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OWNERSHIP STRUCTURE, BOARD CHARACTERISTICS, AND TAX
AGGRESSIVENESS

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by
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ABSTRACT

Ownership Structure, Board Characteristics, and Tax Aggressiveness

by

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Tax aggressiveness, as commonly proxied by the effective tax rate (ETR), measures a firm's effort spent on minimizing its tax payments. It is suggested that more tax aggressive firms have greater incentives to allocate resources to minimize taxes and thus have lower ETRs. Corporate governance has been continuously receiving attention in literature across different fields and can affect a firm's tax strategy through its control mechanism. This thesis investigates how corporate governance influences a firm's tax aggressiveness. The main hypothesis of this thesis is whether firms with good corporate governance will have less incentives and opportunities to manage tax aggressively. Specifically, I take advantages of the distinct institutional settings in China to study whether the Chinese firm's tax aggressiveness is affected by ownership structure and the characteristics of board of directors. Using all non-financial listed companies in the Chinese A-share market during 2003 and 2009 period, I find that firms with state-controlled nature and lower proportion of controlling shares pursue less aggressive tax strategies and maintain higher ETRs. In addition, my finding is consistent with prior literature that a higher percentage of the boards' shareholdings and dual service duties performed by the board chairman result in lower ETRs. However, I do not find a significant relationship between the percentage of independent directors and tax aggressiveness which may suggest the ineffective role of independent directors in China.

DECLARATION

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published or unpublished, have been duly acknowledged.

(Zhou Ying)

July 14, 2011

CERTIFICATE OF APPROVAL OF THESIS

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Master of Philosophy

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Ownership Structure, Board Characteristics, and Tax Aggressiveness

Chapter 1 Introduction

This thesis studies how corporate governance affects a firm's tax aggressiveness.¹ In particular, I focus on two aspects of corporate governance: ownership structure and board of directors' characteristics. The main hypothesis is that good corporate governance firms will have less incentives and opportunities to manage tax aggressively.

Corporate governance has been continuously receiving special attention in literature across different fields. For example, Shleifer and Vishny (1997) examine the role of investor protections and ownership concentration in financial market development. Leuz et al. (2003) measure earnings management in different investor protection regimes across 31 countries with different corporate governance. Kim and Yi (2006) use Korean data to show that larger control-ownership disparity leads to more earnings management. Some studies document the relationship between ownership concentration and stock price performance (Gul et al., 2010; Ferreira and Laux, 2007). Larcker et al. (2007) adopt seven general proxies for governance in

¹ I define tax aggressiveness as a firm's effort spent on minimizing its tax payments legally. It is different from tax evasion which is considered as illegal and unethical by the tax authority. In this thesis, tax aggressiveness, tax avoidance, tax sheltering, tax management, and tax planning are used interchangeably. More details about the definition will be discussed in Chapter 3.

measuring their relationship with firm performance.

The basic intuition for how corporate governance interacts with tax aggressiveness can be explained by the agency problem between managers and shareholders. For managers, the complexity and opaque of tax avoidance activities can become a shield for managerial opportunism (Desai and Dharmapala, 2008). Moreover, their performance-linked compensation packages provide incentives to report higher profits which can be achieved by engaging in tax aggressiveness. For shareholders, it might be generally expected that they prefer tax aggressiveness (Chen et al., 2010). However, the benefits received from aggressive tax strategy can be offset by the hidden agency costs arising from management who mask their rent extraction activities.² Thus, shareholders' attitude towards tax aggressiveness depends on their evaluation of both costs and benefits. Moreover, different levels of tax aggressiveness are desired by the majority shareholders compared with the minority shareholders. The board of directors, who serves as the mitigating party to reduce agency costs can either play a monitoring role to prevent the management entrenchment or an advisory role in helping managers to achieve better firm performance.

A stream of literature examines whether corporate governance as a mediator can

² Rent extraction is a portion of agency cost which the managements can extract rents from the firm that are beyond the optimal level of what shareholders are willing to pay. Examples of rent extraction activities include earnings management and related party transactions.

influence the shareholders' perception on company tax avoidance. Desai and Dharmapala (2006) argue that the increases in high-powered incentives tend to reduce the level of tax sheltering to a greater extent in better-governed firms than in worse-governed firms. In Desai and Dharmapala (2009) study, they further point out that the effect of tax avoidance on firm value is a function of firm corporate governance. Based on a sample of 59 indentified tax shelter participants, Wilson (2009) finds evidence that firms with strong corporate governance exhibit positive abnormal returns. Hanlon and Slemrod (2009) find a similar result that market reacts less negatively to news of tax aggressiveness in better-governed firms. One of the limitations in their studies is only tax shelter participants are examined which creates difficulties in generalizing to a broader set of companies. Moreover, these studies do not analyze the direct impact of corporate governance on tax avoidance, nor do they look into the influence of some specific governance factors such as ownership structure rather than employing the general index measures of governance developed by Gompers et al. (2003).

An emerging literature starts to focus on the direct effect of corporate governance on company's tax aggressiveness. Chen et al. (2010) raise four measures (two effective tax rate measures and two book-tax difference measures) of tax aggressiveness and find a negative association between family ownership and tax

aggressiveness. The result is consistent with family owners are more willing to forgo tax benefits to avoid the potential penalty and reputation damage. Minnick and Noga (2010) specifically study the link between board characteristics and long-run tax management. They find that companies with more independent board, less entrenched management, and increased director pay-performance-sensitivity are more likely to manage tax. However, these two studies have not examined the influence of controlling shareholders on the tax aggressiveness, nor do they link the ownership structure to board characteristics. I attempt to fill this gap in the literature by using Chinese listed companies as my sample to investigate the ownership structure and board characteristics' direct impact on firm's tax aggressiveness.

I take advantages of the distinct institutional settings in China to develop two main hypotheses. First, public firms in China maintain a high ownership concentration as in other East Asian countries (Gul et al., 2010). Moreover, for most Chinese listed companies, the ultimate controlling shareholder is the Chinese government which directly or indirectly influences companies through its shareholding (cash-flow right) or political power (control right). As such, in determining a firm's tax strategy, managers have to face the power from controlling shareholders, especially when they are also the government entities. Second, the board of directors is a relatively new internal control mechanism for most Chinese

listed firms. Prior studies provide mixed and inconclusive results on the impact of board composition, board independence, and board shareholdings on firm performance and few have addressed how these board characteristics affect a company's tax strategy. Therefore, whether the board effectiveness can be a valuable signal for tax aggressiveness is yet to be confirmed.

Using all Chinese listed non-financial A-share companies data from 2003-2009, I examine how ownership structure and board characteristics affect tax aggressiveness. Specifically, the percentage of controlling shareholdings and the nature of the controlling shareholders are selected to test the impact of ownership concentration and government intervention on effective tax rates (ETRs). I limit the board characteristics in three main areas: board composition, duality services performed by the board chairman, and board shareholdings.³ The results show that corporate governance plays an important role in tax management. Companies with higher proportion of controlling shares are more likely to adopt aggressive tax strategy as the benefits derived from the entrenchment effect of ownership concentration provide greater incentives for firms to avoid taxes. Moreover, compared with state-controlled firms, non-state-controlled firms are more tax aggressive. The finding suggests that the government plays an influential role in

³ Duality services performed by the board chairman means the board chairman is also the CEO of a firm. It is a normal practice for medium or small size firms when they are lack of resources and expertise. Although the board independence issue may arise, the Company Law in China does not restrict such duality role.

affecting a company's tax strategy. For board characteristics, my results are consistent with prior literature that higher percentage of the boards' shareholdings and dual-service duties performed by the chairman lead to lower ETRs. However, I do not find a significant relationship between the percentage of independent directors and tax aggressiveness which may suggest the ineffective role of independent directors in China.

There are three rationales for conducting my research. First, ownership structure and board characteristics are considered as two important areas in corporate governance literature. This thesis tries to use different proxies to capture their influences on tax aggressiveness in depth rather than using one general corporate governance score. Second, the Chinese listed companies which are characterized by concentrated ownership and government intervention are under studied in the taxation area. My research can fill this gap. Third, the results of this research are not only a valuable reference for company executives to set up their corporate governance, but also for tax authority to revise the related tax law and tax enforcement.

This thesis contributes to the extant literature in several ways. I extend the extant studies to examine the direct impact of corporate governance on tax aggressiveness. Two specific aspects—ownership structure and board characteristics

are studied rather than employing one general index to proxy for corporate governance. Besides, the unique ownership structure in China provides me an opportunity to explore the under-studied field that links tax avoidance activities to ownership concentration, especially when the government is the controlling shareholder. In addition to the classic issues of ownership structure in the Chinese context, I consider the governance mechanism played by the board of directors which is new and fresh to the Chinese listed firms. Prior literature studied broadly the board size and independence, however, less attention is given to the duality services of board chairman and board shareholdings. My study can fill this gap by providing a more in depth examination of board effectiveness.

The rest of the thesis proceeds as follows. Chapter 2 discusses the institutional background in China. Chapter 3 reviews the related literature and develops the hypotheses. Chapter 4 describes the data, research methodology, and model. Chapter 5 presents the results and sensitivity tests, and Chapter 6 concludes.

Chapter 2 Institutional Background

2.1 Enterprise Income Tax in China

In China, state-owned enterprises, collective enterprises, private enterprises, joint operation enterprises, joint equity enterprises, and other organizations are legal taxpayers of enterprise income tax. The tax base is the world-wide income from business and productions. Companies are taxed in two levels: central government which is governed by the State Administration of Taxation (SAT) and local government which is levied on provincial basis.

Prior to 2008, the statutory enterprise income tax rates for domestic companies and foreign (invested) companies were different. According to the *Provisional Regulations on Enterprise Income Tax in People's Republic of China*, the statutory rate is 33% for domestic companies, while the *Income Tax Law of the People's Republic of China for Enterprises with Foreign Investment and Foreign Enterprises* stipulated a reduced tax rate of 15% for those foreign companies doing businesses in special economic zones or 24% for those settled in open costal economic zones. On 16 March 2007, the two laws were combined into one new enterprise income tax law, effective from 1 January 2008. The new unified tax rate is 25% for both domestic and foreign invested enterprises.

In this thesis, I use year dummies from 2003 to 2009 to control for not only the tax reform but also the changes of accounting rules that may create difficulty in interpreting the difference in ETRs. In the sensitivity tests, tax reform will be examined in depth separately.

2.2 Ownership structure in China

China was dominated by state-owned enterprises (SOEs) before the ownership structure reform in 2005. In SOEs, the government was the only controlling shareholder by holding the non-tradable state-owned shares or legal person shares. This highly concentrated ownership leads to the inefficient and static operation in SOEs as they were set up to pursue government's political policies rather than maximize shareholders' interests. The ownership structure reform was to convert part of the non-tradable shares to tradable shares which can be bought and sold in the capital market so that different types of shareholders such as institutional shareholders, employee shareholders, and individual shareholders can have more power to monitor the SOEs. Moreover, the reform encourages the SOEs to respond to the market rather than achieve the economic targets set by the government.

Although the initial intention of the reform is to allow institutional and individual shareholders to participate in the stock market, the government still

maintains invisible controls in companies with high government ownership. In other words, the transformation cannot totally dilute or eliminate the profound influence of the government on firms' operation. Even though the government does not directly intervene in a firm's operation, it can still indirectly impose influences through the government entities by setting up the complex shareholding pyramid. Another ownership issue is the ownership concentration in Chinese listed firms. Compared with the diffuse ownership structure in the U.S., many listed companies in China still have one major owner holding a significant percentage of shares (Bai et al., 2004). Thus, the special ownership structure characteristics in China such as the controlling shareholdings and the government controlling shareholder are worthy to be examined.

In this thesis, controlling shareholder is defined as the one that satisfies one of the following criteria according to the Article 41 of the *Guidelines for the Articles of*

Association of Listed Companies:

- 1) The one who can elect more than half of the directors;
- 2) The one who can execute over 30% of controlling rights;
- 3) The one who holds more than 30% of shares; or
- 4) The one who can control the company in practice by other forms.

Prior literature usually uses 20% rather than 30% shareholdings as the cut off point for controlling shareholder, I will also perform a sensitivity analysis by using this alternative definition for controlling shareholder.

2.3 Board of Directors in China

Compared with some Western countries such as the U.S. and the U.K., corporate governance in China is still at the infant stage. The milestone was the issuance of *Code of Corporate Governance for Listed Companies in China* (the “Code”) by China Securities Regulatory Commission on 7 January 2001. The Code sets up the basic principles of investors’ interests protection and the code of conduct for managers, directors as well as supervisors. There are currently three laws and regulations that govern the board of directors: the *Company Law*, the *Establishment of Independent Directors Systems by Publicly Listed Companies Guiding opinion* (the “Guiding Opinion”), and the Code. The *Company Law* is the only mandatory law for firms to follow while the other two are voluntarily adopted guiding opinions.

The major duties of the board are to ratify management decisions and monitor management performance (Fama and Jensen, 1983). The main duty of the board chairman is to organize regular board meetings and oversee the process of hiring, firing, compensating and evaluating the CEO (Jensen, 1993). There are some special characteristics of the board of directors in China. First, the independent directors are more decorative than functional (Su, 2010). Many independent directors serve more than one board across different companies (interlocking directorate) and their main tasks are to attend board meetings and social. The interlocking directorate although

creates information and resources sharing through these ties, it imposes uncertainties on shareholders about the board independence and effectiveness. Second, the duality role of the board chairman is not prohibited. In this case, both the board and the company are led by the same person that may increase the collusion between management and the board while weaken the proper supervision function of the board. Third, the board of directors in Chinese joint-stock firms consists mainly of representatives or officials from the government and other state entities, whose interests are not the same as those of outside investors (Su, 2005). Even though the government bureaucrats do not serve the board, the state can formally exercise its rights as a controlling shareholder by appointing directors to the board (Tenev and Zhang, 2002). In this case, the government associated controlling shareholders can pursue their own interests.

Chapter 3 Literature Review and Hypothesis Development

3.1 Tax aggressiveness

There are no universally accepted definitions or measurements of tax aggressiveness (Hanlon and Heitzman, 2010). In this thesis, I define tax aggressiveness as a firm's effort spent on minimizing its tax payments legally. It has the similar meaning with tax planning, tax management, and tax avoidance provided that they are acceptable within the legal and ethical dimensions by the tax authority. However, as tax planning is often based on expert judgment without clearly written guidelines, the extreme level of tax aggressiveness is tax avoidance. Tax avoidance is strictly prohibited by tax authority and it is beyond the scope of this thesis.

It is suggested that tax aggressive firms have greater incentives to allocate resources to lessen tax expenses and thus result in lower ETRs and a wider gap between book and taxable incomes. For example, a firm can set up an offshore subsidiary in tax haven such as British Virgin Islands (BVI) or Bermuda and transfers some profits to those subsidiaries in order to reduce total worldwide tax expenditures. Factors that influence tax aggressiveness include firm-specific characteristics and corporate governance. Firm-specific characteristics, such as firm size, profitability, growth, and leverage ratio are all inherent to a corporation which

cannot be changed in a short time period. My main focus in this thesis is how corporate governance can affect a firm's tax strategy when firm characteristics are controlled for. Specifically, I focus on examining the direct impact of two important components of corporate governance—ownership structure and board characteristics on a firm's tax aggressiveness.

Tax aggressiveness can associate with both benefits and costs. The most significant benefit is the increase in after-tax firm value which is a positive signal to investors. In addition, the complexity and opaque of tax aggressive activities provide good opportunities for managers to mask their rent extraction activities (Desai and Dharmapala, 2006). Moreover, managers may not need to tradeoff between lower taxable income and higher accounting income because tax minimization can be achieved without affecting accounting profits (Phillips et al., 2003; Frank et al., 2009). It is reasonable to expect that the managers can benefit more than shareholders so that they have incentives to engage in tax aggressive activities. One potential risk for company to adopt aggressive tax strategy is that it may unintentionally to be “too aggressive” that fits into the area of tax evasion as the final judgment lies in the tax authority. If this is the case, the associated costs can be the potential penalty imposed by SAT which results in a firm's reputation being damaged and share price being discounted by investors (Chen et al., 2010). In

addition, the resources invested in tax management such as hiring tax experts, engaging in complex transfer pricing activities, allocating time and effort can be opportunity costs for forgoing other profitable investments.

3.2 Ownership structure

Ownership structure is a major issue to study in corporate governance (La Porta et al., 2000). Corporate governance literature has documented that corporate ownership is concentrated on the hands of controlling shareholders around the world (Claessens et al., 2002). La Porta et al. (1999) argue that the prevalence of ownership concentration can be attributed to weak investor protection. Concentrated ownership is a way to solve the agency problem between managers and shareholders, however, it creates another type of conflict of interests: the controlling shareholders and minority shareholders (Desai and Dharmapala, 2008). From the management entrenchment perspective, ownership concentration provides incentives and opportunities for controlling shareholders to extract firm resources at the expense of outside minority shareholders (Fan and Wong, 2002). The entrenched controlling shareholders can utilize their effective control over the firm by engaging in self-dealing transactions (Shleifer and Vishny, 1989). In general, firms with concentrated ownership have greater incentives to avoid taxes (Desai and

Dharmapala, 2008).

Adhikari et al. (2006) argue that the impact of ownership structure on ETRs has not been explored sufficiently, especially in developing countries. For Asian countries like China, listed companies usually have one major owner holding a significant percent of shares (Bai et al., 2004). Gul et al. (2010) suggest that ownership concentration is one of the main characteristics observed in Chinese listed firms and corporate ownership is highly concentrated in the hands of a single investor associated with the government, exercising nearly full control over corporate decisions and directly engage in managerial process. Thus, I predict that firms with higher percentage of controlling shareholdings pursue more aggressive tax strategies.

Chan et al. (2010) claim that in China, government entities are the controlling shareholders of many listed companies. Cheung et al. (2010) argue that the government who remains the major shareholder of SOEs can hinder the realization of good corporate governance by Chinese listed firms. Su (2010) finds that government-controlled firms intend to use less debt financing and lessen the unrelated diversification. The concentrated ownership via direct state-owned shares will increase the level of firm inefficiency (Hu et al., 2010).

Prior studies suggest two views regarding government intervention through

controlling shareholdings: social and political view. From the social view, government-controlled firms can maximize social welfare (Atkinson and Stiglitz, 1980). The government sometimes uses state ownership to achieve its social goals such as maximizing tax revenues (Wu et al., 2009). The political view suggests that individual politicians try to influence state-controlled firms to pursue their political objectives (Shleifer and Vishny, 1994). A government controlling shareholder can use the listed company as a vehicle to achieve political goals even though they may conflict with shareholders' interests (Bai et al., 2000). Consistent with these views, state-controlled firms are less tax aggressive because they help the government to achieve its social and political objectives such as public infrastructure construction.

Khurana and Moser (2009) find that firms with higher levels of long-term institutional ownership are less tax aggressive because institutional owners are more concerned with long-term consequences of aggressive tax strategy. In contrast, higher levels of short-term institutional ownership lead to more tax aggressive as they focus on more short-term profits making. Chen et al. (2010) find that family firms are less tax aggressive. They argue that family owners with high shareholdings can enjoy more benefits from tax savings. However, the potential costs such as reputation damage and penalty imposed by IRS are also higher for them. Compared with non-family owners, family owners are more concerned about the associated

cost of tax aggressiveness, therefore they are less tax aggressive. The result is consistent with Khurana and Moser (2009)'s findings as family owners are more likely to focus on long-term investment horizon. In summary, the short-term benefits received from tax aggressiveness can be diluted by associated costs in the long-run. Family owners and long-term institutional shareholders are more concerned on sustainability development of the firm who may object to tax aggressiveness. Thus, when the ownership is concentrated on the shareholder who can execute major influences on the firm's strategies, such as the family owners or institutional shareholders, it may lead to less aggressive tax strategy.

Overall, both the concentrated ownership and government intervention are commonly observed in Chinese listed companies. The controlling shareholders have influential impact on a firm's operation and strategy implementation. Tax aggressiveness, as an effective means to increase after-tax firm value and cover up management rent extraction activities, may induce controlling shareholders to entrench from minority shareholders while enjoying tax-saving benefits. Thus, a higher percentage of controlling shareholdings may lead to more aggressive tax strategy. The unique ownership structure in China results in the presence of the government as the controlling shareholder of most listed firms. In this case, the power of the controlling shareholder is strengthened and a more social or political

firm strategies are implemented. Therefore, less tax aggressive could be observed in state-controlled firms. Based on the above reasons, I hypothesize:

H1(a):The percentage of controlling shareholdings is positively correlated with a firm's tax aggressiveness, *ceteris paribus*.

H1(b):State-controlled firms are less tax aggressive than non-state-controlled firms, *ceteris paribus*.

3.3 Board of directors

The separation of ownership and control creates agency costs between the principals (shareholders) and agents (management). The board of directors, which maintains the power to hire, fire, and compensate management, can serve to align interests of the two parties and reduce the agency costs (Baysinger and Butler, 1985). Other than the monitoring role, the board of directors also serves the advisory role. It is in the director's best interest to increase the value of the firm, with which one method is through effective management of the firm's tax expenditure (Yermack, 2004). Thus, the board plays an important role in corporate governance (Fama and Jensen, 1983).

Most of the prior studies link board of directors to firm performance, only one published paper comes to my knowledge that examines the direct effect of the board

on tax management. Minnick and Noga (2010) study the board composition, managerial entrenchment, and director compensation and find that companies with more independent board, less managerial entrenchment, and increased performance-based compensation for directors are more likely to manage tax. To extend the existing literature, in this thesis, I focus on the impact of board composition, duality role of the board chairman, and board shareholdings on tax aggressiveness.

3.3.1 Board Composition

The composition of the board of directors determines its effectiveness (Jensen, 1993; Dechow et al., 1996). The mixture of insiders and outsiders should be an optimal constitution of board (Fama and Jensen, 1983)⁴. On the one hand, the board with more insiders may potentially face “independence” problem because their monitoring role is diminished by engaging in self-reviewing activities. On the other hand, the dominant number of outsiders can create a wider gap between the management and shareholders as they have less insight into firm operation.

Prior literature provides mixed results of board independence on firm performance. Some studies find that the independent directors can have positive

⁴ Insider refers to the one who obtains knowledge of a firm’s daily operation, such as a firm’s executive, employee, and retired employee. Outsider constitutes independent director such as the university professor, financier, and consultant.

impact on firm performance. Rosenstein and Wyatt (1990) point out that the board comprises largely of outsiders are more effective and the addition of an outside director can increase firm value. Weisbach (1988) reports that CEO turnover is highly correlated with firm performance in companies having outside directors dominant board. Borokhovich et al. (1996) also confirm that the board with more outside directors is more likely to replace poor CEOs with executives from other firms. Byrd and Hickman (1992) find that bidding firms with at least half of independent outside directors have higher announcement-date abnormal returns. The boards with more independent directors may help to improve firm performance and increase firm value (Baysinger and Butler, 1985). On the other hand, some find negative or even no relationship between board independence and firm performance. The independent directors may help to allocate resources to a firm's tax management strategy by providing their unique experience and useful knowledge so that more tax aggressive will be observed (Minnick and Noga, 2010). The CEOs have dominant role in selecting outside directors which may impose doubts about their independent performance (Mace, 1986). Dahya and McConnell (2005) find no evidence that boards dominated by outside directors have better performance than those dominated by inside directors.

In emerging economies like China, Singh and Gaur (2009) argue that the board

of directors plays an advisory role rather than the oversight role. Peng (2004) finds that the outside directors have positive effect on firm performance as they are more concerned with firm operation to maximize shareholders' investment and bring useful resources as well as social ties. Kato and Long (2006) also claim that the independent directors who are truly independent of the controlling shareholders have potential to improve the quality of corporate governance. I predict that the firms with more independent directors are less tax aggressive with the following reasons. First, directors who are appointed by shareholders shall protect shareholders' interests from being extracted by management. If shareholders decide not to adopt tax aggressiveness after considering the related costs and benefits, more independent directors may help to objectively evaluate and disapprove such aggressive tax strategies. Second, the interlocking directorate held by independent directors creates a greater incentive to monitor corporate decision on behalf of all shareholders (Fama and Jensen, 1983). As a result, less tax aggressive strategy will be adopted because those independent directors are more concerned with establishing their own reputation to certify their abilities in providing services on different boards. Yermack (2004) studies that the board of directors has two incentives to protect shareholders' interests: the reputation and compensation. Interlocking directorate strengthens the directors' monitoring role to maintain good reputation and may be rewarded with

board seats in other companies. Therefore, less firm tax aggressive will be observed.

Third, compared with inside directors, outside directors are more long-term oriented because they typically are officers of other firms or are not currently engaged in business (Baysinger and Bulter, 1985). The tax avoidance activity is a short-term opportunism investment which may incur long-term costs such as reputation damage. Thus, to perform the advisory role, the independent directors are more oppose to tax aggressiveness. Based on the above, I hypothesis that:

H2a: The percentage of independent directors of the board is negatively correlated with a company's tax aggressiveness, *ceteris paribus*.

3.3.2 CEO as Chairman of the Board

The duty of the board chairman is to organize board meetings and oversee the process of hiring, firing, and compensating the CEO (Jensen, 1993). CEO, as the executive leader of a firm, is the final decision maker in terms of entity operation. It is common that the chairman and CEO is the same person in the U.S.; while in most of the European countries such as the U.K. and Canada, these two roles are always separated (Lin and Liu, 2009). The different practice across countries reveals that the net effect of the chairman duality role has two sides which are consistent with the stewardship theory and agency theory (Braun and Sharma, 2007). From the

stewardship perspective, the managers are regarded as the steward who can protect and maximize shareholders' interests through firm performance (Davis et al., 1997). Thus, the duality service performed by the CEOs can help to execute their autonomy in decision making which leads to the positive impact on firm performance. The combined leadership structure creates speed decision-making and effective leadership which firm strategy formulation and implementation by the CEO are in line with the board expectation (Donaldson and Davis, 1991; Alexander et al., 1993). Moreover, the duality role of chairman can avoid potential rivalry between the CEO and chairperson and diminish the confusion as a result of the existence of two spokespersons (Baliga et al., 1996). On the other hand, the agency theory suggests that a more effective control over managers to align their interests to the shareholders will be achieved by the separation of the CEO and the chairman. The duality role of board chairman may hinder the board's ability to properly perform oversight and governance role while impairing effective monitoring (McWilliams and Sen, 1997; Dalton and Kesner, 1997). The co-services performed by the board chairman may also insecure directors honestly evaluating firm performance which in turn leads to long-term organization drift (Carver, 1990). Having the CEO also served as chairman of the board can have negative effect on firm performance (Klein, 2002). Thus, the effective board consists of separation of the CEO and chairman

position (Jensen, 1993). In addition, the chairman of the board should be a non-executive director to ensure the overall independence of the board (Beasley et al., 2000; Tina and Lau, 2001). Others, such as Brickley et al. (1997) find that the combined leadership structure has no strong influence on firm performance or managerial behavior.

The non-conforming between financial and tax reporting rules provides the opportunity for managers to engage in tax reporting aggressiveness without affecting their book earnings (Phillips et al., 2003). In other words, a firm can simultaneously report higher book income and lower taxable income without facing the trade-offs between financial and tax reporting decisions (Frank et al., 2009). In this win-win situation, CEOs are more willing to participate in firm tax aggressiveness as they can benefit from performance-linked compensation and tax savings. I predict that the duality role of the board chairman can increase the level of firm tax aggressiveness for three reasons. First, the combined leadership structure strengthens the relationship between the board and executive teams which the aggressive tax strategy can be easily approved and implemented without incurring time lags. Second, as the oversight and governance role of the board are potentially reduced by the duality service, the agency problem between managers and shareholders is further aggravated that results in more tax aggressiveness. Third, the

leadership is concentrated in one decision maker and the board members are unlikely or unable to challenge his tax strategy proposals without sufficient tax knowledge. Based on the above reasons, I hypothesis that:

H2b: The company with the same person serves as CEO and the board chairman is more likely to adopt aggressive tax strategy, *ceteris paribus*.

3.3.3 Board Shareholdings

Encouraging outside directors to hold equity interests can provide better incentives (Jensen, 1993). Jensen and Meckling (1976) suggest that equity ownership by non-executive board members creates incentive for directors to protect financial stake in the firm. Johnson et al. (1993) find that the more equity holdings of outside board members, the more their involvement in strategic restructuring. Different board ownership level may result in different corporate performance. Morck et al. (1988) suggest a positive relation between board shareholdings and firm performance when board ownership increases from 0% to 5%. Kren and Kerr (1997) find that the board of directors with significant shareholdings has stronger linkage between firm performance and compensation.

With board shareholdings, the interests of board of directors are aligned with the firm performance. With good corporate performance, the board can not only

receive increased performance-linked compensation but also return from shareholding. Tax aggressiveness, which serves as a way to increase after-tax firm value, can help the board of directors to enjoy these two benefits. Moreover, McWilliams and Sen (1997) study that when inside and outside directors increase their ownership of the company, the monitoring role of the board becomes ineffective and the potential managerial entrenchment incentives increase. Therefore, more aggressive tax strategy will be approved by directors and implemented by the company. Based on the above reasoning, my hypothesis is that:

H2c: The percentage of board shareholdings is positively correlated with a company's tax aggressiveness, *ceteris paribus*.

Chapter 4 Research Method

4.1 Data collection

My sample consists of all A-share non-financial companies listed in Shanghai and Shenzhen Stock Exchange covering the period 2003-2009. Consistent with prior research (e.g. Gupta and Newberry, 1997; Frank et al., 2009; Chan et al., 2010), “Finance and Insurance” firms are eliminated because of their special accounting treatments. The sample period was chosen because the *Corporate Governance Code* was effective from 2002 and the related controlling shareholder data are only available from 2003. All the accounting data used in this thesis are extracted from China Stock Market and Accounting Research (CSMAR) database.

Panel A of Table 1 shows the summary of sample selection. The original sample from CSMAR is 10,122 firm-year observations. 623 observations with insufficient data to calculate ETRs are deleted. Furthermore, I restricted ETRs to [0,1] which is consistent with prior study, e.g. Zimmerman (1983). 1,454 observations with missing data were also deleted. Thus, the final sample consists of 6,842 firm-year observations (1,552 firms).

Panel B of Table 1 reports the distribution of sample firms by year. The number of firms is evenly distributed over the seven-year sample period. Panel C presents

the distribution of sample firms across industries based on the *Guidance on the Industry Category of Listed Companies* issued by the China Securities Regulatory Commission (CSRC) industry categorization. Over half of the firms are from manufacturing, 102 firms (6%) are from information technology sector, and less than 1% is from culture and media.

Table 1. Sample Selection and Sample Distribution***Panel A: Sample Selection***

Firm-year observations of all listed A-share non-financial companies between 2003-2009	10,122
Less observations with insufficient data to calculate ETR	623
Less observations with ETR<0 or ETR>1	1,203
Less observations with missing data	1,454
Total observations for regression	6,842

Panel B: Yearly Distribution

Years	No. of Firm-Years (%)
2003	879(12.85)
2004	972(14.21)
2005	901(13.17)
2006	984(14.38)
2007	1,080(15.78)
2008	1,020(14.91)
2009	1,006(14.70)
Total	6,842(100)

Panel C: Industry Distribution

Industry Type	No. of Firms (%)
Agriculture	68(4.38)
Mining	28(1.80)
Manufacturing	893(57.54)
Electricity, gas, and water	58(3.74)
Building and construction	32(2.06)
Transportation and logistics	57(3.67)
Information technology	102(6.57)
Commerce	96(6.19)
Real estate	100(6.44)
Service	44(2.84)
Culture and media	11(0.71)
Conglomerate	63(4.06)
Total	1,552(100)

4.2 Measures of tax aggressiveness

Effective tax rate (ETR) is commonly used to measure corporate tax aggressiveness in prior literature (e.g. Stickney and McGee, 1982; Gupta and Newberry, 1997; Wilson, 2009; Hanlon and Slemrod, 2009; Chen et al., 2010). Besides ETRs, emerging alternative measurements of tax aggressiveness exist in recent studies, such as long-run cash ETR (Dyreng et al., 2008), abnormal total book-tax differences (Desai and Dharmapala, 2006), and permanent book-tax differences (Frank et al., 2009).

In this thesis, I follow Chen et al. (2010) to measure ETR as the ratio of total tax expense to pretax income for a given firm i in year t :

$$ETR_{it} = \text{Total Tax Expense}_{it} / \text{Pretax Income}_{it}$$

An alternative ETR measurement (computed as dividing total tax expense by earnings before interests and taxes) which is used by Gupta and Newberry (1997) will be applied in the robustness checks. One of the benefits for using ETR is the required data for computation can be easily extracted from publicly available financial statements.

Dyreng et al. (2008) further decomposed the ETR into two parts: Current ETR (Total income tax expense – deferred tax expense)/Pretax Income) and Deferred ETR (Deferred income tax expense/Pretax income) which can more precisely

examine the effect of deferred tax. Another frequently used measurement is the Cash ETR (Cash taxes paid/ Pre-tax income). I do not apply these alternative ETRs in this thesis for two reasons. First, the deferred tax assets/ liabilities are not required items to be included in financial statements by law until the newly release of revised China's accounting standard in 2006, thus, if the decomposition of ETR applies, the deferred tax expense can only be calculated from 2006 which not all of my sample periods are covered. Second, the cash flow statements of Chinese firms do not present enterprise income tax payments separately, rather, all types of cash taxes paid are included in one item named "various taxes paid" which I cannot extract the exact amount of income taxes paid by cash.

4.3 Research design

To test the effects of ownership structure and board characteristics on tax aggressiveness, I estimate the following regression:

$$\begin{aligned}
 ETR_{it} = & \beta_0 + \beta_1 CS_{it} + \beta_2 CS_nature_{it} + \beta_3 Indep_director_{it} + \beta_4 Co_services_{it} + \\
 & \beta_5 BOD_shares_{it} + \beta_6 LEV_{it} + \beta_7 SIZE_{it} + \beta_8 MB_{it} + \beta_9 ROA_{it} + \beta_{10} CAPINT_{it} + \\
 & \beta_{11} INVINT_{it} + \beta_{12} \sum_{t=2003}^{2009} Year_t + \beta_{13} \sum_{i=1}^{12} Industry_i + \varepsilon_{it}
 \end{aligned}$$

In this regression, the dependent variable *ETR* equals to total income tax expenses divided by pretax income. Both the explanatory variables *CS* and *CS_nature* are included to test the effect of ownership structure on tax aggressiveness. *CS* is the

percentage of a company's shares held by the controlling shareholders. For H1(a), I expect β_1 to be negative which means that higher ownership concentration could lead to a lower effective tax rate, i.e. more tax aggressive. *CS_nature* is a dummy variable which equals to 1 if the controlling shareholder is the government, 0 otherwise. As hypothesized in H1(b), a firm has less incentives to engage in aggressive tax strategy when its ultimate controlling shareholder is the Chinese government. Therefore, I expect β_2 to be positive. In the sensitivity test, two groups of alternative measurements to proxy for ownership structure will be used. I replace *CS* and *CS_nature* with 1) *LSH* (the percentage of shares held by the largest shareholder) and *LSH_nature* (dummy variable which equals to 1 if the largest shareholder is the government and 0 otherwise) respectively; and 2) *STATE_OWN* (the percentage of state-owned shares).

The *Indep_director*, *Co_services* and *BOD_shares* are included to test board characteristics. *Indep_director* denotes the percentage of independent directors served on the board. According to H2(a), firms with more independent directors are less tax aggressive, so I expect β_3 to be positive. *Co_services* is a dummy variable which equals to 1 if the board chairman also serves as a firm's CEO, 0 otherwise. Consistent with H2(b), I predict that the duality role of the board chairman will lead to more tax aggressiveness and β_4 should be negative. *BOD_shares* measures the

board shareholdings which is the percentage of a firm's shares held by all directors of the board. As hypothesized in H2(c), I expect β_5 to be negative.

Following prior literature, I include six control variables that are known to influence tax aggressiveness. *LEV* denotes a firm's capital structure which is measured as total liabilities divided by total assets. On the one hand, a firm with high financial leverage would have lower ETR because of the deductibility of interest payments for tax purpose. On the other hand, a firm with high tax burden has incentive to use more debt financing. Stickney and McGee (1982) find a negative relation between ETR and financial leverage while Gupta and Newberry (1997) suggest a positive relation. *Size* is measured as the natural logarithm of the total assets. The relation between firm size and tax aggressiveness is also unclear. Porcano (1986) and Mills et al. (1998) show that there is a positive correlation. In contrast, Stickney and McGee (1982) and Shevlin and Porter (1992) find a negative relation. *MB* is the market value per share divided by net assets per share, and is used to measure the firm's investment opportunities. Spooner (1986) argues that ETR may be higher for firms with greater investment opportunities, however, Derashid and Zhang (2003) and Chen et al. (2010) find inconsistent results with different ETR measurements. *ROA*, a variable denotes a firm's profitability, is calculated as the pretax income divided by the total asset. It is suggested that more

profitable companies would pay higher ETRs (Gupta and Newberry, 1997; Wilson, 2009). *CAPINT* and *INVINT* are used to control for assets mix (Stickney & McGee, 1982; Gupta and Newberry, 1997). *CAPINT* equals to property, plant, and equipments (PPE) divided by total assets and *INVINT* is the year-end total inventory divided by total assets. Capital intensive firms are more affected by the differences of accounting and tax treatments of depreciation (Chen et al., 2010). Their effects on tax aggressiveness are inconclusive. Besides, I also include the industry dummies and year dummies to control for potential industry and year fixed effects. The definitions of all variables in the regression are shown in Appendix.

Chapter 5 Empirical Results

5.1 Descriptive statistics

Table 2 Panel A shows the descriptive statistics of the regression explanatory variables. The average ETR is 22.7% which is marginally lower than the statutory tax rate of 25% (33% before the tax reform). The mean percentage of controlling shareholdings is less than 50% with the maximum of 75.2% and minimum of 15.6%. Of all the controlling shareholders in the sample firms, more than half of the firms are state-controlled which suggests the vital role played by the Chinese government in controlling listed companies. For the board characteristics, on average, the sample firms fulfill the 1/3 independent board members requirement, appoint different person to serve as the board chairman and CEO, and only a small portion of shares are held by the board members. For the control variables, the average leverage ratio (*LEV*) is 47.5% which is considerable higher than the U.S. firms (20.1% for family firms and 24% for non-family firms) in Chen et al. (2010) study. This indicates that the sample firms rely on debt financing. The investment opportunities (*MB*) in China are widely dispersed with the lowest of 0.52 and highest of 806.67.

Table 2 Panel B presents the descriptive statistics of all variables partitioned by the nature of controlling shareholders. In general, state-controlled firms have higher

ETRs and percentage of controlling shareholdings than non-state-controlled firms. It is consistent with my hypothesis that government intervention results in less tax aggressiveness as reflected by higher ETRs. For the board characteristics variables, less board independence and board shareholdings can be observed for state-controlled firms. For the firm characteristics, state-controlled firms are more leveraged (*LEV*), in larger size (*SIZE*), exhibit worse operating performance (*ROA*), and are more capital intensive (*CAPINT*).

Table 2 Panel C presents the correlations among variables. Consistent with my hypotheses, *CS*, *Co_services*, and *BOD_shares* are negatively correlated with ETR. In addition, *CS_nature* is negatively correlated with ETR which indicates that the state-controlled firms are less tax aggressive. Moreover, the control variables have significant relationship with ETR, except for *SIZE*. Most of the correlations among test and control variables are small, thus, multi-collinearity is not an issue.

Table 2. Descriptive Statistics***Panel A: Descriptive Statistics of Regression Variables***

Variable	Mean	S.D.	Min	Median	Max
ETR	0.227	0.136	0.000	0.198	0.995
CS	0.405	0.147	0.156	0.394	0.752
CS_nature	0.583	0.493	0.000	1.000	1.000
Indep_director	0.351	0.048	0.000	0.333	0.667
Co_services	0.137	0.344	0.000	0.000	1.000
BOD_shares	0.028	0.104	0.000	0.000	0.748
LEV	0.475	0.180	0.000	0.487	0.978
SIZE	21.443	1.010	17.537	21.349	24.802
MB	4.039	12.942	0.520	2.643	806.667
ROA	0.078	0.061	-0.384	0.065	1.651
CAPINT	0.292	0.186	0.000	0.266	0.960
INVINT	0.173	0.151	0.000	0.138	0.897

Panel B: Descriptive Statistics of Regression Variables Partitioned by Controlling Shareholders Nature

	State-controlled firms (N=3,987)		Non-state-controlled firms (N=2,855)		Diff. Mean
	Mean	S.D.	Mean	S.D.	
ETR	0.237	0.142	0.214	0.125	0.023***
CS	0.438	0.147	0.359	0.133	0.079***
Indep_director	0.347	0.047	0.358	0.049	-0.011***
Co_services	0.093	0.291	0.199	0.399	-0.106***
BOD_shares	0.001	0.012	0.066	0.154	-0.065***
LEV	0.480	0.178	0.467	0.184	0.013***
SIZE	21.620	1.000	21.194	0.971	0.426***
MB	3.509	13.462	4.779	12.141	1.710***
ROA	0.074	0.053	0.084	0.071	-0.010***
CAPINT	0.322	0.193	0.251	0.166	0.573***
INVINT	0.164	0.145	0.186	0.158	-0.022***

Notes: *** indicates statistical significance at the 1% level (two-tailed tests).

Panel C: Correlation Matrix

	ETR	CS	CS_ nature	Indep_ director	Co_ services	BOD_ shares
ETR	1.000					
CS	-0.034***	1.000				
CS_nature	0.084***	0.265***	1.000			
Indep_director	-0.032***	-0.044***	-0.116***	1.000		
Co_services	-0.066***	-0.058***	-0.151***	0.058***	1.000	
BOD_shares	-0.124***	-0.086***	-0.303***	0.098***	0.138***	1.000
LEV	0.147***	-0.049***	0.034***	0.019	-0.067***	-0.156***
SIZE	-0.004	0.203***	0.208***	0.010	-0.121***	-0.186***
MB	-0.041***	-0.038***	-0.048***	0.011	0.047***	0.015
ROA	-0.148***	0.076***	-0.085***	0.021**	0.048***	0.144***
CAPINT	0.024**	0.086***	0.189***	-0.082***	-0.053***	-0.126***
INVINT	0.123***	-0.012	-0.073***	0.053***	0.000	-0.002

	LEV	SIZE	MB	ROA	CAPINT	INVINT
LEV	1.000					
SIZE	0.332***	1.000				
MB	0.092***	-0.070***	1.000			
ROA	-0.242***	0.051***	0.096***	1.000		
CAPINT	-0.060***	0.115***	-0.031**	0.033***	1.000	
INVINT	0.308***	0.079***	0.004	-0.085***	-0.492***	1.000

Notes: **, *** indicate statistical significance at the 5% and 1% level, respectively (two-tailed tests).

5.2 Multivariate analysis

Table 3 presents the OLS regression results for the model. The industry and year dummies are controlled for but not tabulated. The results of the ownership structure characteristics, *CS* and *CS_nature*, are consistent with H1(a) and H1(b). The coefficient of *CS* is negative and is positive for *CS_nature*, both of which are significant at 1% level. With higher ownership concentration, the controlling shareholders maintain sufficient power to execute firm strategies and entrench minority shareholders. Thus, tax aggressiveness, which is considered as knowledge specific, complex but a direct means to cover rent extraction activities, is more likely to be engaged by controlling shareholders. As predicted in H1(b), government intervention can reduce companies' incentives to manage taxes because those firms are either under the pressure to pursue political objectives or help to achieve social goals. Therefore, state-controlled firms are less tax aggressive.

For the board characteristics, the coefficients of *Co_services*, and *BOD_shares* are all in the expected directions as stated in H2. Consistent with H2(b), the same person serves as both the board chairman and CEO can have negative impact on ETR. In other words, the duality role of the board chairman results in ineffective monitoring of the board and obstructs its oversight and governance role, which in turn can lead to firm tax aggressiveness. The significant negative coefficient of board shareholdings indicates that the more shares granted to directors will result in

larger managerial entrenchment incentives to engage in aggressive tax strategy. The result is in line with H2(c).

However, I find no significant relationship between *Indep_director* and ETR to support H2(a). There are several reasons to explain this finding. Compared with the well developed corporate governance mechanism in developed countries such as the U.S., China is still at the infant stage and the independent directors may not necessarily serve the role to mitigate the conflict of interests between managers and shareholders. They are often considered as compliance of the regulation, for reputation establishment, and resources generation. Expertise and resources are two essential requirements in engaging in aggressive tax strategy. The independent directors are seldom tax experts because they are mainly professors in education institutions, retirees in subsidiaries, and prior executives in current serving firms (Baysinger and Butler, 1985). Their “part-time” mode and inactive participation reduce effectiveness of the monitoring role, not to mention bringing tax-specific resources. In Chinese listed firms, the independence of the board is weak and the independent directors are more decorative than functional (Su, 2010). The result is consistent with studies conducted in Chinese context, such as Bai et al. (2004), Gao and Ma (2002), and Sun and Zhang (2000), which show that independent directors in Chinese listed companies do not influence firm performance.

Regarding control variables, companies with higher leverage (*LEV*), smaller in size (*SIZE*), lack of investment opportunity (*MB*), and low profitability (*ROA*) are less tax aggressive and maintain higher ETRs. The positive relation between ETR and leverage (*LEV*) suggests that firms with high marginal tax rates are more willing to use debt financing because of the deductibility of interest expenses in calculating taxable income. Compared with small and medium size enterprises, large firms can hire more tax experts and allocate more resources in tax management. The significant positive coefficient for *CAPINT* is different from the result obtained by Gupta and Newberry (1997). Although more depreciation expenses can be deducted from an additional PPE acquisition for tax purpose, the higher profits generated as a result of using this PPE can to some extent offset the effect of decreasing taxable income. Thus, high ETR can still be maintained. The result shows the efficient use of the production facility in Chinese listed firms.

Table 3. Regression Results

	Predicted Sign	Coefficient	t-statistic	P-value
Explanatory Variables				
Intercept	?	0.4069	9.45	0.000***
CS	-	-0.0320	-2.76	0.006***
CS_nature	+	0.0110	3.03	0.002***
Indep_director	+	-0.0349	-1.06	0.291
Co_services	-	-0.0135	-2.92	0.004***
BOD_shares	-	-0.0644	-3.92	0.000***
LEV	?	0.0587	5.85	0.000***
SIZE	?	-0.0099	-5.44	0.000***
MB	?	-0.0004	-3.29	0.001***
ROA	?	-0.2080	-7.49	0.000***
CAPINT	-	0.0543	5.03	0.000***
INVINT	+	0.0988	6.79	0.000***
R-squared				0.1071
Adjusted R-squared				0.1035
N				6842

Notes: *** indicates statistical significance at the 1% level (two-tailed tests).

Table 4 shows the regression results separately for state-controlled firms and non-state-controlled firms. The negative relationship between *CS* and ETR is significant in state-controlled firms but insignificant in non-state-controlled firms. In contrast, for board characteristic variables except *Indep_director*, the negative coefficient of *Co_services* and *BOD_shares* are only significant in non-state-controlled firms. The results may suggest the dominant role played by the government in influencing tax strategy in state-controlled firms. With more concentrated ownership, the state-controlled firms pursue less tax aggressiveness to

maintain their reputation and help to achieve other social goals as well as political objectives. However, tax strategies in non-state-controlled firms are more influenced by the board. The non-state-controlled firms focus more on the duties performed by the board of directors. Thus, the duality services and board shareholdings which have negative impact on the quality of their services can lead to more aggressive tax strategy. The *Indep_director* is insignificant in both types of firms which may indicate its ineffective role played in Chinese listed companies. The control variables are also generally consistent with the results for full sample.

Table 4. Regression Results Partitioned by Controlling Shareholders Nature

	Predicted Sign	State-controlled firms		Non-state-controlled firms	
		Coefficient	t-statistic	Coefficient	t-statistic
Intercept	?	0.040	6.78***	0.473	7.47***
CS	-	-0.038	-2.36**	-0.023	-1.38
Indep_director	+	-0.042	-0.88	-0.027	-0.6
Co_services	-	0.009	1.20	-0.027	-4.90***
BOD_shares	-	-0.3006	-1.56	-0.066	-4.27***
LEV	?	0.058	3.89***	0.055	3.71***
SIZE	?	-0.009	-3.71***	-0.010	-3.88***
MB	?	-0.000	-0.93	-0.001	-4.09***
ROA	?	-0.273	-5.85***	-0.163	-5.01***
CAPINT	-	0.052	3.49***	0.048	3.08***
INVINT	+	0.064	2.91***	0.126	6.69***
R-squared			0.0763		0.1647
Adjusted R-squared			0.0700		0.1567
N			3987		2855

Notes: **, *** indicate statistical significance at the 5% and 1% level, respectively (two-tailed tests).

5.3 Sensitivity tests

To further examine the consistency of the results, I performed six robustness checks. First, I use Earnings Before Interests and Taxes (EBIT) to replace Pretax Income as the denominator to calculate an alternate measure of ETR. The new ETR equals to total tax expense divided by EBIT (Gupta and Newberry, 1997). All the test variables and control variables are unchanged. The results are shown in Table 5 and both H1 and H2 are supported. The significant negative coefficient of *LEV* is due to the usage of EBIT in denominator that may dilute the effect of debt financing.

Table 5. Regression Results of Alternative Measurement of ETR

	Predicted Sign	Coefficient	t-statistic	P-value
Explanatory Variables				
Intercept	?	0.354	11.22	0.000***
CS	-	-0.027	-2.90	0.004***
CS_nature	+	0.008	2.76	0.006***
Indep_director	+	-0.038	-1.46	0.143
Co_services	-	-0.008	-2.14	0.032**
BOD_shares	-	-0.047	-3.58	0.000***
LEV	?	-0.097	-11.70	0.000***
SIZE	?	-0.002	-1.68	0.094*
MB	?	-0.000	-2.23	0.026**
ROA	?	0.020	0.97	0.334
CAPINT	-	-0.015	-1.69	0.090*
INVINT	+	0.132	11.46	0.000***
R-squared				0.1129
Adjusted R-squared				0.1094
N				7111

Notes: *, **, *** indicate statistical significance at the 10%, 5%, and 1% level, respectively (two-tailed tests).

Second, I also replace *CS* and *CS_nature* with *LSH* and *LSH_nature* respectively to proxy for ownership concentration, while all other variables are unchanged. The *LSH* represents the proportion of shares held by the largest shareholders and *LSH_nature* is a dummy variable that equals to 1 if the largest shareholder is the government, 0 otherwise. The method is used because if the company does not disclose its controlling shareholders' information in financial statement, the CSMAR database will automatically treats the largest shareholder as the controlling shareholder. The results (not tabulated) for the main test variables remain the same as the regression in Table 3.

Third, in order to further examine the effect of state ownership, I replace *CS* and *CS_nature* with *State_own* (percentage of state-owned shares in terms of total share issued). The results (not tabulated) are still unchanged and significant as the regression in Table 3.

Fourth, some may argue that the decrease in ETRs in year 2008 and 2009 may be due to tax reform rather than the influence of ownership structure and board characteristics. As the tax reform was effective in 2008, year 2008 and 2009 are considered as the transition periods which indicate firms' responses to changes. In order to disentangle the effect of tax reform, I restrict my sample period to 2003-2007 which is the pre-tax reform period. The results are shown in Table 6.

Except for *Co_services*, all other variables are significant and unchanged as the regression in Table 3.

Table 6. Regression Results of Pre-Tax Reform

	Predicted Sign	Coefficient	t-statistic	P-value
Explanatory Variables				
Intercept	?	0.477	9.02	0.000***
CS	-	-0.031	-2.13	0.033**
CS_nature	+	0.012	2.59	0.010***
Indep_director	+	-0.085	-2.03	0.042**
Co_services	-	-0.006	-0.99	0.324
BOD_shares	-	-0.060	-2.38	0.018**
LEV	?	0.065	4.92	0.000***
SIZE	?	-0.013	-5.49	0.000***
MB	?	-0.000	-2.60	0.009***
ROA	?	-0.210	-5.82	0.000***
CAPINT	-	0.065	4.80	0.000***
INVINT	+	0.121	6.36	0.000***
R-squared				0.0895
Adjusted R-squared				0.0846
N				4816

Notes: **, *** indicate statistical significance at the 5% and 1% level, respectively (two-tailed tests).

Fifth, the common definition of controlling shareholder in the prior studies is the one who holds more than 20% of a firm's shares rather than the 30% cutoff point stated in *Guidelines for the Articles of Association of Listed Companies*. As 20% is the threshold for preparing consolidated financial statements, therefore, I restrict my sample firms to those with CS>20% and all variables remain the same as the regression in Table 3. The results are reported in Table 7. The results for ownership structure and board characteristics are consistent with my hypotheses with stronger

interpretation power. Thus, the definition of controlling shareholders is not a concern.

Table 7. Regression Results of Controlling Shareholdings>20%

	Predicted Sign	Coefficient	t-statistic	P-value
Explanatory Variables				
Intercept	?	0.477	11.25	0.000***
CS	-	-0.041	-3.26	0.001***
CS_nature	+	0.013	3.49	0.000***
Indep_director	+	-0.034	-0.99	0.322
Co_services	-	-0.011	-2.31	0.021**
BOD_shares	-	-0.062	-3.65	0.000***
LEV	?	0.056	5.14	0.000***
SIZE	?	-0.010	-5.36	0.000***
MB	?	-0.000	-2.50	0.013**
ROA	?	-0.221	-7.46	0.000***
CAPINT	-	0.058	5.22	0.000***
INVINT	+	0.101	6.75	0.000***
R-squared				0.1077
Adjusted R-squared				0.1038
N				6458

Notes: **, *** indicate statistical significance at the 5% and 1% level, respectively (two-tailed tests).

Sixth, various tax incentives are granted to firms in particular regions or industries such as the special economic zones, the open costal economic zones, and the high-tech industry. Thus, it may impose noise in the regression results interpretation that the lower ETRs are due to tax aggressiveness. In order to control for the effect of tax incentives, I include one dummy variable *Tax_incentives* in the regression which equals to 1 if the nominal tax rates reported in the firm's year-end

financial statements are below 33% (for the period of 2003-2007) or 25% (for the period of 2008-2009), 0 otherwise. The results are presented in Table 8. For *Tax_incentives*, if the company enjoys preferential tax rate, its ETR decreases. All the variables significances and signs are unchanged as compared with the regression results shown in Table 3. It indicates that the tax incentives will not affect the interpretation power of the results.

Table 8. Regression Results of Tax Incentives

	Predicted Sign	Coefficient	t-statistic	P-value
Explanatory Variables				
Intercept	?	0.503	12.85	0.000***
CS	-	-0.025	-2.31	0.021**
CS_nature	+	0.015	4.28	0.000***
Indep_director	+	-0.048	-1.52	0.128
Co_services	-	-0.016	-3.67	0.000***
BOD_shares	-	-0.043	-2.67	0.006***
Tax_incentives	-	-0.089	-28.97	0.000***
LEV	?	0.034	3.42	0.001***
SIZE	?	-0.09	-5.11	0.000***
MB	?	-0.000	-2.57	0.010***
ROA	?	-0.244	-9.30	0.000***
CAPINT	-	0.025	2.40	0.017**
INVINT	+	0.079	5.78	0.000***
R-squared				0.2055
Adjusted R-squared				0.2021
N				6842

Notes: **, *** indicate statistical significance at the 5% and 1% level, respectively (two-tailed tests).

Chapter 6 Conclusions

This thesis examines the role of corporate governance in tax aggressiveness, providing some new insights into how corporate governance affects tax avoidance activities. Using data on all A-share non-financial companies listed in Shanghai and Shenzhen Stock Exchange between 2003 and 2009, I find that firms with higher percentage of controlling shareholdings tend to be more tax aggressive. Tax aggressiveness is reduced if the controlling shareholder is the government. In other words, state-controlled firms implement less tax aggressive strategies which may suggest that the Chinese government still maintains significant influence on these firms. For the board characteristics, the board composition, duality role of the board chairman, and board shareholdings are important factors in determining a firm's tax strategy. Companies with higher board equity holdings and duality duties performed by the board chairman are more tax aggressive. I do not find significant relationship between independent directors and ETRs which suggests the need to improve the independence of the independent directors in Chinese listed firms.

A major research limitation of this thesis is data constraint. Compared with the U.S. companies, listed firms in China tend to have lower financial reporting transparency. Thus, a large number of missing data may lower the interpretation

power of the regression results as reflected by low R-square. In addition, data restriction also limits some alternative measurements of ETRs. Moreover, few published paper come to my knowledge directly link corporate governance to tax aggressiveness. The limited literature leads to the challenging prediction of some governance variables' directions and the incomparable results.

For future research, tax aggressiveness can be tested in a long-run period as proposed by Dyreng et al. (2008). In this case, the tradeoff between costs and benefits of aggressive tax strategy in the long-term may be different from that in short-term. Thus, the firm's ownership structure and board characteristics may have a different impact on tax aggressiveness in a long-term horizon. Second, the state-controlled firms can be further decomposed into local-government controlled and central-government controlled. Different tax incentives will be provided in these two types of firms. Third, other than the board of directors, the supervisory board is another independent monitoring mechanism in Chinese listed companies. Except for some duties that are similar to the board of directors, such as supervising the corporate finance, managements, and protecting the company's as well as the shareholders' interests, the supervisory board can monitor the legitimacy of directors. Thus, the supervisory board has a less direct impact on firm's performance compared to the board of directors. Its impact on tax aggressiveness can be

examined either individually or with the board together.

Appendix Variable Definitions

Variable	Definition
ETR	Income tax expense/ Pretax income Income tax expense/Earnings before interests and taxes(EBIT)
CS	Percentage of shares held by the controlling shareholders
CS_nature	Dummy variable, which equals to 1 if controlling shareholder is the government, otherwise 0
LSH	Percentage of shares held by the largest shareholders
LSH_nature	Dummy variable, which equals to 1 if largest shareholder is the government, otherwise 0
State_own	Percentage of shares held by the government
Indep_director	Percentage of independent directors on the board
Co_services	Dummy variable, which equals to 1 if the chairman of the board is also CEO of the firm, otherwise 0
BOD_shares	Percentage of shares held by the board
Tax_incentives	Dummy variable, which equals to 1 if the nominal tax rate is below the statutory tax rate (33% for 2003-2007, 25% for 2008-2009), otherwise 0
LEV	The ratio of year-end total liabilities to total assets
SIZE	The nature logarithm of year-end total assets
MB	The ratio of year-end market value per share to net assets per common share
ROA	The ratio of year-end pretax income to total assets
CAPINT	The ratio of year-end property, plant, and equipments (PPE) to total assets
INVINT	The ratio of year-end inventory to total assets
Industrydummy	Dummy variable
Yeardummy	Dummy variable

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