경영학석사 학위논문

Does Market for Corporate Control Affect Tax Avoidance Behavior? Evidence from International M&A Laws

기업 경영권 시장이 기업의 조세회피성향에 미치는 영향: 전세계 M&A 법률 도입을 중심으로

2020년 7월

서울대학교 대학원
경영학과 회계학 전공
정 지 원

Abstract

I examine whether firms alter their tax avoidance behavior in response to the introduction of takeover friendly M&A laws in an international setting. Using the tax avoidance measure suggested by Atwood et al. (2012), I find strong evidence that firms tend to bear more current taxes paid when takeover threat increases. Moreover, I find that the negative relationship between the introduction of takeover friendly M&A laws and tax avoidance is attenuated for firms which are cross-listed in the American stock exchange implying the effect of the information environment quality. In addition, tax avoidance behaviors are more pronounced in countries where managers enjoy higher equity-based compensation.

Keyword : M&A, takeover activity, tax avoidance, tax aggressiveness
Student Number : 2018-26910

Table of Contents

Chapter 1. Introduction

Tax avoidance behavior on corporate reporting has been represented as a consequence of agency problem between shareholders and managers (Slemrod, 2004; Chen and Chu 2005; Crocker and Slemrod, 2005). Tax authorities also come into the picture claiming their share on firms' performances as tax and conduct audits after tax reportings to investigate any misreporting intended to circumvent tax liabilities. Regarding the three main participants in the field, managers may engage in tax avoidance behaviors for the benefit of shareholders or of their own. Shareholders perceive such behaviors to be efficient which increase firm value or a type of managers' entrenchments that should be controlled. Tax authorities may or may not be able to detect tax avoidance behaviors and conclude that such behaviors violated the law and impose penalties. Due to the complex intentions and relationships among the participants in regards to tax reporting, prior studies show mixed results on the determinants and consequences of tax avoidance.

In this paper, I examine market for corporate control as a determinant of tax avoidance by investigating the reaction of firms on the introduction of takeover friendly M&A laws. The staggered

initiation of M&A laws activates the market for corporate control which act as an exogenous shock providing an opportunity to observe the effect of external corporate governance mechanism. The consequences of the increased takeover threat should be analyzed in regards to the marginal benefits and costs of subsequent tax avoidance behaviors. Marginal benefits from altering tax reporting decisions will be maintaining managers positions as market for corporate control increases takeover threat and discipline managers because the possibility of dismissing managers become higher when ownership changes (Lel and Miller, 2015). Marginal costs will be potential reputational, political and monetary penalty costs in cases of tax audits. On one hand, shareholders perceive tax avoidance to be tax-efficient decisions and such behaviors to result in the increase of firm value. Therefore, managers will tend to increase tax avoidance behaviors for the benefit of shareholders despite the potential costs. On the other hand, shareholders think that managers engage in tax avoidance activities to divert corporate resources (Desai and Dharmapala, 2006). From this perspective, increased takeover threat will guide managers to decrease tax avoidance and related entrenchment activities. Based on an international setting involving 22 countries, I find that firms decrease tax avoidance behaviors after the initiation of staggered takeover friendly M&A

laws. The results support the view that managers engage in tax avoidance activities for their own benefit than that of the shareholders.

Moreover, I show evidence on the role of information environment on the association between the market for corporate control and tax avoidance. When market for corporate control is activated than before, investors will gather private information for potential investment decision makings and the information environment will improve in consequence. By analyzing firms cross-listed on the American stock exchange and the market of the countries in which the firms were incorporated, I observe that the effect of the initiation of M&A laws are attenuated among cross-listed firms indicating that the effect is larger for firms that are not cross-listed. The results suggest that the managerial disciplinary role of M&A laws are performed by affecting the quality of information environments. Also, by comparing the subsample in regards to the level of equity-based compensation, I observe that managers with high percentage of equity-based compensation decrease tax avoidance behavior which is in align with linking tax avoidance behavior to firm value-decreasing activities.

I believe that this paper has several contributions to the prior literature. First, this paper adds to the literature that investigates the

determinants of tax avoidance behavior of firms which is a relatively new line of research that is to be explored (Hanon and Heitzman, 2010). Especially, the paper adopts the principal-agent framework and supports the view managers extracting rents from tax avoidance behaviors (Desai and Dharmapala, 2006; Desai et al. 2007; Chen et al. 2010; Kim et al. 2011). Second, this paper contributes to the literature that examines the role of market for corporate control as an external corporate governance mechanism disciplining managers and reducing agency costs (Lel and Miller, 2005; Glendening et al., 2016).

The remainder of the paper is organized as follows: Section 2 reviews prior literature and develops the hypothesis. Section 3 presents sample selection and research design. Section 4 reports the empirical results. Section 5 concludes.

Chapter 2. Prior literature and hypothesis development

2.1. Tax avoidance

Tax avoidance is broadly defined as the reduction of explicit taxes (Dyreng et al., 2008; Hanlon and Heitzman, 2010). The term covers any transactions that lessens the firm's explicit tax liabilities including tax-favored real activities, tax credits, targeted tax benefits from lobbying activities, and even tax noncompliance. Hanlon and Heitzman (2010) suggests that tax avoidance and relevant tax planning strategies can be set on a spectrum in relation to its degree of aggressiveness. Regardless of the intention and consequences of the tax planning strategies, as long as the activities lower the taxes that the firms bear, such behaviors are perceived as tax avoidance behaviors.

Prior literature on tax avoidance is founded on the principal-agent framework between managers and shareholders. Separation of ownership and control results in efficiency loss in taxes and tax compliance penalties levied on managers or the shareholders (Chen, 2005; Crocker and Slemrod, 2005). Viewing tax avoidance as an investment opportunity, managers weigh the marginal costs including

political, reputational, and monetary penalty costs, and marginal benefits of cash savings and subsequent investments. The equilibrium of marginal benefits and costs from the managers' perspective may not align with those of the shareholders, causing agency problems (Amstrong et al. 2015). Therefore, tax avoidance related decisions made by managers incorporate individual traits including managerial ability, overconfidence, and prior experiences (Dyreng et al., 2010; Koester et al., 2017; Chyz et al., 2019).

Another stream of literature view tax avoidance as an act of self-interested managers for the purpose of managerial opportunism including corporate resource diversion and earnings management (Desai and Dharmapala, 2006; Desai et al. 2007). Chen et al. (2010) finds that family firms engage in less tax avoidance activities to avoid stock price discounts from investors perceiving the activities as family entrenchment. Also, managers construct complex transactions for rent extraction and justify the opacity of tax avoidance transactions by claiming that complexity and obfuscation are necessary to minimize the risk of tax avoidance arrangements being detected by the tax authorities (Kim et al., 2011). In the context of viewing tax avoidance as value-destructive, Chow et al. (2016) provides evidence that target firms which disclosed non-tax sheltering activities are associated with higher takeover premiums.

This indicates that potential investors including the acquirers value less tax avoidance behaviors.

In order to mitigate the agency problem, papers investigate the effect of corporate governance mechanisms on tax avoidance which shows mixed evidence. Equity-based incentives show negative association with tax avoidance for poorly governed firms and on the extreme levels of tax avoidance (Desai and Dharmapala, 2006; Amstrong et al., 2015). Geartner (2014) gives empirical evidence on the negative effect of after-tax CEO bonus incentives on effective tax rates. However, some papers pinpoint that equity risky incentives encourage risky tax planning strategies because such decisions increase stock return volatility and value of stock options (Atwood et al., 2012; Rego and Wilson, 2012). Other corporate governance mechanisms including board and ownership characteristics are also investigated to be determinants of tax avoidance. Amstrong et al. (2015) finds that board independence and financial sophistication leads to lower tax avoidance in high levels of tax avoidance, but higher tax avoidance in lower levels of tax avoidance. Khan et al. (2017) finds that institutional ownership is positively associated with greater tax avoidance behavior by managers who voluntarily engage in such behaviors to improve after-tax performance for the passive and diversified holdings. Chen et al. (2010) shows family firms are

less tax aggressive than non-family counterparts in concern with potential reputational and penalty costs.

2.2. Takeover activity as a corporate governance mechanism

The initiation of takeover friendly M&A laws activates the market for corporate control, increase the threat of takeover, and promote asset reallocation on the market level. The market for corporate control alters managers' behavior in two ways, resulting in mitigating or worsening the agency problem between managers and shareholders. On one hand, managers try to derive private benefit and gain more control benefit by engaging in activities that destruct shareholders' values which increases agency costs. These managerial decisions affect the board when directors make M&A decisions by including blocking potential value-enhancing mergers or pursing value-destroying mergers. (Wang and Wu, 2009).

On the other hand, market for corporate control enhances managerial discipline and alleviates the agency problem between managers and shareholders. The threat of takeover increases the possibility of entrenched managers to be replaced in order to protect the firm from being acquired or to lose their jobs when the firm is actually acquired. Therefore, managers exert more effort by making

decisions in align with shareholders' interests to preserve their positions and reduce reputational costs, especially in poorly performing firms (Lel and Miller, 2015). Also, managers decide to reduce the likelihood of dividend payment and the amount of dividends because managers' interest in using dividends as a mean to show commitment to shareholders decreases considering other managerial performances which align manager-shareholders' interests (Glendening et al., 2016). Khurana and Wang (2019) examines the disciplinary effect on accounting conservatism. The paper provides empirical evidence that the degree of accounting conservatism significantly increases after the introduction of M&A laws due to decisions of managers to increase financial leverage and decrease capital investment to protect the firm from unwanted takeover attempts and motivating board's monitoring activities who requires conservative reporting behavior at the firm level. Looking from an opposite view, the introduction of anti-takeover legislation in France had a negative effect on shareholder value and increased management entrenchment was found at affected firms (Frattaroli, 2020). This indicates that increased possibility of takeover activity disciplines management behaviors in align with shareholders' interests.

2.3. Hypothesis development

Based on prior literature on tax avoidance and initiation of takeover friendly laws, I hypothesize that managers alter corporate tax decisions in response to the introduction of M&A laws. In one case, managers may increase tax avoidance behavior in order to secure their positions. Due to the increased possibility of CEO turnovers from market of corporate control, managers may decrease current tax payment to produce better performance results in the short term (Lel and Miller, 2015). For well governed firms, active tax shelter firms exhibit positive abnormal returns indicating shareholder wealth improvement (Wilson, 2009). Moreover, managers may increase tax avoidance behaviors and engage in entrenching activities to gain more control benefit showing the "dark side" of managerial control benefits in regards to the higher possibility of takeovers and subsequent replacements (Desai and Dharmapala, 2006; Wang and Wu, 2019).

Managers may decrease the level of tax avoidance due to the managerial disciplinary role of the market of corporate control and the change in information environment. From the perspective that managers engage in tax avoidance behaviors in order to divert corporate resources, managers may construct transactions which leads to complex structure of firms to facilitate such behaviors (Desai and Dharmapala, 2006; Desai et al. 2007). Also, tax avoidance

facilitates bad news hoarding activities for extended periods by providing justifications for opportunistic behaviors which leads to stock price crashes damaging the information environment (Kim et al. 2011). In such situations, the initiation of M&A laws improves the information environment and enable better monitoring and discipline by potential investors (Glendening et al. 2016). External market of corporate control promotes private information gathering and subsequent trading on such information which leads to more opened stock markets with higher stock price informativeness (Ferreira and Laux, 2007). Therefore, managers may decrease complex transactions in purpose of tax avoidance and entrenchment after the initiation of takeover friendly acts. In addition, the market for control induces managers with control benefit to exert greater effort in value enhancing activities and decrease entrenchment, the "bright side" of managerial control benefits, to lower the possibility of possible takeovers and management replacement by the board (Lel and Miller, 2015; Wang and Wu, 2009).

Based on the contrasting views on the effect of external market for control on tax avoidance, I state hypothesis H1 in null form as the following:

H1: The staggered initiation of M&A laws is not associated with

tax avoidance behavior of firms.

Chapter 3. Research design and sample selection

3.1. Empirical model

To test the hypothesis, I investigate the impact of M&A law adoptions on tax avoidance by conducting a difference-in-differences (DiD) analysis. Based on Lel and Miller (2015), M&A laws act as an exogenous shock leading to increased threat of takeover which may alter managers' interests and relevant behaviors concerning the alignment with shareholders' interests. The empirical model compares the tax avoidance level of firms located in countries where M&A laws have been enacted during the sample period ($TREAT$=1) with firms which do not experience such shock ($TREAT$=0). The following is the estimation model based on Atwood et al. (2012) for firm i which is located in country j in year t:

$$TaxAvoid = \beta_0 + \beta_1 * POST_{jt} * TREAT_j + \beta_2 * TREAT_j + \sum \beta_k * FirmControl_{it} + \sum \beta_k * CountryControl_{jt} + IndustryFE + YearFE + \varepsilon$$

3.2. Tax avoidance measure

Based on the measure suggested by Atwood et al. (2012), the tax avoidance measure, *TaxAvoid*, is calculated as follows:

$$TaxAvoid_{it} = \frac{(PTEBX \times \tau)_{it} - CTP_{it}}{PTEBX_{it}}$$

The measure computes the tax avoidance level of firms by evaluating the difference between the statutory tax amount on pre-tax income ($PTEBX \times \tau$) and the cash tax amount paid in the current period (CTP) as a ratio with pre-tax income as the denominator. If *TaxAvoid* is positive, it indicates that the firm explicitly paid less tax than the statutory tax rate (τ) showing tax avoidance behavior, and vice versa. In other words, the measure captures all explicit efforts of firms to avoid taxes including tax planning strategies, tax credits, and tax aggressive behaviors following the definition of tax avoidance suggested by Hanlon and Heitzman (2010) and Atwood et al. (2010). Moreover, the measure is effective in the international setting because the statutory tax rate (τ) serves as the basis for the level of taxes paid more or less by firms located in countries with various level of tax rates across the sample period which enhances

comparability among firms. *TaxAvoid* is an annual measure to directly compare the effect of the before and after the introduction of takeover laws in the DiD model.①

3.3. Control measures

I control for firm-level and country-level variables which are associated with tax avoidance based on prior literature. Firm-level variables are included to control profitable firms' incentives to avoid taxes (*ROA*), large firms facing high political and reputational costs in case of tax audits due to aggressive tax planning (*SIZE*), tax incentives or credits that firms may enjoy due to intensive intangible investment (*INTANG*), interest deductibility according to level of leverage (*LEV*), high marginal benefit from tax planning for high sales growth firms (*GROWTH*), and the probability of income shifting through foreign operations (*MULTI*).

In regards to country-level variables, tax system measures, *BTaxC*, *WW*, and *TaxEnf*, control for tax system characteristics which differ among countries. *BTaxC* captures the required book-tax conformity level of countries suggested by Atwood et al.

① *TaxAvoid* may be exaggerated because the measure does not incorporate the reversed effect of tax adjustments on subsequent periods and tax strategies to avoid taxes (Dyreng et al. 2008). Robustness test using a three-year window measure is conducted in Chapter 4.4 Additional analyses.

(2010).[②] The variable measures the required flexibility that a country allows in reported taxable income from pre-tax book income. Following Atwood et al. (2012), *WW* and *TaxEnf* indicates whether a country adopted worldwide or territorial approach and the managers' perceptions on tax evasion and its' threat on economy, respectively.[③] It is expected for firms in countries with tax systems that allow more discretion to exhibit greater tax avoidance behavior. Higher *BTaxC* indicating less required book-tax conformity, worldwide approach in tax systems (*WW*) leading to less benefit on worldwide tax planning opportunities, and higher *TaxEnf* showing managers' perceptions on higher level of tax enforcement can be interpreted as lower discretion in the tax systems for firms to engage in tax avoidance behavior. Therefore, it is predicted that *BTaxC*, *WW*, and *TaxEnf* have a negative association with *TaxAvoid*. Statutory tax rate (*TAXRATE*) is also inserted in the model to control for cross-country differences. A country's average managers' equity-based

② Atwood et al. (2010) requires at least 40 country-year observations to calculate *BTaxC*. I relax the restriction to at least 20 country-year observations following Atwood et al. (2012).

③ WW is handcollected from various sources including PwC's "Evolution of Territorial Tax Systems in the OECD" report and Kanagaretnam et al. (2016). In case of *TaxEnf*, the data is obtained from IMD World Competitiveness Online database from 1997 to 2005 because I did not have access to 1996 World Competitiveness Report as used in Atwood et al. (2012). Considering the sample period, 1991-2005, IMD World Competitiveness Report Online provides more relevant data in time series than 1996 World Competitiveness Report which only provides data for 1996.

compensation including options and restricted stocks as a percentage of total compensation (*PCTEQ*) is considered to control the effect of management equity incentives on tax avoidance.[④] Earnings volatility (*EARNVOL*) is controlled because cross-sectional variance in pre-tax earnings among countries is positively correlated with *BTaxC*. By including *EARNVOL*, the overstated effect of *BTaxC* on *TaxAvoid* can be mitigated. Law enforcement variable (*LAWE*) measures countries' characteristics on regulatory quality, rule of law, and control of corruption which is developed by Kaufmann et al. (2010) as a part of the Worldwide Governance Indicators project. The variable is designed to show investor protection which is stronger when the quality of law enforcement is higher.[⑤]

---

④ Whereas Atwood et al. (2012) utilizes variable portion of management compensation from Towers Perrin Worldwide Total Remuneration Report, 2005-2006 (2005), I use the equity-based compensation data from Bryan et al. (2010) following Kanagaretnam et al. (2016) due to data constraint. Bryan et al. (2010) provides data for 43 countries covering more countries than Towers Perrin (2005) which only covers 22 countries.

⑤ I use the mean value of regulatory quality, rule of law, and control of corruption to construct *LAWE* from 1996 to 2005 for the sample period from 1991 to 1995 because the data is collected from 1996. Prior literature mostly utilizes La porta et al.(1998) which provides law enforcement indicators mainly covering 1980-1995. I find that *LAWE* is more relevant in regards to the sample period.

Chapter 4. Empirical results

4.1. Sample selection

The sample consists of 33,130 firm-year observations from 22 countries. Firm-level data are collected from the Legacy Compustat Global database.[⑥] Based on the staggered initiation of takeover laws analyzed by Lel and Miller (2015), the sample period is from 1991 to 2005, starting one year before the first enactment (1992, Italy) and ending one year after the last enactment (2004, Switzerland). Countries that passed takeover friendly M&A laws before the sample period are excluded from the sample. From the data set, I screen for missing individual data used for constructing variables. For R&D expenses and total dividends, I replace missing values with 0. In order to mitigate the effect of outliers, negative pre-tax earnings before exceptional items (*PTEBX*) are deleted and continuous variables are winsorized at the 1% and 99% levels by year at the firm-year level. Observations were dropped if firm-year

[⑥] Despite the fact that the new Global Compustat database contains more recent data, I use the Legacy Compustat Global database because the new database lacks financial data, pre-tax exceptional items (data item 57) and foreign income taxes (data item 51), which is used to construct the main dependent and control variable, *TaxAvoid* and *BTaxC*, respectively.

observations were less than 20 for each country.⑦

Table 1 reports the sample distribution by country and year of the M&A law initiation. The sample is composed of 33,130 firm-year observations from 7,261 unique firms of 22 countries. Eleven countries have initiated takeover friendly M&A laws during the sample period. Among such countries, Germany has the greatest number of observations (2,882 observations), followed by Switzerland (1,280 observations), and India (938 observations). In case of countries that have not enacted M&A laws, Japan shows the largest observation by 18,363 observations.

[Insert Table 1 here]

4.2. Descriptive statistics

Table 2 presents descriptive statistics of and correlations among the variables. Panel A and B depicts the statistics for the full sample and by country, respectively. In regards to the full sample, the mean (median) *TaxAvoid* is 0.036 (0.043) showing that average(median)

⑦ Atwood et al. (2010) requires at least 40 country-year observations. I relax the restriction to at least 20 country-year observations following Atwood et al. (2012) for the purpose of sufficient treatment and control sample. The main result (untabulated) is statistically significant when restricting the sample to at least 40 country-year observations.

firms engage in tax avoidance behavior, paying 3.6% (4.3%) less tax in the current period compared to the statutory tax rate. Approximately 25.4% of the sample is classified as the treatment sample (*TREAT*=0.254) and 59.8% firm-year observations of the treatment sample (0.152/0.254) are observed on and after the year of initiation of the M&A laws. Analyzing by country, India shows the highest tax avoidance behavior (*TaxAvoid*=0.245) while Japan pay taxes in cash more than the statutory tax rate in the current period (*TaxAvoid*=-0.013) which is comparable to prior literature.

Panel C presents Pearson correlations between the variables. Except the correlations in bold, all correlations between variables are statistically significant at the 5 percent level or better. To address the multicollinearity problem, I regress *TaxAvoid* on independent and control variables to calculate the variance inflation factors (VIF). All VIF is below the accepted threshold, 10, with 2.279 as its average value.[⑧] Therefore, it can be said that the main results for our regressions hold statistical importance.

[Insert Table 2 here]

[⑧] *TaxEnf* shows the highest VIF value with 4.256.

4.3. Main result

Table 3 reports the estimation results of the main regression model. The first and second column exhibits the result for the full sample and country-industry-year median sample, respectively. Both coefficients on $POST*TREAT$ for column (1) and (2) are negative and statistically significant at 1% level (β_1= -0.088 and -0.061). This indicates that managers show lower tax avoidance behavior after takeover friendly M&A laws are initiated. The result supports the view on shareholders perceiving tax avoidance behavior of firms to be managers' entrenchment activities and M&A laws acting as an external corporate governance mechanism to solve the existing agency problems between the managers and shareholders. Also, market for corporate control disciplines managers activities by making managers to exert greater effort in increasing firm value. In other words, when the market for corporate control becomes more active, shareholders emphasize the bright side of takeover threats in disciplining managers than the dark side in which managers engage in value-destructing activities for their benefit (Wang and Wu, 2019). Also, the coefficient on $TREAT$ is positive and statistically significant at 1% level (β_2= 0.070 and 0.057) which shows the different tax avoidance behavior of firms between the control ($TREAT$=0) and treatment group ($TREAT$=1).

Most of the control variables show consistent results with prior literature. In case of the full sample, coefficients on firm-level controls, profitability (*ROA*) and sales growth (*GROWTH*), are positive and statistically significant as predicted. Following Atwood et al. (2012), higher flexibility on book-tax conformity (*BTaxC*), worldwide approach in tax system (*WW*), stronger perception of tax enforcement by managers (*TaxEnf*), and higher earnings volatility (*EARNVOL*) are associated with lower tax avoidance. However, the results show contradictory results on countries' legal tradition (*COMMONLAW*) and law enforcement (*LAWE*) compared to prior papers. The country-industry-year median sample follows the result of previous papers on the effect of sales growth (*GROWTH*), book-tax conformity (*BTaxC*), worldwide approach in tax system (*WW*), perceptions on tax enforcement (*TaxEnF*), statutory tax rate (*TAXRATE*), percentage of equity-based compensation (*PCTEQ*), and earnings volatility (*EARNVOL*). Similar to the full sample, the country-industry-year median sample also shows different results for *COMMONLAW*.[⑨]

[Insert Table 3 here]

[⑨] If *LAWE* is substituted to mean score of legal enforcement variables reported in La Porta et al. (1998), following prior literature including Kanagaetnam et al. (2016), the coefficient on *LAWE* is negative as predicted but insignificant (untabulated) for both samples.

4.4. Additional analyses

Information environment

I further investigate the relationship between market for corporate control and tax avoidance in regards to firm-level information environment. As suggested in the hypothesis development, information environment may act as a channel for change in tax avoidance behavior. In an opaque information environment, managers may easily engage in complex transactions to divert resources and the impact of increased takeover threat may induce external investors to gather more private information than those in a better information environment with quality information (Ferreira and Laux, 2007; Kim et al. 2011; Glendening et al. 2016). In other words, market of corporate control will have less impact on investors and firms in transparent information environments. I insert an indicator variable (*CROSSLIST*) in the main regression model which shows whether the firm is cross-listed in the United States of America as well as the country it is incorporated. To ensure the level of transparency of the information environment and managers' perceptions in regards to tax enforcement, I examine firms which are located in countries where tax enforcement, *TaxEnf*, is lower than that of the United States of America. This indicates that managers of

sample firms think that tax evasion is not a threat to the country in which the firms are located compared to the United States of America. Therefore, it can be predicted that managers of uncross-listed firms will engage in more tax avoidance behavior than cross listed firms before the initiation of M&A laws and the level of tax avoidance behaviors will decrease more as a consequence. The results in Table 4 exhibit that the coefficient on *POST*TREAT*CROSSLIST* is positive and statistically significant (0.038) indicating that the effect of the initiation of M&A laws is attenuated for cross-listed firms. Moreover, the coefficient on *TREAT*CROSSLIST* is negative and statistically significant (-0.042), whereas the coefficient on *CROSSLIST* is not statistically significant, implying that cross-listed firms in the treatment group show less tax avoidance behavior than the control group.

[Insert Table 4]

Equity-based compensation

Equity-based compensation has been utilized to incentivize managers to align their interests with shareholders. If shareholders perceive tax avoidance behavior as value-increasing, equity-based compensation promotes tax avoidance behavior. On the contrary, the

same compensation scheme will result in lower level of such behavior if shareholders support the opposite view on tax avoidance (Hanlon and Heitzman, 2010). Prior literature shows mixed evidence on whether such compensation scheme increased or decreased tax avoidance behavior of managers (Desai and Dharmapala, 2006; Atwood et al., 2012; Rego and Wilson, 2012; Amstrong et al., 2015). Table 5 presents the association between tax avoidance and the market of corporate control in regards to the percentage of equity-based compensation on total compensation (*PCTEQ*). To better observe the association, I exclude the control group and divide the sample according to the median of *PCTEQ*.[10] The coefficient on the variable of interest, *POST*, is pronounced in column (2) with the value being negative and statistically significant. The table follows the result of the main regression model which supports the view on tax avoidance as value-decreasing management entrenchment. As high equity-based compensation links managers' interests to align with shareholders' wealth, the introduction of takeover friendly M&A laws incentivizes managers to reduce tax avoidance and entrenchment.

[Insert Table 5 here]

[10] The results (untabulated) are similar when the full sample is divided into quartile groups since the middle groups, the second and third group, are all consisted of the control group.

4.5. Robustness check

Alternative measures of tax avoidance

The main analysis utilizes the one-year tax avoidance measure to compare the results before and after the initiation without the effect of other year's tax payments. Because of the concern that one-year measure *TaxAvoid* may not capture the reversibility of tax adjustments including deferred accounts and thus being exaggerated, I also test the robustness of the results using three-year average tax avoidance measure to attenuate the effect of short-term tax avoidance behavior which can be reversed in the subsequent periods. Also, I compute country-industry mean-adjusted measure of *TaxAvoid* to reflect the cross-country and industrial effects (Kanagaretnam et al., 2016). Both regressions using alternative tax avoidance measures show consistent results with the main regression. The results are presented in Table 6.

Excluding significant observations

Observations from Japan consist the most observations in the full sample and the control group, respectively. To eliminate the possible influence on the main result, I regress the main model excluding firms incorporated in Japan. The main result (untabulated) with both the full sample and country-industry-year median show

significant results.

[Insert Table 6 here]

Chapter 5. Conclusion

This paper examines the tax avoidance behavior of firms on the introduction of takeover friendly M&A laws. Using the tax avoidance measure developed by Atwood et al. (2012) and initiation of M&A laws analyzed by Lel and Miller (2005), I find that firms reduce tax payments in response to the exogenous effect of the active market of corporate control observed through the DiD model. The results support the view on managers engaging in tax avoidance behaviors in order to divert corporate resources. To investigate how the active market of corporate control affects managers' behaviors, I examine the information environments of firms by incorporating whether the firms are cross-listed in the United States of America into the model. I observe that the results show that cross-listed firms tend to decrease their tax avoidance behavior less compared to those who are not cross-listed. Moreover, consistent with the prediction, the effect of the increased possibility of takeover threats are more pronounced for managers with higher equity-based compensation reducing tax avoidance behavior.

This paper has several limitations. First, the measure for tax avoidance, *TaxAvoid*, mainly reflects non-conforming tax avoidance behaviors regardless of its intention. Therefore, this study lacks capturing the effect of the initiation of M&A laws on conforming tax avoidance. Also, the measure does not distinguish between legal tax avoidance behaviors and illegal or ambiguous tax aggressive behaviors. Second, potential endogeneity problems may arise from the fact that unobserved factors can influence the tax avoidance behavior of firms. Moreover, there are possibilities in which measurement errors may exist for variables that capture cross-sectional differences among countries. Lastly, data constraints exist for worldwide data.

In conclusion, this paper's findings have an implication in observing the responses of firms on intensified external corporate governance mechanisms. This study adds support to the perspective that emphasizes the "bright side" of market of corporate control in order to mitigate agency problems by reducing tax avoidance behavior. Further research may be conducted on other channels on the association of market for corporate control and tax avoidance behavior and other determinants of tax avoidance.

References

Amstrong, C., Blouin, J., Jagolinzer, A., and Larcker, D., 2015. Corporate governance, incentives, and tax avoidance. *Journal of Accounting and Economics* 60 (5): 1-17.

Atwood, T., Drake, M., and Myers, L., 2010. Book-tax conformity, earnings persistence and the association between earnings and cash flows. *Journal of Accounting and Economics* 50 (1): 111-125.

Atwood, T., Drake, M., Myers, J., and Myers, L., 2012. Home country tax system characteristics and corporate tax avoidance: International evidence. *The Accounting Review* 87 (6): 1831-1860.

Bryan, S., Nash, R., and Patel, Ajay., 2010. How the legal system affects the equity mix in executive compensation. *Financial Management* 39 (1): 393-418.

Chen, K-P., 2005. Internal control vs. external manipulation: A model of corporate income tax evasion. *The RAND Journal of Economics* 36 (1):151-164.

Chen, S., X. Chen, Q. Cheng, and Shevlin., T., 2010. Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics* 95 (1): 41-51.

Chow, T., Klassen, K., and Liu, Y., 2016. Targets' tax shelter participation and takeover premium. *Contemporary Accounting Research* 33 (4): 1440-1472.

Chyz, J., Gaertner, F., Kausar, A., and Watson, L., 2019. Overconfidence and corporate tax policy. *Review of Accounting Studies* 24 (3): 1114-1145.

Crocker, K. and Slemrod, J., 2005. Corporate tax evasion with agency costs. *Journal of Public Economics* 89 (9): 1593-1610.

Desai, M., and Dharmapala, D., 2006. Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics* 79 (1): 145-179.

Desai, M., Dyck, I., and Zingales, L., 2007. Theft and taxes. *Journal of Financial Economics* 84 (3): 591-623.

Dyreng, S., Hanlon, M., and Maydew, E., 2008. Long-run corporate tax avoidance. *The Accounting Review* 83 (1): 61-82.

Dyreng, S., Hanlon, M., and Maydew, E., 2010. The effects of

executives on corporate tax avoidance. *The Accounting Review* 85 (4): 1163-1189.

Frattaroli, M., 2020. Does protectionist anti-takeover legislation lead to managerial entrenchment? *Journal of Financial Economics* 136 (1): 106-136.

Ferreira, M. and Laux, P., 2007. Corporate governance, idiosyncratic risk, and information flow. *Journal of Finance* 62 (2): 951-989.

Gaertner, F., 2014. CEO after-tax compensation incentives and corporate tax avoidance. *Contemporary Accounting Research* 31 (4): 1077-1102.

Glending, M., Khurana, I., and Wang, W., 2016. *Journal of International Business Studies* 47 (9): 1106-1134.

Hanlon, M. and Heitzman, S., 2010. A review of tax research. *Journal of Accounting and Economics* 50 (2-3): 127-178.

Hirshleifer, D., Low, A., and Teoh S.H., 2012. Are overconfident CEOs better innovators? Journal of Finance 67 (4): 1457-1498.

Hribar, P. and Yang, H., 2016. CEO overconfidence and management forecasting. *Contemporary Accounting Research* 33 (1): 204-227.

Kanagaretnam, K., Lee, J., Lim, C., and Lobo, G., 2016. Relation between auditor quality and tax aggressiveness: Implications of cross-country institutional differences. *Auditing: A Journal of Practice & Theory* 35 (4): 105-135.

Kaufmann, D., Kraay, A., and Mastruzzi, Massimo., 2010. The worldwide governance indicators: A summary of methodology, data, and analytical issues. *World Bank Policy Research.* Working paper No.5430. Available at SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1682130

Kim J.B., Li, Y., and Zhang, L., 2011. Corporate tax avoidance and stock price crash risk: Firm-level analysis. *Journal of Financial Economics* 100 (3): 639-662.

Koester, A., Shevlin, T., and Wangerin, D., 2017. The role of managerial ability in corporate tax avoidance. *Management Science* 63 (10): 3285-3310.

Khan, M., Srinivasan, S., and Tan, L., 2017. Institutional ownership and corporate tax avoidance: New evidence. *The Accounting Review* 92 (2): 101-122.

Khurana, I. and Wang, W., 2019. International mergers and acquisition laws, the market for corporate control, and accounting conservatism. *Journal of Accounting Research* 57 (1): 241-290.

Lel, U. and Miller, D., 2015. Does takeover activity cause managerial discipline? Evidence from international M&A laws. *The Review of Financial Studies* 28 (6): 1588–1622.

Slemrod, J., 2004. The economics of corporate tax selfishness. *National Tax Journal* 57 (4): 877–899.

Rego, S., and Wilson, R., 2012. Equity risk incentives and corporate tax aggressiveness. *Journal of Accounting Research* 50 (3): 775–810.

Wang, W., and Wu, Y., 2020. Managerial control benefits and takeover market efficiency. *Journal of Financial Economics* 136 (3): 857–878.

Wilson, R., 2009. An examination of corporate tax shelter participants. *The Accounting Review* 84 (3): 969–999.

Table 1. Sample distribution by country

Country	Number of observations	Number of firms	M&A law year
Austria	380	87	1998
Brazil	540	131	-
Chile	384	93	2000
Denmark	802	144	-
France	3,195	616	-
Germany	2,882	573	2002
Greece	248	79	-
India	938	246	1997
Indonesia	655	181	1998
Ireland	212	45	1997
Israel	22	22	-
Italy	765	206	1992
Japan	18,363	3,416	-
Korea	482	206	-
Mexico	404	81	-
Norway	539	126	-
New Zealand	238	74	2001
Philippines	50	50	1998
Portugal	49	34	-
Switzerland	1,280	203	2004
Taiwan	633	618	2002
Turkey	69	30	-
Total	**33,130**	**7,261**	

Table 2. Descriptive statistics
Panel A: Full sample

Variables	Mean	Standard deviation	Minimum	Median	Maximum
TaxAvoid	0.036	0.221	−0.589	0.043	0.519
POST **TREAT*	0.152	0.359	0.000	0.000	1.000
TREAT	0.254	0.435	0.000	0.000	1.000
ROA	0.077	0.070	0.003	0.056	0.464
SIZE	5.600	1.692	1.697	5.431	10.560
INTANG	0.010	0.021	0.000	0.000	0.153
LEV	0.104	0.104	0.000	0.075	0.513
GROWTH	0.079	0.212	−0.625	0.048	2.102
MULTI	0.028	0.165	0.000	0.000	1.000
BTaxC	0.593	0.255	0.000	0.636	1.000
WW	0.765	0.424	0.000	1.000	1.000
TaxEnf	5.330	1.141	1.818	5.897	7.509
TAXRATE	0.398	0.077	0.125	0.409	0.582
PCTEQ	0.043	0.052	0.000	0.024	0.423
EARNVOL	0.607	0.289	0.000	0.563	1.000
COMMON LAW	0.043	0.202	0.000	0.000	1.000
LAWE	81.963	13.042	18.983	83.543	98.986

Table 2. Descriptive statistics
Panel B: Median characteristics by country

Country	*TaxAvoid*	*POST*TREAT*	*TREAT*	*ROA*	*SIZE*	*INTANG*	*LEV*	*GROWTH*
Austria	0.108	1.000	1.000	0.055	5.565	0.000	0.098	0.058
Brazil	0.082	0.000	0.000	0.096	6.409	0.000	0.082	0.070
Chile	0.041	1.000	1.000	0.078	5.016	0.000	0.057	0.086
Denmark	0.046	0.000	0.000	0.073	5.177	0.000	0.077	0.070
France	0.067	0.000	0.000	0.072	5.375	0.000	0.068	0.073
Germany	0.140	0.000	1.000	0.071	5.567	0.000	0.056	0.056
Greece	0.080	0.000	0.000	0.078	5.510	0.000	0.094	0.109
India	0.245	1.000	1.000	0.113	4.942	0.000	0.031	0.071
Indonesia	0.062	1.000	1.000	0.107	3.922	0.000	0.084	0.095
Ireland	0.117	1.000	1.000	0.093	5.388	0.000	0.052	0.123
Israel	0.127	0.000	0.000	0.079	6.249	0.011	0.066	0.076
Italy	0.045	1.000	1.000	0.069	6.047	0.000	0.089	0.061
Japan	−0.013	0.000	0.000	0.043	5.408	0.001	0.090	0.022
Korea	0.142	0.000	0.000	0.075	6.250	0.005	0.101	0.113
Mexico	0.119	0.000	0.000	0.110	6.925	0.000	0.039	0.082
Norway	0.124	0.000	0.000	0.082	5.195	0.000	0.027	0.100
New Zealand	0.057	1.000	1.000	0.110	4.564	0.000	0.018	0.103
Philippines	0.103	1.000	1.000	0.081	4.422	0.000	0.072	0.128
Portugal	0.039	0.000	0.000	0.049	5.950	0.000	0.090	0.075
Switzerland	0.084	0.000	1.000	0.065	5.822	0.000	0.048	0.055
Taiwan	0.084	1.000	1.000	0.094	4.267	0.011	0.090	0.179
Turkey	0.099	0.000	0.000	0.131	6.329	0.000	0.046	0.166

Table 2. Descriptive statistics
Panel B: Median characteristics by country (continued)

Country	*MULTI*	*BTaxC*	*WW*	*TaxEnf*	*TAXRATE*	*PCTEQ*	*EARNVOL*	*COMMON LAW*	*LAWE*
Austria	0.000	0.857	0.000	5.733	0.340	0.000	1.000	0.000	94.749
Brazil	0.000	0.278	1.000	2.958	0.340	0.023	0.500	0.000	54.751
Chile	0.000	1.000	1.000	7.029	0.165	0.000	0.588	0.000	89.606
Denmark	0.000	0.500	0.000	5.976	0.320	0.109	0.471	0.000	98.533
France	0.000	0.600	0.000	5.253	0.354	0.138	0.563	0.000	86.654
Germany	0.000	0.100	1.000	4.658	0.516	0.046	0.188	0.000	92.857
Greece	0.000	0.625	1.000	2.875	0.350	0.000	0.167	0.000	75.515
India	0.000	0.063	1.000	2.500	0.441	0.000	0.267	1.000	47.675
Indonesia	0.000	0.444	1.000	3.000	0.300	0.142	0.125	0.000	23.792
Ireland	1.000	0.545	1.000	4.971	0.320	0.109	0.833	1.000	93.284
Israel	0.000	0.176	1.000	4.611	0.350	0.160	0.882	1.000	78.287
Italy	0.000	0.375	0.000	2.951	0.383	0.052	0.882	0.000	75.179
Japan	0.000	0.688	1.000	5.897	0.409	0.024	0.867	0.000	82.227
Korea	0.000	0.667	1.000	4.225	0.297	0.000	0.625	0.000	74.820
Mexico	0.000	0.200	1.000	2.330	0.340	0.001	0.636	0.000	50.126
Norway	0.000	0.182	1.000	5.671	0.280	0.000	0.438	0.000	95.442
New Zealand	0.000	0.647	1.000	7.263	0.330	0.423	0.250	1.000	97.313
Philippines	0.000	0.500	1.000	2.727	0.320	0.000	0.111	0.000	40.943
Portugal	0.000	0.929	0.000	2.915	0.374	0.002	0.714	0.000	86.692
Switzerland	0.000	0.750	0.000	6.837	0.249	0.040	0.600	0.000	97.083
Taiwan	0.000	0.611	1.000	4.951	0.250	0.000	0.389	0.000	77.961
Turkey	0.000	0.222	1.000	2.813	0.300	0.000	0.611	0.000	55.850

Table 2. Descriptive statistics
Panel C: Pearson correlation

	Variable	1	2	3	4	5	6	7	8
1	*TaxAvoid*	1							
2	*POST*TREAT*	0.101	1						
3	*TREAT*	0.177	0.726	1					
4	*ROA*	0.126	0.182	0.184	1				
5	*SIZE*	−0.010	−0.107	−0.049	−0.184	1			
6	*INTANG*	0.001	−0.033	−0.016	0.096	0.071	1		
7	*LEV*	0.027	−0.073	−0.099	−0.302	0.045	−0.074	1	
8	*GROWTH*	0.139	0.101	0.093	0.299	−0.012	0.064	−0.036	1
9	*MULTI*	0.030	0.101	0.128	0.058	0.108	0.096	−0.062	0.032
10	*BTaxC*	−0.186	−0.249	−0.428	−0.240	0.041	0.040	0.109	−0.065
11	*WW*	−0.078	−0.197	−0.266	−0.087	−0.023	0.005	0.093	−0.058
12	*TaxEnf*	−0.154	−0.440	−0.335	−0.227	0.002	0.099	0.064	−0.062
13	*TAXRATE*	0.015	−0.321	−0.194	−0.176	0.116	−0.025	0.099	−0.120
14	*PCTEQ*	0.072	0.071	0.105	0.115	−0.054	−0.054	−0.059	0.050
15	*EARNVOL*	−0.167	−0.302	−0.461	−0.251	0.089	−0.010	0.107	−0.128
16	*COMMONLAW*	0.147	0.434	0.354	0.157	−0.064	−0.050	−0.089	0.043
17	*LAWE*	−0.044	−0.334	−0.082	−0.144	0.042	0.100	−0.011	−0.031

Table 2. Descriptive statistics
Panel C: Pearson correlation (continued)

	Variable	9	10	11	12	13	14	15	16	17
1	*TaxAvoid*									
2	*POST*TREAT*									
3	*TREAT*									
4	*ROA*									
5	*SIZE*									
6	*INTANG*									
7	*LEV*									
8	*GROWTH*									
9	*MULTI*	1								
10	*BTaxC*	−0.119	1							
11	*WW*	−0.127	0.137	1						
12	*TaxEnf*	−0.041	0.561	0.048	1					
13	*TAXRATE*	−0.106	−0.058	0.366	0.009	1				
14	*PCTEQ*	0.070	−0.132	−0.466	0.019	−0.170	1			
15	*EARNVOL*	−0.074	0.647	0.177	0.357	0.228	−0.186	1		
16	*COMMONLAW*	0.105	−0.258	0.117	−0.309	**0.002**	0.192	−0.198	1	
17	*LAWE*	0.117	0.206	−0.337	0.635	0.044	0.087	0.126	−0.304	1

This table provides the descriptive statistics of the full sample (Panel A and C), by country (Panel B). All reported correlations in Panel C are statistically significant at the 5 percent level or better with the exception of the correlations in bold. All variables are as defined in Appendix A.

TABLE 3

Tax avoidance behavior and the enactment of M&A laws

	(1) Full sample		(2) Country−industry−year median sample	
Variables	Coefficient	t−stat	Coefficient	t−stat
Intercept	0.079	3.59***	0.035	1.32
*POST*TREAT*	−0.088	−12.66***	−0.061	−7.97***
TREAT	0.070	11.05***	0.057	9.29***
ROA	0.218	9.48***	0.093	2.20**
SIZE	−0.002	−1.64	0.001	0.55
INTANG	0.009	0.12	0.062	0.43
LEV	0.175	10.98***	0.001	0.02
GROWTH	0.110	16.86***	0.061	4.37***
MULTI	−0.006	−0.77	0.013	1.51
BTaxC	−0.034	−4.04***	−0.029	−2.90***
WW	−0.040	−7.20***	−0.024	−4.32***
TaxEnf	−0.016	−6.97***	−0.006	−1.78*
TAXRATE	0.160	5.68***	0.234	7.47***
PCTEQ	0.001	0.02	−0.152	−4.48***
EARNVOL	−0.028	−4.58***	−0.023	−2.71***
COMMONLAW	0.144	16.54***	0.124	12.92***
LAWE	0.000	1.83*	0.000	0.32
N	33,130		4,701	
Adj. R−square	11.28%		13.91%	
Industry, year fixed effects	Yes		Yes	
Cluster by firm	Yes			

***, **, * Denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table reports the result for the regression between the initiation of M&A laws and tax avoidance. All variables are as defined in Appendix A.

TABLE 4

Tax avoidance behavior and the information environment

Variables	Coefficient	t-stat
Intercept	0.055	2.65***
*POST*TREAT*	−0.096	−12.72***
*POST*TREAT *CROSSLIST*	0.038	1.70*
*TREAT*CROSSLIST*	−0.042	−1.86*
TREAT	0.084	12.76***
CROSSLIST	−0.002	−0.17
ROA	0.211	8.31***
SIZE	−0.001	−0.64
INTANG	0.165	2.17**
LEV	0.172	10.09***
GROWTH	0.113	17.33***
MULTI	0.002	0.2
BTaxC	−0.022	−2.61***
WW	−0.040	−5.85***
TaxEnf	0.219	−6.17***
TAXRATE	−0.014	8.91***
PCTEQ	−0.021	−0.37
EARNVOL	−0.046	−7.48***
COMMONLAW	0.132	14.98***
LAWE	−0.000	−0.95
N	28,504	
Adj. R-square	9.60%	
Industry, year fixed effects	Yes	
Cluster by firm	Yes	

***, **, * Denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table reports the result for the regression between the initiation of M&A laws and tax avoidance in regards to information environment. All variables are as defined in Appendix A.

Table 5. Tax avoidance behavior by subsample: Equity-based compensation

TABLE 5

Tax avoidance behavior by subsample:
Equity-based compensation

	(1) Low *PCTEQ*		(2) High *PCTEQ*	
Variables	Coefficient	t-stat	Coefficient	t-stat
Intercept	-0.430	-3.71***	-0.038	-0.68
POST	-0.024	-1.00	-0.035	-2.36***
ROA	0.188	2.51***	0.176	3.47***
SIZE	0.002	0.44	0.004	1.52
INTANG	0.075	0.47	0.046	0.30
LEV	-0.021	-0.38	0.012	0.31
GROWTH	-0.001	-0.85	0.062	4.73***
MULTI	-0.001	-0.07	-0.008	-0.63
BTaxC	0.075	1.78***	-0.088	-3.60***
WW	0.074	3.30***	0.053	2.51***
TaxEnf	0.006	0.41	-0.026	-2.15***
TAXRATE	0.879	4.77***	0.613	4.72***
EARNVOL	0.046	1.71***	-0.025	-1.34
COMMONLAW	0.114	3.57***	0.137	3.54***
LAWE	0.001	0.78	0.001	1.20
N	3,665		4,752	
Adj. R-square	3.85%		14.67%	
Industry, year fixed effects	Yes		Yes	
Cluster by firm	Yes		Yes	

***, **, * Denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table reports the result for the regression between the initiation of M&A laws and tax avoidance of subsamples in regards to the level of *PCTEQ*. All variables are as defined in Appendix A.

Table 6. Robustness check: alternative tax avoidance measures

TABLE 6

Robustness check: alternative tax avoidance measures

	(1) Three−year average *TaxAvoid* measure		(2) Country−industry−year adjusted measure	
Variables	Coefficient	t−stat	Coefficient	t−stat
Intercept	0.220	6.10***	0.251	11.41***
*POST*TREAT*	−0.069	−6.48***	−0.088	−12.66***
TREAT	0.081	9.11***	0.070	11.05***
ROA	0.134	3.45***	0.218	9.48***
SIZE	−0.005	−2.88***	−0.002	−1.64
INTANG	0.244	1.65*	0.009	0.12
LEV	0.302	8.95***	0.175	10.98***
GROWTH	0.070	5.62***	0.110	16.86***
MULTI	−0.022	−1.39	−0.006	−0.77
BTaxC	−0.041	−3.51***	−0.034	−4.04***
WW	−0.007	−0.93	−0.040	−7.20***
TaxEnf	−0.046	−11.71***	−0.016	−6.97***
TAXRATE	−0.181	−4.42***	0.160	5.68***
PCTEQ	−0.030	−0.58	0.001	0.02
EARNVOL	−0.034	−3.15***	−0.028	−4.58***
COMMONLAW	0.140	10.95***	0.144	16.54***
LAWE	0.002	7.06***	0.000	1.83*
N	33,130		33,130	
Adj. R−square	4.06%		32.79%	
Industry, year fixed effects	Yes		Yes	
Cluster by firm	Yes		Yes	

***, **, * Denote significance at the 1 percent, 5 percent, and 10 percent levels, respectively. This table reports the result for the regression between the initiation of M&A laws and tax avoidance. All variables are as defined in Appendix A.

Appendix A: Variable definitions

Variable	Definition
Dependent variables	
TaxAvoid	A measure of tax avoidance of a year which is calculated in reference to Atwood et al. (2012), $$\frac{(PTEBX \times \tau)_{it} - CTP_{it}}{PTEBX_{it}}$$ where: *PTEBX* = pre-tax earnings before exceptional items (Item 21 – Item 57) τ = statutory corporate income tax rate *CTP* = current tax paid (Item 24 – the change in Item 100) Higher *TaxAvoid* indicates higher tax avoidance behavior, paying less current tax paid in cash.
Three-year average TaxAvoid	Three-year average of *TaxAvoid* calculated by following Atwood et al. (2012), $$\frac{[\sum_{t-2}^{t}(PTEBX \times \tau)_{it} - \sum_{t-2}^{t} CTP_{it}]}{\sum_{t-2}^{t} PTEBX_{it}}$$ Higher *TaxAvoid* indicates higher tax avoidance behavior, paying less current tax paid in cash.
Adj_TaxAvoid	Following Kanagaretnam et al. (2016), *Adj_TaxAvoid* is calculated as subtracting the country-industry-year median *TaxAvoid* from firm-level *TaxAvoid*.
Independent variable	
POST	An indicator variable that equals 1 if the year is on or after the year of M&A law enactment; 0 otherwise.
TREAT	An indicator variable that equals 1 for firms located in countries that initiated M&A law during the sample period (treatment sample); 0 otherwise (control sample).

Variable	Definition
CROSSLIST	An indicator variable that equals 1 if the firm is cross-listed on American stock exchanges; 0 otherwise.
Control variables	
BTaxC	A measure of the level of required book-tax conformity following Atwood et al. (2010) which reflects managers' incentives to report higher earnings while minimizing taxes paid. Higher *BTaxC* indicates higher required book-tax conformity.
WW	An indicator variable that equals 1 if the country adopted a worldwide tax system; 0 if the country adopted a territorial tax system.
TaxEnf	A measure of tax enforcement by measuring managers' perceptions on tax evasion and its' threat on economy. Constructed by calculating the mean value of *TaxEnf* from 1997 to 2005. Data obtained by IMD World Competitiveness Online (https://worldcompetitiveness.imd.org/). Higher *TaxEnf* indicates higher tax enforcement perceived by managers.
ROA	Pre-tax return on assets measured as pre-tax income before exceptional items (Item 21 - Item 57) scaled by lagged total assets (Item 89)
SIZE	Natural log of total assets (Item 89)
INTANG	Research and development expense (Item 52) scaled by lagged total assets (Item 89). Set research and development expense to 0 when the value is missing.
LEV	Total long-term liabilities (Item 108 + Item 94) scaled by total assets (Item 89)
GROWTH	Three-year average change in sales (Item 5)

Variable	Definition
MULTI	An indicator variable that equals 0 when foreign income taxes (Item 51) is 0 or missing; 1 otherwise
TAXRATE	Statutory tax rate collected from various sources including Ernst & Young's Worldwide Corporate Tax Guide, KPMG's Corporate and Indirect Tax Rate Survey, OECD Tax Database, and PwC's Worldwide Tax summaries
PCTEQ	Sum of the Black and Scholes (1973) option value compensation and restricted stock compensation divided by total compensation collected from Bryan et al. (2010)
EARNVOL	Scaled descending decile rank of cross-sectional pre-tax earnings volatility by country-year following Atwood et al. (2010)
COMMONLAW	An indicator variable that equals 1 if the country's legal tradition is common law; 0 if the country's legal tradition is code law
LAWE	Mean value of the percentile rank among all countries on regulatory quality, rule of law, and control for corruption, developed by Kaufmann et al. (2010) from 1996 to 2005. *LAWE* ranges from 0 to 100 and higher values indicate higher legal enforcement.

Abstract

본 연구는 기업간 인수합병을 촉진하는 법률의 도입이 기업의 조세회피성향에 미치는 영향을 분석하였다. 1991년부터 2005년까지 22개 나라의 상장 기업을 대상으로 Atwood et al. (2012)의 조세회피 측정치를 이용하여 가설을 검증하였다. 검증 결과, 인수합병을 용이하게 하는 법률이 도입되면 기업은 조세회피성향을 줄이는 것으로 나타났다. 이러한 결과는 기업이 미국에도 교차 상장된 경우에 정보 환경의 수준이 교차 상장되지 않은 기업보다 높기 때문에 약하게 나타나는 것으로 나타났다. 또한, 선행 연구에 따라 기업간 인수합병을 촉진하는 법률이 도입되었을 때 경영자의 주식기준 보상 수준이 높을수록 조세회피성향이 높아지는 것으로 나타났다.