440)
BOARD	+	-0.016	0.065	0.110	-0.065	-0.061
		(-0.197)	(0.538)	(0.891)	(-0.666)	(-0.620)
BIG 4	?	-0.271	-0.097	-0.068	-0.223	-0.179
		(-1.199)	(-0.342)	(-0.233)	(-0.885)	(-0.705)
AGE	-	-0.012	-0.038	-0.037	-0.049	-0.047
		(-0.325)	(-0.733)	(-0.687)	(-1.120)	(-1.064)
YEAR	?	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes
Constant		21.233***	21.537***	21.562***	22.069***	22.266***
		(18.870)	(13.961)	(13.794)	(16.917)	(16.837)
Observations		2,994	1,591	1,476	2,188	2,149
R-squared		0.267	0.315	0.312	0.302	0.296

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 3.1.

3.5.4. Robustness test

I employ propensity score matching to verify that the findings from Section 3.5.3 are robust. I first compute a dummy variable, HIGH_RPT, which is coded as 1 if the firm's abnormal value of total RPTs scaled by total sales is greater than the yearly median of the distribution, and 0 otherwise. The abnormal value of the RPT ratio is estimated using the Jian and Wong (2010) model by predicting the total value of RPTs against SIZE, LEV, GROWTH and MB. I then match observations in the high extent of abnormal RPTs sample with those in the low-RPTs sample, based on propensity scores derived from estimating a logistic regression where HIGH_RPT is the dependent variable and the covariates are the control variables as in Eqn. (2). Specifically, I use the nearest neighbour matching process (with no replacement) and a calliper of one percent. My matched sample thus includes firms that are similar in terms of all control variables in Eqn. (2). Panel A of Table 3.7 presents the descriptive statistics of the covariates used to match treatment and control firms in the regression for HIGH_RPT. None of the differences in the mean of treatment and control firms are statistically significant.

I next re-estimate my regression in Eqn. (2) and Eqn. (3) with the matched sample. Panel B of Table 3.7 shows the results from running the regression to test hypothesis 1 using the propensity score-matched sample. The coefficients on the four measures of RPTs are positive and significant

(p<0.05 or better), suggesting that a higher cost of debt is associated with the extent of RPTs, either normal or abnormal values. The results from testing the hypothesis 2 with the matched sample are shown in Panel C of Table 3.7. The positive association between COD and RPTs holds across three measures of RPTs (p<0.10 or better). The coefficients on the interaction terms between RPT and SO_PRESENCE are negative and significant (p<0.05), suggesting that among firms with RPTs, if firms have state shareholders, their COD are lower. The results from rerunning models in Eqn. (2) and Eqn. (3) with the match sample are consistent with those reported in Table 3.5 and Table 3.6, supporting my previous findings.

Table 3.7: Propensity Score Matching

Panel A: Descriptive Statistics of propensity-matched variables

	HIGH_RPT=1		HIGH_RPT=0		Difference Tests:
Variable	n	mean	n	mean	p-value
SO_PRESENCE	1092	0.659	1092	0.660	0.964
SIZE	1092	13.585	1092	13.523	0.281
LEV	1092	0.526	1092	0.526	0.999
ROA	1092	0.067	1092	0.067	0.995
CFO	1092	0.049	1092	0.050	0.866
GROWTH	1092	0.141	1092	0.138	0.864
MB	1092	0.925	1092	0.925	0.984
CAPINT	1092	0.268	1092	0.269	0.969
AGENCY	1092	0.059	1092	0.061	0.536
BLOCK	1092	0.344	1092	0.349	0.496
DUAL	1092	0.327	1092	0.320	0.715
BOARD	1092	5.620	1092	5.571	0.303
BIG 4	1092	0.248	1092	0.254	0.767
AGE	1092	5.256	1092	5.159	0.414

Panel B: Regression Results for H1 with the matched sample

Variable	Predicted sign	COD (1) Coef. (t-value)	(2) Coef. (t-value)	(3) Coef. (t-value)	(4) Coef. (t-value)	(5) Coef. (t-value)
RPT_DUMMY	?	-0.015				
		(-0.058)				
RP_SALE	?		0.945**			
			(2.142)			
ABN_RP_SALE	?			1.101***		
				(2.660)		
RP_CREDIT	?				2.542**	
					(2.556)	
ABN_RP_CREDIT	?					1.823**
						(1.977)
SO_PRESENCE	-	-1.015***	-1.039***	-1.058***	-0.884***	-0.939***
		(-4.442)	(-3.266)	(-3.296)	(-3.311)	(-3.516)
SIZE	-	-0.951***	-1.208***	-1.178***	-1.002***	-0.996***
		(-10.247)	(-9.859)	(-9.429)	(-9.585)	(-9.451)
LEV	+	1.388**	2.747***	2.733***	1.190*	1.003
		(2.342)	(3.435)	(3.375)	(1.771)	(1.493)
ROA	-	-0.842	0.771	0.339	-0.407	-0.641
		(-0.422)	(0.281)	(0.121)	(-0.173)	(-0.271)
CFO	?	2.250**	2.224*	2.037	2.211**	2.192**
		(2.450)	(1.820)	(1.620)	(2.092)	(2.066)
GROWTH	-	0.325	0.226	0.106	0.419	0.362
		(1.419)	(0.725)	(0.338)	(1.621)	(1.400)
MB	-	-0.713***	-0.835***	-0.770***	-0.748***	-0.773***
		(-3.706)	(-3.217)	(-2.923)	(-3.244)	(-3.340)
CAPINT	-	-0.958*	-0.909	-0.963	-0.687	-0.640
		(-1.948)	(-1.406)	(-1.480)	(-1.244)	(-1.154)
AGENCY	+	2.083	6.587**	5.943**	1.374	1.118
		(1.044)	(2.290)	(2.046)	(0.609)	(0.495)
BLOCK	?	-0.186	0.205	0.114	0.134	0.226
		(-0.322)	(0.264)	(0.145)	(0.207)	(0.349)
DUAL	-	-0.223	-0.117	-0.132	-0.109	-0.146
		(-1.098)	(-0.414)	(-0.453)	(-0.462)	(-0.612)
BOARD	+	-0.004	0.050	0.053	-0.085	-0.094
		(-0.040)	(0.396)	(0.413)	(-0.824)	(-0.904)
BIG 4	?	0.116	0.242	0.206	0.126	0.132
		(0.460)	(0.780)	(0.659)	(0.449)	(0.468)
AGE	-	-0.035	-0.049	-0.044	-0.040	-0.033
		(-0.836)	(-0.848)	(-0.759)	(-0.811)	(-0.679)
YEAR	?	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes
Constant		23.066***	24.317***	24.335***	23.977***	23.931***
		(17.488)	(13.851)	(13.706)	(15.929)	(15.762)
Observations		2,184	1,186	1,119	1,654	1,634
R-squared		0.267	0.341	0.338	0.299	0.290

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 3.1.

Panel C: Regression Results for H2 with the matched sample

Variable	Predicted sign	COD				
		(1)	(2)	(3)	(4)	(5)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
RPT_DUMMY	?	-0.516				
		(-1.253)				
RPT_DUMMY*SO_PRESENCE	-	0.786				
		(1.544)				
RP_SALE	?		0.162			
			(0.169)			
RP_SALE*SO_PRESENCE	-		0.987			
			(0.921)			
ABN_RP_SALE	?			1.475*		
				(1.724)		
ABN_RP_SALE*SO_PRESENCE	-			-0.492		
				(-0.500)		
RP_CREDIT	?				5.880***	
					(3.108)	
RP_CREDIT*SO_PRESENCE	-				-4.592**	
					(-2.073)	
ABN_RP_CREDIT	?					4.719***
						(2.819)
ABN_RP_CREDIT*SO_PRESENCE	-					-4.146**
						(-2.072)
SO_PRESENCE	-	-1.655***	-1.188***	-1.104***	-0.762***	-0.945***
		(-3.498)	(-3.328)	(-3.305)	(-2.793)	(-3.541)
SIZE	-	-0.941***	-1.203***	-1.183***	-1.022***	-1.014***
		(-10.120)	(-9.806)	(-9.434)	(-9.743)	(-9.598)
LEV	+	1.359**	2.685***	2.780***	1.331**	1.110*
		(2.292)	(3.346)	(3.409)	(1.972)	(1.650)
ROA	-	-0.850	0.487	0.503	-0.079	-0.376
		(-0.427)	(0.176)	(0.177)	(-0.033)	(-0.159)
CFO	?	2.277**	2.201*	2.041	2.122**	2.130**
		(2.480)	(1.800)	(1.623)	(2.008)	(2.008)
GROWTH	-	0.327	0.227	0.103	0.422	0.382
		(1.433)	(0.729)	(0.325)	(1.634)	(1.477)
MB	-	-0.722***	-0.830***	-0.771***	-0.731***	-0.765***
		(-3.751)	(-3.198)	(-2.926)	(-3.175)	(-3.311)
CAPINT	-	-0.934*	-0.969	-0.926	-0.682	-0.634
		(-1.899)	(-1.492)	(-1.414)	(-1.237)	(-1.146)
AGENCY	+	2.151	6.500**	5.954**	1.271	1.008
		(1.078)	(2.258)	(2.049)	(0.564)	(0.447)
BLOCK	?	-0.223	0.190	0.130	0.166	0.220
		(-0.386)	(0.245)	(0.165)	(0.258)	(0.340)
DUAL	-	-0.220	-0.135	-0.120	-0.083	-0.128
		(-1.081)	(-0.475)	(-0.413)	(-0.352)	(-0.536)

BOARD	+	-0.007	0.046	0.055	-0.079	-0.087
		(-0.077)	(0.369)	(0.431)	(-0.769)	(-0.841)
BIG 4	?	0.097	0.244	0.203	0.130	0.136
		(0.384)	(0.788)	(0.648)	(0.464)	(0.485)
AGE	-	-0.034	-0.054	-0.041	-0.035	-0.030
		(-0.817)	(-0.932)	(-0.709)	(-0.717)	(-0.610)
YEAR	?	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes
Constant		23.403***	24.451***	24.369***	23.869***	24.013***
		(17.511)	(13.879)	(13.710)	(15.865)	(15.827)
Observations		2,184	1,186	1,119	1,654	1,634
R-squared		0.267	0.342	0.338	0.301	0.292

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 3.1.

3.6. Conclusion

This paper provides evidence of the association between RPTs and the cost of debt, and the moderating role of state ownership in this association. I attempt to clarify the two opposing views of RPTs from lenders' perspectives: conflicts of interest and efficient transactions.

Over my sample period, I find that firms with the existence of RPTs have a higher cost of debt compared to firms without RPTs. In addition, a higher extent of RPTs is associated with a higher cost of debt for firms. This suggests that lenders likely assess RPTs as a potential default risk to firms, and thus charge these firms at higher interest rates to compensate for potential risks. This result supports the conflicts of interest view of RPTs and confirms the association between the cost of debt and RPTs, as stated in H1. I also find evidence about the moderating role of state ownership in the relation between RPTs and the cost of debt. The association between RPTs and the cost of debt is less pronounced for firms with the presence of state shareholders, supporting H2.

The results extend previous studies of RPTs, which have generally focused on stakeholders such as equity investors or auditors. I explore the implications of RPTs from lenders' perspectives by investigating the association between RPTs and the cost of debt. RPTs are viewed as potential conflicts of interest and lenders should be aware of the possibility of using RPTs to distort information

in firms' financial statements. Whilst RPTs-firms are more likely to have a higher cost of debt, those firms can benefit from the presence of state ownership in accessing debts with lower costs compared to their non-state ownership counterparts.

The results suggest that further reforms should be made to improve competition between firms in accessing credit from the formal banking system, regardless of their ownership structure, especially in the context of prevalent state ownership such as in Vietnam. In addition, findings from this study provide investors with knowledge of how firms' cost of debt might be influenced by the extent of RPTs engaged in by firms.

One potential criticism of this paper is that I rely on information about RPTs to estimate the extent of RPTs engaged in by firms. However, firms in Vietnam have poor practices in disclosing non-financial information in their financial statements. Listed firms disclose incomplete information about the nature and amount of RPTs, and their relationship with related parties. Therefore, the results might be biased due to incomplete information disclosure. In addition, my results regarding the moderating role of state ownership on the association between RPTs and the cost of debt are subject to a caveat. I do not have access to information about indirect ownership by representatives of the state because there is no requirement for firms to report this information (Robinett et al. 2013). Such data would capture a more comprehensive role of state ownership in RPT and the cost of debt association.

Given the prevalence of RPTs and their impact in many countries, further research on the association between RPTs and the cost of debt in other developing markets could be conducted to extend the findings reported in this paper. Finally, future studies on this association could also potentially consider using credit spreads as an alternative proxy for the COD to investigate the validity of the findings in this paper.

Chapter 4: Related party transactions, state ownership, and corporate tax avoidance: Evidence from Vietnam

4.1. Introduction

This paper explores the potential association between RPTs and corporate tax avoidance, and the moderating role of state ownership in this association in Vietnam, which is a fast-growing developing economy with weak minority shareholder protection (Robinett et al. 2013). Tax avoidance is defined as any transaction or event (passive or aggressive) that leads to a reduction in the amount of corporate taxes paid by a firm (Dyreng et al. 2008; Hanlon and Heitzman 2010). It includes tax planning activities that are legal, or which may fall into a gray area, and activities that are clearly illegal (e.g., tax evasion) (Hanlon and Heitzman 2010). Tax avoidance is traditionally viewed as being a value-enhancing activity to shareholders as it leads to increases in after-tax cash flows and earnings (Rego 2003; Sikka 2010; Khurana and Moser 2013). An alternative view of tax avoidance argues that tax avoidance may be harmful to shareholders as managers or controlling shareholders can use complicated transactions to avoid corporate tax and at the same time, exploit wealth transfers from minority shareholders (Desai and Dharmapala 2006).

This paper is motivated by the lack of empirical research on RPTs and corporate tax avoidance in Vietnam. However, there are conflicting arguments about the general nature of RPTs in the literature. For instance, the literature shows that RPTs can be related to either efficient contracting or conflicts of interest (Gordon et al. 2004b). The efficient contracting theory argues that RPTs are part of normal business operations of a firm to fulfil economic needs (Gordon et al. 2004b), so they enhance firm value by lowering transaction costs, particularly in underdeveloped markets (Khanna and Palepu 2000). In contrast, agency theory argues that RPTs can be used opportunistically by managers or controlling shareholders to transfer wealth from shareholders or minority shareholders to themselves

(Gordon et al. 2007). These alternative views of RPTs could lead to an ambiguous association between RPTs and tax avoidance. However, I argue that RPTs are likely to be positively associated with firms' tax avoidance activities as RPTs are tools for managers and controlling shareholders to significantly avoid tax for their personal benefit. Alternatively, RPTs may be viewed as efficient transactions that enhance firms' performance. Overall, this paper explores the potential association between RPTs and corporate tax avoidance in a developing country, Vietnam, for the first time.

I use a hand-collected sample of publicly listed Vietnamese firms to explore the potential association between RPTs and tax avoidance and the role of state ownership on this association. The Vietnamese setting is well suited to this paper because RPTs are common due to highly concentrated ownership, weak corporate governance and little protection for minority shareholders (Robinett et al. 2013; Nguyen et al. 2017). State ownership is dominant in Vietnam, although the government has undertaken a reform in SOEs as part of the economic reforms introduced in 1986 (Nguyen and Richard 2011; Nguyen 2019). Further, corporate income tax has only been introduced in Vietnam since the early 1990s under the name of "tax on profit" (Yui 2006). Since this time, continuous reforms have been carried out in Vietnam to ensure that the regulations on corporate income tax are close to international standards (Shukla et al. 2011). However, the complexity and generosity of tax incentives, along with the lack of efficiency in the tax administration process, offer an opportunity for firms to get involved in tax avoidance activities in Vietnam.

Based on the 2016 register of all firms publicly listed on the Vietnamese Stock Exchange, I hand-collect data over the 2010 to 2016 period to examine the potential association between RPTs and corporate tax avoidance. First, I test whether firms with RPTs engage in more tax avoidance activities than firms without RPTs. I then focus on different types of RPTs that could be employed to avoid corporate tax. Finally, I examine the potential moderating role of state ownership on this association.

Following prior research by Habib et al. (2017), I employ related sales and related net credit to measure RPTs. Related sales are usually considered as a channel for a firm's propping activities (Jian

and Wong 2010), while net related credit could be seen as a channel for tunnelling if net related credit is greater than zero (Habib et al. 2017). In terms of corporate tax avoidance, I use two proxy measures of tax avoidance drawn from prior literature (e.g., Taylor and Richardson 2014; Khan et al. 2017) to improve the robustness of the empirical results, including the accounting effective tax rate (ETR, hereafter) and the cash ETR.

I provide novel evidence showing that firms with RPTs exhibit more tax avoidance than their non-RPT counterparts. I also find that firms with a higher amount of related net credit and related sales exhibit even higher levels of tax avoidance. Specifically, the coefficients on the ETRs are negative across some measures of RPTs, suggesting that firms with RPTs are more likely to engage in tax avoidance activities. Further, among firms with RPTs, the higher the level of RPTs the higher the likelihood firms will engage in more tax avoidance activities. Overall, the evidence is consistent with agency theory in explaining the nature underlying RPTs. Further, in terms of the moderating role of state ownership, I find that the presence of state shareholders plays an important role in reducing corporate tax avoidance by increasing ETRs. Thus, the presence of state shareholders in firms with RPTs helps to restrain those firms from engaging in aggressive tax avoidance activities.

This paper makes the following contributions. First, it extends the literature on the determinants of corporate tax avoidance to a developing economy denoted by Vietnam, which is characterised by a weak corporate governance environment. To the best of my knowledge, this is the first paper that empirically examines RPTs, state ownership and corporate tax avoidance in Vietnam. My findings suggest that firms use RPTs as a mechanism to significantly avoid corporate taxes. My results show that firms use sales to related parties (which are normally used for inflating earnings) to avoid corporate taxes. My results also confirm that tax avoidance correlates to firms' tunneling activities, and firms' propping activities, however, the presence of state shareholders appears to restrain the abusive use of RPTs to avoid corporate taxes in Vietnam.

Second, by exploring the association between RPTs and corporate tax avoidance, this paper provides a better understanding of the implications of RPTs on other stakeholders in Vietnamese firms. Consequently, this raises awareness of the potential abuse of RPTs in firms in avoiding taxes, even when those firms do not have foreign operations which can be potentially used to avoid taxes through transfer pricing activities. Therefore, the empirical results of this paper could possibly be applied to other developing economies around the world.

Finally, the results of this paper are likely to provide important insights to policymakers and regulators in other developing economies concerning the abusive use of RPTs to significantly avoid corporate taxes, which has a direct impact on the provision of public goods (e.g., education, healthcare, law enforcement and national defense) in such economies.

The remainder of this paper is organised as follows. Section 4.2 considers the institutional background and develops my hypotheses. Section 4.3 describes the sample selection and research design. Section 4.4 reports empirical results. Section 4.5 concludes.

4.2. Institutional background and hypotheses development

4.2.1. Corporate income tax in Vietnam

Originally, there was no tax on corporate income in Vietnam, where SOEs were the main taxpayers before economic reforms in the late 1980s (Yui 2006). Rather than paying income tax, SOEs transferred a proportion of their profits to the government under a regulation named *profit-sharing*. The proportion of profits transferred to the government varied depending on the SOE's industry. For example, the lowest rate of 40 percent was applied to SOEs in the heavy industry category,[44] while the highest rate of 60 percent was applied to the commercial industry category (Yui 2006).

[44] Heavy industry involves the manufacture of large and heavy products or facilities and equipment. Some examples of heavy industries include metallurgy, mining, machine-building and chemicals (Li and Lin 2017).

Following the introduction of economic reforms, Vietnam began to restructure its tax system in the early 1990s. The first phase of tax reform was the formalisation of tax laws. Until 1989, all taxes were based on administrative decrees rather than enacted laws (Tran-Nam 2012). Subsequently, an inclusive regulatory framework was established for reforming the outdated tax system in the centrally planned economy (Shukla et al. 2011). For example, the state, non-state and agricultural sectors were imposed profit tax based on the integrated regulations in the *Law on Profit Tax* (Shukla et al. 2011). However, discrimination in the corporate tax rates of firms based on their industries remained in place in the *Law on Profit Tax* until 1 January 1999 (Tran-Nam 2012).

The *Law on Corporate Income Tax* was announced in 1998, as part of the second phase of the tax reform (effective from 1 January 1999) to replace the *Law on Profit Tax*. This new law removed the discrimination of corporate tax rates among industries with the enactment of a unified tax rate of 32% applied to all domestic firms (Tran-Nam 2012; Nguyen 2015). However, discrimination between domestic and foreign firms still existed, where foreign firms paid a tax rate of 25 percent (Tran-Nam 2012). This discrimination existed until the *Law on Corporate Income Tax* was amended in 2003 whereby the standard income tax rate of 28 percent was imposed at the national level for all businesses established under the laws of Vietnam, irrespective of whether services were performed inside or outside Vietnam (Tran-Nam 2012). Intensive tax incentives in the form of preferential tax rates[45] or tax exemptions[46] are provided under the *Law on Corporate Income Tax* for investments made in particular industries, and areas, and where certain social criteria are met to promote the development of different regions or industries in Vietnam (Shukla et al. 2011, 54).

[45] Currently, preferential tax rates of 10, 15 and 17 percent are available to firms in Vietnam which meet certain criteria to encourage investment in specific projects or sectors (Tran-Nam 2012).

[46] Tax exemption (or tax holidays) take the form of a complete exemption from corporate income tax for a certain period of time beginning immediately after the entity first makes profits, followed by a further period where tax is charged at 50 percent of the standard rate. This form of tax incentive is granted for new investment projects in the socialised sectors and difficult socio-economic areas. Further details about the tax incentives in Vietnam can be obtained from *Law on Corporate Income tax* (Revised 2013) (National Assembly of Vietnam 2013).

The standard corporate income tax rate has been reduced in Vietnam since 2003 in an effort to attract investment from both domestic and foreign investors (Tran-Nam 2012). It was 28 percent from 2004 to 2008, 25 percent from 2009 to 2013, 22 percent from 2014 to 2015, and 20 percent from 2016 until now. However, a higher rate between 32 and 50 percent applies to firms operating in the oil and gas and natural resources sectors, depending on the nature of the projects (Nguyen 2015). Under the *Law on Corporate Income Tax*, tax losses of businesses may be carried forward fully and consecutively and offset against the profits of later years for a maximum of five years (KPMG 2018). Firms in Vietnam are not allowed to consolidate their income tax filing with other firms within a group (KPMG 2018).

Vietnam was previously one of the countries that used a tax-based accounting system (Chan et al. 2010; Nguyen and Richard 2011). However, the introduction of Vietnamese accounting standards[47] in the early 2000s as part of the reform in accounting to adjust to the transition economy has changed the accounting system to be more in line with international accounting standards (Nguyen and Richard 2011). Vietnam switched from a tax-based focus to an accrual-based accounting system. The *Vietnamese Accounting Standard (VAS) No 17 – Income Tax* issued in 2005 (Ministry of Finance 2005) changed the way firms accounted for corporate income tax, from an amount distributed from earnings into an expense.

The existence of multiple tax rates with a standard rate of 20 percent, a higher rate between 32 and 50 percent applicable to oil, gas, and rare natural resources, and the reduced tax rates of 10, 15 and 17 percent[48] makes tax administration complex for firms in Vietnam (Shukla et al. 2011). Further, there are different types of tax incentives in the form of tax exemptions or tax reductions granted to firms that meet specific criteria (Shukla et al. 2011). Overall, the complexity and generosity in tax incentives, as well as the somewhat ineffective tax administration process may provide opportunities for firms to engage in tax avoidance in Vietnam.

[47] These standards are aligned almost entirely with the IAS (Version 2003) (Nguyen and Tran 2012).
[48] Available at: https://www.ey.com/gl/en/services/tax/international-tax/alert--vietnam-announces-tax-reform-proposals.

4.2.2. Corporate tax avoidance

Corporate income taxes represent a significant expense of firms and shareholders, so they have incentives to reduce taxes through tax avoidance activities to increase their wealth. Tax avoidance is a global phenomenon that has attracted increased interest from a variety of stakeholders (Kanagaretnam et al. 2016; Khan et al. 2017). It is traditionally viewed as a value-enhancing activity because tax savings can be reinvested and returned to shareholders (Chan et al. 2016). However, the emerging perspective on tax avoidance that relies on the agency theory view, put forward by Desai and Dharmapala (2006), proposes that tax avoidance activities generate a shield for rent diversion, which facilitates the diversion of resources from shareholders to managers, or from minority shareholders to controlling shareholders.

The literature on tax avoidance has focused a great deal of attention on identifying the determinants of tax avoidance (Hanlon and Heitzman 2010). Some firm characteristics are found to be related to tax avoidance, including firm size, profitability, leverage, capital intensity and foreign operations (Kanagaretnam et al. 2016). Prior research also shows that corporate governance mechanisms have an impact on the tax avoidance activities of firms. For example, Lanis and Richardson (2011) find that firms with a higher proportion of outside members on the board reduce the likelihood of tax avoidance. Meanwhile, dual leadership results in inadequate board monitoring and hinders its supervision and governance role (Chan et al. 2013). Thus, firms with dual leadership are more tax aggressive (Chan et al. 2013). Ownership structure also has an impact on corporate tax avoidance. Chen et al. (2010) find that firms with family ownership engage in fewer tax avoidance activities to avoid the non-tax cost resulted from a potential price discount to the stock price of the firm. These authors show that government-controlled firms pursue a less aggressive tax strategy compared with non-government-controlled firms. More recently, Khan et al. (2017) examine the association between highly concentrated ownership and tax avoidance. They find that higher levels of tax avoidance in

firms are associated with more concentrated ownership or that an increase in ownership concentration increases tax avoidance. Finally, there is also research showing a negative association between auditor quality and tax avoidance (e.g., Kanagaretnam et al. 2016).

Political connections are also found to be related to tax avoidance (e.g., Adhikari et al. 2006; Wu et al. 2012b).[49] Adhikari et al. (2006) find that firms in Malaysia with political connections (proxied by the percentage of government ownership in a firm) pay tax at lower ETRs than other firms, implying that these firms are more tax aggressive than non-connected firms. Wu et al. (2012b) find that private firms with politically connected managers obtain more tax benefits (measured as the ETR) compared to firms without politically connected managers. Similar evidence is also found by Kim and Zhang (2016) using a sample of U.S. firms. They find that politically connected firms are more tax aggressive as these firms can have lower detection risk, have better information about future changes in tax regulation or enforcement, lower capital market pressure for transparency, lower political costs associated with aggressive tax planning and higher risk-taking tendencies.

4.2.3. RPTs

The literature on RPTs provides two alternative theories that seek to explain their underlying nature. The predominant agency theory views all RPTs as potential conflicts of interests (Gordon et al. 2007) and therefore RPTs are seen as detrimental to the economic interests of shareholders.[50] RPTs may be indicative of weaknesses in corporate governance (Balsam et al. 2017) that could be used as a means for insider self-dealing by managers or controlling shareholders (Ryngaert and Thomas 2012), thereby facilitating the expropriation of shareholders' wealth. In contrast, an alternative view of RPTs is the efficient contracting theory, which argues that RPTs are a means to enhance firms' performance

[49] Kim and Zhang (2016) define politically connected firms as firms with at least one board of director member with one of their former positions being connected with political positions, such as president, presidential candidate and being a member of the U.S House of Representatives.

[50] This view is referred to as conflict of interest theory, weak governance hypothesis and/or shareholder expropriation hypothesis, as per Gordon et al. (2004b), Balsam et al. (2017) and Ryngaert and Thomas (2012).

in imperfect market conditions. RPTs can be used within corporate groups to optimise internal resource allocation, reduce transaction costs, and improve return on assets (Khanna and Palepu 2000). Hence, RPTs are consistent with shareholders' interests.

Prior studies report empirical evidence supporting both views of RPTs. However, evidence supporting the agency theory view of RPTs appears to be stronger (Kohlbeck and Mayhew 2017). For example, RPTs have been found to be used to manipulate earnings (Thomas et al. 2004; Chen et al. 2011), and to tunnel or prop up earnings between listed firms and their controlling shareholders (Cheung et al. 2006; Cheung et al. 2009a; Aharony et al. 2010; Jian and Wong 2010; Peng et al. 2011; Yeh et al. 2012; Habib et al. 2017). There is also evidence about the association between RPTs and the higher possibility of restatements (Kohlbeck and Mayhew 2017) or stock price crash risk (Habib et al. 2019). Finally, there is extant evidence concerning the negative association between RPTs and both firms' valuation and firms' performance (Chen et al. 2009; Kohlbeck and Mayhew 2010).

4.2.4. Corporate tax avoidance and RPTs

Given the strong evidence suggesting the negative consequences of RPTs to equity investors and auditors (e.g., Chen et al. 2009; Kohlbeck and Mayhew 2010; Bennouri et al. 2015; Habib et al. 2015), RPTs have raised concerns about being used as a means to significantly avoid corporate taxes by managers and/or controlling shareholders. RPTs are considered among rent extraction activities that managers pursue at the expense of shareholders (Chen et al. 2010). Desai and Dharmapala (2006) suggest that rent extraction activities can be enabled and masked by tax avoidance activities. Prior studies provide evidence regarding the association between RPTs used for tunnelling purposes (proxied by related party lending) and tax avoidance, which indicates a positive association between these two variables (e.g., Chan et al. 2016). However, the literature on RPTs states that not all RPTs are the same (e.g., Kohlbeck and Mayhew 2010; Ryngaert and Thomas 2012). Therefore, this paper explores the general association between RPTs and tax avoidance.

Tax avoidance is viewed as a form of agency conflict between managers and shareholders or between insiders and outsider shareholders (see Desai and Dharmapala 2006). If RPTs are seen as a conflict of interest according to agency theory, RPTs can be used as a mechanism to manipulate earnings to reduce corporate tax liabilities. For instance, related party sales or purchases could be conducted by firms at non-arm's length prices (i.e., buy high and sell low), related party loans could be interest-free, and related party borrowing could be charged at a higher rate to increase interest expense leading to reduced tax liabilities for firms due to decreased earnings.

Further, past studies consistently show that RPTs occur in firms with weak corporate governance and monitoring mechanisms, providing the possibility of opportunistic behaviour (e.g., Gordon et al. 2007). In such firms, tax avoidance has been found to be more pronounced (e.g., Balsam et al. 2017), so I expect that Vietnamese firms with RPTs are more likely to engage in tax avoidance activities.

Based on the above discussion, I develop the following directional hypothesis:

H1: Firms with a higher level of RPTs have a higher level of tax avoidance.

4.2.5. State ownership and the association between corporate tax avoidance and RPTs

In examining the determinants of tax avoidance, prior studies have shown that ownership structure is a factor that influences firms' tax avoidance activities (e.g., Chen et al. 2010). State ownership has been identified as an important determinant of tax avoidance in the literature (e.g., Adhikari et al. 2006; Wu et al. 2012a; Chan et al. 2013). However, the evidence about the association between state ownership and tax avoidance is mixed because of the different views on the role of state ownership. Although tax is treated as an expense of the firm and its shareholders, it could also be implied dividends to state shareholders (see Bradshaw et al. 2016). Thus, firms with state controlling shareholders could engage in fewer tax avoidance activities.

In addition, firms with state ownership are expected to be less tax aggressive, because institutional owners are more concerned with the long-term consequences of aggressive tax strategies (Khurana

and Moser, 2009). Using a sample of listed Chinese firms, Chan et al. (2013) find that government-controlled firms pursue a less aggressive tax strategy compared with non-government-controlled firms. They also argue that managers of government-controlled firms are less likely to have incentives to avoid tax because of their connection with government authorities and their expectation to be promoted in the future. In contrast, there is an alternative view that firms with state ownership engage in more tax avoidance because these firms receive less scrutiny concerning their tax strategies because of their close connection with the state (see Adhikari et al. 2006). For example, using a sample of Malaysian firms, Adhikari et al. (2006) find that firms with political connections have significantly lower ETRs, so firms with a higher percentage of government ownership are more likely to engage in tax avoidance activities.

Given the conflicting evidence from prior research as outlined above, I develop the following non-directional hypothesis:

H2: The association between tax avoidance and RPTs is less or more pronounced for firms with state ownership than firms without state ownership.

4.3. Research design

4.3.1. Data collection and sample selection

The sample consists of firms listed on the Ho Chi Minh City Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX)[51] during the 2010-2016 period. Consistent with prior studies, I exclude financial firms from the sample as these firms are subject to different regulatory constraints (Khurana and Moser 2013; Fang et al. 2018). I collect financial data, including data of pre-tax accounting income, corporate income tax expense, corporate income tax paid and market data from the OSIRIS database. For firms with missing data from this database, I hand-collect data directly from firms'

[51] HOSE is the first stock market in Vietnam, established in 2000. On average, firms listed on this stock exchange have a larger size and tend to have more foreign ownership, but less state ownership, than firms listed on HNX, which was formed in 2005 (Robinett et al. 2013, 5).

audited annual financial statements. Data for RPTs (including the amounts, types and parties involved) are also collected manually from the notes of audited financial statements of listed firms (i.e., consolidated financial statements for firms which have subsidiaries) during the period under investigation. Data concerning state ownership are also hand-collected from listed firms' annual reports. Further, I winsorise all continuous variables at the top and bottom three percent of their distribution to mitigate the potential effect of outliers on my empirical results. Finally, depending on data availability for specific tests, the final sample size used in the main regression analysis is 3,919 firm-year observations.

4.3.2. Dependent variable

The dependent variable is corporate tax avoidance (TA). Following prior studies, I use ETRs as proxy measures of TA (e.g., Dyreng et al. 2008; Chen et al. 2010; Huseynov and Klamm 2012; Taylor and Richardson 2014; Khan et al. 2017). I use both ACCETR and CETR in my empirical analysis to improve the robustness of my empirical results, where ACCETR (CETR) is calculated as the total tax expense, including both current and deferred income tax expenses, (cash taxes paid) scaled by pre-tax accounting income. Both measures represent a firm's average rate of tax per dollar of pre-tax accounting income, and therefore reflect a firm's ability to reduce its income tax expense (cash taxes paid) compared with its pre-tax accounting income. Further, while ACCETR is not affected by a tax strategy that defers taxes since the numerator includes all income tax expenses, CETR is affected by tax deferral strategies (Hanlon and Heitzman 2010). However, CETR is not impacted by changes in the tax accounting accruals and does not affect accounting earnings (Hanlon and Heitzman 2010). Finally, consistent with prior research (e.g., Dyreng et al. 2008), a lower ETR is associated with more tax avoidance.

4.3.3. Independent variables

4.3.3.1. Test variables

The main independent variable of interest is related-party transactions (RPT). Recall that H1 suggests that the coefficient of the RPT variable is negative. To compare the level of tax avoidance between firms with and without RPTs, I first use a dummy variable, RPT_DUMMY, which is coded as 1 if firms disclose at least one transaction or one balance with related parties, and 0 otherwise.

To examine further the potential association between tax avoidance and RPTs, I look at the extent of firms' use of RPTs. I follow prior research by Habib et al. (2017) and proxy for RPT based on the following categories: (i) RP sales (RP_SALE), measured as the amount of sales with related parties scaled by net sales, and (ii) related net credit (RP_CREDIT), measured by total receivables minus total payables, scaled by total assets. In the literature, RP sales are widely used as a proxy for propping activities (e.g., Aharony et al. 2010; Jian and Wong 2010; Habib et al. 2017). Finally, related net credit is used as a proxy for firms' tunnelling activities as per prior research (Chan et al. 2016; Habib et al. 2017).

I use both raw and abnormal amounts of these categories to improve the robustness of my empirical results. RPTs might be used to fulfil the economic need of firms in a large business group or to exploit wealth from shareholders. Any abnormal amounts of RPTs should also reveal exploiting activities by firms. To calculate abnormal RPTs, I adopt the approach used by Jian and Wong (2010), and estimate the following regression model:

$$RPT_{i,t} = \beta_0 + \beta_1 SIZE_{i,t} + \beta_2 LEV_{i,t} + \beta_3 GROWTH_{i,t} + \beta_4 MB_{i,t} + YEAR_t + INDUSTRY_t + \varepsilon_{i,t} \quad (1)$$

where the regression model in Eqn. (1) is estimated separately for the two RPT proxies outlined above. Finally, the residuals from these regressions denote the abnormal amounts of RPTs.

My final independent variable of interest is the interaction term between RPT and the presence of state ownership (SO_PRESENCE), which is computed as RPT multiplied by SO_PRESENCE

(RPT*SO_PRESENCE). I construct a dummy variable for SO_PRESENCE, coded as 1 if a firm has a state shareholder, and 0 otherwise.

4.3.3.2. Control variables

Drawing on prior literature, I include in my baseline regression model the following control variables that are shown to be associated with tax avoidance (e.g., Stickney and McGee 1982; Gupta and Newberry 1997; Chan et al. 2013; Khurana and Moser 2013; Kanagaretnam et al. 2016; Richardson et al. 2016), state ownership presence (SO_PRESENCE), firm size (SIZE), leverage (LEV), the market-to-book ratio (MB), return on assets (ROA), sales growth (GROWTH), capital intensity (CAPINT), and inventory intensity (INVINT). Finally, I also include in my regression model controls for year (YEAR) and industry (INDUSTRY) effects.

SO_PRESENCE is measured as a dummy variable, coded as 1 if the firm has a state shareholder, and 0 otherwise. I expect the coefficient of SO_PRESENCE to be positive because Chan et al. (2013) show that state ownership firms engage in fewer tax avoidance activities.

SIZE is measured as the natural logarithm of the total assets. LEV is measured as total liabilities scaled by total assets. MB is measured as the ratio of the market value to the book value of its equity. Past studies provide inconsistent results about the association between SIZE, LEV and MB with different measures of ETRs (e.g., Chan et al. 2013; Kanagaretnam et al. 2016), so I do not predict the signs for these variables.

ROA is measured as pre-tax income scaled by the total assets, which is a proxy for a firm's profitability. Due to conflicting evidence about the association between ROA and ETR in prior research (e.g., Richardson et al. 2016), I make no sign prediction for this variable.

GROWTH is measured as the change in sales relative to last year scaled by last year's sales. It is argued to be positively related to tax avoidance as firms with higher sales growth receive greater marginal benefits from tax planning (e.g., Kanagaretnam et al. 2016).

CAPINT and INVINT are used to control for firms' asset mix (see Stickney and McGee 1982; Gupta and Newberry 1997). CAPINT is measured as tangible assets scaled by total assets, while INVINT is measured as the year-end total inventory scaled by total assets. Prior research provides evidence that CAPINT is positively associated with tax avoidance (e.g., Stickney and McGee 1982; Richardson et al. 2016). In contrast, INVINT is found in prior research to be negatively associated with tax avoidance (e.g, Richardson et al. 2016). Therefore, I predict a positive (negative) sign for CAPINT (INVINT) in my regression model.

I include YEAR dummy variables to control for possible differences in corporate tax avoidance activities in Vietnamese listed firms during the 2010-2016 financial years. The YEAR dummies are coded as 1 if the year falls within a particular year category, and 0 otherwise. No sign predictions are made for the YEAR dummies.

INDUSTRY dummy variables are also included in the regression models since tax avoidance could be different across different industries. Ten INDUSTRY dummies based on the General Industry Classification Standards (GICS) are constructed. The INDUSTRY dummies are coded as 1 if the firm is represented in a specific GICS category, and 0 otherwise. No sign prediction is made for the INDUSTRY dummies.

Finally, the definitions for all variables used in this paper are shown in Table 4.1.

Table 4.1: Variable definitions

Abbreviation	Description	Measurement
ACCETR	Accounting ETR	Total income tax expenses scaled by pre-tax accounting profit
CETR	Cash ETR	Cash income taxes paid scaled by pre-tax accounting profit
RPT_DUMMY	RPT dummy variable	Dummy variable, coded as 1 if firms disclose at least one transaction or one balance with related parties, 0 otherwise
RP_SALE	Related sales	Related sales to net sales
ABN_RP_SALE	Abnormal related sales	Abnormal value of related sales ratio
RP_CREDIT	Related net credit	Total receivables minus total payables, scales by total assets
ABN_RP_CREDIT	Abnormal related net credit	Abnormal value of related net credit ratio
SO_PRESENCE	State ownership dummy variable	Dummy variable, coded as 1 if a firm has state shareholder and 0 otherwise in the end-of-year t
RPT*SO_PRESENCE	Interaction variable	RPT multiplied by SO_PRESENCE
SIZE	Firm size	Natural log of total assets in the end-of-year t
LEV	Leverage	Ratio of total liabilities to total assets in the end-of-year t
MB	Market-to-book ratio	Ratio between market value to the book value of a firm's equity
ROA	Return on asset	Pre-tax accounting income scaled by total assets in the end-of-year t
GROWTH	Sales growth	Change in sales relative to last year scaled by last year sales
CAPINT	Tangible assets intensity	Total tangible assets scaled by total assets
INVINT	Inventory intensity	Total inventory scaled by total assets

4.3.4. Model specification

To examine the potential association between RPTs and tax avoidance (H1), I estimate the following baseline regression model:

$$TA_{i,t} = \beta_0 + \beta_1 RPT_{i,t} + \beta_2 SO\_PRESENCE_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 LEV_{i,t} + \beta_5 MB_{i,t} + \beta_6 ROA_{i,t} + \beta_7 GROWTH_{i,t} + \beta_8 CAPINT_{i,t} + \beta_9 INVINT_{i,t} + YEAR_t + INDUSTRY_t + \varepsilon_{i,t} \quad (2)$$

where TA = a proxy for tax avoidance (ACCETR and CETR); RPT = a proxy for related party transactions including normal and abnormal values (RP_SALE, ABN_RP_SALE, RP_CREDIT and ABN_RP_CREDIT) and RPT_DUMMY, a dummy variable coded as 1 if the firm discloses at least one transaction or one balance with related parties, and 0 otherwise; SO_PRESENCE = a dummy variable, coded as 1 if a firm has state ownership, and 0 otherwise; SIZE = the natural logarithm of total assets; LEV = total liabilities scaled by total assets; MB = the market value of equity scaled by the book value of equity; ROA = pre-tax income scaled by total assets; GROWTH = change in sales relative to last year scaled by the last year sales; CAPINT = total tangible assets scaled by total assets; INVINT = total inventory scaled by total assets; YEAR = year dummy variables, coded as 1 if the

year falls within a specific year category, and 0 otherwise; and INDUSTRY = industry dummy variables, coded as 1 if firm is represented in a particular GICS category, and 0 otherwise.

To test H2 whether the interaction effect of RPT and state ownership is negatively associated with tax avoidance, I compute an interaction variable (RPT*SO_PRESENCE) and estimate the following extended regression model:

$$TA_{i,t} = \beta_0 + \beta_1 RPT_{i,t} + \beta_2 SO\_PRESENCE_{i,t} + \beta_3 RPT_{i,t} * SO\_PRESENCE_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 MB_{i,t} + \beta_7 ROA_{i,t} + \beta_8 GROWTH_{i,t} + \beta_9 CAPINT_{i,t} + \beta_{10} INVINT_{i,t} + YEAR_t + INDUSTRY_t + \varepsilon_{i,t} \quad (3)$$

where RPT*SO_PRESENCE = an interaction variable computed by multiplying RPT by SO_PRESENCE.

4.4. Results and discussion

4.4.1. Descriptive statistics

Table 4.2 provides descriptive statistics for the variables in my models. The mean (median) ACCETR and CETR are respectively 0.189 (0.208) or nearly 19 percent (nearly 21 percent) and 0.203 (0.164) or about 20 percent (about 16 percent). The mean (median) of related sales (RP_SALE) is 0.270 (0.116), showing that related sales account for 27 (about 11) percent of net sales, on average. Related net credit (RP_CREDIT) has a mean (median) of 0.026 (0.004), which indicates that net credit to related parties for firms in the sample is nearly three (about one) percent of their total assets. The means (median) of abnormal related sales (ABN_RP_SALE) and related net credit (ABN_RP_CREDIT) are 0.01 (-0.094), and 0.002 (-0.016) respectively, as estimated by the residual model. The negative (positive) values of the ABN_RP_SALE and ABN_RP_CREDIT suggest that the underlying firms have a lower (higher) level of related party transactions than the normal level. Nearly 66 percent of firm-year observations have state shareholders. The sample firms also have

reasonably high leverage (an average of about 50 percent). Finally, the average pre-tax return on assets of firms in the sample is about seven percent.

Table 4.2: Descriptive statistics for variables used in the analysis

Variable	N	mean	sd	Q1	median	Q3
ACCETR	3,919	0.189	0.108	0.125	0.208	0.249
CETR	3,919	0.203	0.236	0.031	0.164	0.257
RPT_DUMMY	3,921	0.796	0.403	1.000	1.000	1.000
RP_SALE	2,089	0.270	0.325	0.013	0.116	0.448
ABN_RP_SALE	1,900	0.010	0.324	-0.213	-0.094	0.200
RP_CREDIT	2,858	0.026	0.121	-0.022	0.004	0.056
ABN_RP_CREDIT	2,802	0.002	0.128	-0.060	-0.016	0.046
SO_PRESENCE	3,921	0.652	0.476	0.000	1.000	1.000
SIZE	3,921	13.144	1.403	12.190	13.068	14.114
MB	3,921	0.978	0.665	0.486	0.786	1.252
LEV	3,921	0.501	0.216	0.328	0.527	0.674
ROA	3,921	0.073	0.074	0.018	0.055	0.111
GROWTH	3,921	0.155	0.440	-0.076	0.087	0.267
CAPINT	3,921	0.248	0.207	0.082	0.189	0.360
INVINT	3,921	0.223	0.178	0.071	0.192	0.334

Note: All continuous variables are winsorised at the 3rd and 97th percentiles. Variables are defined in Table 4.1.

4.4.2. Pearson correlation results

Table 4.3 reports the Pearson correlations between the variables. I find significantly negative correlations between ACCETR and three measures of RPT (RP_SALE, RP_CREDIT and ABN_RP_CREDIT) (p<0.05 or better). This shows that higher levels of RPTs are associated with the likelihood of tax avoidance. The correlations between ACCETR and SO_PRESENCE is significantly positive (p<0.01), so firms with state shareholders are less likely to engage in tax avoidance. I also report a significant correlation between ACCETR, CETR and several of the control variables, such as SO_PRESENCE, LEV, ROA, GROWTH, MB, CAPINT and INVINT (p<0.10 or better). Overall, the correlation results in Table 4.3 show that the correlations between the explanatory variables are not high. I calculate variance inflation factors (VIFs) for the explanatory variables. I find that the VIF values of the variables used in the regressions are less than the critical value of ten, which shows that multi-collinearity is not a problem in this paper (Kutner et al. 2005).

Table 4.3: Correlation results

	1.	2.	3.	4.	5.	6.	7.
1. ACCETR	1.000						
2. CETR	0.402***	1.000					
3. RP_SALE	-0.049**	0.024	1.000				
4. ABN_RP_SALE	-0.030	0.033	0.852***	1.000			
5. RP_CREDIT	-0.048**	-0.028	0.354***	0.385***	1.000		
6. ABN_R_CREDIT	-0.037**	-0.022	0.351***	0.414***	0.914***	1.000	
7. SO_PRESENCE	0.113***	0.048***	0.131***	0.071***	-0.084***	-0.046**	1.000
8. SIZE	0.018	-0.012	-0.074***	-0.235***	-0.157***	-0.158***	-0.063***
9. LEV	0.102***	0.055***	0.042*	-0.059**	-0.112***	-0.035*	0.089***
10. MB	-0.023	-0.069***	-0.102***	-0.032	-0.071***	-0.022	0.038**
11. ROA	0.027*	-0.110***	-0.001	0.002	-0.003	-0.002	-0.134***
12. GROWTH	0.073***	-0.101***	-0.069***	-0.018	-0.001	-0.006	0.130***
13. CAPINT	-0.138***	-0.063***	0.091***	0.006	-0.118***	-0.098***	0.108***
14. INVINT	0.111***	0.085***	-0.127***	-0.060***	-0.118***	-0.089***	0.010

Table 4.3: Correlation results (continued)

	8.	9.	10.	11.	12.	13.	14.
8. SIZE	1.000						
9. LEV	0.340***	1.000					
10. MB	0.112***	-0.116***	1.000				
11. ROA	0.076***	0.012	0.101***	1.000			
12. GROWTH	-0.086***	-0.462***	0.506***	0.138***	1.000		
13. CAPINT	0.097***	0.000	0.031*	-0.018	-0.047***	1.000	
14. INVINT	0.094***	0.321***	-0.054***	-0.141***	-0.045***	-0.410***	1.000

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed). Variables are defined in Table 4.1.

4.4.3. Regression results

Table 4.4 presents the regression results for the estimation of Eqn. (2) using my two measures of tax avoidance, ACCETR, and CETR. Columns from (1) to (5) of Table 4.4 report the results for ACCETR, whereas Columns from (6) to (10) report those for CETR. To test H1, five regressions are estimated using a dummy variable and two measures for RPT values with both raw and abnormal values as independent variables.

As shown in Columns (1) to (5) of Table 4.4, the coefficients on four out of five measures of RPT are negative and statistically significant (p<0.10 or better). These results are economically significant. For instance, the RP_SALE coefficient of -0.014 indicates that a one standard deviation increase in related sales as a proportion of net sales decreases ACCETR by around 0.024 (or about two percent)

of its mean value.[52] Similarly, an increase by one standard deviation of RP_CREDIT (ABN_RP_CREDIT) reduces ACCETR by about three percent of its means.[53]

Regarding the CETR, the coefficients on RP_CREDIT and ABN_RP_CREDIT are negatively significant (p<0.10). In terms of economic significance, I find that a one standard deviation increase in RP_CREDIT (ABN_RP_CREDIT) is associated with a nearly four percent decrease in CETR.[54]

Overall, the above results support H1, indicating that firms with the presence of RPT and higher extent of RPTs have lower ACCETR and CETR, implying higher levels of tax avoidance. I conclude that the empirical results support the agency theory argument of Desai and Dharmapala (2006) as an explanation of the implications of RPTs for firms in Vietnam.

[52] The result for RP_SALE of 0.024 is computed following Ball et al. (2012) by taking the coefficient on RP_SALE of -0.014 and multiplying it by the standard deviation of RP_SALE of 0.325, and then scaling it by mean of ACCETR of 0.189 (i.e., -0.014*0.325/0.189 = -0.024).

[53] The result for RP_CREDIT (ABN_RP_CREDIT) of 0.028 (0.025) is calculated following Ball et al. (2012) by taking the coefficient on RP_CREDIT (ABN_RP_CREDIT) of -0.044 (-0.037) and multiplying it by the standard deviation of RP_CREDIT (ABN_RP_CREDIT) of 0.121 (0.128), and then scaling it by mean of ACCETR of 0.189 (i.e., -0.044*0.121/0.189 = -0.028).

[54] The economic magnitude of RP_CREDIT (ABN_RP_CREDIT) on CETR is computed as follows: taking the coefficient on RP_CREDIT (ABN_RP_CREDIT) of -0.065 (-0.059) and multiplying it by the standard deviation of RP_CREDIT (ABN_RP_CREDIT) of 0.121 (0.128), and then scaling it by mean of CETR of 0.203 (i.e., -0.065*0.121/0.203 = -0.039).

Table 4.4: Regression results for testing H1

Variable	Predicted sign	ACCETR					CETR				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
RPT_DUMMY	-	-0.008*					0.003				
		(-1.919)					(0.344)				
RP_SALE	-		-0.014*					0.011			
			(-1.844)					(0.658)			
ABN_RP_SALE	-			-0.011					0.016		
				(-1.545)					(0.926)		
RP_CREDIT	-				-0.044***					-0.065*	
					(-2.629)					(-1.703)	
ABN_RP_CREDIT	-					-0.037**					-0.059*
						(-2.342)					(-1.652)
SO_PRESENCE	+	0.018***	0.023***	0.023***	0.019***	0.019***	0.021**	0.016	0.015	0.020*	0.020*
		(4.805)	(4.260)	(4.012)	(4.213)	(4.161)	(2.417)	(1.296)	(1.175)	(1.910)	(1.855)
SIZE	?	0.002	-0.001	-0.002	0.001	0.001	-0.002	-0.007*	-0.007	-0.004	-0.004
		(1.331)	(-0.530)	(-0.964)	(0.644)	(0.622)	(-0.757)	(-1.685)	(-1.574)	(-1.070)	(-1.131)
LEV	?	0.068***	0.065***	0.063***	0.069***	0.072***	-0.017	-0.007	0.010	-0.013	-0.006
		(6.576)	(4.594)	(4.216)	(5.671)	(5.793)	(-0.724)	(-0.227)	(0.298)	(-0.476)	(-0.198)
MB	?	0.264***	0.224***	0.214***	0.289***	0.289***	-0.271***	-0.406***	-0.455***	-0.315***	-0.321***
		(8.473)	(5.160)	(4.628)	(7.641)	(7.500)	(-3.870)	(-4.087)	(-4.275)	(-3.670)	(-3.678)
ROA	+	0.005	0.006	0.007	0.008*	0.007	-0.046***	-0.051***	-0.045***	-0.049***	-0.049***
		(1.168)	(1.058)	(1.269)	(1.660)	(1.574)	(-5.207)	(-4.085)	(-3.398)	(-4.698)	(-4.600)
GROWTH	-	-0.014***	-0.015***	-0.016***	-0.019***	-0.019***	-0.000	0.003	0.004	-0.003	-0.002
		(-4.516)	(-3.595)	(-3.482)	(-5.142)	(-4.957)	(-0.020)	(0.356)	(0.427)	(-0.318)	(-0.188)
CAPINT	-	-0.061***	-0.074***	-0.072***	-0.082***	-0.082***	-0.053**	-0.088***	-0.091***	-0.081***	-0.085***
		(-6.453)	(-5.806)	(-5.453)	(-7.320)	(-7.319)	(-2.486)	(-3.019)	(-2.996)	(-3.211)	(-3.331)
INVINT	+	0.017	0.008	0.003	0.000	0.000	0.068***	0.049	0.032	0.027	0.026

		(1.438)	(0.457)	(0.192)	(0.019)	(0.032)	(2.635)	(1.285)	(0.800)	(0.829)	(0.788)
YEAR	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.143***	0.185***	0.189***	0.158***	0.156***	0.287***	0.383***	0.370***	0.340***	0.340***
		(7.337)	(6.819)	(6.740)	(6.696)	(6.466)	(6.551)	(6.162)	(5.699)	(6.370)	(6.237)
Observations		3,919	2,088	1,899	2,857	2,801	3,919	2,088	1,899	2,857	2,801
R-squared		0.093	0.110	0.101	0.107	0.106	0.042	0.057	0.058	0.044	0.044

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 4.1.

In exploring the potential moderating role of state ownership, the regression model in Eqn. (3) is used. Table 4.5 reports the results of this model. Columns from (1) to (5) present the results where ACCETR is used as a dependent variable, while Columns (6) to (10) report the results of using CETR in this analysis. Significant results are provided where ACCETR is used as a dependent variable. I find negative coefficients between ACCETR and four measures of the value of RPTs (p<0.10 or better). The interaction terms between RPT and SO are significantly positive for three measures of RPTs (p<0.05 or better). This result suggests that among firms with RPTs, if state ownership exists, ACCETR is higher. In other words, the presence of state ownership makes the association between tax avoidance and RPT less pronounced. Finally, although the results for CETR are not as strong as for ACCETR, they are consistent and provide similar conclusions.

Table 4.5: Regression results for testing H2

VARIABLES	Predicted sign	ACCETR					CETR				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
RPT_DUMMY	-	-0.010					0.018				
		(-1.449)					(1.195)				
RPT_DUMMY*SO_PRESENCE	?	0.003					-0.024				
		(0.329)					(-1.252)				
RP_SALE	-		-0.065***					-0.067*			
			(-4.327)					(-1.937)			
RP_SALE* SO_PRESENCE	?		0.067***					0.103***			
			(3.927)					(2.615)			
ABN_RP_SALE	-			-0.043***					-0.008		
				(-2.929)					(-0.237)		
ABN_RP_SALE*SO_PRESENCE	?			0.042**					0.032		
				(2.488)					(0.812)		
RP_CREDIT	-				-0.100***					-0.082	
					(-3.213)					(-1.168)	
RP_CREDIT*SO_PRESENCE	?				0.078**					0.024	
					(2.122)					(0.286)	
ABN_RP_CREDIT	-					-0.054*					-0.056
						(-1.916)					(-0.869)
ABN_RP_CREDIT* SO_PRESENCE	?					0.025					-0.005
						(0.727)					(-0.071)
SO_PRESENCE	+	0.016**	0.010	0.024***	0.017***	0.019***	0.039**	-0.005	0.017	0.019*	0.020*
		(2.105)	(1.487)	(4.252)	(3.579)	(4.137)	(2.289)	(-0.315)	(1.252)	(1.784)	(1.856)
SIZE	?	0.002	-0.001	-0.001	0.001	0.001	-0.003	-0.007	-0.007	-0.004	-0.004
		(1.346)	(-0.385)	(-0.763)	(0.824)	(0.681)	(-0.821)	(-1.588)	(-1.503)	(-1.042)	(-1.133)
LEV	?	0.068***	0.061***	0.060***	0.068***	0.072***	-0.017	-0.014	0.008	-0.014	-0.005

		(6.573)	(4.311)	(4.000)	(5.533)	(5.765)	(-0.715)	(-0.418)	(0.230)	(-0.493)	(-0.195)
MB	?	0.264***	0.208***	0.203***	0.285***	0.288***	-0.271***	-0.431***	-0.463***	-0.316***	-0.321***
		(8.473)	(4.780)	(4.395)	(7.509)	(7.468)	(-3.873)	(-4.324)	(-4.330)	(-3.679)	(-3.673)
ROA	+	0.005	0.007	0.008	0.008*	0.007	-0.046***	-0.050***	-0.045***	-0.049***	-0.049***
		(1.171)	(1.224)	(1.368)	(1.672)	(1.563)	(-5.217)	(-3.979)	(-3.363)	(-4.696)	(-4.597)
GROWTH	-	-0.014***	-0.015***	-0.016***	-0.020***	-0.019***	0.000	0.004	0.004	-0.003	-0.002
		(-4.524)	(-3.512)	(-3.473)	(-5.186)	(-4.964)	(0.026)	(0.420)	(0.431)	(-0.323)	(-0.187)
CAPINT	-	-0.061***	-0.080***	-0.075***	-0.082***	-0.083***	-0.053**	-0.097***	-0.093***	-0.081***	-0.085***
		(-6.453)	(-6.280)	(-5.690)	(-7.392)	(-7.332)	(-2.484)	(-3.333)	(-3.064)	(-3.218)	(-3.328)
INVINT	+	0.016	0.004	0.002	-0.002	-0.000	0.070***	0.043	0.031	0.026	0.026
		(1.422)	(0.216)	(0.090)	(-0.127)	(-0.010)	(2.687)	(1.123)	(0.766)	(0.807)	(0.790)
YEAR	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.144***	0.195***	0.186***	0.159***	0.155***	0.278***	0.399***	0.367***	0.340***	0.340***
		(7.285)	(7.184)	(6.639)	(6.773)	(6.441)	(6.241)	(6.391)	(5.659)	(6.375)	(6.236)
Observations		3,919	2,088	1,899	2,857	2,801	3,919	2,088	1,899	2,857	2,801
R-squared		0.093	0.117	0.104	0.109	0.106	0.042	0.060	0.058	0.044	0.044

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 4.1.

The results for control variables are consistent across the two regression models reported in Tables 4.4 and 4.5, respectively. The coefficients on SO_PRESENCE when ACCETR is a dependent variable are significantly positive across the five measures of RPT (p<0.05 or better), whereas those for CETR are only significantly positive for RPT_DUMMY and RP_CREDIT (normal and abnormal values) (p<0.10 or better). SO_PRESENCE has a positive coefficient with ACCETR and CETR, indicating that firms with state ownership have higher ETRs. These results suggest that these firms avoid less tax compared with firms without state ownership. For example, the coefficient on SO_PRESENCE in Column (1) of Table 4.4 is 0.018, indicating that ACCETR for firms with state shareholders is nearly two percent higher than that of firms without state shareholders. The result is in line with prior research by Chan et al. (2013).

In terms of the other control variables, the coefficient on SIZE is negatively significant only where the normal value of related sales is used as a proxy for RPTs in model 1 (p<0.10). This result shows that larger firms are likely to have fewer cash tax payments than smaller firms. The result is consistent with the study by Adhikari et al. (2006). Similar to the findings of Gupta and Newberry (1997), I find that firms with higher leverage engage in less tax avoidance. LEV is positively associated with ACCETR (p<0.01), indicating that firms with higher leverage pay higher ACCETR. The coefficients on MB and CAPINT are significantly negative across the five measures of RPTs (p<0.05 or better). This suggests that firms with higher MB and CAPINT have lower ACCETR and CETR, and thus higher levels of tax avoidance. The CAPINT result is consistent with the prediction and findings of prior studies (e.g., Stickney and McGee 1982; Adhikari et al. 2006; Wu et al. 2012b).

Finally, the results show that the coefficients of ROA and GROWTH are conflicting between ACCETR and CETR. For example, ROA has a positive association with ACCETR (p<0.01), while it has a negative association with CETR (p<0.01). This suggests that firms with higher profitability have higher income tax expense, but lower cash tax payments. Likewise, the coefficients on GROWTH for CETR are significantly negative (p<0.01), whereas those for ACCETR are

significantly positive for RP_CREDIT only (p<0.10). Finally, consistent with past studies, I find that the coefficients on INVINT are positively significant (p<0.01) (e.g., Chan et al. 2010; Taylor and Richardson 2014). However, they are not uniformly significant across all measures of RPTs.

4.4.4. Robustness test

It is possible that firms may not randomly engage in RPTs. Prior research suggests that factors such as size, leverage, the market–to–book ratio, firms' performance (measured as return on assets), ownership concentration, foreign ownership, and some corporate governance characteristics could influence the extent of RPTs engaged in by firms (e.g., Jian and Wong 2010; Bennouri et al. 2015; Habib et al. 2017). However, some of these factors potentially affect the ETR proxies for tax avoidance activities. For example, firm size is found to be associated with RPTs, although the evidence is mixed (e.g., Cheung et al. 2009b; Jian and Wong 2010; Kang et al. 2014; Balsam et al. 2017). Similarly, past studies provide mixed evidence about the association between firm size and ETRs (e.g., Chan et al. 2013; Kanagaretnam et al. 2016). Therefore, the regression model adjusts for common factors which affect both RPTs and ETRs to ensure that the coefficients on ETRs in Eqn. (2) and Eqn. (3) are not biased.

Following Tucker (2010) and Lennox et al. (2012), I employ the propensity score matching (PSM) approach to address this issue. I first compute a dummy variable, HIGH_RPT, which is coded as 1 if the abnormal value of total RPTs scaled by total sales is greater than the sample median, and 0 otherwise. The abnormal value of the RPT ratio is calculated as the residuals from estimating Eqn. (1) where the dependent variable is total RPTs scaled by total sales. I then estimate a logistic model where HIGH_RPT is the dependent variable and the covariates are the control variables as in Eqn. (2). Based on the propensity scores derived from this model, I then match observations of the sample of high abnormal RPTs with those in the low-RPTs sample. In particular, I use the nearest neighbour matching process (with no replacement and with a one percent calliper). Panel A of Table 6 presents

the descriptive statistics of the covariates used in the regression for HIGH_RPT to match treatment and control firms. I find that there is no significant difference in the mean of covariates between treatment and control firms, suggesting that my matching process was carried out properly (Tucker 2010; Lennox et al. 2012).

I next re-estimate my regressions in Eqn. (2) and Eqn. (3) using the propensity score-matched sample. The results from estimating the regression models to test H1 with the matched sample are presented in Panel B of Table 6. Coefficients on several measures of RPTs (e.g., RPT_DUMMY, RP_CREDIT and ABN_RP_CREDIT) are negative and significant for ACCETR (p<0.05), suggesting that firms with the presence of RPTs and higher extent of RPTs have lower ACCETR, which translates into higher levels of tax avoidance. Panel C of Table 6 reports results for testing hypothesis 2 with the matched sample. The negative coefficients between ACCETR and RPTs still hold (p<0.05 or better). The coefficients on the interaction terms between RPT and SO_PRESENCE are positive and significant (p<0.10 or better), suggesting that among firms with RPTs, firms with state ownership have higher ETRs, which suggests these firms avoid less tax compared to those firms with no state ownership. Overall, the results shown in Panels B and C of Table 6 are consistent with those reported in Tables 4 and 5 of the paper, suggesting that my main empirical findings are validated based on PSM analysis.

Table 4.6: Propensity Score Matching

Panel A: Descriptive Statistics of propensity-matched variables

	HIGH_RPT=1		HIGH_RPT=0		Difference Tests: p-value
Variable	n	mean	n	mean	
SO_PRESENCE	1,238	0.666	1,238	0.668	0.898
SIZE	1,238	13.467	1,238	13.407	0.272
LEV	1,238	0.504	1,238	0.500	0.696
MB	1,238	0.957	1,238	0.977	0.439
ROA	1,238	0.076	1,238	0.076	0.834
GROWTH	1,238	0.137	1,238	0.134	0.854
CAPINT	1,238	0.254	1,238	0.258	0.684
INVINT	1,238	0.232	1,238	0.222	0.155

Panel B: Regression Results for Hypothesis 1 with the matched sample

VARIABLES	Predicted sign	ACCETR					CETR				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
RPT_DUMMY	-	-0.013**					-0.014				
		(-2.204)					(-1.163)				
RP_SALE	-		-0.007					0.023			
			(-0.715)					(1.022)			
ABN_RP_SALE	-			-0.008					0.027		
				(-0.788)					(1.234)		
RP_CREDIT	-				-0.049**					-0.047	
					(-2.111)					(-0.919)	
ABN_RP_CREDIT	-					-0.048**					-0.060
						(-2.164)					(-1.263)
SO_PRESENCE	+	0.020***	0.020***	0.019***	0.019***	0.019***	0.021**	0.011	0.010	0.020	0.019
		(4.157)	(2.894)	(2.674)	(3.339)	(3.291)	(2.046)	(0.739)	(0.648)	(1.574)	(1.512)
SIZE	?	0.001	-0.000	-0.001	0.000	-0.000	-0.002	-0.007	-0.006	-0.004	-0.004
		(0.540)	(-0.135)	(-0.541)	(0.040)	(-0.102)	(-0.608)	(-1.238)	(-0.974)	(-0.826)	(-0.856)
LEV	?	0.080***	0.065***	0.065***	0.075***	0.080***	0.022	0.035	0.037	0.021	0.029
		(5.850)	(3.524)	(3.333)	(4.763)	(5.003)	(0.744)	(0.860)	(0.855)	(0.620)	(0.837)
MB	?	0.208***	0.192***	0.166***	0.241***	0.237***	-0.318***	-0.382***	-0.466***	-0.349***	-0.357***
		(4.993)	(3.348)	(2.734)	(4.816)	(4.692)	(-3.511)	(-3.036)	(-3.451)	(-3.208)	(-3.250)
ROA	+	0.009	0.009	0.011	0.011*	0.011*	-0.036***	-0.051***	-0.048***	-0.041***	-0.041***
		(1.638)	(1.294)	(1.432)	(1.792)	(1.792)	(-3.126)	(-3.174)	(-2.857)	(-3.085)	(-3.057)
GROWTH	-	-0.011**	-0.015***	-0.012**	-0.017***	-0.016***	0.010	0.006	0.009	0.008	0.009
		(-2.555)	(-2.590)	(-2.045)	(-3.342)	(-3.127)	(1.089)	(0.468)	(0.650)	(0.677)	(0.769)
CAPINT	-	-0.067***	-0.071***	-0.070***	-0.075***	-0.076***	-0.061**	-0.090**	-0.093**	-0.076**	-0.082***

		(-5.578)	(-4.411)	(-4.211)	(-5.336)	(-5.382)	(-2.328)	(-2.545)	(-2.533)	(-2.459)	(-2.640)
INVINT	+	0.005	0.026	0.023	0.004	0.003	0.061*	0.039	0.020	0.031	0.029
		(0.332)	(1.225)	(1.033)	(0.214)	(0.180)	(1.902)	(0.838)	(0.403)	(0.806)	(0.736)
YEAR	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.161***	0.168***	0.179***	0.164***	0.168***	0.299***	0.361***	0.357***	0.319***	0.321***
		(5.953)	(4.647)	(4.768)	(5.143)	(5.186)	(5.069)	(4.532)	(4.283)	(4.592)	(4.559)
Observations		2,476	1,352	1,254	1,870	1,852	2,476	1,352	1,254	1,870	1,852
R-squared		0.093	0.107	0.101	0.102	0.101	0.046	0.068	0.068	0.048	0.050

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 4.1.

Panel C: Regression Results for Hypothesis 2 with the matched sample

Variable	Predicted sign	ACCETR					CETR				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
RPT_DUMMY	-	-0.012					0.008				
		(-1.252)					(0.366)				
RPT_DUMMY*SO_PRESENCE	?	-0.001					-0.034				
		(-0.063)					(-1.307)				
RP_SALE	-		-0.074***					-0.054			
			(-3.522)					(-1.159)			
RP_SALE* SO_PRESENCE	?		0.086***					0.098*			
			(3.615)					(1.869)			
ABN_RP_SALE	-			-0.054***					0.026		
				(-2.603)					(0.556)		
ABN_RP_SALE*SO_PRESENCE	?			0.060**					0.001		
				(2.530)					(0.028)		
RP_CREDIT	-				-0.138***					-0.065	
					(-3.221)					(-0.695)	
RP_CREDIT*SO_PRESENCE	?				0.125**					0.026	
					(2.468)					(0.231)	
ABN_RP_CREDIT	-					-0.082**					-0.014
						(-2.093)					(-0.169)
ABN_RP_CREDIT* SO_PRESENCE	?					0.050					-0.067
						(1.062)					(-0.653)
SO_PRESENCE	+	0.021*	0.006	0.024***	0.016***	0.019***	0.049**	-0.005	0.010	0.019	0.019
		(1.895)	(0.746)	(3.298)	(2.721)	(3.326)	(2.077)	(-0.278)	(0.628)	(1.484)	(1.488)
SIZE	?	0.001	-0.001	-0.001	0.000	-0.000	-0.003	-0.007	-0.006	-0.004	-0.004

		(0.538)	(-0.226)	(-0.456)	(0.127)	(-0.064)	(-0.649)	(-1.286)	(-0.972)	(-0.817)	(-0.878)
LEV	?	0.080***	0.063***	0.062***	0.072***	0.079***	0.022	0.032	0.037	0.021	0.030
		(5.849)	(3.400)	(3.173)	(4.567)	(4.931)	(0.758)	(0.789)	(0.851)	(0.600)	(0.875)
MB	?	0.208***	0.173***	0.149**	0.229***	0.233***	-0.317***	-0.404***	-0.466***	-0.352***	-0.351***
		(4.992)	(3.024)	(2.435)	(4.553)	(4.587)	(-3.502)	(-3.194)	(-3.431)	(-3.214)	(-3.183)
ROA	+	0.009	0.011	0.011	0.011*	0.011*	-0.037***	-0.049***	-0.048***	-0.041***	-0.041***
		(1.637)	(1.510)	(1.465)	(1.845)	(1.775)	(-3.145)	(-3.062)	(-2.856)	(-3.078)	(-3.045)
GROWTH	-	-0.011**	-0.014**	-0.012*	-0.017***	-0.016***	0.011	0.006	0.009	0.008	0.009
		(-2.552)	(-2.510)	(-1.939)	(-3.342)	(-3.115)	(1.123)	(0.515)	(0.650)	(0.677)	(0.762)
CAPINT	-	-0.067***	-0.079***	-0.075***	-0.077***	-0.077***	-0.061**	-0.099***	-0.094**	-0.076**	-0.081***
		(-5.577)	(-4.870)	(-4.505)	(-5.443)	(-5.416)	(-2.340)	(-2.773)	(-2.515)	(-2.466)	(-2.615)
INVINT	+	0.005	0.023	0.021	0.000	0.002	0.064**	0.035	0.020	0.031	0.031
		(0.335)	(1.080)	(0.938)	(0.025)	(0.114)	(1.974)	(0.761)	(0.402)	(0.786)	(0.775)
YEAR	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INDUSTRY	?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant		0.161***	0.184***	0.176***	0.171***	0.168***	0.282***	0.379***	0.357***	0.320***	0.320***
		(5.806)	(5.069)	(4.699)	(5.341)	(5.203)	(4.683)	(4.729)	(4.278)	(4.593)	(4.547)
Observations		2,476	1,352	1,254	1,870	1,852	2,476	1,352	1,254	1,870	1,852
R-squared		0.093	0.116	0.106	0.105	0.102	0.047	0.070	0.068	0.048	0.050

Note: ***, ** and * indicate significance at 1%. 5% and 10% respectively (two-tailed test). The numbers in parentheses are t-values. All variables are defined in Table 4.1.

4.5. Conclusion

This paper has explored the potential association between RPTs and corporate tax avoidance in Vietnam, providing important insights on how RPTs relate to tax avoidance activities, and how state ownership moderates this association. Using data for all non-financial firms listed on two stock exchanges in Vietnam from 2010 to 2016, I find that firms with RPTs are more likely to engage in tax avoidance activities than non-RPTs firms. Among firms with RPTs, the higher the extent of RPTs, the more likely firms are to avoid corporate taxes. This result supports the agency theory view of RPTs (e.g., Gordon et al. 2007), which suggests that RPTs may be used for opportunistic purposes by managers and/or controlling shareholders to expropriate wealth from minority shareholders. However, the positive association between RPTs and tax avoidance may be restrained by the presence of state ownership. I also find that in firms with state shareholders, the association between RPTs and tax avoidance is less pronounced than in firms without state shareholders. The results both support H1 and H2, which state that firms with a higher level of RPTs have a higher level of tax avoidance and that the association between tax avoidance and RPTs is moderated by the presence of state ownership.

Overall, the findings from this paper extend the literature on RPTs, corporate tax avoidance and the role of state ownership in Vietnam, which is a developing economy where state ownership is prevalent, and corporate governance regulations to protect minority shareholders are weak.

This paper is subject to a few limitations. First, it only uses ETRs to proxy for tax avoidance in Vietnam due to the unavailability of data. Although both accounting ETR and cash ETR can capture some level of tax avoidance activities, these measures may not reflect conforming tax avoidance (Hanlon and Heitzman 2010). Second, some firms in Vietnam may be entitled to several forms of tax incentives (e.g., preferential tax rates or tax exemptions) for investments made in specific regions in Vietnam (i.e., remote or underdeveloped areas). However, I could not control for regional effects in

my analysis because of data unavailability. Therefore, the findings should be interpreted with some caution.

Future research on the association between RPTs and tax avoidance in Vietnam might consider using other proxies of tax avoidance to examine the validation of this paper's findings. Finally, future research on the association between RPTs and tax avoidance could be carried out in other developing economies to confirm and extend my empirical results.

Chapter 5: Conclusion

This chapter presents a summary of the main findings and contributions of each paper in this thesis, in addition to potential limitations and some directions for future research.

5.1. Summary of the main findings and contributions

The first paper, which is presented as Chapter 2, comprehensively describes RPTs and the characteristics of firms associated with RPTs in Vietnam. This is the first paper to provide extensive data on RPTs reported by listed firms in Vietnam. RPTs are found to be prevalent in the sample of 650 listed firms in Vietnam irrespective of their ownership structure. I explore the association between RPTs and state ownership given its dominance in the Vietnamese economy and the significant role of state ownership in corporate governance. Despite extant studies on RPTs since the early 2000s and the prevalence of state ownership in publicly traded firms worldwide, the association between state ownership and RPTs remains understudied. The results indicate that the existence of state ownership limits RPTs engaged in by listed firms in Vietnam although there is a positive correlation between the percentage of shares owned by state shareholders and the magnitude of RPTs among state-owned firms. I add to the current literature by identifying RPTs in an emerging transition economy with concentrated state ownership. I also provide comprehensive evidence of the association between state ownership and the extent of RPTs. The findings suggest that state ownership plays a major role in firms' operations.

In Chapter 3, the second paper investigates the association between RPTs and the cost of debt, and the moderating role of state ownership in this association. This paper provides evidence of the positive association between RPTs and the cost of debt, suggesting that lenders are likely to assess RPTs as a potential risk to firms and thus charge higher interest rates to compensate for this risk. The presence

of state ownership in firms is reported to moderate the association between RPTs and the cost of debt. Findings from this paper extend prior studies regarding the implication of RPTs, which have generally focused on specific stakeholders, such as equity investors or auditors. I investigate the consequences of RPTs from the viewpoint of lenders by examining the association between RPTs and the cost of debt. RPTs are considered potential conflicts of interest and lenders should be informed of the risk of using RPTs to manipulate information in firms' financial statements. Although firms engaging in RPTs are more likely to have a higher cost of debt than non-RPTs firms, those firms still can benefit from the involvement of state ownership in obtaining lower debt costs compared to their non-state ownership counterparts.

The third paper, presented in Chapter 4, explores the association between RPTs and corporate tax avoidance, and the moderating role of state ownership in this association. This paper reports that firms with RPTs are more likely to engage in tax avoidance activities than non-RPTs firms. Among firms with RPTs, the higher the extent of RPTs, the more likely firms are to avoid corporate taxes. This result supports the view of RPTs according to agency theory (e.g., Desai and Dharmapala 2006), which suggests that RPTs may be used for opportunistic purposes by managers and/or controlling shareholders to expropriate wealth from minority shareholders. However, the positive association between RPTs and tax avoidance may be restrained by the presence of state ownership. I find that the association between RPTs and tax avoidance in firms with state shareholders is less pronounced than in their non-state ownership counterparts. Findings from this paper expand the literature on the implication of RPTs, determinants of corporate income tax and the role of state ownership as a corporate governance mechanism.

5.2. Limitations

This thesis is subject to several potential limitations. The first limitation is related to the measurement of RPTs, which is the common variable through the three papers. To estimate the extent of RPTs

engaged in by firms, I rely on the information on RPTs reported by listed firms. Vietnamese firms, however, have poor experience of providing non-financial information in their financial statements. Listed firms report insufficient details on the existence and quantity of RPTs and their relationship with related parties. Therefore, the results of this thesis might be biased due to incomplete information disclosure.

Second, I only use ETRs as tax avoidance proxies because of data unavailability. Although both accounting ETR and cash ETR are able to detect some forms of tax avoidance activities, neither of these measures reflects tax avoidance conformity (Hanlon and Heitzman 2010). Additionally, some firms might be entitled to types of tax incentives (either in the form of preferential tax rates or tax exemptions) for investments made in specific regions, i.e., remote, or underdeveloped areas. However, , I could not incorporate the effect of firms' region effects in my analysis due to the unavailability of data. Therefore, the findings regarding the third paper should be interpreted with some caution.

Third, listed firms in Vietnam are not required to provide information about indirect ownership (Robinett et al. 2013), consequently, I do not have access to information on indirect state ownership in firms. These data would allow me to further analyse the role of state shareholders, direct and indirect, regarding the extent of RPTs employed by firms. Furthermore, given the limitations of data on indirect state ownership, the results concerning the moderating role of state ownership in the association between RPTs and the cost of debt and the association between RPTs and tax avoidance should be cautiously interpreted.

Finally, the three papers in this thesis are conducted using data during a period that has considerable variation in the application of corporate governance regulations in Vietnam. For example, the revised Corporate Governance Code was issued in 2012 and enacted in September 2012, replacing the initial Corporate Governance Code 2007 (Ministry of Finance 2012). Moreover, the revised Corporate Governance Code (2012) provides more detailed requirements for disclosing

information in public firms' corporate governance reports. Another example of changing corporate governance regulation is the issuance of the revised *Law on Enterprise* in 2014, effective on 1 July 2015 (National Assembly of Vietnam 2014). One of the changes in the revised *Law on Enterprise* (2014) is the SOE definition. The *Law on Enterprise* (2014) defines an SOE as an enterprise in which the state holds 100 percent of its equity, compared to the definition stated in *Law on Enterprise* (2015) that requires the state holds 50 percent or more of its equity (Phan 2018). These changes lead to potential inconsistency in the way firms disclose information, including information on RPTs and state ownership.

5.3. Directions for future research

Given that this represents the first attempt to examine RPTs in Vietnam, it raises some potential topics that might be further explored in the future to reveal determinants and implications of RPTs in the context of Vietnam. For example, is family, foreign ownership and management ownership a factor in determining the extent of RPTs? In addition, how are RPTs associated with the liquidity of stocks, and/or the cost of equity capital of listed firms? Such studies should provide potential investors, policymakers and regulators with further knowledge of the possible economic consequences of RPTs.

Building on my thesis, further research could use alternative proxies for the cost of debt and tax avoidance to validate findings from this thesis. For example, the association between RPTs and the cost of debt in other developing markets could be examined where credit spreads are used to estimate the cost of debt, so that the implications of RPTs to bond investors could be potentially revealed. Finally, future research on the association between RPTs and tax avoidance could also possibly consider using other proxies of tax avoidance, such as long term ETR or book-tax differences, to verify the findings from this thesis.

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