

Does Control Privatisation Affect Corporate Tax Aggressiveness? *

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Abstract

The extant literature has shown that “control privatisation” (CP) can improve corporate performance. There is little evidence, however, on how CP affects corporate performance. This paper investigates this issue from the perspective of tax planning. Using a difference-in-differences (DID) model with paired samples as a control group, we examine whether corporate tax aggressiveness changes after CP. The results suggest that after CP, corporations exhibit increased tax aggressiveness compared with the paired sample. Further, compared with the paired sample, the tax aggressiveness of central government owned corporations does not change after privatisation, while local government owned corporations become more tax aggressive after privatisation. Our results hold constant under a series of robustness tests. This paper not only enriches the literature on tax planning but also provides new evidence concerning the effect of CP on corporate performance.

Keywords: Control Privatisation, Non-tax Costs, Tax Aggressiveness, Political Hierarchy

CLC codes: F230, F275, F270

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I. Introduction

Private companies are widely thought to be more effective than state-owned companies (Netter and Megginson, 2001; Djankov and Murrell, 2002). In tandem with the gradual marketisation process taking place in China, more and more state-owned companies are being transferred to private controllers, a process termed “control privatisation” (hereinafter “CP”). Meanwhile, scholars continue to discuss related issues and have conducted many studies on the motivation and styles of CP and post-CP operating performance (Wang *et al.*, 2001; Li and Zeng, 2003; Xu *et al.*, 2005a, 2005b; Ye and Li, 2008; Han and Dai, 2008). An increasing amount of research has focused on the idea that CP is essential to reforming state-owned companies and that privatisation has had a positive effect on many companies (Wang *et al.*, 2001). Although it has been conclusively proven that CP can improve operating performance, there has been little research on how CP affects companies’ performance. Examining the redundancy burden of companies, Zhang *et al.* (2011) find that their redundancy burden decreases significantly after CP. Ho *et al.* (2011) conduct a more comprehensive study and find that the largest shareholder’s tunnelling decreases, pay-performance sensitivity increases, and managers’ perks decrease after CP. As an important determinant of corporate value, corporate income tax usually accounts for a significant proportion of a company’s profits;² however, the effect of CP on corporate tax planning has not been examined.

From a tax planning perspective, the determinants, methods, and economic consequences of corporations’ tax planning have always been widespread concerns in terms of both theory and practice (Hanlon and Heitzman, 2010). In recent years, some scholars have begun to study the interaction effect between corporate income tax and corporate governance from the perspective of the agency problem (Desai and Dharmapala, 2006; Desai and Dharmapala, 2009; Chen *et al.*, 2010); however, research in related fields is still relatively scarce, and both Scholes *et al.* (2002) and Desai and Dharmapala (2006) have called for more scholars to study tax planning from the perspective of the agency problem. CP changes the nature of ownership from state owned to private, and the agency problem likewise changes drastically. Thus, comparing the difference in company behaviour before and after CP can illuminate how the agency problem affects corporate tax aggressiveness.

On this basis, we use CP firms in the Chinese capital market as samples. Using a difference-in-differences (DID) model with paired samples as the control group, we examine whether corporations’ tax aggressiveness changes after CP in order to investigate how CP affects corporate performance from the perspective of corporate income tax. The results suggest the following: (1) Compared with the paired sample, corporations’ effective tax

² Before 2008, the statutory corporate income tax rate was 33%. After the Tax Reform Act of 2008, the statutory tax rate decreased to 25%. Regardless of the actual tax rate, corporate income tax accounts for a significant percentage of pre-tax income, which is an important determinant of corporate value.

rates decrease significantly after CP, while the book-tax difference increases significantly, suggesting that corporations become more tax aggressive after CP; (2) After differentiating former state-owned corporations into central government owned and local government owned corporations, we find that central government owned corporations' tax aggressiveness does not change after CP, while local government owned corporations become more tax aggressive after CP.

Our findings contribute to the literature in several ways. First, the prior literature on CP focuses on its determinants, methods, and performance effect; very few studies examine how different kinds of ownership affect corporate value (Wu, 2009). This paper extends our understanding of how CP affects corporate performance. Second, Shackelford and Shevlin (2001) note that insider control and other organisational factors, such as ownership structure, are important, but less studied, determinants of tax aggressiveness. Desai and Dharmapala (2006) and Scholes *et al.* (2002) have called for more research to examine corporate tax planning within an agency context. We find that corporate tax aggressiveness changes significantly after CP, which provides evidence on how the nature of ownership affects tax aggressiveness. This finding enriches the literature on related fields. Finally, combined with China's unique institutional settings, we further find that the political affiliation level (central or local) of former state-owned corporations affects the level of change in tax aggressiveness after CP. In summation, our findings not only enrich the literature on tax planning but also provide new evidence on how CP affects corporate performance from the tax perspective which has reference value for state-owned enterprise reform.

The remainder of the paper is organised as follows. Section II discusses the prior literature on CP and tax aggressiveness. Section III develops the hypothesis on the basis of theoretical analysis. Section IV introduces the sample selection procedure, key variable measures, and the empirical model. Section V presents the main results, while Section VI reports the robustness analyses. Section VII concludes the paper by discussing the study's contributions to the literature.

II. Literature Review

2.1 Review of Control Privatisation Literature

Control transfer is a historical problem and has always been an important research question in the economics and management literature (Martin, 1996; Wu and Bai, 2004). Many mergers and acquisitions took place in the USA and other developed Western countries during the 1960s. China's companies experienced gradually increasing transfers of control in the late 20th century (Li and Zeng, 2003), and domestic scholars have carried out a series of studies on the transfer of control, especially transfers from state owners to private

owners (control privatisation). Classified by research scope and content, the relevant studies examine three key aspects: the motivations (determinants), patterns and pricing, and impact of privatisation on companies' performance.

The first group of studies examines the motivations and characteristics of CP. Li and Zeng (2003) examine a sample of compensated transfers of control rights in the Chinese A-share stock market from 1999 to 2001 and find that the characteristics of target companies include inefficient management, limited financial resources, small asset size, dispersed equity ownership, and high stock liquidity and market-to-book ratios. A similar study was conducted by Cui and Jing (2006), but their study examines all kinds of control rights transfer rather than only CP firms. Taking a different approach, Sun and Luo (2011) explore the impact of local governments on the seller-led transfer of state-owned listed company shells from the perspective of local government competition; they find that local governments are inclined to sell larger listed companies with better performance to local private firms and smaller listed companies with worse performance to non-local private firms. The above studies suggest that the control transfers of Chinese listed companies are motivated by both economic and political factors.

The second group of studies examines the path and pricing of CP. The path of CP is one of the key research questions in control transfer, and studies by Western scholars have put forward a series of theories to explain this (Myers and Majluf, 1984; Jensen, 1986; Martin, 1996).³ Using the unique Chinese institutional setting, Wu and Bai (2004) examine the different characteristics of free transfer and transfer with compensation and find that the free transfer companies have a higher present value and a rosy future, while companies transferred with compensation have a much lower present value and a somewhat bleak future; a similar study has been conducted by Zhao and Zhu (2000). Examining the pricing of control transfers, Ye and Li (2008) use a sample of control transactions in the A-share stock market from 2001 to 2004 to study how the institutional environment and government control affect transaction pricing. They find that a better institutional environment tends to decrease the control transfer price and that the transfer price of companies under government control is higher than that of companies independent of government control. In addition, they also find a negative relationship between ownership balance and control transfer price; a similar study has been conducted by Qiao (2012). Apart from examining the direct benefit of transfer pricing, Tang and Ma (2009) explore the indirect benefits to controllers from insider trading during control transfers and find that indirect benefits are related to the cost paid by the controller, the proportion of shareholdings, and the transfer

³ Wu and Bai (2004) review Western scholars' arguments and classify them into the following groups: (1) the investment opportunity hypothesis; (2) the risk sharing hypothesis; (3) the control hypothesis; (4) the free cash flow hypothesis; and (5) the method of the M&A hypothesis. Because the control transfer path is not the focus of this paper, we will not discuss this further.

methods.

The third group of studies examines the impact of CP on firms' performance. There is a much larger body of literature on this subject than there is on the previous two aspects of control transfers. The relevant literature can be classified along two dimensions: the time window and performance types. On the one hand, regarding the length of the time window, scholars have examined both the short-term and long-term performance effect of CP. Yao *et al.* (2007) and Fan and Mao (2010), for example, study the short-term market reactions to CP. Xu *et al.* (2005a), Lu and Song (2007), and Tu (2010) focus on the long-term performance effect of CP. Other studies examine both the short-term and long-term effect of CP on the market (Xu *et al.*, 2005b; Yang *et al.*, 2010). On the other hand, in terms of different performance types, scholars have examined both the stock market reaction (e.g. Xu *et al.*, 2005b; Yao *et al.*, 2007; Fan and Mao, 2010) and the change in financial performance (e.g. Xu *et al.*, 2005a; Xu *et al.*, 2004; Tu, 2010). Most of these papers find that CP can engender short-term and long-term market reactions and can also improve long-term financial performance, although at least one study has found different results (Bai and Wu, 2008).

The above findings cover the three main streams of the CP literature. In addition to the studies above, a handful of other studies explore how CP improves companies' performance. Xu *et al.* (2005a), for example, argue that the improvement of companies' performance after CP is mainly due to the decrease in costs and cuts in employee numbers; Zhang *et al.* (2011) find similar results. Above all, there are few studies that examine how CP improves companies' performance. From the perspective of corporate tax planning, our paper explores the impact of CP on tax avoidance. Our findings could provide new evidence concerning the effect of CP on corporate performance, thus enriching the literature on CP.

2.2 Agency Problem and Tax Aggressiveness

Traditionally, tax avoidance is viewed as a value-maximising activity that can save tax costs (Scholes *et al.*, 2002). More and more studies, however, argue that tax avoidance activities may facilitate managerial opportunism. Desai and Dharmapala (2006) have developed a theoretical model to demonstrate the role of the feedback effect between tax sheltering and managerial diversion, and they document that increases in incentive compensation tend to reduce the level of tax sheltering. More directly, Desai *et al.* (2007) examine how the capital market reacted to the substantial increase in tax enforcement for oil companies after Putin was elected as President of Russia; the results suggest that increases in tax enforcement improve oil companies' market performance rather than harming their corporate value. The above studies expand the theoretical base of tax research from the perspective of corporate governance. Furthermore, more scholars have sought to study the determinants of tax aggressiveness from this perspective. Chen *et al.* (2010), for example,

examine whether tax aggressiveness differs between family firms and non-family firms in terms of their differing agency problems. Minnick and Noga (2010), similar to Kim *et al.* (2011), report how corporate governance characteristics affect corporate tax aggressiveness. Overall, few studies have explored the determinants of tax planning from the perspective of the agency problem, and thus both Desai and Dharmapala (2006) and Scholes *et al.* (2002) have called for more research to examine tax aggressiveness within an agency context.

Different from overseas stock markets, most Chinese listed companies are controlled by the state, which provides a unique setting for studying the relationship between the agency problem and tax aggressiveness (Wang *et al.*, 2010). Under this special institutional background, Wu (2009) finds that Chinese companies' effective tax rates are positively related to the ratio of state-owned shares. Zheng and Han (2008) analyse financial reporting costs and argue that state-controlled firms are more conservative on tax avoidance due to higher financial reporting costs; their empirical evidence supports this argument. In a different research setting, Wang *et al.* (2010) examine how the nature of ownership affects changes in capital structure due to the Tax Reform Act of 2008. They find that non-state-owned enterprises' capital structures are more sensitive to changes in the tax rate, which provides indirect evidence of the relationship between the nature of ownership and tax aggressiveness. After reviewing the above studies, it is clear that the empirical evidence on tax aggressiveness within an agency context remains limited. Moreover, most of the empirical evidence focuses on cross-sectional analysis. Unlike previous studies, our paper examines how CP affects tax aggressiveness in order to find out whether and how the nature of ownership affects corporate tax aggressiveness. On this basis, we further explore whether the political hierarchy of former state owners affects the change in tax aggressiveness in order to begin filling the literature gap.

III. Hypothesis Development

A control transfer changes a firm's ultimate controller from the state to the private sector. Prior studies usually suggest that this method of privatisation can improve firms' operating efficiency (Xu *et al.*, 2005a; Yang *et al.*, 2010; Ho *et al.*, 2011), and this view also constitutes the starting point of government policy on transferring state-owned shares. While a series of empirical studies suggest that CP can improve both a firm's operating performance and market value, few studies have examined how this change occurs (Zhang *et al.*, 2011). As an important determinant of corporate value, corporate income tax usually accounts for a significant proportion of a corporation's income, and income tax activity constitutes an important component of operating decisions (Wang *et al.*, 2009). CP changes the economic and political objectives of corporate operations, and this will affect corporations' tax planning activities. Specifically, the impact path includes the following

effects:

First, the economic incentives of tax planning increase after CP. In China's transitional economy, the Chinese Government bears some responsibility for public governance and is also responsible for maintaining social stability and other tasks (Bai *et al.*, 2006). To achieve these goals, the Chinese Government needs state-owned enterprises to provide support in terms of tax payment and employment. Moreover, because the Government has extremely strong political control over state-owned enterprises (He, 1998), these enterprises will be driven to be less tax aggressive. Wu (2009) reports a positive relationship between state-owned shareholding and corporations' income tax burden, which is in line with the expectations of the above hypothesis. Thus, before CP, corporations would be less tax aggressive due to the impact of social objectives on operating activity. After CP, however, as state-owned shareholdings decrease, corporations' operating activities would be less affected by social objectives but more affected by economic objectives.

Considering economic motivation exclusively, before CP, corporations are controlled by the state, which derives benefits from corporations' corporate tax burden. Therefore, the savings in corporation tax are simply transferred from one pocket to another pocket. After CP, however, the corporation is under private control and tax savings are honestly transferred to the private owners. Moreover, because the manager of a private company is usually the largest shareholder, interests between the principal and the agent are more consistent, which also makes corporations' motivation for tax avoidance after CP stronger. According to the above analysis, CP strengthens corporations' incentives to save taxes from the perspective of tax planning benefits, making corporations more likely to be tax aggressive.

Second, the non-tax costs of tax planning decrease after CP. Scholes *et al.* (2002) propose the "effective tax planning" analysis framework and note that we should consider the non-tax cost as well as the tax cost when analysing corporations' tax planning activities. In terms of non-tax factors, an important factor that attracts widespread attention from scholars is financial reporting costs⁴ (Shackelford and Shevlin, 2001). State-owned enterprises are different from non-state-owned enterprises, a difference that stems mainly from the different identities of the managers. In non-state-owned companies, managers are usually the largest shareholders and information asymmetry between the principal and the agent is lower. Because information asymmetry is directly related to financial reporting costs, non-state-owned companies' financial reporting costs are lower than those of state-owned companies. The financial reporting costs caused by debt contracts, however,

⁴ The term financial reporting costs usually refers to the real or expected costs of reporting lower accounting profits or equity value (Shackelford and Shevlin, 2001), for example, a drop in stock prices due to reporting lower accounting profits.

make all the difference. Because state-owned enterprises face “soft budget constraints” (Xin and Tan, 2009) and state-owned enterprises can easily and conveniently obtain bank loans, especially from state-owned banks, which objectively reduce the requirements of financial performance and quality, the financial reporting cost of debt contracts decreases correspondingly. Combining the above two factors, it is difficult to directly compare the financial reporting costs of state-owned and non-state-owned enterprises; however, the general view of Chinese scholars is that the financial reporting costs of state-owned enterprises’ tax avoidance are lower than those of non-state-owned enterprises’ tax avoidance. Zheng and Han (2008), for example, argue that private companies’ financial reporting costs are lower and that they are more tax aggressive than state-owned enterprises. Another study by Wang *et al.* (2010) uses the unique setting of the corporate income tax reform in 2008 and finds similar results. Consequently, we expect that CP could reduce the financial reporting costs of tax avoidance, which may induce corporations to be more tax aggressive after CP.

Third, insiders’ rent-extraction behaviour, which is hidden by tax planning, changes after CP. Different from the traditional theory that views tax avoidance as value-enhancing behaviour, Desai and Dharmapala (2006) and Desai and Dharmapala (2009) propose a new argument within the agency context. They note that tax avoidance activities often comprise very complex transactions that would make it easier for managers or other insiders to hide rent extraction activities.⁵ Examples of complicated tax transactions include income shifting between related parties with different tax rates. Under the mask of tax avoidance, insiders can hide their rent extraction much more easily. Under such conditions, tax avoidance activity is unlikely to increase stockholder value: rather, it is likely to do harm to minority shareholders’ interests. Before CP, because managers’ or controllers’ non-tax cost of tax avoidance is higher, the motivation to engage in tax avoidance is restrained. Moreover, the phenomenon of “insider control” in state-owned enterprises also reduces the motivation to extract rent through complex tax planning activities. After CP, however, the concentrated ownership of private controllers strengthens insiders’ tunnelling incentives (Desai *et al.*, 2007), and this will induce insiders to engage in more tax avoidance activities in order to hide their rent extraction behaviour, regardless of the non-tax cost. Due to the potential price discount and reputation concerns (Desai and Dharmapala, 2006), however, private controllers may also have incentives to protect their long-term interests and reputation, and this will cause them to be less tax aggressive (Chen *et al.*, 2010). Above all, from the perspective of rent extraction hidden by tax avoidance, the direction of the change in corporations’ tax avoidance is hard to judge.

Overall, after CP, although the rent extraction motivation hidden by tax avoidance is

⁵ Rent extraction refers to non-value maximisation behaviour at the expense of the shareholders’ interests, for example, aggressive financial reporting strategies, perks, and related-party transactions.

hard to judge, both government intervention and the non-tax costs of tax avoidance decrease whereas the direct benefit of tax avoidance increases. Therefore, we propose the following hypothesis:

Hypothesis: Compared with the former state-controlled period, corporations become more aggressive on tax planning after control privatisation.

IV. Research Design

4.1 Sample Selection and Data

To build a CP sample, following Ho, Yang, and Li (2011), we first find the sample of companies transferring shares from the China Stock Market and Accounting Research (CSMAR) database and the Sinofin Economic and Financial databases (CCER). Further, we collect annual reports, merger and acquisition reports, and other news or reports to identify whether the companies were transferred from state ownership to private controllers. Through this method, we find 104 CP firms for the period 2002 to 2006. If there is more than one control transfer in the three years prior to and after the transfer year (Year 0), we drop these firms to avoid the mixed effect of other control transfers. Two firms are excluded for this reason, leaving a pool of 102 firms. From these firms, we select our sample using the following process: (1) we exclude listed companies in the financial industry because these companies are very different from companies in non-financial industries; (2) we exclude firms using the “tax effect method” to account for their corporate income tax because the amount of corporate income tax reported on income sheets using this method is quite different from the alternative “tax payable method”; (3) we require companies to have no missing data in order to estimate our regression models; (4) we further require companies to have data available both before and after CP so that we can compare the companies before and after. After applying the above selection process, we have a sample of 96 CP firms.

The Chinese capital market experienced some institutional changes during our sample period (1999-2008), including the cancellation of the tax refund in 2002, the split share structure reform, the international convergence of accounting standards in 2006, and the corporate income tax reform in 2008. In addition, firms that were transferred to private owners may be the firms whose tax burdens could be reduced by placing them under private controllers. To mitigate the above influence, this paper uses matched samples to control for the time-series confounding factors. We choose paired samples using the following standards. First, the paired sample should be in the same industry as the CP firms. Second, the paired sample must have annual reports available for the three years before and after CP.

Third, the paired sample's control rights should not have been transferred to other controllers in the three years before and after CP. Fourth, the paired firm's sales scale must be close to that of the CP firms. Using the above standards, we find 96 paired firms as a match group. In order to compare these firms with the treatment sample, we also require the matched sample to have available data for the three years before and after CP and find pseudo CP firms that are just like the real CP firms. Within the paired firms, however, three firms only have data available prior to CP or after CP. Thus, to maintain robustness, we exclude these three control firms and the corresponding three treatment firms, with the result that our final sample consists of 93 CP firms and 93 matched firms.

4.2 Tax Aggressiveness Measures

The effective tax rate and the book-tax difference are the two key measures of tax aggressiveness. Following prior studies, combined with the practice of Chinese corporate income tax law and the principles of income tax accounting, we use the following measures to capture tax aggressiveness.

4.2.1 Effective tax rate

From an economics standpoint, the effective tax rate can be defined as the ratio of the tax burden to economic benefits before taxes (Wang, 2002). In measuring the effective tax rate, prior studies generally consider two questions. The first question is the measurement of tax burden, which is the numerator of the effective tax rate formula. According to China's pre-2007 accounting law, China's listed companies could use either the "tax payable method" or the "tax effect method" to calculate their corporate income tax. Under the tax payable method, corporate income tax expense items listed on the income sheet comprise only the current tax expense. Since 2007, however, all listed firms have been required to use a new method to calculate tax expenses. Under the new accounting principles, the corporate income tax expense item comprises both current and deferred tax expenses. In order to match our measures, we use the current tax expense as the numerator to measure the effective tax rate.⁶ The second question is the measurement of economic revenue before tax, that is, the denominator of effective tax rate measures. Following prior literature, we use two kinds of measures: first, following Chen *et al.* (2010), we use earnings before tax as the denominator; second, following Porcano (1986), Adhikari *et al.* (2006), and Wu and Li (2007), we use earnings before interest and tax as the denominator. Consequently, we construct the following two effective tax rate measures:

⁶ Since 2007, listed companies have disclosed the composition of income tax in notes to their financial statements. By reading the annual report, we hand-collect companies' current income tax expenses after 2007, which should match the income tax expense data disclosed under the "tax payable method" before 2007.

$$ETR_1 = \frac{CTE}{EBT} \text{ and}$$

$$ETR_2 = \frac{CTE}{EBIT},$$

where CTE is the current corporate income tax expense; EBT is earnings before tax; and $EBIT$ is earnings before interest and tax. Following Terando and Omer (1993), Gupta and Newberry (1997), and Adhikari *et al.* (2006), if the numerator is negative,⁷ we define ETR as 0 no matter whether the denominator is positive or negative; if the numerator is positive while the denominator is negative, we define ETR as 1.

4.2.2 Book-tax difference

Manzon and Plesko (2002) first proposed the book-tax difference, that is, the difference between accounting earnings and taxable income, to measure tax aggressiveness. Scholars often calculate taxable income by dividing income tax on the income sheet by the applicable tax rate because they could not directly collect this data from tax returns. Thus, we draw on Manzon and Plesko (2002) to construct the following measure:

$$BTD_{MP} = \frac{EBT_t - CTE_t / ATR_t}{TA_{t-1}},$$

where EBT_t is earnings before income during year t ; CTE_t is the current income tax expense in year t ; ATR_t is the applicable tax rate in year t , which is replaced by the nominal tax rate of the parent company; and TA_{t-1} is total assets at the end of year $t-1$ to adjust the scale effect. The measure BTD_{MP} is used in Chen *et al.* (2010) and Wilson (2009): the greater the value of this measure, the more tax aggressive the firm. Some scholars argue that this measure is affected not only by tax avoidance but also by earnings management, especially earnings management through accrual management. To mitigate the influence of accrual management on the book-tax difference measure, Desai and Dharmapala (2006) regress the book-tax difference on total accruals and take the residual of the regression as the measure of tax aggressiveness. Following their method, we first calculate the total accruals using the cash flow method (Hribar and Collins, 2002).⁸ Then, combined with the measure BTD_{MP} outlined earlier, we estimate the following regression:

⁷ Both the refund and accounting methods could result in negative current tax expense. For example, before 2002, if current tax expense was smaller than the tax refund of the previous year, then the total tax expense of the current year would be negative.

⁸ Except for total accruals, we also use Jones and Modified Jones models to estimate abnormal accruals. We substitute abnormal accruals for total accruals and re-estimate the regression model. The results do not change our basic conclusion.

$$(BTD_{MP})_{it} = \beta_1 \frac{TACC_{it}}{TA_{it-1}} + \mu_i + \varepsilon_{it}$$

where $(BTD_{MP})_{it}$ is the book-tax difference for firm i in year t (Manzon and Plesko, 2002); $TACC_{it}$ is total accruals for firm i in year t ; TA_{it-1} is total assets for firm i at the end of year $t-1$; μ_i is the average value of the residual for firm i over the sample period,⁹ and ε_{it} is the deviation in year t from firm i 's average residual μ_i . Finally, we employ the following measure using the above residuals; the greater the value, the more aggressive the firm, same as the prior measure BTD_{MP} :

$$(BTD_{DD})_{it} = \mu_i + \varepsilon_{it}$$

4.3 Specification of the Regression Model

To test our hypothesis, we draw on Chen *et al.* (2010) to develop the following DID model:

$$\begin{aligned} TaxAgg = & \alpha_0 + \beta_1 POST + \beta_2 SIZE + \beta_3 LEV + \beta_4 ROE + \beta_5 CAPINT + \beta_6 INVINT + \beta_7 MTB \\ & + RCHG*(\alpha_1 + \beta_8 POST + \beta_9 SIZE + \beta_{10} LEV + \beta_{11} ROE + \beta_{12} CAPINT \\ & + \beta_{13} INVINT + \beta_{14} MTB) + \beta_{15} TRA_{2002} + \beta_{16} TRA_{2008} + \beta_{17} IFRS + \varepsilon \end{aligned} \quad (1)$$

We specify our dependent variable, *TaxAgg*, with the proxies for firms' *ETRs* and their *BTDs* outlined earlier. *POST* is measured as an indicator variable coded as 1 for (pseudo) years after CP and 0 otherwise, and *RCHG*, an indicator variable indicating whether a firm is a "real" or "pseudo" CP firm, is equal to 1 for a CP firm (treatment group) and 0 otherwise (control group). We also include some control variables based on previous research. Specifically, *SIZE* is the company's size and equals the natural logarithm of total assets. According to the political cost hypothesis, a firm's size is negatively related to tax aggressiveness (Zimmerman, 1983; Wu, 2009); however, some scholars fail to find such a relationship or find a positive relationship (Porcano, 1986; Wu *et al.*, 2009). *LEV* is the debt level variable, measured as debt scaled by total assets. Previous research has found conflicting evidence on the relationship between debt level and tax aggressiveness (Chen *et al.*, 2010). *ROE* represents a company's profitability, measured as earnings before interest and tax deflated by equity. Previous research finds a positive or non-significant relationship between profitability and tax aggressiveness (Adhikari *et al.*, 2006; Chen *et al.*, 2010). *CAPINT* is capital intensity, measured as property, plant, and equipment (PPE) deflated by total assets. *INVINT* is inventory intensity, which stands for inventory scaled by total assets. *MTB* is the market-to-book ratio, representing corporate growth. Previous research finds a

⁹ To better control for firms' individual effects, we use all listed companies from 1999 to 2011 to estimate this model and find the abnormal book-tax difference.

positive or non-significant relationship between growth and tax aggressiveness (Gupta and Newberry, 1997; Adhikari *et al.*, 2006). Because the tax law changed twice over the sample period, we include two dummy variables to mitigate this influence: TRA_{2002} and TRA_{2008} . TRA_{2002} is used to control for the influence of the tax refund cancellation in 2002 and is equal to 1 for years after 2002 and 0 otherwise. We only include this variable in the ETR_1 and ETR_2 models because the 2002 tax reform only changes corporations' tax rate, which has no effect on the book-tax difference measures. TRA_{2008} controls for the influence of the 2008 tax reform and is equal to 1 for years after 2008 and 0 otherwise. Unlike the Tax Reform Act of 2002, the 2008 tax reform not only changed corporations' tax rate but also changed their tax deductions and credits. In addition to the above two time effect dummies, we also include another time effect dummy, $IFRS$ (equal to 1 for the years after 2007 and 0 otherwise), to control for the influence of the implementation of the China Accounting Standards in 2006, which took place on 1 January 2007 and brought China's accounting standards into greater convergence with international accounting standards (Wang *et al.*, 2012). To mitigate the influence of outliers, we winsorise all continuous variables at the top and bottom 1% of each distribution.

According to the research hypothesis, we predict that CP firms become more tax aggressive after CP compared with the matched sample. If so, we expect β_8 would be negative (positive) in the ETR_1 and ETR_2 (BTD_{MP} and BTD_{DD}) models.

V. Empirical Results

5.1 Descriptive Statistics

Table 1 provides the descriptive statistics and univariate tests for the CP samples and their paired samples. Both the CP samples and the paired samples consist of 536 firm-year observations. We employ four measures, ETR_1 , ETR_2 , BTD_{MP} , and BTD_{DD} , to proxy for tax aggressiveness. As shown in Table 1, both the mean and the median of ETR_1 and ETR_2 are lower than the statutory maximum tax rate of 33%.¹⁰ This result is consistent with the findings of prior studies (Chen *et al.*, 2003); the effective tax rate is lower than the statutory maximum tax rate, not only due to the lower nominal tax rate, the enjoyment of a preferential tax policy, and other objective reasons but also to tax planning and other subjective reasons. In addition, the standard deviations of these two variables are larger than the mean, which demonstrates significant variations in these variables. The means of the two other tax aggressiveness variables are all lower than 0, and they also indicate significant variation in our sample in terms of tax aggressiveness.

Comparing the CP firms with the paired sample, there is no significant difference in the

¹⁰ Most of our sample years are before 2008, and the corresponding statutory tax rate is 33%.

effective tax rate variables (ETR_1 and ETR_2); however, the paired sample demonstrates a higher book-tax difference (BTD_{MP} and BTD_{DD}) than the CP firms. This result indicates that the paired sample, on average, is more tax aggressive than the CP firms. Among all the other control variables, the CP firms differ from the paired sample in asset size ($SIZE$), debt level (LEV), and capital intensity ($CAPINT$): firms in the paired sample are larger but demonstrate lower levels of debt and capital intensity. These two samples exhibit no difference on other variables.

Table 1 Descriptive Statistics and Univariate Tests for Difference between CP Firms and Paired Firms

	CP Firms (N=536)			Paired Firms (N=536)			Dif. ^a	
	Mean	S. D.	P50	Mean	S. D.	P50	Mean	P50
ETR_1	0.292	0.322	0.186	0.281	0.311	0.179	0.011 (0.55)	0.007 (0.39)
ETR_2	0.235	0.306	0.142	0.219	0.284	0.127	0.016 (0.89)	0.015 (0.50)
BTD_{MP}^b	-0.032	0.086	-0.006	-0.020	0.065	-0.003	-0.012** (-2.47)	-0.002 (-1.62)
BTD_{DD}^b	-0.021	0.073	-0.004	-0.013	0.058	-0.002	-0.008* (-1.91)	-0.002 (-1.27)
$POST$	0.498	0.500	0.000	0.498	0.500	0.000	0.000 (0.00)	0.000 (0.00)
$SIZE$	20.648	0.704	20.645	20.731	0.805	20.739	-0.082* (-1.78)	-0.095* (-1.80)
LEV	0.557	0.295	0.526	0.506	0.238	0.501	0.051*** (3.08)	0.025*** (2.65)
ROE	0.037	0.448	0.084	0.030	0.394	0.075	0.007 (0.26)	0.009* (1.77)
$CAPINT$	0.296	0.174	0.270	0.261	0.162	0.230	0.035*** (3.42)	0.041*** (3.52)
$INVINT$	0.159	0.158	0.112	0.162	0.147	0.123	-0.004 (-0.40)	-0.011 (-1.00)
MTB	4.935	6.668	3.342	4.505	6.129	3.028	0.430 (1.10)	0.313 (1.44)
TRA_{2002}	0.761	0.427	1.000	0.761	0.427	1.000	0.000 (0.00)	0.000 (0.00)
TRA_{2008}	0.030	0.170	0.000	0.030	0.170	0.000	0.000 (0.00)	0.000 (0.00)
$IFRS$	0.076	0.266	0.000	0.076	0.266	0.000	0.000 (0.00)	0.000 (0.00)

Notes: ^a Dif. = CP samples – paired samples; ^b No. of observations is 483 and 482 for CP and paired firms, respectively.

5.2 Main Results

Table 2 reports the regression results using the DID method to examine whether CP affects corporate tax aggressiveness. The first two columns tabulate the results using the effective tax rate (ETR_1 and ETR_2); the remaining two columns measure tax aggressiveness using the book-tax difference (BTD_{MP} and BTD_{DD}). Robustness t-statistics are reported in parentheses (White, 1980). The overall regression models are all significant at the 1% level. The adjusted R^2 of the ETR_1 and ETR_2 models are 0.073 and 0.063, respectively. Relative to the effective tax rate model, the book-tax difference models (BTD_{MP} and BTD_{DD}) have a higher adjusted R^2 (0.453 and 0.340, respectively).

The coefficients of $RCHG*POST$ are negative and significant at the 5% level in both the ETR_1 and ETR_2 models, indicating that compared with the paired sample, CP firms' effective tax rate decreases significantly after CP at the levels of 8.2% and 9.0%, respectively. The decrease levels are economically significant relative to the average value of the effective tax rate. The conclusions from the book-tax difference model are almost the same: compared with the paired sample, CP firms' book-tax difference increases significantly (at the 5% level in the BTD_{MP} model and weaker in the BTD_{DD} model). These results also suggest that corporations' tax aggressiveness increases after CP. For the control variables, we find no evident difference between the treatment and control samples, indicating that the relationship between the control variables and the dependent variable is consistent in the two samples. The regression results for the control variables are shown in Table 2.¹¹ Company *SIZE* is positively related to the effective tax rate, which supports the political cost hypothesis (Zimmerman, 1983); however, it also has a positive relationship with the book-tax difference, which seems to suggest that a larger firm is more tax aggressive. Debt level (*LEV*) is significantly positive in the effective tax rate models but negative in the book-tax difference models. These results are consistent with Gai and Hu (2012), who find that corporations would be less tax aggressive when facing high financial reporting costs, which are correlated with the debt level. Both profitability (*ROE*) and growth (*MTB*) are negatively correlated with the effective tax rate but positively correlated with the book-tax difference, and these findings are similar to findings from prior research (e.g. Gupta and Newberry, 1997; Derashid and Zhang, 2003; Wu *et al.*, 2009). Both capital intensity (*CAPINT*) and inventory intensity (*INVINT*) are significant only in some models. In addition, the time dummy variable TRA_{2002} loads positively, suggesting that the cancellation of the refund in 2002 significantly increased corporations' effective tax rate. The other time dummy variable, TRA_{2008} , is not significant in the effective tax rate models but is significantly negative in the book-tax difference models. These results, to some extent,

¹¹ Because the difference between the treatment group and the control group in terms of the effect of the control variables on the dependent variables is small, we focus on the coefficients of the control variables for the paired sample.

reflect the basic idea of the 2008 Tax Reform Act: “to decrease the tax rate, broaden the tax base, and strengthen tax enforcement”. Specifically, the new tax reform broadened the tax base and strengthened tax enforcement, which caused a decrease in firms’ book-tax difference. The effective tax rate decreases according to the decrease in the nominal tax rate, but the decrease is insignificant due to the broadened tax base and stricter tax enforcement.

Table 2 Regression Results of Control Privatisation and Corporate Tax Aggressiveness

	Dependent Variables			
	(1) <i>ETR₁</i>	(2) <i>ETR₂</i>	(3) <i>BTD_{MP}</i>	(4) <i>BTD_{DD}</i>
<i>POST</i>	0.020 (0.64)	0.019 (0.67)	-0.002 (-0.52)	0.005 (1.23)
<i>RCHG</i>	-0.265 (-0.47)	-0.211 (-0.41)	-0.128 (-0.95)	-0.054 (-0.44)
<i>RCHG*POST</i>	-0.082** (-2.15)	-0.080** (-2.21)	0.015** (2.02)	0.007 (1.07)
<i>SIZE</i>	0.036** (2.04)	0.023 (1.50)	0.011** (2.40)	0.008** (2.04)
<i>LEV</i>	0.163** (2.25)	0.072 (0.96)	-0.122*** (-5.15)	-0.099*** (-5.59)
<i>ROE</i>	-0.086 (-1.57)	-0.103* (-1.78)	0.067*** (5.12)	0.048*** (4.70)
<i>CAPINT</i>	-0.117 (-1.40)	-0.104 (-1.31)	0.009 (0.53)	0.042** (2.55)
<i>INVINT</i>	0.204* (1.85)	0.114 (1.12)	0.030* (1.86)	0.001 (0.05)
<i>MTB</i>	-0.005** (-2.08)	-0.004 (-1.54)	0.001** (1.99)	0.001** (2.31)
<i>RCHG*SIZE</i>	0.015 (0.54)	0.014 (0.58)	0.007 (0.99)	0.002 (0.40)
<i>RCHG*LEV</i>	-0.024 (-0.25)	0.040 (0.41)	-0.051 (-1.62)	-0.026 (-1.09)
<i>RCHG*ROE</i>	-0.048 (-0.67)	-0.060 (-0.80)	0.002 (0.14)	0.007 (0.53)
<i>RCHG*CAPINT</i>	0.178 (1.46)	-0.040 (-0.35)	-0.003 (-0.12)	0.002 (0.06)
<i>RCHG*INVINT</i>	-0.139 (-0.96)	-0.189 (-1.41)	0.012 (0.46)	0.030 (1.11)
<i>RCHG*MTB</i>	0.000 (0.00)	-0.001 (-0.39)	0.001 (1.05)	0.001 (1.00)
<i>TRA₂₀₀₂</i>	0.076*** (3.01)	0.051** (2.15)		
<i>TRA₂₀₀₈</i>	0.047 (0.77)	0.076 (1.31)	-0.036*** (-2.59)	-0.036** (-2.26)
<i>IFRS</i>	-0.056 (-1.61)	-0.061** (-2.55)	0.013 (1.36)	0.010 (0.91)
Constant	-0.585 (-1.60)	-0.314 (-0.97)	-0.194** (-2.14)	-0.152* (-1.86)
Obs.	1072	1072	965	965
Adjusted R²	0.073	0.063	0.453	0.340
F-value	5.92***	4.31***	16.89***	16.33***

Notes: Robustness t-statistics are reported in parentheses. *, **, and *** indicate two-tailed statistical significance at the 10, 5, and 1 percent levels, respectively. The number of observations in the book-tax difference model is smaller than that in the effective tax rate model because some companies’ tax rate is inconsistent or 0.

5.3 Additional Tests: Former Central Government Owned Companies vs. Former Local Government Owned Companies

Extant research suggests that the political hierarchy can affect corporate governance and corporate value (Xia and Fang, 2005). In line with this literature, we differentiate former state owners as central versus local government controlled state owned enterprises to examine whether these two kinds of owners have different effects on the change in tax aggressiveness after CP. To do so, we develop the following model on the basis of model 1:

$$\begin{aligned}
 TaxAgg = & \alpha_0 + \beta_1 POST + \beta_2 SIZE + \beta_3 LEV + \beta_4 ROE + \beta_5 CAPINT + \beta_6 INVINT + \beta_7 MTB \\
 & + \beta_8 CENTRAL + \beta_9 CENTRAL*POST + \beta_{10} LOCAL + \beta_{11} LOCAL*POST \\
 & + RCHG*(\beta_{12} SIZE + \beta_{13} LEV + \beta_{14} ROE + \beta_{15} CAPINT + \beta_{16} INVINT \\
 & + \beta_{17} MTB) + \beta_{18} TRA_{2002} + \beta_{19} TRA_{2008} + \beta_{20} IFRS + \varepsilon
 \end{aligned} \quad (2)$$

where *CENTRAL* (*LOCAL*) is an indicator variable equal to 1 if the former controller is the central (local) government and 0 otherwise and *CENTRAL*POST* (*LOCAL*POST*) is the interaction between *POST* and *CENTRAL* (*LOCAL*), which is intended to reflect the difference between former central government controllers and the paired sample. All other variables are the same as in model 1. The regression results of model 2 are reported in Table 3.

As reported in Table 3, the coefficients of *CENTRAL*POST* are not significant in any model, which suggests that the central government's control of a firm's tax aggressiveness does not change after CP compared with the paired sample. The coefficients of *LOCAL*POST* are negative and significant at the 5% level or better in the models with effective tax rate as the dependent variable (columns (1) and (2)) and is positive and significant at the 5% and 10% levels (one-tailed test) in the models with the book-tax difference as the dependent variable (columns (3) and (4)). These results suggest that local government control of the firm's effective tax rate (book-tax difference) decreases (increases) significantly after CP compared with the paired sample, which represents an increase in tax aggressiveness. Collectively, there is significant difference in the change in tax aggressiveness after CP between firms formerly controlled by the central government and those formerly controlled by local government. There are several possible reasons for this. First, it is easier for firms previously controlled by the local government to retain their "guanxi" (connections) after CP than it is for firms previously controlled by the central government, which would make the post-CP tax environment looser for former locally controlled firms than for centrally controlled firms (Wu *et al.*, 2009). Second, the information environment in centrally and locally controlled firms is different. In addition, the scope of the business industry may be different between these two kinds of firms (e.g. firms controlled by the central government more often belong to monopoly industries). Therefore, the cost of tax enforcement for these two kinds of firms may be different.

Table 3 Regression Results of Central and Local Government Controlled Firms' CP and Tax Aggressiveness

	Dependent Variables			
	(1) <i>ETR₁</i>	(2) <i>ETR₂</i>	(3) <i>BTD_{MP}</i>	(4) <i>BTD_{DD}</i>
<i>POST</i>	0.020 (0.65)	0.019 (0.66)	-0.002 (-0.49)	0.006 (1.30)
<i>CENTRAL</i>	-0.385 (-0.69)	-0.313 (-0.61)	-0.128 (-0.95)	-0.045 (-0.36)
<i>CENTRAL*POST</i>	0.075 (1.01)	0.069 (0.97)	0.012 (0.63)	-0.012 (-0.73)
<i>LOCAL</i>	-0.286 (-0.51)	-0.247 (-0.48)	-0.117 (-0.87)	-0.035 (-0.28)
<i>LOCAL*POST</i>	-0.101** (-2.55)	-0.097*** (-2.59)	0.015** (1.98)	0.009 (1.32)
<i>SIZE</i>	0.036** (2.04)	0.023 (1.50)	0.011** (2.39)	0.008** (2.04)
<i>LEV</i>	0.163** (2.25)	0.072 (0.97)	-0.122*** (-5.14)	-0.099*** (-5.59)
<i>ROE</i>	-0.086 (-1.57)	-0.103* (-1.78)	0.067*** (5.11)	0.048*** (4.70)
<i>CAPINT</i>	-0.116 (-1.40)	-0.103 (-1.31)	0.009 (0.52)	0.042** (2.53)
<i>INVINT</i>	0.204* (1.85)	0.114 (1.12)	0.030* (1.86)	0.001 (0.05)
<i>MTB</i>	-0.005** (-2.09)	-0.004 (-1.54)	0.001** (1.99)	0.001** (2.31)
<i>RCHG *SIZE</i>	0.017 (0.61)	0.017 (0.68)	0.006 (0.93)	0.002 (0.27)
<i>RCHG*LEV</i>	-0.034 (-0.36)	0.032 (0.33)	-0.052 (-1.63)	-0.026 (-1.07)
<i>RCHG*ROE</i>	-0.049 (-0.68)	-0.063 (-0.84)	0.003 (0.17)	0.009 (0.62)
<i>RCHG*CAPINT</i>	0.180 (1.48)	-0.038 (-0.33)	-0.004 (-0.14)	-0.000 (-0.00)
<i>RCHG*INVINT</i>	-0.147 (-1.01)	-0.191 (-1.43)	0.010 (0.37)	0.026 (0.99)
<i>RCHG*MTB</i>	0.000 (0.05)	-0.001 (-0.34)	0.001 (1.03)	0.001 (0.94)
<i>TRA₂₀₀₂</i>	0.075*** (2.97)	0.050** (2.12)		
<i>TRA₂₀₀₈</i>	0.049 (0.81)	0.080 (1.36)	-0.036*** (-2.60)	-0.036** (-2.29)
<i>IFRS</i>	-0.055 (-1.58)	-0.059** (-2.49)	0.012 (1.29)	0.008 (0.80)
Constant	-0.584 (-1.59)	-0.313 (-0.97)	-0.193** (-2.13)	-0.152* (-1.85)
Obs.	1072	1072	965	965
Adjusted R²	0.075	0.065	0.453	0.345
F-value	5.92***	4.20***	15.59***	14.43***

Notes: Robustness t-statistics are reported in parentheses. *, **, and *** indicate two-tailed statistical significance at the 10, 5, and 1 percent levels, respectively.

Specifically, the cost of tax enforcement is lower for local government controlled firms and therefore these firms be more tax aggressive. Third, compared with local government controlled firms, central government controlled firms operate in a more standardised way, which may lead to a less flexible post-CP tax planning environment. Therefore, the tax aggressiveness of former central government controlled firms changes less than that of former local government controlled firms.

VI. Robustness Tests

6.1 Regression Results Not Using DID Method

To control for the influence of time-series confounding factors, we employ a DID model to examine whether a corporation's tax aggressiveness changes after CP. Because the results of the DID model may also be affected by the choice of paired samples, we also run regressions using only CP samples; the regression results are shown in Table 4. The

Table 4 Robustness Test I

	Dependent Variables			
	(1) <i>ETR₁</i>	(2) <i>ETR₂</i>	(3) <i>BTD_{MP}</i>	(4) <i>BTD_{DD}</i>
<i>POST</i>	-0.061* (-1.69)	-0.064* (-1.84)	0.014** (2.20)	0.015** (2.57)
<i>SIZE</i>	0.050** (2.34)	0.036* (1.82)	0.018*** (3.54)	0.011** (2.40)
<i>LEV</i>	0.142** (2.21)	0.115* (1.77)	-0.174*** (-8.31)	-0.127*** (-7.77)
<i>ROE</i>	-0.137*** (-2.87)	-0.166*** (-3.48)	0.070*** (5.60)	0.056*** (5.57)
<i>CAPINT</i>	0.066 (0.72)	-0.140 (-1.62)	0.005 (0.24)	0.042** (2.39)
<i>INVINT</i>	0.069 (0.72)	-0.070 (-0.79)	0.040* (1.93)	0.028 (1.40)
<i>MTB</i>	-0.005** (-2.47)	-0.005** (-2.35)	0.002*** (3.86)	0.002*** (4.20)
<i>TRA₂₀₀₂</i>	0.064 (1.63)	0.047 (1.25)		
<i>TRA₂₀₀₈</i>	0.029 (0.41)	0.022 (0.31)	-0.039** (-1.97)	-0.045* (-1.71)
<i>IFRS</i>	-0.024 (-0.67)	-0.005 (-0.14)	0.004 (0.36)	0.002 (0.15)
Constant	-0.830* (-1.93)	-0.498 (-1.24)	-0.325*** (-3.26)	-0.211** (-2.28)
Obs.	536	536	483	483
Adjusted R²	0.066	0.074	0.480	0.369
F-value	4.38***	4.07***	14.31***	12.43***

Notes: Robustness t-statistics are reported in parentheses. *, **, and *** indicate two-tailed statistical significance at the 10, 5, and 1 percent levels, respectively.

coefficients of *POST* are negative in the *ETR*₁ and *ETR*₂ models (columns (1) and (2)) and all are significant at the 10% level, indicating that a firm's effective tax rate decreases significantly after CP. In addition, tax rates decrease by 6.1% and 6.4%, respectively, which is economically significant compared with the average value of the effective tax rate before CP. The results from the book-tax difference models (columns (3) and (4)) are almost the same: the book-tax difference increases significantly after CP, and the coefficients of *POST* are significant at the 5% level or better. This is also consistent with the conclusion that corporations' tax aggressiveness increases after CP. In all, the above results derived from CP firms alone do not change our previous conclusions.

6.2 Regression Results Based on Alternative Specification Method of DID Model¹²

To use the DID model, we match paired samples for all CP firms. Further, we examine the change in the tax aggressiveness of CP firms compared with paired firms. Apart from the previous specification of the DID model, we also draw on Armstrong *et al.* (2012) and use another DID specification method to develop the following model:

$$\begin{aligned} TaxAgg_{it} = & \alpha_i + \lambda_t + \beta_1 POST_CP_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 ROE_{it} + \beta_5 CAPINT_{it} \\ & + \beta_6 INVINT_{it} + \beta_7 MTB_{it} + \varepsilon_{it} \end{aligned} \quad (3)$$

where α_i is the firm fixed effect; λ_t is the year fixed effect; and *POST_CP* is the key variable, which equals 1 for the post-CP years of CP firms and 0 otherwise. The remaining variables are control variables as previously outlined. We use all listed companies in non-financial industries for the period from 2002 to 2006. It is worth noting that the paired sample under this specification method includes not only the firms that never changed their controllers but also the firms that did not change their controllers at time *t* (Bertrand and Mullainathan, 2003). The results are shown in Table 5. The coefficients of *POST_CP* are negative in both *ETR* models; they are also significant at the 10% level in column (1) (one-tailed test) and column (2) (two-tailed test). The coefficients of *POST_CP* are positive and significant at the 5% level (two-tailed test) in both book-tax difference models. The above results suggest that under a different specification method of the DID models, our main results do not change.

6.3 Are the Results Influenced by the Nominal Tax Rate Change?

After a firm's CP, it is privately owned rather than owned by the state, which means that the firm's preferential tax policy changes accordingly. On the one hand, when the nature of ownership changes, the firm is no longer the "favourite" of the government. As a result, the firm may receive fewer preferential tax policies, which will increase the firm's tax

¹² We acknowledge the suggestions from Executive Editor Nancy Su, although the ultimate responsibility is our own.

Table 5 Robustness Tests II

	Dependent Variables			
	(1) <i>ETR₁</i>	(2) <i>ETR₂</i>	(3) <i>BTD_{MP}</i>	(4) <i>BTD_{DD}</i>
<i>POST_CP</i>	-0.039 (-1.31)	-0.052* (-1.80)	0.016** (2.36)	0.015** (2.48)
<i>SIZE</i>	0.028** (1.97)	-0.008 (-0.60)	0.031*** (9.30)	0.014*** (4.89)
<i>LEV</i>	0.213*** (8.88)	0.213*** (9.25)	-0.202*** (-36.66)	-0.128*** (-26.95)
<i>ROE</i>	-0.228*** (-17.76)	-0.254*** (-20.51)	0.059*** (20.29)	0.052*** (21.01)
<i>CAPINT</i>	0.073 (1.61)	0.014 (0.31)	-0.025** (-2.36)	-0.007 (-0.74)
<i>INVINT</i>	0.277*** (4.60)	0.252*** (4.34)	0.010 (0.72)	-0.042*** (-3.44)
<i>MTB</i>	-0.004*** (-2.66)	-0.003** (-2.05)	0.001*** (3.76)	0.001*** (4.17)
Constant	-0.425 (-1.41)	0.295 (1.02)	-0.568*** (-7.97)	-0.235*** (-3.81)
Firm Fixed Effect	Controlled	Controlled	Controlled	Controlled
Time Fixed Effect	Controlled	Controlled	Controlled	Controlled
Obs.	6185	6185	5249	5249
Adjusted R²	0.306	0.247	0.563	0.494
F-value	40.90***	49.91***	185.88***	111.66***

Notes: Robustness t-statistics are reported in parentheses. *, **, and *** indicate two-tailed statistical significance at the 10, 5, and 1 percent levels, respectively.

burden and cause bias against our findings. On the other hand, the firm is more aggressive in tax planning after CP and is thus more likely to enjoy preferential tax policies through changing its registration address, operating structure, or investment direction.¹³ Both of the above two situations can change the firm's nominal tax rate after CP. In order to test whether our results are influenced by the nominal tax rate, we perform the following robustness tests. First, we use two types of measures to proxy for tax aggressiveness: the effective tax rate and book-tax difference. Of these, the book-tax difference measures are not typically affected by changes in the nominal tax rate and will therefore not affect our results. In contrast, the effective tax rate measures are affected by the nominal tax rate, and so we add

¹³ For example, high-tech companies can enjoy a preferential income tax rate of 15% under the new tax act. However, the company must meet a series of requirements (e.g. type of product produced, the ratio of scientific employees, research and development intensity, etc.) to enjoy this preferential policy. Of course, the company could meet these requirements by changing its operating scope, the composition of its employees, and so on. Such behaviour per se is subject to tax avoidance activities, so corporations that reduce their statutory tax rate this way after CP are engaging in tax avoidance, which will not affect our conclusions. To ensure the analysis is complete, we still analyse this situation.

an applicable nominal tax rate (*ATR*) as a control variable and re-estimate our regression. The results are shown in columns (1) and (2) of Table 6. The coefficients of *RCHG*POST* are consistent with prior results, and our conclusions do not change. Second, we also examine whether there is a difference in the nominal tax rate between the treatment and control groups; the results are shown in columns (3) and (4) of Table 6. The dependent variable is the applicable nominal tax rate (*ATR*); there are no control variables in column (3), while there are control variables in column (4) to control for the endogeneity of the applicable tax rate. The coefficients of *RCHG*POST* are not significant in either of the two models, suggesting that there is no difference in the change of the nominal tax rate between CP firms and their paired firms. This result further validates our conclusions.

Table 6 Robustness Tests III (Abbreviated Results)

	Dependent variables			
	(1) <i>ETR₁</i>	(2) <i>ETR₂</i>	(3) <i>ATR</i>	(4) <i>ATR</i>
<i>POST</i>	0.015 (0.48)	0.015 (0.52)	0.037*** (4.34)	-0.005 (-0.48)
<i>RCHG</i>	-0.168 (-0.29)	-0.184 (-0.34)	0.009 (1.05)	0.135 (0.83)
<i>RCHG*POST</i>	-0.084** (-2.12)	-0.086** (-2.29)	0.006 (0.54)	0.007 (0.64)
<i>ATR</i>	0.417*** (3.69)	0.356*** (3.40)		
Other control variables	Controlled	Controlled		Controlled
Obs.	1008	1008	1008	1008
Adjusted R²	0.073	0.063	0.046	0.164
F-value	5.80***	4.53***	17.38***	18.18***

Notes: Robustness t-statistics are reported in parentheses. *, **, and *** indicate two-tailed statistical significance at the 10, 5, and 1 percent levels, respectively.

6.4 Regression Results Based on the Common Factor of Tax Aggressiveness Measures

As stated earlier, we employ four variables to measure tax aggressiveness, including two effective tax rate variables and two book-tax difference variables. These four variables are intended to capture the same construct, tax aggressiveness, and are correlated with each other. We conduct a principal components factor analysis to extract one common factor from these four measures, following Chen *et al.* (2010).¹⁴ This common factor is negatively

¹⁴ We conduct a principal components factor analysis of the four tax aggressiveness variables. The first and second factors have eigenvalues of 2.57 and 1.23, and the other two factors have eigenvalues of less than 0.12. Thus, we construct a comprehensive common factor based on the first and second factors. The correlation coefficients between this common factor and the four variables are -0.4444 (*ETR₁*), -0.502

correlated with effective tax rate measures and positively correlated with book-tax difference measures; thus, a higher factor indicates greater tax aggressiveness. Column (1) of Table 7 reports the regression results from using this common factor as a dependent variable. The coefficient of $RCHG*POST$ is significantly positive, suggesting that, compared with the paired sample, corporations' common factor scores increase significantly after CP, which is consistent with previous conclusions.

6.5 Regression Results after Controlling Loss Carry-Forward and Tax Refunds.

Chinese tax law allows a company to carry forward its net operating losses for the subsequent five years. Making up the net operating losses of previous years and recouping a tax refund due to tax overpayment in past years could add noise to tax aggressiveness measures. In order to mitigate this undue influence, Dyreng *et al.* (2008) construct a long-term tax aggressiveness measure. Their measure can better control the fluctuation of the effective tax rate over time, leading to a better measure of tax aggressiveness. Following their method, we calculate the long-term effective tax rate for the three years before and after CP as follows: $LRETR_1 = CTE_m / EBT_m$; $LRETR_2 = CTE_m / EBIT_m$, where CTE_m is the average value of the current tax expense over 3 years and EBT_m and $EBIT_m$ are the average value of earnings before tax and earnings before interest and tax, respectively. On the basis of these long-term ETR measures, we re-estimate our regression models and report the results in columns (2) and (3) of Table 7. According to the dependent variable, all control variables are measured using an average value of 3 years. The coefficients of $RCHG*POST$ are negative and significant at the 5% level or better in both models. These results do not change our conclusions.

Table 7 Robustness Tests IV (Abbreviated Results)

	Dependent Variable		
	(1) F	(2) $LRETR_1$	(3) $LRETR_2$
$POST$	0.000 (0.01)	0.123** (2.20)	0.028 (0.50)
$RCHG$	-0.827 (-0.61)	-0.189 (-0.15)	-0.067 (-0.06)
$RCHG*POST$	0.142* (1.86)	-0.218*** (-2.70)	-0.162** (-1.98)
Other Control Variables	Controlled	Controlled	Controlled
Obs.	965	372	372
Adjusted R²	0.385	0.121	0.111
F-value	15.94***	3.52***	3.19***

Notes: Robustness t-statistics are reported in parentheses. *, **, and *** indicate two-tailed statistical significance at the 10, 5, and 1 percent levels, respectively.

(ETR_2), 0.967 (BTD_{MP}), and 0.966 (BTD_{DD}), respectively. To be robust, we also use the first factor to perform tests in Table 6, and the results do not qualitatively change our results (results are not presented to save space).

VII. Conclusion

In tandem with the gradual marketisation process taking place in China, more and more state-owned companies are being transferred to private controllers. Meanwhile, scholars continue to discuss related issues and have conducted many studies on the motivation and styles of CP and post-CP operating performance. There has been little research on how CP affects companies' performance. As an important determinant of corporate value, corporate income tax usually accounts for a significant proportion of a company's profits; however, the effect of CP on corporate tax planning has not been examined. Our paper, from this perspective, seeks to provide evidence on how CP affects corporate performance.

Using the CP samples in Chinese stock markets, we employ a DID model with paired samples as a control group to examine how CP affects tax aggressiveness. The results suggest that after CP, corporations exhibit increased tax aggressiveness compared with the paired sample. Further, compared with the paired sample, central government owned corporations' tax aggressiveness does not change after privatisation, while local government owned corporations become more tax aggressive after privatisation. This paper not only enriches the literature on tax aggressiveness but also provides new evidence concerning the effect of CP on corporate performance.

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控制权私有化会影响公司的税收筹划行为吗？^{*}

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摘要

大量经验证据表明控制权私有化能够改善公司经营业绩，但是学术界较少研究控制权私有化作用于公司业绩的路径，本文尝试从税收筹划视角提供解释。通过对比配对样本和运用双重差分模型，本文考察控制权私有化前后公司税收筹划激进程度的变化。研究发现：（1）与配对样本相比，控制权私有化公司税收筹划激进程度在私有化以后显著提高；（2）与配对样本相比，中央控制国有公司私有化以后税收筹划激进程度未发生明显改变，而地方控制国有公司私有化以后税收筹划激进程度显著提高。在多种稳健性检验下，研究结论依旧不发生改变。本文的研究发现不仅丰富了税收筹划领域的学术文献，而且也获得了控制权私有化作用于公司业绩路径方面新的证据。

关键词：控制权私有化、非税收成本、税收筹划行为、政治级别

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一、引言

世界范围来看,私人控制公司通常比国有公司更有效率(Netter and Megginson, 2001; Djankov and Murrell, 2002)。随着我国市场化改革的不断推进,越来越多国有公司的控制权被转移到私人部门。关于控制权私有化的讨论也一直在继续,学者们围绕控制权私有化的动机、方式以及私有化以后的经营业绩展开了一系列的研究(王红领、李稻葵和雷鼎鸣, 2001; 李善民和曾昭灶, 2003; 徐莉萍、陈工孟和辛宇, 2005a, 2005b; 叶会和李善民, 2008; 韩朝华和戴慕珍, 2008)。越来越多的研究集中到一个观点,即民营化对改革国有公司至关重要,许多已经实施的民营化改革方案都对公司的运作产生了积极的影响(王红领、李稻葵和雷鼎鸣, 2001)。尽管民营化能够改善公司经营业绩已成定论,但是围绕民营化作用于公司业绩的路径研究还不多,仅有少数的几篇文献围绕展开:如张雯、孙茂竹和张胜(2011)从公司冗员负担角度出发,研究发现国有公司转移给民营公司后,公司的冗员负担显著下降; Ho *et al.* (2011)进行了更为全面的研究,他们发现控制权私有化以后,公司大股东掏空程度降低、管理层的薪酬业绩敏感性提高、在职消费减少等。作为影响公司价值的重要因素,企业所得税通常在利润中占据显著比例,²但是尚未有学术文献从企业所得税角度研究控制权私有化是否会影响公司的税收筹划行为。

从公司税收筹划行为研究角度来看,公司税收筹划的影响因素、实现方式以及经济后果一直以来都得到理论界和实务界的广泛关注(Hanlon and Heitzman, 2010)。近年来,一些学者开始从代理问题角度研究企业所得税与公司治理之间的交互影响(Desai and Dharmapala, 2006; Desai and Dharmapala, 2009; Chen *et al.*, 2010),不过相关领域的研究成果还比较匮乏,因此 Scholes *et al.* (2002)以及 Desai and Dharmapala (2006)等都呼吁学者从代理问题角度研究公司税收筹划行为。控制权私有化使得公司的控制权性质从国有变为民营,代理问题发生明显改变,通过对比控制权私有化前后公司税收筹划行为的差异,能够更好地检验代理问题差异对公司税收筹划激进程度的影响。

基于此,本文选取国内资本市场发生的控制权私有化样本,通过配对样本和“双重差分”方法(Difference-in-Differences)考察公司控制权私有化前后税收筹划行为的变化,从企业所得税视角研究控制权私有化作用于公司业绩的路径。研究发现:(1)与配对样本相比,控制权私有化公司在私有化以后,实际税率显著降低、“账税差异”显著增加,表明公司的税收筹划激进程度明显提高;(2)进一步区分中央控制和地方控制私有化公司后发现,与配对样本相比,中央控制国有公司私有化以后税收筹划激进程度未发生明显改变,地方控制国有公司私有化以后税收筹划激进程度显著提高。本文可能的研究贡献包括以下三个方面:首先,已有关于控制权私有化的文献集中在控制权私有化的动机、方式以及对公司业绩的影响,但是较少研究不同产权特征影响

² 2008年以前,国内企业所得税适用的法定最高税率为33%;2008年两税合并以后,国内企业适用的法定最高税率降为25%。可见,企业所得税一直在利润中占据较高的比例,是影响企业价值的重要方面。

公司价值的路径（吴联生，2009）。本文从税收筹划视角研究发现控制权私有化能够提高公司的税收筹划激进程度，降低税收支出，进而提高公司的经营业绩，研究成果提供了关于控制权私有化作用于公司业绩路径的新证据。其次，Shackelford and Shevlin（2001）指出内部人控制和其他组织因素，如所有权结构等，对税收筹划激进程度的影响都是重要但却较少被研究的问题。Desai and Dharmapala（2006）以及 Scholes *et al.*（2002）等也呼吁学者更多地从代理问题角度研究公司的税收筹划问题。本文通过考察控制权私有化前后公司税收筹划行为变化，发现产权性质会影响公司的税收筹划激进程度，丰富了相关领域的研究文献。最后，结合我国特殊的制度背景，本文还进一步研究控制权转移前国有企业所属的政治级别，对私有化以后税收筹划激进程度变化的影响。总之，本文的研究发现不仅丰富了税收筹划研究领域的学术文献，而且从税收视角获得了控制权私有化作用于公司业绩路径的证据，为国有企业改革提供重要的评价依据。

本文后续内容安排如下：第二部分为控制权私有化和税收筹划行为相关领域的文献回顾；第三部分在理论分析的基础上提出研究假设；第四部分介绍了研究的样本选择、变量设计和实证模型；第五部分为本文主要实证结果及解释；第六部分为稳健型检验；最后对本文的研究结论进行概括和总结。

二、文献回顾

（一）控制权私有化相关文献评述

控制权转移是一个历史性的问题，多年以来一直是经济管理学家重点研究的课题之一（Martin, 1996；吴联生和白云霞，2004）。美国等西方发达国家 20 世纪 60 年代出现了大规模的上市公司兼并浪潮，与西方发达国家不同，20 世纪末我国上市公司才出现控制权转移的案例并且在此后数年内逐渐增多（李善民和曾昭灶，2003）。围绕控制权转移，尤其针对控制权性质从国有变为民营（私有化）的公司，国内学者开展了一系列的研究。从研究范围和内容来看，相关研究包括控制权私有化动机（特征）、控制权转让方式与定价以及控制权私有化对公司业绩影响三个方面：

其一，控制权私有化动机及特征。李善民和曾昭灶（2003）以 1999-2001 年我国 A 股市场发生控制权有偿转移上市公司为样本，考察我国控制权转移公司的特征，他们发现目标公司的特征主要表现为管理层低效率、财务资源有限、资产规模小、股权分散程度高、股票流动性高以及市净率高等特征。比较接近的研究还有崔学刚和荆新（2006），不过他们的研究不单单局限在控制权从国有转为民营的样本。与这些文献不同，孙焱和罗党论（2011）从地方政府间政治竞争视角，探究地方政府对卖方主导的国有上市公司“壳资源”转让的影响，研究发现地方政府倾向于将业绩好、影响力大的上市公司转让给本地的民营企业，而将业绩差、影响力小的上市公司转让给外地的民营企业。上述研究表明我国上市公司控制权转让不仅受到经济因素的影响，还会受到政治因素的驱动。

其二，控制权转让方式及其定价。控制权转让方式是控制权转移问题的核心内容之一，关于控制权转移方式，国外学者提出了一系列的理论予以解释(Myers and Majluf, 1984; Jensen, 1986; Martin, 1996)。³ 立足中国独特的制度背景，吴联生和白云霞(2004)对中国特有的上市公司控制权转移方式(现金或无偿)进行研究，研究发现无偿转让公司的现有价值比较高并且未来发展前景更好；而有偿转让的大多是现有价值低并且未来发展前景较为悲观的公司，类似的研究还有赵勇和朱武祥(2000)等。关于控制权转让定价，叶会和李善民(2008)以2001-2004年间A股市场发生的控制权交易为样本，实证检验了治理环境、政府控制对控制权交易定价的影响，研究发现好的治理环境能够降低控制权的交易价格；政府控制公司的控制权定价显著高于非政府控制公司；股权制衡程度与控制权的支付价格负相关，类似的研究还有乔薇(2012)。与研究控制权转让定价获得的直接收益不同，唐雪松和马如静(2009)还探究控股股东在控制权转移过程中通过内幕交易获得的间接收益，研究发现内幕交易程度与控股股东付出的代价、持股比例以及交易方式有关。

其三，控制权私有化对公司经营业绩的影响。此方面的学术文献比前两方面都要多，是学者们关注的焦点。相关研究可以从时间窗口长短、业绩类型两个维度进行归纳：一方面，基于时间窗口的长短不同，学者们研究了公司控制权私有化的短期业绩表现和中长期业绩表现，如姚燕、王化成和卢闯(2007)研究了控制权私有化的短期市场表现，类似的研究还有范琦和毛程连(2010)；徐莉萍、陈工孟和辛宇(2005a)主要关注控制权私有化后中长期的业绩表现，类似的研究吕长江和宋大龙(2007)、涂国前(2010)等；也有部分学者同时研究短期和长期的市场表现(徐莉萍、陈工孟和辛宇, 2005b; 杨记军、逯东和杨丹, 2010)。另一方面，基于业绩类型的不同，学者们研究了控制权私有化的市场反应和对财务业绩的影响，市场反应的研究如徐莉萍、陈工孟和辛宇(2005b)、姚燕、王化成和卢闯(2007)以及范琦和毛程连(2010)等；财务业绩的研究如徐莉萍、陈工孟和辛宇(2005a)、徐信中、白云霞和吴联生(2004)以及涂国前(2010)。从研究结论来看，学者们的研究大都发现控制权私有化能够获得更好的短期和中长期市场反应，同时也能够获得中长期财务业绩的改善，不过也有些学者得到了不同的结论(白云霞和吴联生, 2008)。

上述三方面基本涵盖了控制权私有化的主要文献。除了上述内容之外，也有学者尝试研究控制权私有化改善公司业绩的路径，如徐莉萍、陈工孟和辛宇(2005a)认为控制权私有化增加的盈利能力主要来自于成本的节约和雇员人数的削减，类似的研究还有张雯、孙茂竹和张胜(2011)。总体来看，关于控制权私有化改善公司业绩的路径研究还比较少，本文研究从企业所得税筹划角度，探究控制权私有化对公司避税行为的影响，能够获得控制权私有化作用于公司业绩路径方面新的经验证据，丰富了控制权私有化领域的学术文献。

³ 吴联生和白云霞(2004)对国外学者提出的理论进行了综述，相关理论包括：(1)投资机会假说；(2)风险分担假说；(3)控制假说；(4)自由现金假说；(5)并购方式假说。由于控制权转让方式不是本文关注的重点，此处不做过多介绍。

（二）代理问题与税收筹划激进程度

传统观点通常认为公司避税能够节省所得税成本,进而能够提高公司价值(Scholes *et al.*, 2002)。不过,越来越多的学者研究发现由于税收筹划行为的隐蔽性,管理层可以通过避税行隐藏自己的机会主义行为。Desai and Dharmapala (2006)通过理论模型推导认为由于避税行为与管理层机会主义行为之间存在“反馈效应”(feedback effect),因而针对管理层更高层次的激励能够抑制他们的避税行为。更为直接的研究是 Desai *et al.* (2007),他们研究俄罗斯总统普京上任后加强对石油公司税收征管的市场反应,结果表明税收征管加强显著地改善了公司的市场业绩。上述研究都从公司治理角度拓展了税收研究的理论基础。在此基础上,越来越多的学者尝试从公司治理角度研究税收筹划激进程度的影响因素,如 Chen *et al.* (2010)基于家族企业与非家族企业的代理问题差异,研究了两类企业税收筹划激进程度的差异;Minnick and Noga (2010)研究了公司的治理特征如何影响税收筹划的激进程度;类似的研究还有 Kim *et al.* (2011)。总体来看,代理问题角度的税收筹划研究还比较少,因此 Desai and Dharmapala (2006)以及 Scholes *et al.* (2002)都呼吁学者从公司治理角度研究公司的税收筹划激进程度。

与国外资本市场不同,中国上市公司大部分为国有控股,这为研究代理问题与税收筹划激进程度提供了难得的契机(王跃堂、王亮亮和彭洋, 2010)。基于这一特殊制度背景,吴联生(2009)研究发现国有股权比例越高,公司的实际税负越高。郑红霞和韩梅芳(2008)从财务报告成本角度分析,由于国有控股公司面临更高的财务报告成本,因而国有公司在税收筹划方面更为保守,经验证据支持这一结论。与他们不同,王跃堂、王亮亮和彭洋(2010)以我国2008年企业所得税改革为契机,研究产权性质如何影响企业所得税与资本结构之间的关系,研究发现非国有企业的资本结构对企业所得税更为敏感,间接获得了产权性质与税收筹划激进程度之间关系的经验证据。综合上述文献,可以发现从代理问题角度研究税收筹划激进程度的文献还比较少,并且在已有文献中,二者间关系往往通过截面分析进行研究,与之前文献不同,本文通过对比控制权私有化前后税收筹划激进程度的变化,探究产权性质如何影响公司的税收筹划行为。在此基础上,本文还进一步探究控制权政治层级如何影响税收筹划激进程度,在一定程度上填补了该领域的研究空白。

三、理论分析与研究假设

控制权私有化使得公司控制权性质从国有变为民营,学者们通常认为此种方式能够提高公司的运行效率(徐莉萍、陈工孟和辛宇, 2005a; 杨记军、逯东和杨丹, 2010; Ho *et al.*, 2011),这种观点在一定程度上也构成了政府转让国有股权的政策初衷。学术界的一系列经验证据表明控制权私有化能够改善公司经营业绩、提高市场价值,但是关于控制权私有化作用于公司业绩的路径研究还比较少(张雯、孙茂竹和张胜, 2011)。作为影响公司价值的重要因素,企业所得税通常在利润中占据显著比例,构成企业经营决策的重要方面(王跃堂、王亮亮和贡彩萍, 2009)。控制权私有化改变了公司经

营的经济和政治（非经济）目标，势必也会影响到公司在企业所得税方面的筹划行为，具体的影响机制可能包括如下几个方面：

其一，**税收筹划的经济激励增强**。作为转轨经济中国，政府承担着一定的公共治理责任，承担着维护社会稳定在内的多重任务（Bai *et al.*, 2006）。为了达成这些目标，政府往往需要国有企业在税收支付、吸纳就业等方面给予支持。由于政府对国有企业具有行政上的“超强控制”（何浚，1998），这在客观上驱使国有企业较少地进行税收筹划行为。国内学者吴联生（2009）研究发现，国有股权比例与企业的所得税负担正相关，这一发现符合该理论的预期。可见，控制权私有化以前，公司由于经营活动受社会目标影响较大因而较少地进行税收筹划活动。控制权私有化之后，国有股权比例减少，公司经营活动受社会目标的影响下降，而更加受到经济动机的影响。

单纯从经济动机角度而言，控制权私有化之前，公司实际控制人为国家，国家本身就是税收支出的受益者，因而节省的税收开支只是从“一个口袋”转移到了“另一个口袋”。然而在控制权私有化以后，公司实际控制人变为私人股东，因而节省的税收收益切切实实属于私人。除此之外，由于非国有企业的管理者往往就是公司的大股东，因而委托人和代理人之间的利益更为一致，这也使得公司私有化之后税收筹划行为的动机更强。综合上述分析，从税收筹划收益角度来看，控制权私有化强化了公司节省税收开支的激励动机，使得公司更有可能进行税收筹划行为。

其二，**税收筹划的非税收成本降低**。Scholes *et al.*（2002）提出了“有效税收筹划”的分析框架，认为在分析公司的税收筹划行为时，不仅要考虑税收成本，还要考虑其他非税收因素的影响。在非税收因素中，财务报告成本⁴是一个重要方面，并被学术界广泛关注（Shackelford and Shevlin, 2001）。国有企业与非国有企业在财务报告成本上存在差异，这种差异主要来源于国有企业与非国有企业管理者身份的不同，非国有企业的管理者本身往往就是大股东，委托人和代理人之间的信息不对称程度较轻，而信息不对称程度直接关系到财务报告成本，从这个角度而言，非国有企业税收筹划的财务报告成本要低于国有企业；不过，另一方面，如果从债务契约产生的财务报告成本角度来看，国有企业普遍存在“预算软约束”现象（辛清泉和谭伟强，2009），国有企业从银行，尤其是国有银行，获取贷款较为容易和便利，客观上也降低了对财务报告业绩和质量的要求，使得国有企业债务契约产生的财务报告成本较低。综合两方面因素来看，非国有企业与国有企业税收筹划的财务报告成本较难直接比较和确定。不过，国内学者的普遍观点认为，国有企业税收筹划的财务报告成本要高于非国有企业，如郑红霞和韩梅芳（2008）发现由于民营上市公司的财务报告成本更低，因而其税收筹划的激进程度显著高于国有企业，王跃堂、王亮亮和彭洋（2010）基于我国2008年企业所得税改革的研究也发现了类似的结论。综合上述分析，我们认为控制权私有化会降低公司税收筹划行为的财务报告成本，能够促使公司进行更多的税收筹划行为。

其三，**税收筹划行为隐藏“抽租”行为的动机发生变化**。与传统观点仅仅认为避

⁴ 财务报告成本，通常是指报告较低的会计利润或者所有者权益带来的真实的或者可预见的成本（Shackelford and Shevlin, 2001），如报告较低会计利润带来的股价下跌损失等。

税可以节省税收支出不同, Desai and Dharmapala(2006)和 Desai and Dharmapala(2009)从代理问题角度提出新的观点, 他们认为公司税收筹划行为往往通过安排复杂的交易实现, 这些因素使得管理层或者内部人隐藏自己的“抽租”行为⁵ 变得更加容易, 例如公司可以通过复杂的交易在不同税率的关联方之间进行利润转移, 而在避税的面纱下, 内部人更容易隐藏其抽租行为。这种情形下, 避税行为可能不仅不会增加股东价值, 相反还有可能会损害中小股东的利益。控制权私有化之前, 由于国有企业管理者(控股股东)税收筹划行为的非税收成本较高, 避税的动机受到抑制, 而且国有企业的“内部人控制”等因素也会削弱通过安排复杂的税收筹划活动隐藏抽租行为的动机。控制前私有化以后, 集中的私人股权使得内部人掏空的动机增强(Desai *et al.*, 2007), 因而在不考虑成本的情况下, 公司内部人更有可能进行税收筹划行为, 以隐藏自身的抽租行为。不过由于抽租行为会导致公司股价下跌和声誉受损(Desai and Dharmapala, 2006), 因而更为看重公司长期利益和声誉的私人股东, 会受到这些成本的影响减少抽租行为(Chen *et al.*, 2010)。因此, 从税收筹划行为隐藏抽租行为的角度来看, 公司控制权私有化以后税收筹划激进程度变化的方向较难判断。

综合上述分析, 我们认为控制权私有化以后, 公司税收筹划行为受到的政府干预减少, 税收筹划行为的直接收益提高且非税收成本降低, 尽管受到抽租动机的影响, 但是税收筹划的激进程度仍然会提高, 因此本文提出如下研究假设:

假设: 控制权私有化以后, 公司税收筹划的激进程度显著提高。

四、 研究设计

(一) 样本选择

为了获取控制权从国有转为民营的样本, 本文借鉴 Ho *et al.* (2011) 的方法, 首先从国泰安数据库(CSMAR)和色诺芬经济金融数据库(CCER)里获取上市公司股权转让样本, 在此基础上, 通过手工查阅公司年度报告、并购公告以及其他新闻公告确定公司的实际控制人是否从国有变为民营, 通过这种方法共获得 2002-2006 年间 104 个控制权私有化公司。由于研究样本包括控制权转移前 3 年和后 3 年(包括转移当年)的样本, 因而如果样本公司在转移前后 3 年还发生了其它次的控制权转移, 则难以控制其它次控制权转移的影响, 会对研究结论产生不利的影 响。此类公司共有 2 家, 故将其剔除, 获得 102 家控制权私有化公司。在此基础上, 进行如下筛选程序: (1) 剔除金融类上市公司样本, 由于金融类与非金融类上市公司在财务指标方面存在较大差异, 故将其剔除; (2) 2007 年以前, 企业核算所得税适用《企业会计制度》, 可以选择采用“应付税款法”或者“纳税影响会计法”, 由于“纳税影响会计法”下所得税核算与“应付税款法”存在较大差异, 故将此类样本剔除; (3) 剔除回归所需其他

⁵ “抽租行为”(Rent Extraction)指以股东利益为代价的非价值最大化行为, 包括激进的财务报告策略、在职消费以及关联交易等。

数据缺失的样本；（4）剔除只包含控制权转移前或者只包含转移后的公司，由于此类公司无法对比控制权转移前后的差异，故将这类公司剔除。经过上述筛选步骤，获得 96 家控制权私有化公司。

然而，由于我国资本市场在样本期间（1999-2008）历经多项制度变化，包括“先征后返”所得税政策取消、股权分置改革、会计准则国际趋同以及企业所得税法改革等多项政策变迁。此外，发生控制权转移的公司本身可能就是因为有降低税负的可能才被私人股东收购。为了控制上述因素对研究结论的影响，本文通过配对样本的方法控制时间序列上其他因素带来的“混淆效应”（Confounding Effects）。配对样本选择标准为：（1）与控制权私有化公司处于同一行业（制造业取两位代码，其他行业一位）；（2）前 3 年和后 3 年（包括转移当年，下同）均披露了财务报告的公司；（3）前 3 年和后 3 年均未发生控制权转移的公司；（4）转移当年销售收入最为接近的公司。通过上述标准，我们共找到 96 家控制权未发生转移的公司作为配对样本。为了实现数据的配比，配对公司保留前后 3 年数据，并构建与初始样本完全一致的“伪”（Pseudo）控制权转移样本。不过，在配对样本公司中，由于变量缺失等因素导致 3 家公司只包含转移前或者只包含转移后的数据。因而，稳健起见，剔除这 3 家公司以及相应的 3 家处理组公司，最终得到 93 家实际发生控制权私有化的公司和 93 家配对公司。

（二）税收筹划激进程度变量计量

税收筹划激进程度的衡量方法主要包括“实际所得税率”（Effective Tax Rate）和“账税差异”（Book-Tax Difference）两种，结合我国企业所得税法与所得税会计的实践，借鉴之前学者的文献，本文拟构建如下指标：

1. “实际所得税率”

从经济学角度，实际所得税率可以定义为： $ETR = \text{所负担的所得税} / \text{税前经济收益}$ （王延明，2002）。依据国外已有文献，计算实际所得税率时通常需要考虑两个方面的问题：其一，负担所得税的衡量问题，即实际所得税率计算公式中分子的测度问题。根据我国上市公司执行的《企业会计制度》和《企业会计准则》，2007 年以前，我国上市公司可以采用“应付税款法”和“纳税影响会计法”两种方法计量所得税费用。在“应付税款法”下，公司会计报表中的所得税费用即为当期实际缴纳的所得税费用。2007 年以后，上市公司核算所得税费用的方法发生了变化，所有上市公司只能采用“资产负债表债务法”，新方法计量所得税费用时不仅包括当期应当缴纳的所得税费用，还要包括递延所得税费用。为了实现数据上的配比，计量实际所得税率的分子使用当期应当缴纳的所得税。⁶其二，税前经济收益的衡量问题，即实际所得税率计算公式中的分母测度问题。基于之前学者的文献，本文采用如下两种衡量方法：第一，借鉴 Chen *et al.*（2010）的做法，选用税前利润作为分母；第二，借鉴 Porcano（1986）、Adhikari

⁶ 2007 年以后上市公司在报表附注中会详细披露所得税费用的构成，通过翻阅年报，本文手工收集 2007 年以后公司的“本 / 当期所得税费用”数据，即公司当期应当缴纳的所得税费用数据。该数据与 2007 年以前“应付税款法”下的所得税费用科目一致，实现了数据上的配比。

et al. (2006) 和吴联生和李辰 (2007) 的做法, 选用息税前利润作为分母。综合上述分析, 本文首先构建如下两个实际所得税率指标:

$$\text{指标 1: } ETR_1 = \frac{CTE}{EBT} \qquad \text{指标 2: } ETR_2 = \frac{CTE}{EBIT}$$

其中 CTE 为当期应当缴纳的所得税费用; EBT 为当期税前利润; $EBIT$ 为当期的息税前利润。借鉴 Terando and Omer (1993)、Gupta and Newberry (1997) 以及 Adhikari *et al.* (2006) 等的通常做法, 如果分子为负,⁷ 则无论分母为正或者为负, 公司实际所得税率为 0; 当分子为正, 分母为负时, 则企业实际所得税率为 1。

2. “账税差异”

Manzon and Plesko (2002) 首先提出了从“账税差异”角度衡量公司税收筹划激进程度的新方法: 公司税前会计利润与应纳税所得额之间的差额。由于依据税法计算的应纳税所得额数据无法直接获得, 因而学者们主要使用会计报表上的应纳所得税额除以公司的适用税率间接推算获得。借鉴 Manzon and Plesko (2002) 的做法, 构建如下指标:

$$\text{指标 3: } BTD_{MP} = \frac{EBT_t - CTE_t / ATR_t}{TA_{t-1}}$$

其中, EBT_t 为公司 t 期的税前会计利润; CTE_t 为公司 t 期应当缴纳的所得税费用, 获取方法与前文一致, 不再赘述; ATR_t 为公司第 t 期的适用税率, 以母公司税率代替; TA_{t-1} 为公司 $t-1$ 期末的总资产, 用于调节规模效应; 该指标在 Chen *et al.* (2010) 以及 Wilson (2009) 中都被应用, 指标值越大, 表明公司税收筹划越激进。不过也有学者认为公司的“账税差异”不单单受到税收筹划行为的影响, 还会受到盈余管理的影响, 尤其是通过应计项目进行的盈余管理。为了降低公司应计项目盈余管理对“账税差异”变量衡量带来的噪音, Desai and Dharmapala (2006) 将公司的“账税差异”与总应计利润进行回归, 并将得到的残差作为公司的异常“账税差异”, 用以衡量公司的税收筹划激进程度。借鉴他们的做法, 本文首先基于现金流量法计算公司的总应计利润⁸ (Hribar and Collins, 2002); 其次, 结合前文构建的指标 3, 构建如下回归模型:

$$(BTD_{MP})_{it} = \beta_1 \frac{TACC_{it}}{TA_{it-1}} + \mu_i + \varepsilon_{it}$$

其中 $(BTD_{MP})_{it}$ 为公司 i 第 t 期调整后的“账税差异” (Manzon and Plesko, 2002); $TACC_{it}$ 为公司 i 第 t 期的总应计利润; TA_{it-1} 为公司 i 第 $t-1$ 期末的总资产; μ_i 为公司 i

⁷ 企业所得税政策中的“税收返还”和所得税会计计量方法都可能使得当期的所得税费用为负, 例如, 2002 年以前, 我国上市公司普遍存在企业所得税“先征后返”的政策, 如果当期的所得税费用低于上一期所得税费用在当期的返还额, 则当期的所得税费用为负。

⁸ 除了使用总应计利润外, 本文也使用基于 Jones 和修正 Jones 模型计算的操控性应计利润作为自变量估计异常“账税差异”, 使用这两种方法计算的异常“账税差异”的检验结果与文中基本一致。

在样本期间⁹ 残差的均值； ε_{it} 为公司 i 第 t 期残差相对于样本期间残差平均值 μ_i 的差异。最后，基于上述回归模型的残差，构建如下指标 4。与指标 3 一样，该指标值越大，表明公司税收筹划激进程度越高。

$$\text{指标 4: } (BTD_{DD})_{it} = \mu_i + \varepsilon_{it}$$

(三) 模型设计

借鉴 Chen *et al.* (2010) 等，构建如下的双重差分模型进行检验：

$$\begin{aligned} TaxAgg = & \alpha_0 + \beta_1 POST + \beta_2 SIZE + \beta_3 LEV + \beta_4 ROE + \beta_5 CAPINT + \beta_6 INVINT + \beta_7 MTB \\ & + RCHG * (\alpha_1 + \beta_8 POST + \beta_9 SIZE + \beta_{10} LEV + \beta_{11} ROE + \beta_{12} CAPINT \\ & + \beta_{13} INVINT + \beta_{14} MTB) + \beta_{15} TRA_{2002} + \beta_{16} TRA_{2008} + \beta_{17} IFRS + \varepsilon \end{aligned} \quad (1)$$

$TaxAgg$ 为公司税收筹划激进程度变量，使用上文介绍的四种指标： ETR_1 、 ETR_2 、 BTD_{MP} 和 BTD_{DD} 。 $POST$ 为标示（伪）控制权转移前后的变量，控制权转移当年(t)、 $t+1$ 和 $t+2$ 属于转移后年份，该变量取 1，否则取 0； $RCHG$ 为区分控制权私有化样本与配对样本的虚拟变量，控制权私有化（处理组）样本为 1，配对样本取 0； $SIZE$ 为公司规模变量，衡量方法为公司期末总资产的自然对数，依据“政治成本”假说，公司规模与税收筹划激进程度负相关（Zimmerman, 1983；吴联生，2009），不过也有学者发现该变量与税收筹划激进程度正相关或者不相关（Porcano, 1986；吴文锋、吴冲锋和芮萌，2009）； LEV 为公司的债务水平变量，衡量方法为公司期末总债务与总资产的比例，与税收筹划激进程度之间的关系不确定（Chen *et al.*, 2010）； ROE 衡量公司的盈利能力，为公司当期息税前利润与期末所有者权益的比例，与税收筹划激进程度可能正相关，也可能不相关（Adhikari *et al.*, 2006；Chen *et al.*, 2010）； $CAPINT$ 为公司资本密集度，衡量方法为公司期末固定资产占总资产的比例； $INVINT$ 为存货密集度，衡量方法为公司期末存货占总资产的比例； MTB 为公司所有者权益的市场价值与账面之间之比，衡量公司的成长性，之前文献表明公司成长性与税收筹划激进程度之间存在正相关关系，也可能不相关（Gupta and Newberry, 1997；Adhikari *et al.*, 2006）；由于样本期间，上市公司适用的税制发生了变化，考虑此因素，设置两个时间虚拟变量 TRA_{2002} 和 TRA_{2008} 。 TRA_{2002} 用以控制 2002 年“先征后返”政策取消，2002 年及以后年度取 1，否则取 0。由于 2002 年政策变化仅涉及税率变化，而适用税率变化并不会影响“账税差异”指标，因此该变量仅放入 ETR_1 和 ETR_2 模型中。 TRA_{2008} 用以控制 2008 年所得税法改革的影响，2008 年及以后年度为 1，否则为 0。由于 2008 年税改不仅涉及税率变化，还涉及抵扣、抵免政策的变化，因此放入所有模型中，用以控制税制外生性变化产生的影响。此外，2007 年 1 月 1 日起，上市公司开始执行新《企业会计准则》，新准则与国际会计准则更加趋同（王亮亮、王跃堂和杨志进，2012），本文在前文所有

⁹ 为了更好地控制公司个体因素的影响，笔者使用 1999-2011 年作为时间窗口对所有上市公司进行回归，进而获取本文研究所用样本的异常“账税差异”。

检验模型中加入 *IFRS* 虚拟变量（2007 年以后为 1，之前为 0），用以控制会计准则变化对研究结论产生的影响。为了控制极端值对本文研究结论的影响，所有变量在 1st 和 99th 分位数上进行“缩尾处理”（Winsorize）。

依据研究假设，与配对样本相比，控制权私有化公司税收筹划激进程度在私有化以后显著提高，因此预期 β_8 在因变量为 ETR_1 和 ETR_2 的模型中显著为负，在因变量为 BTD_{MP} 和 BTD_{DD} 的模型中显著为正。

五、 实证结果与解释

（一）描述性统计

表 1 为控制权私有化样本和配对样本的描述性统计及差异比较。控制权私有化样本共包括 536 个公司-年观测值，配对样本共包括 536 个公司-年观测值。

衡量公司税收筹划激进程度的变量为 ETR_1 、 ETR_2 、 BTD_{MP} 以及 BTD_{DD} ，观察两组样本可以发现，公司实际税率 ETR_1 和 ETR_2 均值和中位数都低于法定最高税率 33%，¹⁰ 之前学者也发现较为类似的现象（陈晓、肖星和王永胜，2003），导致公司实际税率低于法定最高税率的原因既包括公司适用低税率、享受税收优惠等客观原因，也包括公司通过税收筹划合理避税等主观原因。另外，还可以发现这两个变量的标准差都大于均值，可见不同公司实际税率之间存在显著差异。观察另外两个税收筹划变量 BTD_{MP} 和 BTD_{DD} ，我们注意到这两个变量均值都小于 0，且同样不同样本公司之间差异较为明显。

观察表中控制权私有化样本和配对样本的差异比较，可以发现两组样本实际税率（ ETR_1 和 ETR_2 ）并无明显差异，不过“账税差异”变量（ BTD_{MP} 和 BTD_{DD} ）存在显著差异，配对样本组都要高于处理样本组，说明配对样本组的避税程度略高。其余控制变量中，存在显著差异的是公司规模（*SIZE*）、债务水平（*LEV*）以及资本密集度（*CAPINT*）：配对样本公司规模略大，债务比例和资本密集度都更低；其余变量差异不显著或结果不稳定。

（二）主要回归结果

表 2 为使用双重差分模型考察控制权私有化后公司税收筹划行为变化的回归结果。列（1）和（2）为基于实际税率 ETR_1 和 ETR_2 的检验结果，列（3）和（4）为基于“账税差异” BTD_{MP} 和 BTD_{DD} 的检验结果，括号内为系数检验的稳健性 t 值（White, 1980）。所有模型的 F 值都在 1% 水平上统计显著，实际税率 ETR_1 和 ETR_2 模型的调整 R^2 分别为 0.073 和 0.063，“账税差异” BTD_{MP} 和 BTD_{DD} 模型的调整 R^2 明显高于实际税率模型，分别为 0.453 和 0.340。

¹⁰ 样本期绝大部分位于 2008 年税法改革以前，税法改革以前公司适用法定最高税率为 33%。

表 1 两组样本描述性统计及差异比较

	控制权私有化样本 (N=536)			配对样本 (N=536)			差异 ^a	
	均值	标准差	中位数	均值	标准差	中位数	均值	中位数
ETR_1	0.292	0.322	0.186	0.281	0.311	0.179	0.011 (0.55)	0.007 (0.39)
ETR_2	0.235	0.306	0.142	0.219	0.284	0.127	0.016 (0.89)	0.015 (0.50)
BTD_{MP}^b	-0.032	0.086	-0.006	-0.020	0.065	-0.003	-0.012** (-2.47)	-0.002 (-1.62)
BTD_{DD}^b	-0.021	0.073	-0.004	-0.013	0.058	-0.002	-0.008* (-1.91)	-0.002 (-1.27)
$POST$	0.498	0.500	0.000	0.498	0.500	0.000	0.000 (0.00)	0.000 (0.00)
$SIZE$	20.648	0.704	20.645	20.731	0.805	20.739	-0.082* (-1.78)	-0.095* (-1.80)
LEV	0.557	0.295	0.526	0.506	0.238	0.501	0.051*** (3.08)	0.025*** (2.65)
ROE	0.037	0.448	0.084	0.030	0.394	0.075	0.007 (0.26)	0.009* (1.77)
$CAPINT$	0.296	0.174	0.270	0.261	0.162	0.230	0.035*** (3.42)	0.041*** (3.52)
$INVINT$	0.159	0.158	0.112	0.162	0.147	0.123	-0.004 (-0.40)	-0.011 (-1.00)
MTB	4.935	6.668	3.342	4.505	6.129	3.028	0.430 (1.10)	0.313 (1.44)
TRA_{2002}	0.761	0.427	1.000	0.761	0.427	1.000	0.000 (0.00)	0.000 (0.00)
TRA_{2008}	0.030	0.170	0.000	0.030	0.170	0.000	0.000 (0.00)	0.000 (0.00)
$IFRS$	0.076	0.266	0.000	0.076	0.266	0.000	0.000 (0.00)	0.000 (0.00)

注释：a. 差异=控制权私有化样本-配对样本；b. 该变量样本数分别为 483（控制权私有化样本）和 482（配对样本）。

观察变量 $RCHG*POST$ 系数可知，该变量在实际税率 ETR_1 和 ETR_2 模型（列（1）和（2））中为负，且都在 5% 水平上显著，表明与配对样本相比，控制权私有化公司在私有化以后实际税率显著降低，降低程度分别为 8.2% 和 8.0%，与样本公司实际税率平均值相比，降低幅度较大，具有经济意义上的显著性。“账税差异”模型（列（3）和（4））的检验结论与实际税率模型基本一致：与配对样本相比，公司控制权私有化以后“账税差异”增加， BTD_{MP} 模型中在 5% 水平上显著， BTD_{DD} 模型中证据较弱，同样表明公司控制权私有化以后税收筹划行为显著增加。综合上述检验结果，本文的研究假设得到验证。其余为控制变量的检验结果，处理样本和配对样本的检验结果差异

表 2 控制权私有化与公司税收筹划激进程度回归结果

	因变量			
	(1) ETR_1	(2) ETR_2	(3) BTD_{MP}	(4) BTD_{DD}
<i>POST</i>	0.020 (0.64)	0.019 (0.67)	-0.002 (-0.52)	0.005 (1.23)
<i>RCHG</i>	-0.265 (-0.47)	-0.211 (-0.41)	-0.128 (-0.95)	-0.054 (-0.44)
<i>RCHG*POST</i>	-0.082** (-2.15)	-0.080** (-2.21)	0.015** (2.02)	0.007 (1.07)
<i>SIZE</i>	0.036** (2.04)	0.023 (1.50)	0.011** (2.40)	0.008** (2.04)
<i>LEV</i>	0.163** (2.25)	0.072 (0.96)	-0.122*** (-5.15)	-0.099*** (-5.59)
<i>ROE</i>	-0.086 (-1.57)	-0.103* (-1.78)	0.067*** (5.12)	0.048*** (4.70)
<i>CAPINT</i>	-0.117 (-1.40)	-0.104 (-1.31)	0.009 (0.53)	0.042** (2.55)
<i>INVINT</i>	0.204* (1.85)	0.114 (1.12)	0.030* (1.86)	0.001 (0.05)
<i>MTB</i>	-0.005** (-2.08)	-0.004 (-1.54)	0.001** (1.99)	0.001** (2.31)
<i>RCHG*SIZE</i>	0.015 (0.54)	0.014 (0.58)	0.007 (0.99)	0.002 (0.40)
<i>RCHG*LEV</i>	-0.024 (-0.25)	0.040 (0.41)	-0.051 (-1.62)	-0.026 (-1.09)
<i>RCHG*ROE</i>	-0.048 (-0.67)	-0.060 (-0.80)	0.002 (0.14)	0.007 (0.53)
<i>RCHG*CAPINT</i>	0.178 (1.46)	-0.040 (-0.35)	-0.003 (-0.12)	0.002 (0.06)
<i>RCHG*INVINT</i>	-0.139 (-0.96)	-0.189 (-1.41)	0.012 (0.46)	0.030 (1.11)
<i>RCHG*MTB</i>	0.000 (0.00)	-0.001 (-0.39)	0.001 (1.05)	0.001 (1.00)
<i>TRA₂₀₀₂</i>	0.076*** (3.01)	0.051** (2.15)		
<i>TRA₂₀₀₈</i>	0.047 (0.77)	0.076 (1.31)	-0.036*** (-2.59)	-0.036** (-2.26)
<i>IFRS</i>	-0.056 (-1.61)	-0.061** (-2.55)	0.013 (1.36)	0.010 (0.91)
截距项	-0.585 (-1.60)	-0.314 (-0.97)	-0.194** (-2.14)	-0.152* (-1.86)
N	1072	1072	965	965
Adj_R ²	0.073	0.063	0.453	0.340
F 值	5.92***	4.31***	16.89***	16.33***

注释：括号内为依据稳健型标准误计算的 t 值；*、**、*** 分别表示在 10%、5% 和 1% 水平上显著（双尾）。“账税差异”模型样本量小于实际税率模型样本量，主要系公司税率不统一或者为 0 所致，下文同。

较小,可见各控制变量与被解释变量之间的关系在两组样本中比较一致。观察各控制变量的检验结果,¹¹公司规模变量 *SIZE* 与实际税率正相关,支持“政治成本”假说 (Zimmerman, 1983)。不过,在“账税差异”模型中,公司规模与“账税差异”同样正相关,似乎表明规模较大公司也更有可能是进行税收筹划行为。公司债务水平 (*LEV*) 与实际税率正相关,与“账税差异”负相关,由于债务水平反映了公司的财务报告成本,因而该结果表明公司财务报告成本越高,进行税收筹划的可能性越低,这与盖地和胡国强 (2012) 的研究结论一致。公司的盈利能力 (*ROE*) 和成长性 (*MTB*) 都与实际税率负相关,与“账税差异”正相关,这与之前学者 Gupta and Newberry (1997)、Derashid and Zhang (2003) 以及吴文锋、吴冲锋和芮萌 (2009) 的研究结论比较一致。资本密集度 (*CAPINT*) 和存货密集度 (*INVINT*) 仅在个别模型中显著。此外,时间虚拟变量 *TRA*₂₀₀₂ 系数为正,表明 2002 年企业所得税“先征后返”政策取消后,公司的实际税率显著提高。时间虚拟变量 *TRA*₂₀₀₈ 在实际税率模型中不显著,而在“账税差异”模型中显著为负,一定程度上反映了新企业所得税法改革“降税率、宽税基、严征管”的基本思想:税法改革后公司的税基变宽,征管更加严格,因而“账税差异”显著降低;而实际税率尽管会因名义税率下降而降低,但由于受到税基变宽和征管强度提高等因素的影响,并未发生明显改变。

(三) 补充检验: 中央控制 vs. 地方控制私有化公司

已有研究表明政府控制级别会对公司治理和公司价值产生影响 (夏立军和方轶强, 2005)。根据控制权私有化前国有控制权所属政治层级,本文进一步检验中央控制国有公司¹² 和地方控制国有公司私有化以后税收筹划行为变化是否有所不同。为此,在前文模型 (1) 的基础上,构造如下模型进行检验:

$$\begin{aligned} TaxAgg = & \alpha_0 + \beta_1 POST + \beta_2 SIZE + \beta_3 LEV + \beta_4 ROE + \beta_5 CAPINT + \beta_6 INVINT + \beta_7 MTB \\ & + \beta_8 CENTRAL + \beta_9 CENTRAL * POST + \beta_{10} LOCAL + \beta_{11} LOCAL * POST \\ & + RCHG * (\beta_{12} SIZE + \beta_{13} LEV + \beta_{14} ROE + \beta_{15} CAPINT + \beta_{16} INVINT \\ & + \beta_{17} MTB) + \beta_{18} TRA_{2002} + \beta_{19} TRA_{2008} + \beta_{20} IFRS + \varepsilon \end{aligned} \quad (2)$$

其中 *CENTRAL* 变量为标示中央控制私有化公司的虚拟变量,转移前实际控制人为中央级别为 1, 否则为 0; *LOCAL* 变量为标示地方控制私有化公司的虚拟变量,转移前实际控制人为地方级别为 1, 否则为 0; *CENTRAL*POST*、*LOCAL*POST* 分别为 *POST* 变量和 *CENTRAL*、*LOCAL* 变量的交互项,用以检验两类控制权私有化公司与配对样本之间的差异。其余变量同上文,不再赘述,检验结果见表 3。

观察表 3 可知, *CENTRAL*POST* 系数在所有模型中都不显著,表明与配对样本相比,中央控制国有公司私有化以后税收筹划激进程度并无明显变化。*LOCAL*POST* 系

¹¹ 由于控制变量与被解释变量的关系在处理样本和配对样本中的差异较小,因此我们分析控制变量检验结果时仅关注配对样本组的结果。

¹² 借鉴夏立军和方轶强 (2005) 的做法,对于部属院校控制的上市公司,将其归类为中央政府控制;地方政府教育部门所属院校控制的上市公司则归类为地方政府控制。

表 3 中央控制和地方控制国有公司私有化与税收筹划激进程度回归结果

	因变量			
	(1) ETR_1	(2) ETR_2	(3) BTD_{MP}	(4) BTD_{DD}
<i>POST</i>	0.020 (0.65)	0.019 (0.66)	-0.002 (-0.49)	0.006 (1.30)
<i>CENTRAL</i>	-0.385 (-0.69)	-0.313 (-0.61)	-0.128 (-0.95)	-0.045 (-0.36)
<i>CENTRAL*POST</i>	0.075 (1.01)	0.069 (0.97)	0.012 (0.63)	-0.012 (-0.73)
<i>LOCAL</i>	-0.286 (-0.51)	-0.247 (-0.48)	-0.117 (-0.87)	-0.035 (-0.28)
<i>LOCAL*POST</i>	-0.101** (-2.55)	-0.097*** (-2.59)	0.015** (1.98)	0.009 (1.32)
<i>SIZE</i>	0.036** (2.04)	0.023 (1.50)	0.011** (2.39)	0.008** (2.04)
<i>LEV</i>	0.163** (2.25)	0.072 (0.97)	-0.122*** (-5.14)	-0.099*** (-5.59)
<i>ROE</i>	-0.086 (-1.57)	-0.103* (-1.78)	0.067*** (5.11)	0.048*** (4.70)
<i>CAPINT</i>	-0.116 (-1.40)	-0.103 (-1.31)	0.009 (0.52)	0.042** (2.53)
<i>INVINT</i>	0.204* (1.85)	0.114 (1.12)	0.030* (1.86)	0.001 (0.05)
<i>MTB</i>	-0.005** (-2.09)	-0.004 (-1.54)	0.001** (1.99)	0.001** (2.31)
<i>RCHG*SIZE</i>	0.017 (0.61)	0.017 (0.68)	0.006 (0.93)	0.002 (0.27)
<i>RCHG*LEV</i>	-0.034 (-0.36)	0.032 (0.33)	-0.052 (-1.63)	-0.026 (-1.07)
<i>RCHG*ROE</i>	-0.049 (-0.68)	-0.063 (-0.84)	0.003 (0.17)	0.009 (0.62)
<i>RCHG*CAPINT</i>	0.180 (1.48)	-0.038 (-0.33)	-0.004 (-0.14)	-0.000 (-0.00)
<i>RCHG*INVINT</i>	-0.147 (-1.01)	-0.191 (-1.43)	0.010 (0.37)	0.026 (0.99)
<i>RCHG*MTB</i>	0.000 (0.05)	-0.001 (-0.34)	0.001 (1.03)	0.001 (0.94)
<i>TRA₂₀₀₂</i>	0.075*** (2.97)	0.050** (2.12)		
<i>TRA₂₀₀₈</i>	0.049 (0.81)	0.080 (1.36)	-0.036*** (-2.60)	-0.036** (-2.29)
<i>IFRS</i>	-0.055 (-1.58)	-0.059** (-2.49)	0.012 (1.29)	0.008 (0.80)
截距项	-0.584 (-1.59)	-0.313 (-0.97)	-0.193** (-2.13)	-0.152* (-1.85)
N	1072	1072	965	965
Adj_R²	0.075	0.065	0.453	0.345
F 值	5.92***	4.20***	15.59***	14.43***

注释：括号内为依据稳健型标准误计算的 t 值；*、**、***分别表示在 10%、5%和 1%水平上显著（双尾）。

数在实际税率模型（列（1）和（2））中为负，且都至少在 5%水平上显著；在“账税差异”模型（列（3）和（4））中都为正，分别在 5%水平上显著和 10%水平上单尾显著，检验结果表明，与配对样本相比，地方控制国有公司私有化以后，公司的实际税率（“账税差异”）显著降低（增加），显示公司的税收筹划激进程度显著提高。上述结果表明中央控制和地方控制国有公司私有化后税收筹划行为变化间存在差异，造成这一差异的原因可能包括如下几个方面：（1）中央控制国有公司隶属于中央，地方控制国有公司隶属于地方，在私有化以后地方控制国有公司与地方政府的“关系”更容易被保持，相应地面临的税收环境就会更加宽松（吴文锋、吴冲锋和芮萌，2009）；（2）中央控制与地方控制国有公司所属的信息环境不同，此外中央控制国有公司自身的经营范围也往往是垄断行业，因此两类公司私有化以后面临的税收监管成本存在差异，地方控制国有公司的税收监管成本相对较低，因而税收筹划激进程度更高；（3）相比于地方控制国有公司，中央控制国有公司运作更加规范，因而在私有化以后，中央控制国有公司运营制度变化上更具刚性，此外税收筹划行为本身受到的牵制更多，因此税收筹划激进程度变化没有那么明显。

六、 稳健性检验

（一）不使用双重差分方法的检验结果

为了控制其他混淆因素的影响，本文使用双重差分模型检验国有控制公司私有化以后税收筹划激进程度的变化。由于双重差分模型也可能会受到配对样本选择有偏等因素的干扰，我们还使用控制权私有化样本单独进行检验，具体的检验结果见表 4。观察 $POST$ 变量的系数可知， $POST$ 变量在实际税率 ETR_1 和 ETR_2 模型（列（1）和（2））中为负，且都在 10%水平上显著，表明控制权私有化以后，公司的实际税率显著降低；另外，降低程度分别为 6.1%和 6.4%左右，与控制权转移前的平均实际税率相比，降低幅度较大，同样具有经济意义上的显著性。“账税差异”模型（列（3）和（4））的检验结论与实际税率模型（列（3）和（4））基本一致，公司控制权私有化以后的“账税差异”显著增加，无论是 BTD_{MP} 还是 BTD_{DD} 模型， $POST$ 变量都为正，且都至少在 5%水平上统计显著，同样表明公司控制权私有化以后税收筹划行为显著增加。上述检验结果表明，在不使用配对样本的情况下，本文的研究结论依旧存在。

（二）双重差分模型其他设定方法的检验结果¹³

为了通过双重差分模型检验控制权私有化对公司税收筹划行为的影响，我们为所有发生控制权转移的公司选定了配对样本，并通过与配对样本的对比，检验处理组样本税收筹划激进程度的变化。除了这种双重差分设定方法之外，我们还参考 Armstrong *et al.*（2012）等的做法，设定如下的双重差分模型进行检验：

¹³ 衷心感谢责任编辑苏黎新博士的建议，文责自负。

表 4 稳健性检验 I

	因变量			
	(1) ETR_1	(2) ETR_2	(3) BTD_{MP}	(4) BTD_{DD}
POST	-0.061* (-1.69)	-0.064* (-1.84)	0.014** (2.20)	0.015** (2.57)
SIZE	0.050** (2.34)	0.036* (1.82)	0.018*** (3.54)	0.011** (2.40)
LEV	0.142** (2.21)	0.115* (1.77)	-0.174*** (-8.31)	-0.127*** (-7.77)
ROE	-0.137*** (-2.87)	-0.166*** (-3.48)	0.070*** (5.60)	0.056*** (5.57)
CAPINT	0.066 (0.72)	-0.140 (-1.62)	0.005 (0.24)	0.042** (2.39)
INVINT	0.069 (0.72)	-0.070 (-0.79)	0.040* (1.93)	0.028 (1.40)
MTB	-0.005** (-2.47)	-0.005** (-2.35)	0.002*** (3.86)	0.002*** (4.20)
TRA ₂₀₀₂	0.064 (1.63)	0.047 (1.25)		
TRA ₂₀₀₈	0.029 (0.41)	0.022 (0.31)	-0.039** (-1.97)	-0.045* (-1.71)
IFRS	-0.024 (-0.67)	-0.005 (-0.14)	0.004 (0.36)	0.002 (0.15)
截距项	-0.830* (-1.93)	-0.498 (-1.24)	-0.325*** (-3.26)	-0.211** (-2.28)
N	536	536	483	483
Adj_R ²	0.066	0.074	0.480	0.369
F 值	4.38***	4.07***	14.31***	12.43***

注释：括号内为依据稳健型标准误计算的 t 值，*、**、***分别表示在 10%、5%和 1%水平上显著（双尾）。

$$TaxAgg_{it} = \alpha_i + \lambda_t + \beta_1 POST_CP_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 ROE_{it} + \beta_5 CAPINT_{it} + \beta_6 INVINT_{it} + \beta_7 MTB_{it} + \varepsilon_{it} \quad (9)$$

其中， α_i 为公司固定效应变量； λ_t 为年度固定效应变量； $POST_CP$ 为解释变量，控制权私有化当年及以后年度为 1，否则为 0。其余为控制变量，与前文一致。选择的样本为 2002-2006 年间所有非金融类上市公司，需要说明的是，这种设定方法下，控制组样本不仅包括样本期间从未发生过控制权私有化的公司，还包括所有在 t 年未发生控制权私有化的公司（Bertrand and Mullainathan, 2003）。根据这种设定方法的检验结果如表 5 所示，观察表 5 中 $POST_CP$ 变量的系数可知，该变量在实际税率 ETR 模型中均为负，列（1）中在 10%水平上单尾显著，列（2）中在 10%水平上显著（双尾检验）；在“账税差异”模型中均为正，且都在 5%水平上显著（双尾检验）；该结果表明，在使用双重差分模型其他设定方法下，本文的研究结论依旧成立。

表 5 稳健性检验 II

	因变量			
	(1) <i>ETR₁</i>	(2) <i>ETR₂</i>	(3) <i>BTD_{MP}</i>	(4) <i>BTD_{DD}</i>
<i>POST_CP</i>	-0.039 (-1.31)	-0.052* (-1.80)	0.016** (2.36)	0.015** (2.48)
<i>SIZE</i>	0.028** (1.97)	-0.008 (-0.60)	0.031*** (9.30)	0.014*** (4.89)
<i>LEV</i>	0.213*** (8.88)	0.213*** (9.25)	-0.202*** (-36.66)	-0.128*** (-26.95)
<i>ROE</i>	-0.228*** (-17.76)	-0.254*** (-20.51)	0.059*** (20.29)	0.052*** (21.01)
<i>CAPINT</i>	0.073 (1.61)	0.014 (0.31)	-0.025** (-2.36)	-0.007 (-0.74)
<i>INVINT</i>	0.277*** (4.60)	0.252*** (4.34)	0.010 (0.72)	-0.042*** (-3.44)
<i>MTB</i>	-0.004*** (-2.66)	-0.003** (-2.05)	0.001*** (3.76)	0.001*** (4.17)
截距项	-0.425 (-1.41)	0.295 (1.02)	-0.568*** (-7.97)	-0.235*** (-3.81)
公司固定效应	控制	控制	控制	控制
年份固定效应	控制	控制	控制	控制
N	6185	6185	5249	5249
Adj_R ²	0.306	0.247	0.563	0.494
F 值	40.90***	49.91***	185.88***	111.66***

注释：括号内为依据稳健型标准误计算的 t 值，*、**、***分别表示在 10%、5%和 1%水平上显著（双尾）。

（三）结果是受适用税率变化影响所致吗？

控制权私有化以后，公司产权性质从国有变为民营，可能会使得公司在享受税收优惠政策方面发生变化：一方面，由于产权性质发生变化，私有化后公司不再是政府的“宠儿”，相应获得的税收优惠政策可能减少，进而使得公司的税负增加。不过，该种情况使得控制权私有化以后税率提高，不利于发现前文的研究结论；另一方面，由于控制权私有化以后，公司在税收筹划方面更为激进，因而更有可能通过注册地变更、经营结构调整或者投资方向变更等手段以达到享受税收优惠政策的条件，¹⁴ 上述两种

¹⁴ 例如，新企业所得税法下高新技术企业可以享受 15%的企业所得税优惠，不过国家在高新技术企业认定方面有具体而详细的规定，包括公司的产品种类、科技人员比例以及研发强度等一系列条件，公司满足这些条件后才可以申请成为高新技术企业并享受优惠税率。当然，公司可以通过改变经营业务范围、调整人员构成等手段满足享受税收优惠的条件，不过这些行为本身也属于税收筹划的范畴，因而控制权私有化后，公司通过这些行为降低公司的适用税率也可以解释为税收筹划激进程度的提高，此种情况并不会对本文的研究结论产生影响。为了分析的完整性，此处仍然保留这种情况的分析。

情况均有可能改变公司控制权私有化以后的适用税率。为了检验本文的结果是否是由于公司适用税率变化所致，我们进行如下两个方面的稳健性检验：第一，前文在衡量税收筹划激进程度时使用了实际所得税率和“账税差异”两种类型变量，其中“账税差异”变量计量并不会受到适用税率变化的影响，因而检验结果也不受影响。然而，实际所得税率变量计量却会受到适用税率的影响，因此我们在实际税率模型中加入适用税率(*ATR*)作为控制变量并重新对模型进行检验，检验结果见表6中列(1)和(2)，观察 *RCHG*POST* 变量的系数可知，该变量的检验结论与前文基本一致，研究结论并不发生改变。第二，我们还检验处理样本和配对样本两类公司的适用税率在控制权转移前后的变化是否有显著性差异，检验结果见表6中的列(3)和(4)。两个模型的被解释变量都为公司的适用税率(*ATR*)，其中列(3)不控制任何变量，列(4)中加入其余变量以控制适用税率的内生性选择。观察 *RCHG*POST* 变量的系数可知，该变量在两个模型中都不显著，表明控制权私有化公司与配对样本在适用税率变化方面并无明显差异，从侧面进一步验证了研究结论的可靠性。

表6 稳健性检验 III (简要列示)

	因变量			
	(1) <i>ETR₁</i>	(2) <i>ETR₂</i>	(3) <i>ATR</i>	(4) <i>ATR</i>
<i>POST</i>	0.015 (0.48)	0.015 (0.52)	0.037*** (4.34)	-0.005 (-0.48)
<i>RCHG</i>	-0.168 (-0.29)	-0.184 (-0.34)	0.009 (1.05)	0.135 (0.83)
<i>RCHG*POST</i>	-0.084** (-2.12)	-0.086** (-2.29)	0.006 (0.54)	0.007 (0.64)
<i>ATR</i>	0.417*** (3.69)	0.356*** (3.40)		
其余控制变量	控制	控制		控制
N	1008	1008	1008	1008
Adj_R²	0.073	0.063	0.046	0.164
F 值	5.80***	4.53***	17.38***	18.18***

注释：括号内为依据稳健型标准误计算的 t 值，*、**、***分别表示在 10%、5%和 1%水平上显著（双尾）。

（四）税收筹划激进程度变量主因子回归结果

前文衡量公司税收筹划激进程度共使用 4 个指标，包括 2 个实际税率指标和 2 个“账税差异”指标。上述四个指标都旨在测度同一个“构念”(Construct)——税收筹划激进程度，并且相互之间具有较强的相关性。针对这四个测度，与之前学者 Chen *et*

al. (2010) 一样, 本文通过主成分法的因子分析构建了一个公共因子 (F) 进行分析。¹⁵ 该因子与实际税率指标负相关, 与“账税差异”指标正相关, 因而该主因子值越高, 表明公司的税收筹划激进程度越高。表 7 中列 (1) 报告了公共因子作为因变量的检验结果, $RCHG*POST$ 变量显著为正, 表明与配对样本相比, 国有公司控制权私有化以后税收筹划激进程度综合因子得分显著提高, 可见本文的研究结论并未发生改变。

(五) 控制亏损结转、税收返还等因素影响的结果

我国税法规定公司发生的亏损可以在以后 5 年内结转。弥补以前年度亏损、返还上期多缴税款等因素都会给公司税收筹划激进程度衡量指标带来噪音, *Dyreng et al.* (2008) 构造一种衡量公司避税程度的长期指标, 该指标能够较好地控制上述因素造成的实际税率年度间的波动, 从而更好地衡量公司的税收筹划激进程度。本文借鉴他们的做法, 分别依据控制权转移前后 3 年的数据计算长期实际税率: $LRETR_1 = CTE_m/EBT_m$; $LRETR_2 = CTE_m/EBIT_m$, 其中 CTE_m 分别为控制权转移前 (后) 3 年当期应当缴纳税款的平均值; EBT_m 、 $EBIT_m$ 同样分别为 3 年税前利润、息税前利润的平均值。我们也以此为基础检验控制权私有化前后长期实际税率的变化情况, 表 7 中的列 (2) 和 (3) 为相关的检验结果, 模型中控制变量也通过控制权私有化前后 3 年平均值计算获得。观察 $RCHG*POST$ 变量的系数, 该变量在两个模型中都为负, 且都至少在 5% 水平上显著, 表明控制权私有化以后公司长期实际税率显著降低, 可见本文的研究结论并未发生改变。

表 7 稳健性检验 IV (简要列示)

	因变量		
	(1) F	(2) $LRETR_1$	(3) $LRETR_2$
$POST$	0.000 (0.01)	0.123** (2.20)	0.028 (0.50)
$RCHG$	-0.827 (-0.61)	-0.189 (-0.15)	-0.067 (-0.06)
$RCHG*POST$	0.142* (1.86)	-0.218*** (-2.70)	-0.162** (-1.98)
其余控制变量	控制	控制	控制
N	965	372	372
Adj_R^2	0.385	0.121	0.111
F 值	15.94***	3.52***	3.19***

注释: 括号内为依据稳健型标准误计算的 t 值; *, **, *** 分别表示在 10%、5% 和 1% 水平上显著 (双尾)。

¹⁵ 通过主成分法的因子分析, 将衡量税收筹划激进程度的四个测度构建成一个公共因子。由于第一个和第二个因子的特征根分别为 2.57 和 1.23, 其余两个因子的特征根都小于 0.12, 因此基于前两个因子构造一个综合因子得分。综合因子与 ETR_1 、 ETR_2 、 BTD_{MP} 和 BTD_{DD} 的 Pearson 相关系数分别为 -0.444、-0.502、0.967 和 0.966。稳健起见, 在只保留第一个因子作为公共因子情况下, 我们重新对表 6 中的模型 (1) 进行检验, 研究结论基本一致 (限于篇幅, 未列示检验结果)。

七、 结论

随着我国市场化改革的不断推进,越来越多国有公司的控制权被转移到私人部门。关于控制权私有化的讨论也一直在继续,学者们围绕控制权私有化的动机、方式以及私有化以后的经营业绩展开了一系列的研究,但是围绕私有化作用于公司业绩的路径研究还不多,仅有少数的几篇文献围绕展开。作为影响公司价值的重要因素,企业所得税通常在利润中占据显著比例,但是学术界尚未从税收视角研究控制权私有化是否影响公司的税收筹划行为,本文从该视角出发,以期获得控制权私有化作用于公司业绩路径方面的经验证据。

本文选取国内资本市场发生的控制权私有化样本,通过配对样本和双重差分模型考察国有公司控制权转移前后的税收筹划行为变化。研究发现:(1)与配对样本相比,国有公司控制权私有化以后,税收筹划激进程度明显提高;(2)与配对样本相比,中央控制国有公司私有化以后税收筹划激进程度并未发生明显改变,地方控制国有公司私有化以后税收筹划激进程度显著提高。本文的研究结论不仅提供了公司税收筹划激进程度影响因素方面的经验证据,而且从税收视角获得了控制权私有化作用于公司业绩路径的新证据。

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