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Anticipated tax planning as a source of merger gains

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Abstract

This paper investigates anticipated tax planning as an underlying source of value creation for acquirers' shareholders. We hypothesize that merger announcement returns for acquirers reflect their shareholders' beliefs about the future tax planning performance of the merged firm. Our analyses show that, in acquisitions of more tax aggressive targets by less tax aggressive acquirers, acquirers' merger announcement abnormal returns decrease as the tax aggressiveness of the acquirer decreases relative to that of the target. For acquisitions of less tax aggressive targets by more tax aggressive acquirers, acquirers' merger announcement abnormal returns increase as the tax aggressiveness of the acquirer increases relative to that of the target, but is only observable when omitting deals in either extreme decile of the targets' tax aggressiveness. These findings suggest that the market expects the target to adopt the acquirer's tax planning rather than benefiting from the more aggressive planning of either party, and that the anticipated tax planning changes are positively associated with acquirer returns. Further, the results suggest that the merged firm's overall tax planning is easier to reduce than increase through the acquisition.

Keywords: Tax Aggressiveness, Mergers and Acquisitions
JEL Classifications: G34; H25; M41

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We have identified…an additional $50 million of tax related savings synergies amounting from the new structure. The ongoing effective tax rate of about 24% to 26% reflects the new company's structure before any incremental tax planning initiatives… We have over $90 million in synergies right from the start through one corporate structure and greater tax efficiencies.

—— Randall Hogan, Chairman and CEO, Tyco; and John Stauch, CFO, Pentair, from the Tyco-Pentair merger conference call

I. Introduction

Andrade, Mitchell, and Stafford (2001) estimate that, for a sample of 3,688 mergers and acquisitions (M&A) completed between 1973 and 1998, the average combined three-day abnormal return at the merger announcement for acquirers and targets is about 1.8 percent. While the extent of merger gains or losses are well-documented in the literature, Andrade et al. (2001) emphasize that identifying the underlying sources of the valuation effects in M&A transactions remains challenging. While it is unlikely for acquirers to initiate acquisitions for tax reasons, a stream of literature considers taxes to be one source of value creation in M&A (e.g., Hayn, 1989; Kaplan, 1989; Erickson and Wang, 2007). These studies, however, have mainly focused on transactional-level acquisition taxes.[1] In contrast, research on the role of aggressiveness tax planning in M&A value has been limited (Hanlon and Heitzman, 2010).

In this paper, we attempt to understand whether aggressive tax planning affects values in M&A, and more importantly, through which channels it affects returns to acquiring firms' shareholders. Extant literature has documented that aggressive tax planning, via improving future after-tax cash flows for firms, increases shareholder values (Desai and Dharmapala, 2009;

[1] The acquisition-related taxes examined in prior M&A research include the target's net operating loss carry-forwards, the step-up in the tax basis of the target's assets, and the debt tax shields from increasing the target's leverage, and shareholder capital gains taxes (Ayers, Lefanowicz, and Robinson, 2003; Hayn, 1989; Kaplan, 1989; Erickson and Wang, 2007). Hanlon and Heitzman (2010) and Shackelford and Shevlin (2001) provide a comprehensive review of the literature on the roles of taxes in M&A.

Wilson, 2009) and that firms differ in planning their taxes (Dyreng, Hanlon, Maydew, 2008). In order for aggressive tax planning to affect acquirer returns, it should have an anticipated effect on the acquirer's future after-tax cash flows. However, when two firms with different tax planning skillsets become one, it is uncertain how the merged firm's propensity towards aggressiveness tax planning will change. Building on existing research, we distinguish among three potential paths on which the merged firm's tax aggressiveness may evolve post-merger by testing the association between anticipated tax planning changes and acquirer returns.

One possibility is that higher merger gains can be achieved when the merging firms have more *similar* attitudes towards aggressive tax planning. This relation would be particularly observable if aggressive tax planning reflects broader characteristics of the management such as management styles or organizational culture (Cronqvist, Low, and Nilsson, 2009; Higgins, Omer, and Phillips, 2014). Alternatively, we hypothesize that gains may be generated when the merging firms have *diverse* levels of aggressive tax planning before the transaction. If M&A facilitates transfers of tax planning knowledge between the merging firms, wealth can be created in the less aggressive firm. Thus, when the acquirer is more aggressive than the target before the deal, the acquirer can create value by further improving the efficiency and effectiveness of the target's tax function. When the target is more aggressive than the acquirer before the deal, the acquirer can learn from the target's tax planning experience to improve the acquirer firm's tax planning performance.[2] Finally, the acquirer can simply apply its tax planning strategy to the target, making the target less aggressive when the target was more aggressive than the acquirer prior to the deal. We examine each of these in turn using a sample 840 U.S. M&A transactions completed between 1990 and 2010.

[2] Our maintained assumption throughout the paper is that acquirers do not actively search for targets whose tax planning performance is badly managed. That is, future tax planning of the merged firm is not the primary motive behind the transactions.

To test our hypotheses, we construct an empirical proxy of the degree of anticipated changes in tax planning of the merged firm by measuring the *difference* in tax planning aggressiveness between the acquirer and the target pre-merger (i.e., by subtracting the tax aggressiveness proxy of the target from that of the acquirer). Our main choice of tax aggressiveness proxy is a three-year average tax sheltering score based on Wilson (2009). The merit of this tax aggressiveness proxy is that it is a validated measure in capturing firms' involvement in a wide spectrum of aggressive tax plans that can generate positive abnormal returns for firms (Wilson, 2009; Lisowsky, 2010; Kim, Li, and Zhang, 2011; Armstrong, Blouin, and Larcker, 2012; and Rego and Wilson, 2012).

The results of our analyses indicate that, for acquirers with lower levels of tax aggressiveness than their targets, the differences between acquirer's and target's tax aggressiveness are positively associated with acquirer returns (i.e., the market reacts more negatively as the acquirer is increasingly less aggressive relative to the target). For acquirers with higher levels of tax aggressiveness than their targets, the association between tax aggressiveness differences and acquirer returns is also positive, but only statistically significant when the targets in the highest or lowest decile of tax aggressiveness are omitted. The results are consistent with the prediction that investors anticipate acquirers will rely on their past tax planning experience and apply their past tax strategies to the target instead of learning from a more tax-savvy target. In addition, the asymmetric results also suggest that acquirer shareholders anticipate the target firm's tax planning performance to deteriorate post-merger when the acquirer has a history of less aggressive tax planning; and the shareholders appear to anticipate improvements in the target firms' tax planning when the acquirer has a history of stronger tax planning, but is more skeptical of the magnitude or reliability of these improvements.

To ensure the robustness of our findings, we perform analyses on subsamples of non-loss

firms, include additional control variables in the regressions, and employ alternative proxies of tax aggressiveness advanced in the literature, including total book-tax gap, a common factor extracted from three book-tax gap proxies (Kim, et al., 2011), and the industry-adjusted cash effective tax rate (Dyreng et al., 2008). Our results are not affected by alternative measures of tax aggressiveness differences nor by potential omitted correlated variable biases. In addition, results of cross-sectional tests indicate that the main results are not explained by, nor moderated by, acquirers' financial condition. Thus, we conclude that our findings are not simply due to bad target selection by cash-rich acquirers. In further analyses, we explore whether measures related to the retention of target management affect shareholders' valuations. The results are stronger for deals where the acquirers are relatively large and for with-in industry transactions, consistent with deals where target management is less likely to be retained.

This study makes three contributions to the literature. First, our paper contributes to the literature on the effects of taxes in M&A (e.g., Ayers et al., 2003; Erickson and Wang, 2000, 2007; Hayn, 1989; Shih, 1994) and more importantly, to the growing literature on the role of aggressiveness tax planning in M&A. For example, Chow, Klassen, and Liu (2014) and Martin, Wang, and Zou (2013) find that acquirers pay a lower premium for targets having a history of aggressive tax planning, suggesting that acquirers take into account the potential liabilities related to the target's tax savings. Devos et al. (2009) demonstrates that value can be created in an M&A transaction by increasing the leverage of the target to reduce the taxes paid. Using a sample of European M&A transactions where target firms' post-deal unconsolidated accounting data is available, Belz et al. (2013) reports an average decrease of targets' effective tax rates by 3 percentage points after the acquisitions and that the decrease can be as high as 8 percentage points for tax aggressive acquirers. Chow et al. (2014) and Martin et al. (2013) show that acquirers consider the target's tax risk when determining the acquisition price; Shih (1994), Devo

et al. (2009), and Belz et al. (2013) examine the types of tax planning transactions that occur after mergers using post-deal data, but the extant studies do not examine whether acquirers' valuation of the transaction at the time of merger announcements incorporate changes in future tax planning in the merged firm. Our paper complements these studies by showing that anticipated future tax planning can be a source of merger gains or losses for acquirer shareholders, contributing to the long stream of literature that examines the sources of value creation and destruction in corporate takeovers (Andrade et al., 2001; Harford, Humphery-Jenner, and Powell, 2012; Jarrell, Brickley, and Netter, 1988; Jensen and Ruback, 1983).

Second, our findings contribute to the strand of literature that examines the change in the quality of management as a source of value creation in the M&A context (e.g., Lang, Stulz, and Walkling, 1989; Servaes, 1991). Lang et al., (1989) and Servaes (1991) find that gains from acquisitions are greater when targets have low Tobin's q and acquirers have high Tobin's q, suggesting that acquisitions of poorly managed targets by better managed acquirers generate higher acquirer returns. Wang and Xie (2008) find that acquirer returns are increasing in the transfer of better corporate governance in a sample of domestic M&A transactions. This study investigates another source of value induced by change in ownership: corporate tax aggressiveness. Consistent with these study, our findings suggests that acquirers' shareholders anticipate the acquirer will apply its own past tax planning experience on the target, regardless whether it is the more or less aggressive tax planning firm in the transaction.

Last, we uncover an interesting channel through which tax aggressiveness affects shareholder values. Although there is ample empirical evidence that suggests firms engage in various forms of aggressive tax planning to reduce taxes (Dyreng et al., 2008), the effects of such tax strategies on shareholder values, if any, have been difficult to identify empirically due of the sticky nature of corporate tax planning policies. We argue that M&A induces an exogenous

change to the merged firm's tax planning performance and thus provides a strong setting to examine the valuation implications of aggressive tax planning. Our findings of an asymmetric effect that acquirer shareholders anticipate the target firm's tax planning performance is easier to deteriorate than improve post-merger provide fresh insights the literature in this area (Desai and Dharmapala, 2009; Wilson, 2009).

The rest of this paper is organized as follows. Section II discusses related literature and develops hypotheses. Section III discusses research design, describes the sample selection, and presents the main findings. Section IV presents results of additional analyses and robustness checks, and Section V concludes.

II. Hypothesis Development

Managers engage in varying levels and forms of aggressive tax planning to reduce their firms' corporate tax liabilities, ranging from simple planning such as the use of tax-favored municipal bond investments to more complicated planning such as the use of cross-border tax strategies and tax shelters (Hanlon and Heitzman, 2010). There is substantial evidence that suggests U.S. multinational firms engage in multi-jurisdictional income shifting to avoid and/or defer taxes (Hines and Rice, 1994; Huizinga and Laeven, 2008; Klassen and Laplante, 2012). More aggressive firms participate in tax shelter transactions such as Corporate-Owned Life Insurance or other reportable transactions (Brown, 2011; Graham and Tucker, 2006; Lisowsky, 2010; Lisowsky, Robinson, and Schmidt, 2013).

The amount of tax savings generated from those transactions can be significant and material. For example, Graham and Tucker (2006) estimate that the median tax deduction associated with tax shelter use is more than $1 billion per firm per year, or about 9 percent of total assets for 24 of the sample firms in their study. Using confidential reportable transaction

data from the IRS Office of Tax Shelter Analysis, Lisowsky et al. (2013) find that that 48 sample firms used reportable transactions to reduce taxable income by a total of $10.7 billion (7.5 percent) in 2007. More important, prior research has shown that shareholders positively value these tax savings from aggressive tax planning. Wilson (2009) finds that tax shelter firms with strong-governance exhibit significantly positive abnormal returns during the period of active tax sheltering and the 2 years following. Using abnormal (i.e., accrual-adjusted) book-tax differences (BTD) to measure aggressive tax planning, Desai and Dharmapala (2009) find that tax aggressiveness positively affects firm value (Tobin's *q*) for well-governed firms, indicating that tax aggressiveness per se is positively valued by shareholders. Choy et al. (2014) find that investors react negatively to an event that increased firms' expected costs of using tax havens (i.e., the public release of FTSE 100 firms' affiliate locations) and that the negative market reaction is more pronounced for firms with stronger corporate governance. Overall, the findings of previous studies suggest that aggressive tax planning contributes positively to shareholder value and that firms with low risk of managerial diversion benefit more.[3]

The literature demonstrates that aggressive tax planning of a firm is a feature of the firm's corporate culture and leadership style. For example, Cronqvist et al. (2009) state that a firm's corporate culture, in the sense of shared beliefs and values within the firm regarding the "right" behavior or action, can affect a firm's policy choices for a broad range of business decisions, including the tax function. Consistent with corporate culture on aggressive policies, Frank et al. (2009) find that firms that are aggressive in their financial reporting tend to be aggressive in their tax planning as well. Higgins et al. (2014) suggest that a firm's business strategy has significant

[3] Consistent with the agency perspectives of tax aggressiveness (Desai et al., 2007; Desai and Dharmapala, 2009), the findings of Desai and Dharmapala (2009) and Wilson (2009) also suggest that investors discount the value of tax planning for poorly-governed firms because of the increased risk of managerial rent diversion.

influence on its tax aggressiveness. For example, they find that firms that are more innovative and risk seeking undertake more aggressive and less sustainable tax positions.

Dyreng et al. (2010) track the movements of over 900 executives from firm to firm. Using a manager fixed effects model, they show that there is considerable variation in CEOs propensity to engage in aggressive tax planning. As an aggressive CEO moves into a less aggressive firm, the new employer's tax aggressiveness increases, evidence that is consistent with new leadership setting her "tone and culture" on the new firm's tax function. Differences between the top to bottom quartiles reveal a drop of 11% in average ETR. With a U.S. statutory tax rate of 35%, this represents a significant difference. More recent studies have investigated the sources of executive culture. Chyz (2013) and Perez-Cavazos and Silva (2014) show that CEOs who are more aggressive in their personal taxes lead firms that are more tax aggressive. Mills and Law (2014) find that CEOs who have military experience tend to "do the right thing" and hence manage their firms in a less tax aggressive way. In summary, the tax planning literature asserts that the level of aggressive tax planning is a characteristic of the firm and of the managers who lead the firm.

The M&A literature has identified the difficulty of post-merger cultural integration, or culture clash, a major cause for deal failure (e.g., Weber and Camerer, 2003; Van den Steen, 2010). For example, in an experimental setting, Weber and Camerer (2003) demonstrate that differences in culture between two laboratory firms lead to decreased post-merger performance for the merged firm. The authors also find suggestive evidence that subjects underestimate the degree of difficulty in resolving cultural conflict. Van den Steen (2010) shows analytically that the benefits of shared beliefs within an organization center on enhanced efficiency at doing what it does (i.e., more delegation, less monitoring, higher execution effort, faster coordination, and better communication, etc.) whereas the costs center on reduced exploration (i.e., less experimentation and less information collection). Van den Steen (2010) predicts that, in M&A,

the costs of culture clash will show up on the short-term operational performance of the firm, whereas its potential benefits will emerge over the longer term through exploration.

Due to the complex nature of tax strategies, effective aggressive tax planning requires a high degree of information and coordination across business units of the firm (Gallemore and Labro, 2013). After an M&A transaction, substantial coordination efforts between the merging firms will be needed to achieve a smooth and effective post-merger integration of the two tax functions (Deloitte, 2012). To the extent that a firm's tax planning aggressiveness represents the firm's corporate culture and tradition, two merging firms with a diverse propensity towards aggressive tax planning will likely encounter more difficulties in integrating the two tax functions after a merger. In addition, the divergence of views on aggressive tax planning between two firms may represent a broader level of cultural disagreements on other corporate policies. Thus, we expect that, relative to an M&A transaction between two firms that place a similar value on aggressive tax planning, an M&A transaction between two firms with dissimilar approaches to tax aggressiveness will generate lower returns to acquirer shareholders. Our first hypothesis, which focuses on the similarity of their two parties' past behaviors as the source of acquirers' gains, is stated formally in the alternative form below:

$H1_A$: *Differences in tax aggressiveness between the acquirer and target reduce acquirer returns, on average.*

Hypothesis H1 is based on the notion that the tax planning aggressiveness of the firm is a proxy for key features of the firm's management and that similar approaches to tax planning will yield the least costly integration and most synergistic outcome, similar to asset complementarity in M&A (Bena and Li, 2014; Hoberg and Phillips, 2010; Rhodes-Kropf and Robinson, 2008). This view is consistent with tax aggressiveness being an optimization across multiple costs and benefits and no level of tax aggressiveness is inherently better. An alternative view is that more

aggressive tax planning is associated with superior management, similar to corporate social responsibility or operational efficiency (Deng, Kang, and Low, 2013; Koester, Shevlin, and Wangerin, 2014). If this is true, then acquirer returns may be generated when the acquirer and target differ in their tax aggressiveness prior to the deal. Two scenarios arise in this case, depending on how the acquirer management views its tax planning strategy prior to the transaction. Our discussion below examines whether the effects of tax aggressiveness on acquirer returns vary between the two scenarios. We assume the target price is set in a competitive market and so the price reflects the target's current level of tax aggressiveness.

In the case that the acquirer is more tax aggressive than the target, the acquirer will increase the aggressiveness of the target's tax outcomes and thereby increase returns to acquirer shareholders. For example, Shih (1994) suggests that conglomerate mergers, defined as unions between firms with not highly correlated earning prospects, can create tax benefits by better utilize tax deductions and credits. Devos et al. (2009) demonstrates that acquirers create deal synergies by increasing debt tax shield of the target. Consistent with the idea of acquirers improving the target's tax aggressiveness, Belz et al. (2013) track a sample of European targets' ETRs around their acquisition and show that the ETR of the targets fall after acquisition, and that they fall more for targets acquired by tax-aggressive acquirers. Cheng, Huang, Li, and Stanfield (2012) find that firms show a significant increase in tax avoidance after targeted by tax-savvy hedge fund activists, suggesting that such activists use their tax expertise to create value via improving tax planning of the targeted firms. Thus, the relation between the acquirer's tax aggressiveness, the target's tax aggressiveness, and the gains to acquirer shareholders may stem, in part, from the transfer of tax planning knowledge from the acquirer to the target specifically.

This possibility is consistent with existing M&A literature that documents the positive synergistic effects in acquisitions of poorly managed targets by well-managed acquirers. Using

Tobin's *q* as a measure of managerial performance, Lang et al. (1989) and Servaes (1991) show that the higher gains to the M&A transaction, on average, occur when a good management team acquire a company with a poor management team. Using measures of corporate governance, Masulis, Wang, and Xie (2007) show that if the acquirer's governance character shelters the acquirer's management from market discipline, the acquisition has a more negative reaction. Similarly, Wang and Xie (2009) demonstrate that if the acquirer firm has stronger shareholder rights than the target, the acquisition has improved gains. More recently, Li (2013) shows that anticipated improvements in the target's productivity, including managerial know-how, are priced into the acquisition. Stated in alternative form below, our second hypothesis tests the value-creation effect of anticipated improvement in tax planning:

$H2_A$: *When more tax aggressive firms acquire less tax aggressive targets, the association between tax aggressiveness differences and acquirer returns is positive, on average.*

When the acquirer is less tax aggressive than the target, the target can either impose its less aggressive tax planning approach on the target's operations, or learn from the target's personnel. Thus, the effect on acquirer returns could be positive or negative. The target's tax aggressiveness may decrease as the management of the acquirer cuts back the aggressiveness of tax planning that the target has traditionally undertaken. If tax planning is a positive attribute, unrecognized by the acquirer's management, this would lead to lower acquirer returns. If this is the case, then the empirical outcome for more tax-aggressive targets will be a negative relation. Alternatively, the acquirer's management might learn from the target's management, as was the cases for social and environmental performance studied by Aktas, Bodt, and Cousin (2011).[4] Brown (2011), Brown and Drake (2014), and Fang, Francis, Hasan, and Wu (2014) infer from

[4] Sevilir and Tian (2013) also suggest that M&A is an important channel for acquirers to enhance their innovation output by acquiring innovative targets.

their data that executives learn about tax planning opportunities through board ties and social networks. Compared to those connections, M&A presents a more direct channel through which the acquirer's management can learn from the target's management with respect to more effective tax planning.

Saavedra (2013) finds that firms with high effective tax rates engage in past aggressive tax planning, but ultimately pay back part of their tax savings to tax authorities. Thus, some high tax-paying firms are unsuccessful tax avoiders, not conservative tax planners. If less tax aggressive acquirers are unsuccessful tax avoiders and they are willing to collaborate with aggressive, successful tax avoiding targets, knowledge of tax planning can spillover from targets to acquirers as well. In this case, acquirer returns will be positively related to the differences between target and acquirer aggressiveness due to this learning effect. Thus, the predicted direction of spillover is unclear, and we form a non-directional alternative hypothesis.

$H3_A$: *When less tax aggressive firms acquire more tax aggressive targets, there is an association between tax aggressiveness differences and acquirer returns.*

Hypotheses H2 and H3 examine the differing effects of tax aggressiveness on acquirer returns depending on whether the acquirer or the target has the stronger tax aggressive behavior prior to the transaction. Prior research has not considered the potential asymmetry in the effects of positive versus negative anticipated changes in tax aggressiveness.

Notwithstanding the predictions discussed above, the null hypothesis of no association is also consistent with extant research. Using a small sample of 31 U.S. domiciled firms, Blouin, Collins, and Shackelford (2005) examine the tax aggressiveness of foreign owned U.S. subsidiaries by comparing changes in taxable income of firms before and after being acquired by non-U.S. parents in 1996. They find no evidence that foreign-controlled firms increase the tax aggressiveness of their newly acquired U.S. targets, which suggests more broadly that tax

aggressive acquirers may not increase the tax aggressiveness of their targets. Second, as described above, Desai and Dharmapala (2006 and 2009) and Wilson (2009) demonstrate that shareholders only reward tax-aggressive firms that also had strong governance structures in place. It is not clear if, from the acquirer shareholders' perspective, aggressive tax planning is a positive attribute, a neutral attribute, or may be positive or neutral depending on the circumstances.[5] To the extent that acquirer shareholders do not view aggressive tax planning to be a positive attribute, we may not observe any significant relation. Thus, the empirical results may show that, on average, the tax aggressiveness of the acquirer and the target is not relevant to the acquirer returns.

In summary, the differing levels of tax aggressiveness of the acquirer and target may affect the acquirer returns in an M&A transaction under three alternative mechanisms. These expectations lead to various patterns of coefficients on the aggressiveness of the acquirer and the target. If the coefficients imply that any differences in the level of aggressiveness of the two parties are negatively valued, then this is consistent with tax aggressiveness similarity is valued positively, similar to corporate culture. Second, if acquirer returns are positively related to positive differences between acquirers' and targets' aggressiveness (i.e., the acquirer is more tax aggressive than the target), then the target is expected to benefit from the acquirer's tax planning aggressiveness being passed onto the target's activities. Finally, if there is a negative difference between acquirer and target tax aggressiveness (i.e., the target is more tax aggressive than the acquirer), its association with acquirer returns will imply whether the acquirer is expected to

[5] For example, existing research has attempted to examine the empirical link between managerial ability and aggressive tax planning but the results are mixed. Using Demerjian, Lev, and McVay's (2012) managerial ability measure, Koester et al. (2013) find that managers with greater operational efficiency manage their firms in a more tax-aggressive way. On the contrary, using the same managerial ability measure, Francis, Sun, and Wu (2013) find a negative relation between managerial ability and aggressive tax planning.

learn this feature from its newly acquired target or to reduce tax aggressiveness of the target by imposing its own lesser aggressiveness.

III. Research Design

3.1 Measurement of Acquirer Returns

Acquirer returns are defined as the cumulative abnormal return to the acquirer during the event window [-2, +2], in which day 0 is the acquisition announcement date. Announcement dates are obtained from Securities Data Corporation (SDC) Platinum Mergers and Acquisitions database. To calculate abnormal returns ($AR_{i,t}$), we use the simple market model to estimate expected stock return for firm i on day t following the standard methodology for event study analysis (Brown and Warner, 1985):

$$AR_{i,t} = R_{i,t} - \alpha_i - \beta_i R_{m,t} \tag{1}$$

where $R_{i,t}$ is the realized return to firm i on day t. The parameters α_i and β_i are estimated over the 200-day window before the announcement period [-210, -11] using the value-weighted CRSP market return as the market return ($R_{m,t}$).[6] The five-day announcement period cumulative abnormal return for acquirer i ($ACAR$) is computed as follows:

$$ACAR_i(-2,2) = \sum_{t=-2}^{2} AR_{i,t} \tag{2}$$

As a robustness check, we also report results using acquirers' cumulative abnormal return from a three-day event window centered on the acquisition announcement date.

3.2 Measurement of Tax Aggressiveness Differences

Our primary measure of tax aggressiveness is the tax sheltering score, based on Wilson (2009). Using a sample of firms identified *ex post* as having engaged in a variety of aggressive

[6] We also calculate abnormal returns by subtracting the value-weighted CRSP market return from the firm's return. Our results are robust to using either definition of abnormal returns.

tax transactions, Wilson (2009) finds that firms' participation in such transactions is explained by firm size, leverage, profitability, research and development expenditures, foreign income, BTD, and discretionary accruals. Using Wilson's (2009) tax model, we compute the tax sheltering score for our sample firms and construct a measure of tax aggressiveness differences (*TAXDIFF*) as follows:

$$TAXDIFF_{i,j,t\text{-}1} = TTAX_{i,t\text{-}1} - TTAX_{j,t\text{-}1} \quad (3)$$

Where $TTAX_{i,t\text{-}1}$ ($TTAX_{j,t\text{-}1}$) is acquirer *i*'s (target *j*'s) three-year average tax avoidance score between year *t*-4 and year *t*-1, in which year *t* is the fiscal year of the acquisition announcement. We use a three-year average of tax avoidance score because capturing a firm's tax aggressiveness using a single-year measure could be subject to considerable measurement error. We choose the tax sheltering score as our primary measure of tax aggressiveness because it is a validated measure in capturing firms' use of a wide spectrum of tax avoidance transactions that can generate positive abnormal returns for well-governed firms (Wilson, 2009) and it also alleviates concerns about measurement error that may affect the interpretation of results in the M&A setting. Given prior research that finds acquirers' managers have incentive to inflate reported earnings prior to the completion of stock-for-stock acquisitions to boost their stock prices (Erickson and Wang, 1999) and cash-rich acquirers tend to make value-destroying acquisitions (Harford, 1999), extant proxies of tax aggressiveness that directly capture a firm's earnings quality or cash transactions such as BTD or cash effective tax rate may not be the most ideal proxies in our setting. In robustness checks, however, we report results derived from additional proxies for tax aggressiveness to provide corroborating evidence.

Because the construction of the dependent variable requires consistent measures of the acquirer's and the target's tax aggressiveness, we use only domestic M&A transactions. While

there is extensive research suggesting taxes play an important role in cross-border M&A (e.g., Mescall and Klassen, 2014; Arulampalam, Devereux, Liberini, 2012; Huizinga and Voget, 2009), constructing a reliable measure of tax aggressiveness differences between a U.S. acquirer and a foreign target would be a challenging task; differences in tax laws and accounting standards between the U.S. and the foreign country may adversely affect the validity of the measure.

3.3 Regression Specifications

To test hypotheses (H1-H3), we run the following piecewise regression model:

$$ACAR_{i,m,t} = \beta_0 + \beta_1 POS\_DIFF_{i,j,t\text{-}1} + \beta_2 TAXDIFF_{i,j,t\text{-}1} \times POS\_DIFF_{i,j,t\text{-}1} + \beta_3 TAXDIFF_{i,j,t\text{-}1} \times NEG\_DIFF_{i,j,t\text{-}1} + \boldsymbol{X}'_{i,j,m,t\text{-}1}\zeta + \nu_t + \varepsilon_{i,j,m,t} \quad (4)$$

The dependent variable, $ACAR_{i,m,t}$, is our measure of acquirers' merger announcement abnormal returns for acquirer i in deal m. $TAXDIFF_{i,j,t\text{-}1}$, our proxy for tax aggressiveness differences. $POS\_DIFF_{i,j,t\text{-}1}$ is an indicator variable equals one if $TAXDIFF_{i,j,t\text{-}1}$ is greater than zero. Hence, the interaction term $TAXDIFF_{i,j,t\text{-}1} \times POS\_DIFF_{i,j,t\text{-}1}$ captures tax aggressiveness differences for deals in which the acquirer is more aggressive than the target (i.e., deals with positive tax aggressiveness differences). Similarly, $TAXDIFF_{i,j,t\text{-}1} \times NEG\_DIFF_{i,j,t\text{-}1}$ is a vector of tax aggressiveness differences for deals in which the target is more aggressive than the acquirer (i.e., deals with negative tax aggressiveness differences). $\boldsymbol{X}_{i,t\text{-}1}$ is a vector of firm-specific and deal-specific observable determinants of acquirer returns, ν_t is calendar year fixed-effects, and $\varepsilon_{i,j,m,t}$ is the error term. In Equation (4), our parameters of interests are the coefficients on the two interaction terms, β_2 and β_3, measuring the shareholder wealth effects of positive and negative tax aggressiveness differences, respectively.

Recall that our hypothesis H1 predicts that similarities in tax planning aggressiveness between two firms would lead to higher acquirer returns, implying that any differences in tax aggressiveness (i.e., positive or negative) would lead to lower returns. Therefore, a negative β_2

together with a positive β_3 would provide support to our alternative form of hypothesis H1. That is, as positive differences become more positive, the returns decline, and as negative differences become more negative, the returns also decline.

The alternative form of hypothesis H2 predicts acquirer shareholders anticipate the more tax aggressive acquirer will apply its past tax strategies onto the less tax aggressive target, thereby improving the tax planning effectiveness of the merged firm. To be consistent with this alternative prediction, β_2 is expected to be significantly positive.

We did not make a directional prediction for hypothesis H3. If a positive estimate of β_3 is observed, then the evidence would suggest that targets' tax aggressiveness is expected to decrease when they are acquired by less tax-aggressive acquirers, mirroring the alternative form of hypothesis H2. Alternatively, if a negative estimate of β_3 is observed, then the evidence would suggest that less tax-aggressive acquirers are expected to learn from targets' management with respect to effective tax planning. Our expectations of on the signs of β_2 and β_3 are summarized in Table 1.

Table 1: Predictions on Regression Coefficients

Hypothesis	Expected Sign on		Interpretation
	β_2	β_3	
$H1_A$	−	+	Similar tax planning is valued positively
$H2_A$	+		Target expected to benefit from acquirer's planning ability
$H3_{A1}$		+	Acquirer applies its strategy to the target
$H3_{A2}$		−	Acquirer adopts target's greater aggressiveness

Following research on M&A (e.g., Moeller, Schlingemann, and Stulz, 2004; Travlos, 1987; and Wang and Xie, 2008), equation (4) includes known determinants of merger announcement abnormal returns to acquirers. Detailed definitions of these variables are given in

the Appendix. To rule out the potential alternative explanation that the identified effect of anticipated tax planning on acquirer returns is simply due to the differences in firm size, management quality, or firm performance between the acquirer and target, we control for the acquirer's and target's firm size (*ASIZE, TSIZE*), Tobin's *q* (*ATOBINSQ, TTOBINSQ*), profitability (*AROA, TROA*), and leverage (*ALEV, TLEV*), all measured at the fiscal year end prior to the acquisition announcement. We expect acquirer returns to be negatively associated with acquirer size, consistent with Moeller et al.'s (2004) findings. Prior studies (Lang et al., 1989; Servaes, 1991) show that, for acquisitions of public targets, acquirer returns are higher when acquirers have high Tobin's *q* and targets have low Tobin's *q*. However, Moeller et al. (2004) provide evidence that acquirer returns are negatively related to the acquirer's Tobin's *q*. Given the mixed findings documented in existing literature, we make no directional prediction on the coefficient on the acquirer's Tobin's *q*. Masulis et al. (2007) find that gains to acquirers are larger when acquirer leverage is higher, suggesting that leverage prevents managers from making bad acquisitions. We expect acquirer leverage (*ALEV*) to be positively associated with acquirer returns.

For deal-level characteristics, we follow the existing literature and control for the percentage of common stock used to finance the acquisitions (*STOCK*), the relative deal size (*DEALRATIO*), the presence of multiple bidders (*COMPETING_BID*), the use of pooling-of-interest accounting method (*POOLING*), whether the deal is a tender offer (*TENDER*), is a merger-of-equal (*EQUAL*), or is a within-industry acquisitions (*INDMATCH*). Travlos (1987) finds that acquirer returns are significantly lower in stock-for-stock acquisitions than in cash acquisitions, consistent with the theory that stock-financed acquisition represents a signal that the acquirer's managers possess unfavorable private information of the firm (Jensen and Ruback, 1983; Myers and Majluf, 1984). We include the percentage of common stock used to finance the

acquisitions (*STOCK*) to control for the negative effect of method of financing on acquirer returns. Moeller et al. (2004) find a positive association between acquirer returns and relative deal size, although a negative association is observed in a subsample of large acquirers.

Following Moeller et al. (2004), we control for the relative deal size (*DEALRATIO*), defined as the ratio of total consideration paid (excluding fees) to the acquirer's market value of equity. However, we do not have an ex ante prediction regarding the sign of *DEALRATIO* because of the mixed findings. Hartford (1999) suggests that interest by multiple bidders may represent an indication that the transaction is profitable. We include an indicator variable *COMPETING_BID* in the return regression to control for the potential effect of multiple bidding on acquirer returns. We also control for the use of pooling-of-interest accounting method (*POOLING*) because prior research suggests that deals that are accounted for using the pooling-of-interest method are primarily driven by accounting earnings incentives instead of cash flows considerations and hence bad investments (Lys and Vincent, 1995; Ayers, Lefanowicz, and Robinson, 2002). In light of prior literature which finds that tender offers generate higher gains (e.g., Bhagat, Dong, Hirshleifer, and Noah, 2005; Jensen and Ruback, 1983), we control for tender offers (*TENDER*) and expect *TENDER* to be positively associated with abnormal returns. Finally, following Wang and Xie (2008), we include two dummy variables *EQUAL* and *INDMATCH* to control for the differential synergies related to mergers of equals and economies of scale in mergers between firms in related industries.

3.4 Sample Selection

We draw the sample from the SDC Platinum Mergers & Acquisitions database. We identify 840 M&A transactions announced between January 1, 1990 and December 31, 2010 that satisfy the following criteria:

(a) The acquisition is completed.

(b) Both acquirer and target are publicly listed U.S. firms.

(c) The deal value disclosed in SDC is no less than $1 million and is at least 1% of the acquirer's market capitalization measured on the 11th trading day prior to the acquisition announcement date.

(d) The acquirer owns less than 50% of the shares of the target prior to the acquisition announcement date and owns 100% of the target after the transaction.

(e) Both acquirer and target have daily stock return data available from CRSP and annual financial statement data available from COMPUSTAT .

(f) Neither acquirer nor target belongs to the financial industries (SIC codes 6000-6999).

Table 2 presents the summary statistics for our sample. The mean (median) difference between our sample acquirers' and targets' three-year tax sheltering score (*TAXDIFF*) is 0.204 (0.172), suggesting that acquirers are more tax aggressive than their acquired targets, on average. This observation is not surprising because, relative to targets, acquirers are larger in size, more profitable, and lower leverage. Such firm-level characteristics are all positively related to aggressive tax planning documented in prior research (e.g., Chen, Chen, Cheng, Shevlin, 2010; Dyreng et al., 2008) and hence, our tax aggressiveness measure (Dyreng et al., 2008; Lisowsky, 2010; Wilson, 2009). Also consistent with our expectation, the number of deals where the acquirer is more tax aggressive than the target (i.e., deals with positive tax aggressiveness difference) is greater than the number of deals where the target is more tax aggressive than the acquirer (619 versus 221). The mean *TAXDIFF* for deals with positive and negative tax aggressiveness differences is 0.298 and -0.057, respectively. Similar patterns are also observed when we measure tax aggressiveness using alternative proxies such as total *BTD*, abnormal *BTD*, *BTD* factor, and industry-adjusted *CashETR*.[7] Overall, the statistics suggest that the acquirers are significantly more tax aggressive than the targets are in our sample.

[7] *CashETR* may capture features of tax function of the acquirers that are non-transferrable such as industry-specific tax attributes (e.g., oil and gas extraction industry) or the extent of foreign operations (Dyreng et al., 2008). To

As discussed above, there are some notable differences in firm-level characteristics between deals with positive and negative tax aggressiveness differences. For example, relative to deals with negative tax aggressiveness differences, in deals with positive tax aggressiveness differences the acquirers are larger in size, more profitable, and use less debt; the targets have higher Tobin's *q* and lower leverage. Since some of these firm-level factors are inputs of the tax avoidance score variable, we include them as control variables in our regressions. In additional tests, we also conduct our tests using alternative proxies of tax aggressiveness to provide supporting evidence that our results are robust to alternative explanations and proxy selections.

Deals with positive and negative differences in tax aggressiveness are similar in a variety of dimensions at the deal level (e.g., the percentage of stock-financing, the proportion of deals that are tender offers or merger-of-equal, and the proportion of deals that used the pooling method or received multiple bids). However, deals with negative tax aggressiveness differences have both significantly higher mean deal ratio and proportion of with-in industry transactions. The significant difference in deal ratio is likely due to the smaller difference in acquirer and target firm sizes in transactions with a negative difference in tax aggressiveness.

Turning to our dependent variable, the mean (median) 5-days acquirer returns (*ACAR*) is -1.23 (-0.92) percent, a value that is consistent with prior research (Fuller, Netter, and Stegemoller, 2002; Moeller et al., 2004; Wang and Xie, 2008). Both *ACAR* [-2,2] and *ACAR* [-1,1] are significantly negative at the 1% level. It is important to note that there is no significant difference in acquirer returns between deals with positive or negative tax aggressiveness differences, suggesting that neither type of transaction is inherently value destroying or value-

ensure that our result is not related to the differences in industry environment when using *CashETR*, we compute industry-mean-adjusted *CashETR* by subtracting the industry mean *CashETR* from each firm's *CashETR*. The results (untabulated) using unadjusted *CashETR* are similar.

enhancing. This is consistent with our maintained assumption that future tax planning for the merged firm is not a first-order driver for the transactions.

Finally, at the bottom of Table 2 we provide summary statistics of tax aggressiveness differences (*TAXDIFF*) of the deals using alternative proxies of tax aggressiveness. We consider a variety of alternative tax aggressiveness proxies advanced in the literature, including total book-tax differences (*BTD*) (Wilson, 2009; Lisowsky, 2010), abnormal *BTD* (Desai and Dharmapala, 2006; 2009), a common factor extracted from three BTD-based measures: total *BTD*, abnormal *BTD*, and *DTAX* (Desai and Dharmapala, 2006; 2009; Frank, Lynch, and Rego, 2009), and industry-adjusted *CashETR* (Dyreng et al., 2008).[8] Across all alternative proxies, the tax aggressiveness differences are positive but not significantly distinguishable from zero, a result that differs from that using the tax shelter score to calculate *TAXDIFF*.

Correlations among the variables used in the main analyses are reported in Table 3. The correlation between tax aggressiveness differences (*TAXDIFF*) and acquirer returns is positive. Breaking down the *TAXDIFF* into positive (*POS_DIFF*) and negative values (*NEG_DIFF*), we observe that both are positively correlated with acquirer returns. The correlations among the control variables indicate that some firm-level characteristics such as firm size, leverage, and return on assets are highly correlated between the acquirers and targets. To ensure that multicollinearity is not a problem in the regressions, we examine the variance inflation factors (VIF). VIF values are less than four for all regressors, suggesting that multicollinearity does not impact our results.

[8] Across distribution, the values of BTD proxies are lower than those reported in extant studies (e.g. Chen et al., 2010; Wilson, 2009; Lisowsky, 2010), but are comparable once loss firms have been removed. To be discussed in the main text later, results from additional analyses suggest that our results are not sensitive to the presence of loss firms. Note that we multiply *CashETR* by -1 in the construction of *TAXDIFF* (*CashETR*) for the ease of interpretation of results.

IV. Empirical Results and Discussions

4.1 Tests of Hypotheses

We test the hypotheses, summarized in Table 1, using the coefficients on *TAXDIFF*× *POS_DIFF*, β_2, and *TAXDIFF*×*NEG_DIFF* in equation (4) and report the OLS estimation results in Table 4.[9] First, we focus on estimates of β_2. In columns (1) and (2), after including only the acquirer's size, and all acquirer control variables (i.e., acquirers' size and acquirer- and deal-level variables), respectively, the estimates of β_2 are statistically and economically significant. However, when we control for characteristics of the target firms in column (3), the estimate of β_2 becomes smaller, and loses its statistical significance (at the 10% level). The regression in column (4) shows that the results in column (3) are robust to the exclusion of loss firms. These results suggest that part of the effect of *TAXDIFF*×*POS_DIFF* on acquirer returns is explained by target firm characteristics. The insignificant association between *TAXDIFF*×*POS_DIFF* and acquirer returns does not allow us to reject the null form of hypothesis H2.

Second, we examine estimates of β_3, the coefficient on *TAXDIFF*×*NEG_DIFF*. As shown in columns (1) to (4), the coefficient on *TAXDIFF*×*NEG_DIFF* remains positive at the 5% level of statistical significance across all specifications (and at the 1% for three of four specifications). To gauge the economic significance of the estimates, we calculate that, a one-standard-deviation increase in negative difference in tax aggressiveness is associated with a decrease in acquirer returns of 2.56 percent (0.067×38.28). The results are not sensitive to the exclusion of firms with negative pre-tax income, as indicated in column (4). The positive association between acquirer returns and *TAXDIFF*×*NEG_DIFF* is consistent with the alternative form of hypothesis H1. The positive association between *TAXDIFF*×*NEG_DIFF* and acquirer returns allows us to reject the

[9] We tabulate results using the event window [-2, +2]. Untabulated results using an event window of [-1, +1] are very similar.

null of hypothesis H3 as well. The lack of reliable association between acquirer returns and *TAXDIFF×POS_DIFF* makes it unclear if the data support H1 overall, or whether the acquirer is expected to transfer its tax planning to the target, consistent with H3.

Regarding the control variables, we document evidence that is largely consistent with prior studies (Bhagat et al. 2005; Jensen and Ruback, 1983; Masulis et al., 2007; Moeller et al., 2004; Servaes, 1991; Wang and Xie, 2008). For example, we find that returns to acquirers are larger in tender offers and are increasing in acquirer leverage; acquirer returns are lower among larger acquirers, targets with higher Tobin's *q*, and deals that are financed with stock.

Overall, our results do not allow us to conclude that positive tax aggressiveness differences have a reliable effect on acquirer returns as we predicted in hypotheses H1 and H2, but that the association between negative tax aggressiveness differences and acquirer returns is significantly positive, consistent with the alternative form of H1 and H3. Before we provide interpretation of the findings, we carry out additional tests in the following section to ensure the robustness of the results.

4.2 Robustness Checks

4.2.1 The Role of Pre-Acquisition Tax Aggressiveness

In this section, we conduct additional analyses to examine whether targets located at the two extremes of the tax aggressiveness distribution affect the statistical significance of the coefficient on *TAXDIFF×POS_DIFF*. The difference measure, *TAXDIFF*, does not take into account where along the tax aggressiveness scale the target and acquirer are. When *POS_DIFF* equals one, the acquirer's aggressiveness proxy is generally very large. One the one hand, targets that engage in very little tax planning before the acquisition may require a very substantial culture change by the acquirer in order to realize the benefits of improvement in tax planning. In that case, the uncertainty as to whether the subsequent tax planning can generate positive value is

high. Thus, acquirer shareholders may not respond positively to the possibility of tax planning improvements. On the other, targets that are historically very tax aggressive may have little opportunity to generate value with further tax planning, even if the target is acquired by an even more tax aggressive acquirer. Another potential reason for an insignificant association is that acquirer shareholders may not view favorably further tax-planning opportunities when the target is considered overly tax aggressive (Hanlon and Slemrod, 2009).

To investigate whether the coefficient on *TAXDIFF×POS_DIFF* that was not statistically different from zero is sensitive to the above explanations, we repeat the analysis after removing targets that are at the top and/or bottom deciles of tax aggressiveness. The results using these subsamples are presented in Table 5. When the most or least aggressive targets are removed from the sample in columns (1) and (2), respectively, the coefficient on *TAXDIFF×POS_DIFF* is statistically significant at the 10% and 5% level, respectively. In column (3), we document similar results when the targets at both extremes are excluded. Note that in all specifications, the coefficients on *TAXDIFF×NEG_DIFF* remain significantly different from zero and of similar magnitude, suggesting that the valuation effect of negative anticipated changes in tax aggressiveness is robust.[10] We also use the three-way interaction approach as an alternative specification and obtain similar results.

In terms of economic significance of the effect, a one-standard-deviation increase in the difference in tax aggressiveness (0.208) is associated with a 1.01 percent higher acquirer return.[11] Overall, when restricted to a subsample of targets that were not located in the two extremes of the tax aggressiveness continuum, we find evidence consistent with the prediction of hypothesis H2 that acquisitions of less tax aggressive targets by more tax aggressive acquirers generate higher

[10] As an additional check, we remove the most extreme acquirers and our documented results are not sensitive to the inclusion or exclusion of the most or least aggressive acquirers.
[11] Using the subsample and result in regression (1) as an example: 0.203×4.976=1.01

acquirer returns (i.e., the value-creation effect of anticipated improvement in tax planning). We also find reliable evidence inconsistent with hypothesis H1.

4.2.2 Alternative Tax Aggressiveness Proxies

In this section, we conduct tests to examine the sensitivity of our main results presented above. To begin, we estimate Equation (4) using alternative measures of tax aggressiveness, namely, total *BTD*, abnormal *BTD*, *BTD* factor, and *CashETR* to ensure that our main results are not sensitive to the tax aggressiveness proxy we choose. As shown in Table 6, the regressions using alternative proxies for tax aggressiveness produce similar results. In particular, across all empirical proxies, the coefficients on the negative differences are positive and statistically significant at the 5% level whereas the coefficients on the positive differences are not significant using a 10% cut-off value. In terms of economic significance, for example, when *CashETR* is used as a tax aggressiveness proxy, acquisitions of more tax aggressive targets by less tax aggressive targets are associated with a -1.22 percent of acquirer returns, on average.[12]

4.2.3 Additional Controls

Prior research suggests that financially flexible firms make less profitable or value-destroying acquisitions (Jensen, 1986; Harford, 1999). In the context of our study, financially flexible acquirers may be more likely to overlook the (potentially low or negative) tax planning synergy in the deal. To mitigate concerns that our results may be driven by acquirers' financial condition, we include an indicator for cash-rich acquirers inferred from residuals of Harford's (1999) normal cash model (*ACASHRICH*) as additional control variables in the regression. The results (untabulated) indicate that the coefficient on *ACASHRICH* is negative but not statistically

[12] (-0.155×7.845)=1.22.

significant but the result of *TAXDIFF×NEG_DIFF* remains highly robust. Overall, the evidence indicates that our results are not explained by acquirers' financial conditions.[13]

4.3 Discussion of Main Results

Taken together, the results based on a series of sensitivity tests provide evidence on the effect of anticipated changes in the target's tax planning on acquirer returns: acquirer returns are positively associated with tax aggressiveness differences in acquisitions where the acquirer is more tax aggressive than the target (the value-reducing effect of anticipated deterioration in tax planning); acquirer returns are less reliably related to tax aggressiveness differences when more tax aggressive acquirers acquire less tax aggressive targets. Overall, the findings are consistent the interpretation that acquirer shareholders, on average, anticipate that the acquirer will apply its tax planning strategy to the target after acquisition. In deals where the target is the more tax aggressive party, acquisition gains are lower due to shareholders' anticipated decreases in the target's tax planning. However, in deals where the acquirer is more tax aggressive, shareholders only reliably value possible improvement in the target's tax planning when the historical tax aggressiveness of the target was not extremely high or low.

We provide the following explanation for the pattern of coefficients. Effective tax plans generally require complex planning work and therefore takes a long time to generate positive returns. When it comes to M&A, the acquirer will need to incur significant tax planning costs to produce a smooth and effective post-merger integration of the two tax functions (Deloitte, 2012). Thus, the shareholders may be uncertain whether and when tax planning efforts by the acquirer will improve the efficiency of the target's tax function, and will generate positive returns. In

[13] We find similar results if we replace *ACASHRICH* by either two indices of financial constraint: the *KZ-INDEX* developed by Kaplan and Zingales (1997) or the *SA-INDEX* developed by Hadlock and Pierce (2010). In additional tests, we examine whether acquirers' financial condition moderates the association between anticipated tax planning and acquirer returns and find that the documented association between does not vary across acquirers' financial conditions.

contrast, when the acquirer is less tax aggressive than the target, acquirer shareholders can foresee that the target's tax aggressiveness will decrease in the short term as the acquirer's management imposes its lower level of tax planning aggressiveness on the target.

In the following section, we explore the cross-sectional variation in the effects of tax aggressiveness differences on acquirer returns to strengthen inferences of the main results.

4.4 Cross-Sectional Analysis

In this section, we examine whether the potential retention of the target's senior tax employees in the newly merged firm would alter acquirer shareholders' valuation of any tax aggressiveness transfers. Such evidence would corroborate our interpretation of the main findings, particularly for acquirers that are less aggressive that their targets. If acquirers retain the target firm's tax personnel, their local knowledge and technical skills are more likely to persist in the new merged firm, making it less likely that the target will be less aggressive in the future.

We investigate the role of industry similarity between the two merging parties on association between acquirers' returns and anticipated tax planning. In Section II, we described several ways the merged firm's tax planning aggressiveness will evolve after the merger. Our hypotheses are developed based on what we expect will happen on average. However, in transactions where the acquirer and the target are from different industries, the acquirer management would be less familiar with the application of tax law in the target's industry and therefore would be more likely to rely on the target's tax personnel. In that case, acquirers would be more likely to retain much of the target's tax personnel after the deal. As a result, it would be more likely that the merged firm's tax planning will remain unchanged. Based on the above discussion, we posit that the effects of anticipated tax planning on acquirer returns would be weaker for transactions between two firms of different industries.

We test our prediction by partitioning the sample based on high versus low industry similarity of the acquirer and target based on 2-digit SIC code classifications. The results in Table 7 show that the coefficient on *TAXDIFF×NEG_DIFF* is significantly positive for within-industry deals, column (1), but it is not significantly different from zero when the acquirer and target are from different industries, column (2). Results of Chow tests of differences in the coefficients on *TAXDIFF×NEG_DIFF* reject the null of equality between the two groups, confirming the results based on sample partition regressions. These results confirm our prediction that effects of anticipated tax planning on acquirer returns would be significantly weaker for transactions between two firms of different industries. In column (3), we provide additional robustness checks for our cross-sectional tests using the subsample of less aggressive targets (i.e., the subsample used in column (3) of Table 5). The results show that the both coefficients on *TAXDIFF×POS_DIFF* and *TAXDIFF×NEG_DIFF* are significantly positive, consistent with our earlier tabulated results in Table 6 that investors incorporate both future improvement and deterioration in tax planning efficiency into stock returns when it is less likely the target's tax personnel will be retained. Results of Chow tests of differences are also consistent with our previous findings that the anticipation effects are stronger for within-industry transactions (for *TAXDIFF×NEG_DIFF*).

V. Conclusions

In this study, we examine the valuation effect of anticipated tax planning in the context of M&A. We hypothesize that acquisition announcement returns for acquirers reflect their shareholders' beliefs about the future tax planning of the merged firm. Building on findings of existing literature, we propose and test three potential channels in which the merged firm's tax aggressiveness will evolve post-merger. We find that, for acquirers with lower levels of tax

aggressiveness than their targets, the difference between acquirer's and target's tax aggressiveness is positively associated with acquirer returns. For acquirers with higher levels of tax aggressiveness than their targets, the positive association between tax aggressiveness differences and acquirer returns is only observed when the targets were not located at the two extremes of the tax aggressiveness continuum prior to the deal. These results are consistent with the interpretation that acquirer shareholders anticipate the acquirer to apply its past tax strategies in managing the merged firm's tax function, regardless whether the acquirer is the better tax planner in the deal. In addition, the pattern of our results also suggests that, due to the complex nature of post-merger integration and planning of the tax functions of two firms, acquirer shareholders anticipate the merged firm's overall tax planning performance are more likely to deteriorate than improve post-merger. This paper contributes to the literature on corporate takeovers and tax avoidance by uncovering the role of anticipated tax planning aggressiveness as a source of value creation and destruction for acquirer shareholders.

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Appendix: Variable Definitions and Construction

Variable	Definitions and Construction
TTAX	Three-year average tax avoidance score for targets, calculated based on Wilson (2009): TS = exp($X'\beta$) / [1+ exp($X'\beta$)], where $X'\beta = -4.86 + 5.20\times BTD + 4.08\times DACC - 1.41\times LEV + 0.76\times SIZE + 3.51\times ROA + 1.72\times FOREIGN + 2.43\times R\&D$
ATAX	Three-year average tax avoidance score for acquirers.
DEC_TTAX	Decile rank of *TTAX*
TAXDIFF	The difference between the acquirer's tax aggressiveness and the target's tax aggressiveness (e.g., *ATAX – TTAX*).
POS_DIFF	Indicator variable: 1 for positive tax aggressiveness differences (i.e., *TAXDIFF* > 0), and zero otherwise.
NEG_DIFF	Indicator variable: 1 for non-positive tax aggressiveness differences (i.e., *TAXDIFF* ≤ 0), and zero otherwise. That is, *NEG_DIFF* = 1 – *POS_DIFF*.
BTD	Total book-tax difference, measured as the difference between total worldwide pre-tax income and total worldwide taxable income, scaled by lagged assets. Total worldwide taxable income is estimated by the sum of current federal tax expense and current foreign tax expense grossed-up by the statutory tax rate. Observations with negative taxable income are excluded.
ABTD	Abnormal book-tax difference, estimated based on the methodology in Desai and Dharmapala (2006) and is the residuals from the following regression: $$BTD_{i,t-1} = \beta DA_{i,t-1} + \mu_i + \varepsilon_{i,t-1}$$ where *BTD* is the difference between total worldwide pre-tax income and total worldwide taxable income, scaled by lagged assets, as defined below. DA is the performance-matched discretionary accruals estimated based on Kothari et al. (2005).
BTD_FACTOR	The first principal component of the above three book-tax gap tax aggressiveness measures (i.e., *BTD*, *ABTD*, and *DTAX)*
CashETR	$CashETR = Cash\ Taxes\ Paid_{i,t-1} / (Pretax\ Income_{i,t-1} - Special\ Items_{i,t-1})$ We multiply *CashETR* by -1 for the ease of interpretation of results.
ACAR [-2,2]	Five-day acquirer cumulative abnormal return over the event window [-2, +2], where day 0 is the acquisition announcement date. Abnormal return is calculated using the market model with parameters estimated over the 200-day window between acquisition announcement day -210 and day -11.
ACAR [-1,1]	Three-day acquirer cumulative abnormal return over the event window [-1, +1], where day 0 is the acquisition announcement date. Abnormal return is calculated using the market model with parameters estimated over the 200-day window between acquisition announcement day -210 and day -11.
SIZE	Natural logarithm of market value of outstanding equity.

TOBINSQ	Market value of assets over book value of assets, where the market value of assets is computed as the book value of assets plus the market value of common stock less the sum of the book value of common stock.
ROA	Pre-tax income, scaled by lagged assets.
LEV	Total long-term debt, scaled by lagged assets.
STOCK	The percentage of the transaction financed with common stock.
TENDER	Indicator variable: 1 for tender offers, and 0 otherwise.
POOLING	Indicator variable: 1if pooling-of-interest accounting is used for the transaction, and 0 otherwise.
COMPETING_BID	Indicator variable: 1if there are multiple bidders for the target, and 0 otherwise.
EQUAL	Indicator variable: 1 if the transaction is classified as merger of equals by SDC, and 0 otherwise.
DEALRATIO	The total deal value (sum of all considerations paid, excluding fees) divided by the acquirer's pre-announcement market value of equity; market value of equity is defined as the number of shares outstanding multiplied by the stock price at the 6th trading day prior to the acquisition announcement date.
INDMATCH	Indicator variable: 1 if the acquirer and target share a 2-digit SIC industry, and 0 otherwise.
SALESRATIO	The ratio of target sales to acquirer sales.
ACASHRICH	Cash-rich acquirers inferred from residuals of Harford's (1999) normal cash model.
KZ-INDEX	Kaplan and Zingales (1997) financial constraint index. Higher value indicating lower financial constraint.
SA-INDEX	Hadlock and Pierce (2010) financial constraint index. Higher value indicating higher financial constraint.

Table 2: Summary Statistics

This table presents summary statistics for the variables used in the main analysis. The left column shows the statistics for the full sample, the middle column shows the statistics for the subsample of deals with positive tax aggressiveness differences, the last column shows the statistics for the subsample of deals with negative tax aggressiveness transfers. Mean differences (significant at the 10% level in two-tailed tests) between the two subsamples are highlighted in bold. Please refer to the Appendix for variable description.

Variable	Full Sample (N=840)			POS_DIFF=1 (N=619)			NEG_DIFF=1 (N=221)		
	Mean	St Dev	Median	Mean	St Dev	Median	Mean	St Dev	Median
Tax Aggressiveness Differences: Tax Avoidance Score									
ATAX	0.697	0.299	0.809	**0.795**	0.223	0.876	**0.424**	0.299	0.417
TTAX	0.485	0.275	0.471	0.478	0.256	0.465	0.502	0.324	0.508
TAXDIFF	0.204	0.255	0.172	**0.298**	0.219	0.263	**-0.057**	0.067	-0.031
Firm Characteristics									
ASIZE	7.253	2.115	7.206	**7.614**	2.054	7.592	**6.240**	1.955	6.314
ATOBINSQ	2.965	4.924	1.921	2.878	2.966	1.996	3.211	8.266	1.627
AROA	0.114	17.57	0.138	**0.136**	14.26	0.153	**0.051**	0.235	0.113
ALEV	0.198	0.200	0.161	**0.173**	0.166	0.145	**0.265**	0.265	0.237
TSIZE	5.162	1.773	5.073	5.115	1.702	5.067	5.294	1.959	5.076
TTOBINSQ	2.251	0.263	1.575	**2.345**	0.282	1.624	**1.985**	0.201	1.448
TROA	0.038	0.248	0.104	0.031	0.257	0.100	0.058	0.216	0.111
TLEV	0.203	0.261	0.111	**0.191**	0.268	0.090	**0.233**	0.240	0.214
Deal Characteristics									
STOCK	38.97	45.00	0.000	38.83	45.35	0.000	39.36	44.11	0.000
TENDER	0.237	0.425	0.000	0.241	0.428	0.000	0.226	0.419	0.000
POOLING	0.158	0.365	0.000	0.168	0.375	0.000	0.127	0.333	0.000
COPMETING_BID	0.038	0.019	0.000	0.039	0.019	0.000	0.036	0.019	0.000
EQUAL	0.005	0.069	0.000	0.005	0.070	0.000	0.005	0.067	0.000
DEALRATIO	0.489	0.871	0.244	**0.373**	0.682	0.161	**0.815**	1.199	0.480
INDMATCH	0.677	0.467	1.000	**0.652**	0.476	1.000	**0.746**	0.435	1.000
Acquirer Returns									
ACAR [-2,2]	-1.231	10.78	-0.921	-1.344	9.294	-0.921	-0.914	14.16	-0.979
ACAR [-1,1]	-0.781	9.442	-0.737	-0.894	8.215	-0.768	-0.463	12.26	-0.567
Tax Aggressiveness Differences: Alternative Proxies									
TAXDIFF (*BTD*)	0.012	0.735	0.010	**0.222**	0.490	0.079	**-0.244**	0.887	-0.453
TAXDIFF (*FACTOR*)	0.000	0.752	0.000	**0.368**	0.703	0.176	**-0.256**	0.676	-0.014
TAXDIFF (*ABTD*)	0.002	0.082	0.001	**0.038**	0.069	0.019	**-0.036**	0.078	-0.007
TAXDIFF (*CashETR*)	0.004	0.236	0.007	**0.161**	0.202	-0.105	**-0.155**	0.147	0.111

Table 3: Correlations

This table presents Pearson correlation coefficients for the variables used in the main analysis. The coefficients in bold are all statistically significant at less than the 10% level in two-tailed tests. Please refer to the Appendix for variable description.

	Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1)	*ACAR* [-2,2]																			
(2)	*ACAR* [-1,1]	**0.89**																		
(3)	*TAXDIFF*	**0.07**	**0.07**																	
(4)	*TAXDIFF×POS_DIFF*	**0.06**	**0.06**	**0.99**																
(5)	*TAXDIFF×NEG_DIFF*	**0.11**	**0.10**	**0.51**	**0.37**															
(6)	*ASIZE*	**-0.09**	**-0.11**	**0.30**	**0.29**	**0.20**														
(7)	*ATOBINSQ*	**-0.13**	**-0.14**	-0.02	0.00	**-0.09**	**0.16**													
(8)	*AROA*	0.01	0.00	**0.25**	**0.24**	**0.21**	**0.36**	-0.05												
(9)	*ALEV*	**0.07**	**0.07**	**-0.13**	**-0.13**	-0.02	-0.01	**-0.15**	-0.03											
(10)	*TSIZE*	**-0.16**	**-0.18**	**-0.26**	**-0.28**	0.01	**0.59**	**0.10**	**0.16**	**0.11**										
(11)	*TTOBINSQ*	**-0.18**	**-0.20**	0.03	0.04	0.00	**0.20**	**0.47**	-0.01	**-0.13**	**0.24**									
(12)	*TROA*	-0.05	-0.01	**-0.15**	**-0.16**	-0.02	**0.07**	**-0.09**	**0.34**	**0.14**	**0.30**	**-0.10**								
(13)	*TLEV*	0.01	-0.01	0.03	0.02	**0.08**	0.00	**-0.14**	0.03	**0.44**	**0.06**	**-0.13**	**0.07**							
(14)	*STOCK*	**-0.19**	**-0.19**	**-0.10**	**-0.10**	**-0.08**	**-0.13**	**0.17**	**-0.16**	**-0.10**	-0.05	**0.19**	**-0.06**	**-0.06**						
(15)	*TENDER*	**0.13**	**0.12**	0.06	0.04	**0.09**	0.05	**-0.06**	**0.14**	-0.02	-0.03	**-0.07**	0.03	-0.01	**-0.39**					
(16)	*POOLING*	**-0.10**	**-0.10**	0.01	0.01	-0.01	0.03	**0.13**	**0.11**	**-0.11**	0.00	**0.16**	**0.11**	**-0.09**	**0.55**	**-0.24**				
(17)	*COMPETING_BID*	-0.02	-0.03	0.00	0.01	-0.03	0.02	-0.03	0.03	-0.02	0.03	-0.05	0.04	0.01	-0.05	**0.12**	-0.05			
(18)	*EQUAL*	0.01	0.00	-0.05	-0.05	0.01	0.03	-0.02	0.03	0.01	**0.13**	0.00	0.03	0.00	**0.09**	-0.04	0.02	**0.08**		
(19)	*DEALRATIO*	**-0.06**	**-0.06**	**-0.29**	**-0.28**	**-0.18**	**-0.32**	-0.05	**-0.26**	**0.21**	**0.11**	-0.02	**0.09**	**0.15**	0.01	-0.04	-0.06	0.05	**0.08**	
(20)	*INDMATCH*	**-0.06**	-0.06	**-0.11**	**-0.11**	-0.02	**-0.10**	0.05	**-0.06**	0.01	0.03	0.00	**-0.07**	-0.01	0.05	0.00	0.03	-0.01	-0.03	**0.09**

Table 4: Tax Aggressiveness Differences and Acquirer Returns

This table reports regression results of acquirer returns (*ACAR*[2,2]) on tax aggressiveness differences. Calendar year fixed-effects are included. Reported in parentheses are t-statistics computed using heteroskedasticity-consistent standard errors adjusted for acquirer clustering; ***, **, * denote significance levels at 1%, 5% and 10%, respectively.

				Non-Loss Firms
	(1)	(2)	(3)	(4)
TAXDIFF×POS_DIFF	6.001***	4.674***	2.799	2.421
	(3.739)	(2.674)	(1.266)	(1.103)
TAXDIFF×NEG_DIFF	53.90***	39.57***	41.08***	38.28**
	(3.401)	(2.619)	(2.698)	(2.371)
ASIZE	-0.586***	-0.860***	-0.494*	-0.717*
	(-2.851)	(-3.793)	(-1.661)	(-1.861)
ATOBINSQ		-0.058	0.001	0.101
		(-0.685)	(0.017)	(1.004)
AROA		-1.765	-0.619	9.452*
		(-0.495)	(-0.171)	(1.868)
ALEV		3.510*	4.191**	3.365
		(1.895)	(2.016)	(1.224)
TSIZE			-0.441	-0.052
			(-1.270)	(-0.138)
TTOBINSQ			-0.364*	-0.452**
			(-1.958)	(-2.066)
TROA			-1.828	3.278
			(-0.756)	(0.559)
TLEV			-1.466	-2.942
			(-1.134)	(-1.347)
STOCK		-0.040***	-0.037***	-0.038***
		(-3.261)	(-2.990)	(-2.947)
TENDER		2.009**	1.930**	1.117
		(2.203)	(2.133)	(1.129)
POOLING		1.640	1.685	1.428
		(1.081)	(1.083)	(1.008)
COMPETING_BID		-1.703	-1.748	0.444
		(-0.857)	(-0.877)	(0.242)
EQUAL		6.530*	6.772*	4.151
		(1.697)	(1.775)	(1.048)
DEALRATIO		-1.114*	-0.751	-0.518
		(-1.676)	(-1.139)	(-0.467)
INDMATCH		-1.516**	-1.531**	-0.956
		(-2.088)	(-2.163)	(-1.312)
POS_DIFF	-4.600***	-3.542**	-3.435**	-2.861*
	(-3.395)	(-2.499)	(-2.394)	(-1.827)
Intercept	5.841***	12.90***	13.25***	10.65***
	(2.844)	(4.264)	(4.372)	(2.629)
Adjusted R^2	0.045	0.132	0.143	0.153
N	840	840	840	492

Table 5: The Role of Extreme Levels of Target Pre-Deal Tax Aggressiveness

This table reports regression results of acquirer returns on tax aggressiveness differences. The first column reports results omitting the observations where the Target's tax aggressiveness is in the top decile. The second regression reports the results omitting observations where the target's tax aggressiveness is in the bottom decile. The third regression reports results omitting observations where the target's tax aggressiveness is in the top or bottom decile. Calendar year fixed-effects are included. Reported in parentheses are t-statistics computed using heteroskedasticity-consistent standard errors adjusted for acquirer clustering; ***, **, * denote significance levels at 1%, 5% and 10%, respectively.

	DEC_TTAX⩽9	*DEC_TTAX*⩾2	9⩾*DEC_TTAX*⩾2
	(1)	(2)	(3)
TAXDIFF×POS_DIFF	4.976*	6.813**	7.985**
	(1.717)	(2.227)	(2.367)
TAXDIFF×NEG_DIFF	52.81**	55.01***	58.06**
	(2.245)	(2.690)	(2.386)
ASIZE	-0.613*	-0.711**	-0.858**
	(-1.928)	(-2.335)	(-2.511)
ATOBINSQ	0.030	0.033	0.054
	(0.385)	(0.381)	(0.642)
AROA	-1.988	-2.230	-3.254
	(-0.504)	(-0.567)	(-0.746)
ALEV	5.147**	4.979**	5.307**
	(2.379)	(2.328)	(2.416)
TSIZE	-0.697*	-0.991**	-1.185**
	(-1.704)	(-2.243)	(-2.259)
TTOBINSQ	-0.337*	-0.204	-0.167
	(-1.781)	(-1.115)	(-0.902)
TROA	-1.956	-1.884	-1.676
	(-0.784)	(-0.695)	(-0.601)
TLEV	-0.375	-0.719	-0.085
	(-0.286)	(-0.502)	(-0.058)
STOCK	-0.030**	-0.045***	-0.039***
	(-2.296)	(-3.471)	(-2.739)
TENDER	1.799*	1.940**	2.024**
	(1.913)	(2.054)	(2.011)
POOLING	0.881	1.761	1.109
	(0.532)	(1.044)	(0.605)
COMPETING_BID	-1.910	-1.875	-1.882
	(-0.904)	(-0.975)	(-0.936)
EQUAL	2.117	7.963**	3.703*
	(1.088)	(2.093)	(1.736)
DEALRATIO	-1.353**	-0.831	-1.397**
	(-2.322)	(-1.133)	(-2.108)
INDMATCH	-1.585**	-1.236*	-1.423*
	(-2.057)	(-1.684)	(-1.779)
DECILE_TTAX	0.348	0.437	0.801
	(1.564)	(1.598)	(1.495)
SALESRATIO			

POS_DIFF	-5.382**	-5.064**	-5.410**
	(-2.336)	(-2.525)	(-2.278)
Intercept	14.93***	12.50***	14.44***
	(3.986)	(3.389)	(3.593)
Adjusted R^2	0.157	0.168	0.183
N	756	756	672

Table 6: Sensitivity Analysis Using Alternative Proxies for Tax Aggressiveness

This table reports regression results of acquirer returns (*ACAR*[2,2]) on tax aggressiveness differences. Calendar year fixed-effects are included. Reported in parentheses are t-statistics computed using heteroskedasticity-consistent standard errors adjusted for acquirer clustering; ***, **, * denote significance levels at 1%, 5% and 10%, respectively.

Tax Aggressiveness Proxy:	*BTD*	*ABTD*	*BTD_FACTOR*	*CashETR*
	(1)	(2)	(3)	(4)
TAXDIFF×POS_DIFF	0.521	2.086	-0.399	-3.917
	(0.467)	(0.358)	(-0.580)	(-1.479)
TAXDIFF×NEG_DIFF	2.870***	10.32**	1.204**	7.845**
	(3.054)	(2.006)	(2.344)	(2.302)
ASIZE	-0.360	-0.347	-0.330	-0.584
	(-1.309)	(-1.228)	(-1.162)	(-1.573)
ATOBINSQ	0.067	-0.020	-0.024	0.061
	(0.640)	(-0.233)	(-0.273)	(0.538)
AROA	-2.266	0.978	0.660	7.910
	(-0.663)	(0.260)	(0.183)	(1.529)
ALEV	4.437**	4.816**	4.658**	3.930
	(2.140)	(2.306)	(2.210)	(1.424)
TSIZE	-0.546*	-0.631**	-0.629**	-0.266
	(-1.921)	(-2.188)	(-2.155)	(-0.831)
TTOBINSQ	-0.376**	-0.360*	-0.355*	-0.428**
	(-2.033)	(-1.878)	(-1.892)	(-2.127)
TROA	-1.173	-2.213	-1.889	1.550
	(-0.407)	(-0.890)	(-0.774)	(0.252)
TLEV	-0.888	-0.869	-0.806	-2.592
	(-0.708)	(-0.699)	(-0.642)	(-1.200)
STOCK	-0.036***	-0.039***	-0.038***	-0.039***
	(-2.837)	(-3.066)	(-3.020)	(-2.915)
TENDER	2.064**	1.956**	2.043**	1.590
	(2.181)	(2.057)	(2.172)	(1.544)
POOLING	1.360	1.602	1.630	1.308
	(0.888)	(1.024)	(1.037)	(0.916)
COMPETING_BID	-2.287	-1.899	-2.052	-0.467
	(-1.072)	(-0.877)	(-0.959)	(-0.275)
EQUAL	7.253**	7.393**	7.425**	4.899
	(2.060)	(2.174)	(2.009)	(1.334)
DEALRATIO	-0.803	-0.805	-0.790	-0.199
	(-1.216)	(-1.184)	(-1.184)	(-0.183)
INDMATCH	-1.296*	-1.419**	-1.344*	-0.985
	(-1.825)	(-2.008)	(-1.884)	(-1.316)
POS_DIFF	-0.240	-1.834**	-0.942	1.438
	(-0.311)	(-2.248)	(-1.209)	(1.377)
Intercept	10.24***	10.85***	9.955***	8.972**
	(3.610)	(3.782)	(3.605)	(2.205)
Adjusted R^2	0.150	0.131	0.129	0.147
N	840	840	840	840

Table 7: The Role of Industry Similarity as a Proxy for Target Personnel Retention

This table reports regression results of acquirer returns (*ACAR*[2,2]) on tax aggressiveness differences. Calendar year fixed-effects are included. The third and fourth regressions report results omitting observations where the target's tax aggressiveness is in the top or bottom decile. Reported in parentheses are t-statistics computed using heteroskedasticity-consistent standard errors adjusted for acquirer clustering; ***, **, * denote significance levels at 1%, 5% and 10%, respectively.

	Similar Industry (1)	Dissimilar Industry (2)	9⩾*DEC_TTAX*⩾2 & Similar Industry (3)
TAXDIFF×POS_DIFF	3.443	2.342	8.685**
	(1.267)	(0.613)	(2.237)
TAXDIFF×NEG_DIFF	58.35**	-8.753	54.41**
	(2.547)	(-0.268)	(1.987)
ASIZE	-0.395	-0.029	-1.222***
	(-1.129)	(-0.056)	(-2.953)
ATOBINSQ	0.104*	-0.430	0.148**
	(1.671)	(-1.297)	(2.158)
AROA	0.086	-5.166	-2.290
	(0.018)	(-1.017)	(-0.354)
ALEV	6.053**	-0.737	5.158**
	(2.362)	(-0.211)	(2.126)
TSIZE	-0.368	-0.854	-0.810
	(-0.922)	(-1.381)	(-1.373)
TTOBINSQ	-0.546**	0.011	-0.405*
	(-2.344)	(0.046)	(-1.733)
TROA	-2.633	2.396	-2.688
	(-0.871)	(0.869)	(-0.740)
TLEV	-1.222	-1.615	0.811
	(-0.824)	(-0.590)	(0.514)
STOCK	-0.045***	-0.023	-0.056***
	(-2.769)	(-1.242)	(-3.184)
TENDER	2.539**	0.410	2.251*
	(2.129)	(0.335)	(1.809)
POOLING	1.781	2.461	1.844
	(0.884)	(1.014)	(0.820)
COMPETING_BID	-3.045	-0.487	-4.071
	(-1.097)	(-0.242)	(-1.540)
EQUAL	7.895	2.389	2.619
	(1.300)	(0.356)	(1.001)
DEALRATIO	-0.692	0.226	-1.183
	(-0.923)	(0.134)	(-1.266)
INDMATCH	-	-	-0.783
	-	-	(-0.742)
DECILE_TTAX	-	-	0.756**
	-	-	(1.974)
POS_DIFF	-5.026**	-1.465	-4.953*
	(-2.205)	(-0.463)	(-1.849)
Intercept	12.03***	5.866	14.44***

	(3.097)	(1.140)	(3.107)
Adjusted R^2	0.192	0.120	0.226
N	569	271	495

Chow test of differences between coefficients on:	Similar versus dissimilar industry mergers	Similar versus dissimilar industry mergers
TAXDIFF×POS_DIFF	Prob > F = 0.389	Prob > F = 0.593
TAXDIFF×NEG_DIFF	Prob > F = 0.008***	Prob > F = 0.016**