How Do Tax and Financial Reporting Policies Affect Cross-Border Mergers and Acquisitions?

By

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required revisions, as accepted by my examiners.

I understand that my thesis may be electronically available to the public.

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Abstract

Using a large sample of mergers and acquisitions from 27 countries over a 16-year period, I investigate how differences in tax and financial reporting policies affect the premium and structure of cross-border mergers and acquisitions. I find evidence that firms pay a premium to reduce the tax risk associated with strict transfer pricing rules. Further analysis segments acquisitions into those that are strictly financial versus those that are more strategic. Financial acquisitions are those where the acquirer is making the purchase for investment purposes rather than strategic reasons. These financial transactions generally lead to less integration between the two companies and therefore less inter-company transactions involving transfer pricing. Evidence based on this segmentation suggests that only differences in transfer pricing risk for non-financial acquisitions are priced. The results suggest that while on average non-financial acquirers will pay a higher premium to *reduce* transfer pricing risk regardless of industry, only those in highly scrutinized industries with high levels of intangibles, such as pharmaceuticals, will demand a discount for transactions which *increase* transfer pricing risk.

In tests of acquisition structure, I find that shareholder-level capital gain taxes influence the structure of an acquisition. The influence of shareholder-level taxes is reduced by the presence of information asymmetry concerning the acquirer's stock value. However, higher quality financial reporting reduces information asymmetry and improves the tax efficiency of acquisition structure providing tangible economic benefit to shareholders.

This is dedicated to Krista and our family; the newest member of whom is arriving any day now. Thanks for waiting these last couple days so I could finish. I am so excited to meet you.

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Chapter 1

Introduction

1.1 Introduction

The value of cross-border mergers and acquisitions (M&A) grew over 700% during the 1990's to a value of $720 billion in 1999 (United Nations, 2000b). Differences in tax and financial reporting policies across countries lead to a number of different opportunities, motivations and risks, yet there have been few empirical studies that have investigated how differing accounting and tax policies across countries affect cross-border M&A decisions. Notable exceptions include Davenport (2002), Cheng, Dunne and Nathan (1997), Collins, Kemsley and Shackelford (1995), Lee and Choi (1992, 1991), and Harris and Ravenscraft (1991).

In this study, I investigate how tax and accounting policies across 27 countries affect the structure and premia of cross-border M&A over a 16-year period. Specifically, I investigate how transfer pricing rules and the associated tax risk affects premia and how shareholder capital gains taxes and the quality of financial reporting affect the structuring of cross-border transactions.

Transfer pricing rules differ in severity across countries and over time. More severe or strict transfer pricing rules increase the risk of double taxation and limit future tax planning opportunities. Examples of more severe rules include the requirement that documentation be prepared contemporaneously to the transaction, requirements that related party transactions be disclosed and limitations on acceptable transfer pricing methods. Transfer pricing audits have proven to be costly for taxpayers, as demonstrated by the settlement of

GlaxoSmithKline's transfer pricing dispute with the IRS for $3.4 billion, the largest audit settlement in IRS history (Associated Press 2006). Because these risks are significant, transfer pricing was identified as the most important tax issue facing multinational entities by tax directors in 2005 Ernst & Young (2005). Although prior studies in the accounting literature have investigated the process of determining an appropriate transfer price by using both theoretical and experimental settings (De Waegenaere et al., 2006; Kachelmeir and Towry, 1997; Luft and Libby, 1996), no prior work has investigated the effect that transfer pricing policies may have on the acquisition decisions of multinationals or their effect on capital market prices using archival methods.

To investigate the role of transfer pricing tax rules on international M&A activities, I collect data on acquisitions over the period 1990 to 2005. These transactions involve acquirers and targets from 27 countries. I develop a measure of transfer pricing strictness using annual data from the *Deloitte Strategic Matrix* and the *Transfer Pricing Guides* of Ernst & Young and KPMG. I use cluster analysis to classify country/year observations as strict or less-strict. I use this measure as my primary measure for testing the hypotheses investigating the effect of transfer pricing risk on premia.

Using these data, results suggest that differences in transfer pricing risk between the target's and the acquirer's countries is priced into merger and acquisition premia. Further analysis segments acquisitions into those that are strictly financial versus those that are more strategic. Financial acquisitions are those where the acquirer is making the purchase for investment purposes rather than strategic reasons. These transactions generally lead to less integration between the two companies and therefore less inter-company transactions

involving transfer pricing.   Evidence based on this segmentation suggests that only differences in transfer pricing risk for non-financial acquisitions are priced.

The effect of differences in transfer pricing risk was also explored for targets with high intellectual property industries from other targets, and between transactions where the target had a higher risk than the acquirer and those where the target had a lower transfer pricing risk than the acquirer. This analysis revealed that, on average, a higher premium is paid when the target is in a lower transfer pricing risk country, relative to acquisitions where the target is in a country with similar transfer pricing risk. There is no evidence of difference based on the target's industry. In contrast, a lower premium is observed for acquisitions that increased risk only for acquisitions in industries with high levels of intellectual property. Supplemental analysis suggests that this result may be restricted to targets where tax authorities have transfer pricing audit focuses on intangible property, such as is the case in the U.S.

Results of additional testing provide no evidence that financial acquisitions, which have lower levels of expected intra-firm transactions and therefore have less susceptibility to potential transfer pricing costs, factor transfer pricing risk into the premiums paid.

In the second half of my study I examine whether shareholder-level capital gains taxes can influence the structuring of a cross-border M&A as a tax-free share-for-share transaction or a taxable cash transaction. I also study the effect of increased information asymmetry in the cross-border setting on the motivation to structure a transaction tax efficiently and the role of high quality financial reporting standards in reducing this information asymmetry.

While there is no archival empirical evidence on the effect of taxes on cross-border M&A, the accounting literature has addressed the influence of shareholder-level taxes on the

structure of domestic mergers or acquisitions as described more fully in Chapter 6. Erickson

(1998), Franks, Harris, and Mayer (1988) and Auerbach and Reishus (1988) find that capital

gains taxes may not have an economically significant influence on the structure of M&A.

However, Ayers, Lefanowitz, and Robinson (2004) provide contrary evidence suggesting that

shareholder-level capital gains taxes do matter in the domestic setting. Ayers et al., measure

the effect of capital gains tax by using tax rate changes over time, rather than estimating a

shareholder's holding period to measure the value of the gain used in prior studies. I extend

this insight of Ayers et al., to the cross-border setting and explore the relation between

shareholder capital gains tax and M&A structure. In the international setting, the tax rate

varies across time and across countries as well.

However, there are additional complexities in the cross-border setting. A theoretical

model of cross-border M&A structure by Brown and Ryngaert (1991) suggests that

information asymmetry related to the value of the acquirer's shares may mitigate the

shareholder tax incentives. Since information asymmetry may differ in the cross-border

setting relative to domestic transactions, it is unclear whether the domestic results of Ayers et

al. (2004) will hold. The model of Bushman and Smith (2001) suggests that financial

reporting can provide economic benefits by reducing information asymmetry amongst

investors. Therefore, higher quality financial reporting standards should reduce information

asymmetry and facilitate more tax-efficient acquisition structures.

To investigate this question, I used a sample of approximately 5,537 M&A

transactions from the SDC Platinum database. I collect the capital gains tax rate for all 27

countries across the 16-year period from the PricewaterhouseCoopers annual Corporate and

Individual Worldwide Summaries. I develop a measure of financial reporting quality by

updating the measure used by Young and Guenther (2003), to reflect the adoption of *International Accounting Standards* by countries over time to create a dynamic measure.

Consistent with Ayers et al. (2004), I find that higher shareholder capital gains rates lead to increased use of tax-free share-for-share exchanges. As predicted by Brown and Ryngaert (1991), I find that information asymmetry mitigates the shareholders' tax incentives. However, higher quality financial reporting standards appear to reduce the information asymmetry and lead to increased tax efficiency.

This study makes several contributions. It provides the first evidence the risk associated with transfer pricing, is priced in certain transactions, and that country's transfer pricing policies affect the acquisition decisions of multinational entities. This may be of interest not only to policy makers that deal directly with transfer pricing policies but also accounting standard setters. In the U.S., the new accounting standard *Financial Interpretation 48* requires an estimate of uncertain tax positions be disclosed. Canadian standard setters are expected to release an exposure draft in 2007 based on *International Accounting Standard 12,* which makes similar recommendations concerning uncertain tax positions. Controversy around the American standard has questioned whether this information will be useful to investors or simply useful to IRS auditors. The evidence of this study suggests that uncertain tax costs can impact business decision makers. The results of the study also provide evidence that suggests that transfer pricing provides economically significant tax planning opportunities as firms are willing to pay a premium to operate in less strict regimes.

Finally, the study provides the first investigation into the effect of shareholder-level taxes on M&A in a cross-border setting and provides new information about the effect of

information asymmetry on tax incentives. This evidence adds to the literature that investigates the trade-offs between tax and non-tax incentives, particularly in the M&A setting. In addition, it provides additional evidence to support and extend the findings of Ayers et al. (2004) that shareholder capital gains rates are economically significant in the U.S. and many other countries around the world. Lastly, it provides evidence of a tangible economic benefit of high quality financial reporting as shareholders are able to reap the benefits of more tax-efficient M&A transactions.

1.2 Dissertation Outline

The remainder of the study is organized as follows: Chapter 2 describes the theoretical framework of Scholes and Wolfson used throughout the study and provides background institutional knowledge concerning tax planning for a merger or acquisition. Chapters 3, 4 and 5 describe the previous literature and hypotheses development, research design and results of tests investigating M&A premia, respectively. Chapters 6, 7, and 8 focus on M&A structure and, respectively, provide the literature review, research design and results of testing. Chapter 9 summarizes the conclusions.

Chapter 2

Tax-Planning Theoretical Framework and Institutional Knowledge

2.1 Introduction

This dissertation focuses on the effect of tax policies on the planning of cross-border mergers and acquisitions. Before I discuss what is in the literature regarding the effect of taxes on domestic mergers and acquisitions, it is important to discuss the framework which is used to analyze effective tax planning strategies. The following sections provides a brief summary of the Scholes-Wolfson framework and how this may guide my investigation into cross-border acquisitions in light of extant research into domestic acquisitions.

2.2 Scholes-Wolfson Framework

The goal of the Scholes-Wolfson framework as stated by the authors is "to provide you with a framework useful for thinking about how taxes affect business activities" (Scholes and Wolfson 2005 at page 1). In this study, the business activities of interest are cross-border mergers and acquisitions. Taxes have the potential to influence many aspects of a cross-border M&A transaction. I focus on two of these aspects: the structure of the compensation and the premia. I use the Scholes-Wolfson framework to analyze extant literature and motivate my hypotheses of how taxes may affect the choice of an acquisition premium and later the choice of compensation structure in chapters 3 and 5, respectively. Therefore, an understanding of the fundamentals of the framework is essential.

Contrary to traditional conceptualizations of to tax planning, the Scholes-Wolfson framework does not focus merely on tax-minimization but instead on the maximization of

after-tax returns or wealth. The authors propose that maximization of after-tax returns is achieved by taking a global planning approach which involves focusing on three key themes:

1. Multilateral approach: All contracting parties must be taken into account in tax planning. This is a global or multilateral, rather than a unilateral, approach
2. Importance of hidden taxes: All taxes must be taken into account. We are interested in a global measure of taxes not simply explicit taxes.
3. Importance of non-tax costs: All costs of business must be considered, not just tax costs.

(Scholes and Wolfson 2005 at page 3)

2.3 All Parties

To implement an effective tax strategy, it is important to consider all parties to a transaction. In the M&A setting this principle can be illustrated by the decision to make an election under the U.S. Internal Revenue Code section 338(h) (10).

Generally, if a bidder purchases a target's shares, the asset values recorded within the target company are carried over unchanged. The excess of the payment over the book value is ignored for tax purposes until the shares are ultimately sold agian. However, if a bidder instead purchases each asset of the target, rather than the target's shares, the bidder records the assets at the purchased value including goodwill. The increased asset value then leads to increased tax deductions as the asset is depreciated. Therefore, there is an incentive for a purchaser to prefer a purchase of assets to a purchase of shares. A section 338(h) (10) election allows the bidder who purchased *the shares* of a corporation to treat the transaction as a *purchase of assets* and therefore receive the tax benefits of increased tax deductions from the amortization of assets recorded at higher costs. However, the election must be made jointly by both the purchaser and the seller. This election often leads to the target shareholders paying more tax because corporate tax must be paid on any gain on the "deemed" sale of assets, and personal tax must then be paid on the distribution of gains from

the corporation to the individual shareholder. Alternatively, if the transaction was structured as a sale of shares, there may have been the potential to avoid the capital gains tax altogether. In the end, the tax minimization strategy for the acquirer may be to make the election while the seller's minimization strategy may be the opposite. In order to reach an effective strategy the parties ideally consider both of their situations, and elect the provision which, doing so, leaves the two parties better-off.

It is important to appreciate that strategies which are effective between two domestic parties may not be effective for two parties transacting across borders. The cross-border M&A setting differs substantially from the domestic setting in regards to the three essential elements of the Scholes-Wolfson theoretical tax framework. Unlike a domestic setting, there is a different regulatory regime to consider for each party in a cross-border transaction. This means that each party faces not only different tax policies, but also different security and legal regulations. This leads to less homogeneity between parties and makes it very important to consider the other party's situation. Although, these differences can lead to additional issues, they can also lead to opportunities. For example, when trying to structure a share-for-share exchange to qualify for tax-free status, some countries demand that the compensation be as high as a 90% in the form of shares in order to qualify for the tax-free status. An acquirer from a country with a 90% threshold who prefers to only pay 50% of the compensation in shares would have to compensate the shareholders of a domestic target since the entire transaction would be taxable. Alternatively, some countries provide a tax break proportional to the percentage of share compensation received, in this situation the transaction would only trigger half as much capital gains tax and would allow the acquirer to use the 50% compensation structure they preferred. Since less tax is paid on this transaction, it likely leads

to a higher combined return for the acquirer and seller. In summary, due to the heterogeneity in the tax regimes faced by parties in cross-border M&A, strategies which are optimal in a domestic setting may not continue to be optimal in a cross-border setting.

2.4 All Taxes

When developing an effective tax plan it is also important to consider the effect of all taxes. As the Section 338 (h)(10) example illustrates, a strategy to simply minimize the taxes that arise on the transaction, such as capital gains taxes, without consideration of future income tax consequences will lead to a decision to simply purchase the shares and not make the election.

However, this may not maximize the after-tax return for both parties and therefore may not be an effective strategy. For example, if in the above illustration the seller had unused capital losses to offset the gains on a sale of assets, making the election would create future income tax savings for the acquirer and would not trigger any additional tax payable by the seller. In this case making the election and considering all taxes would result in an increase to the combined return of the seller and acquirer. How this increase in the return is divided between the two parties would be determined through negotiations. However, the election is a pareto improvement that may not have occurred if both parties had simply focused on minimizing transaction taxes alone without consideration of future tax consequences.

The consideration of all taxes is especially important in the cross-border setting where additional taxes such as withholding taxes may arise. Therefore, the influence of certain taxes may vary between the domestic and cross border setting. Like domestic acquisitions, where extant research has investigated transactional taxes international M&A tax planning requires

parties to consider of the taxes on acquisition; however, they must also consider the future taxes on operations and the risks associated with those taxes, in the different regime. One of the most recognized and substantial tax risks associated with doing business across borders is risks associated with transfer pricing. This risk almost never arises in a domestic acquisition.

2.4.1 Transfer Pricing

Transfer pricing is the process of pricing a good or service that is transferred within a corporate entity. This price can serve many management accounting purposes relating to sub-entity performance and contracting (Luft and Libby, 1996; Kachelmeir and Towry, 1997). It can also have a substantial effect on the tax liability of the firm, when the two entities are in different jurisdictions. In particular, the price can influence in which jurisdiction income is earned and therefore taxed. Appendix A illustrates how the choice of an intra-company transfer price can significantly affect tax liabilities.

Although there are some mixed results, prior studies have found evidence that multinational entities use transfer pricing as a tax planning method. (Bartelsman and Beetsma, 2000; Jacob, 1996; Collins, Kemsley and Shackelford, 1997) These studies will be discussed in more detail in Chapter 3. Overall this empirical evidence, together with anecdotal evidence, suggests that corporations are using transfer pricing as an effective tax planning tool; however, jurisdictions vary considerably on their enforcement of transfer pricing principles. Therefore, the ability to use favorable transfer pricing practices may be an additional factor that is important in a cross-border acquisition.

2.42 Transfer Pricing Risk

Transfer pricing risk is the risk that a transfer pricing position taken by the company will be overturned by one of the tax authorities resulting in additional tax payable. Transfer pricing

risk arises because rules differ across countries, leading to the potential for double taxation. A price regarded as acceptable in one jurisdiction may be disallowed and reassessed in the other. In order to determine an appropriate price for an intra-company transaction, the company must attempt to find price data for a transaction that is economically equivalent in the external market. For complex transactions, an externally comparable transaction may be difficult to find or data may not be available publicly. In these cases, determining a price often relies on judgment. If the transaction is audited, the tax authority may arrive at a different conclusion of the appropriate price by relying on different assumptions and in some cases using proprietary data not available to the taxpayer. If this is the case, a reassessment will be issued based on the government-determined price. However, since the tax authority in the secondary country to the transaction is not bound to recognize the new price and make the appropriate adjustment, their assessment often remains at the original price, resulting in double taxation.[1]

In summary, effective tax planning in a cross-border setting requires attention to not only different types of taxes on the transaction but also future tax consequences of international operations.

2.5 All Costs

The final theme of the Scholes-Wolfson framework is to consider all non-tax costs in the evaluation of strategies. Of the three factors, this is likely the most neglected by traditional tax planning strategies. Focusing solely on the minimization of tax costs can lead to sub-optimal decisions where the non-tax costs that arise outweigh the planned tax benefits. Therefore, it is important to consider the pertinent non-tax costs in the decision. Subsequent chapters consider the decision of whether a company should pay for an acquisition with

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[1] See illustration in Appendix A

shares or non-share consideration. Chapters 5 and 6 investigate the use of share-compensation as the target shareholder may prefer to receive shares in order to avoid triggering capital gains tax on the sale. An alternative is to consider the acquirers perspective. If the acquirer chooses to borrow and then pay cash, they will receive the tax advantage from the deductible interest on the new debt. However, this tax benefit must be weighed against potentially substantial non-tax costs: potential bankruptcy costs, or increased financing costs due to the increased risk of default. Therefore, simply minimizing tax without consideration of the non-tax factors may result in ineffective strategies

2.6 Chapter Summary

By focusing on after-tax returns rather than simply tax minimization, Scholes and Wolfson provide a valuable framework for analyzing the effect taxes may have on business decisions. Under the Scholes-Wolfson approach, creating an effective tax plan for any business decision involves considering all parties, considering all taxes and considering all costs. When considering M&A decisions these three factors vary greatly between domestic and cross-border settings, resulting in different tax planning strategies and opportunities. One of the most notable tax issues that only arises in a cross-border setting is transfer pricing. Transfer pricing can provide tax planning opportunities as well as risks. When considering all of the tax and non-tax opportunities and risks, the two parties in the acquisition are expected to negotiate a structure and premia that maximizes their after-tax returns. The following chapter will review the literature and develop the hypothesis for how taxes affect cross-border M&A premia.

Chapter 3

The Effect of Taxes on Cross-Border Merger and Acquisition Premia: Literature Review and Hypothesis Development

3.1 Introduction

This chapter applies the Scholes-Wolfson framework described in Chapter 2 to premia paid

on cross-border mergers and acquisitions (M&A). Section 3.2 discusses literature

investigating the effect of taxes on domestic M&A premia. Section 3.3 discusses extant

literature that has documented differences in domestic and cross-border premia. Section 3.4

discusses literature investigating the use of transfer pricing for tax planning, and Section 3.5

describes the model of transfer pricing risk and develops the hypotheses. Section 3.6

summarizes the chapter.

Before presenting extant literature on the effect of taxes on mergers and acquisitions, I

consider why tax planning may be of interest. One objective of accounting research is to

understand how information reporting relationships affects business decisions. Many of the

business decisions of interest to accounting researchers have tax implications tied to them.

The taxes that arise from corporate activities can be significant. In 2005, U.S. Federal tax

revenues from corporate income tax were greater than $300 Billion or 2.7% of GDP (IRS

2006). It is therefore not surprising that with so much at stake corporations are willing to pay

professionals to address tax implications. Slemrod and Blumenthal (1993) report that in 1991,

1329 companies in the Internal Revenue Service's Coordinated Examination Program spent

approximately $1.4 Billion on federal tax-related services. Additionally, Mills, Erickson and

Maydew (1998) find evidence that there is considerable value to tax-planning services as they

estimate that large corporations save, on average $4 for every $1 of tax services purchased.

Because efficient tax-planning can lead to significant savings for corporations, when trying to reach a greater insight into business decisions it is important to consider what role tax-planning may be playing in these decisions.

Section 3.2 The Effect of Taxes on Domestic Mergers and Acquisitions

A number of previous studies have investigated whether taxes play a role in determining the purchase price in domestic M&A. Using the Scholes-Wolfson framework, Erickson and Wang (2000), investigate how tax trade-offs between negotiating parties may be resolved through the premia paid. Erickson and Wang (2000) find some evidence that purchasers pay a premium for tax benefits associated with a IRC section 338(h) (10) election. This election, as discussed in detail in Chapter 2, requires both the seller and the buyer to agree to jointly file an election so the buyer can receive a tax benefit from writing up the assets of the purchased subsidiary. Using a sample of 200 subsidiary acquisitions, Erickson and Wang (2000) find that the election is correlated with an increase in premium, therefore implying that purchasers may be willing to pay for the beneficial tax treatment.

Other studies have found evidence that the seller's taxes are also considered into the premia. Using a sample of 74 hospital sales, Dhaliwal et al.. (2004) find evidence that acquisitions where the seller is tax-exempt have lower premia than those where the seller is fully taxable, providing evidence that the seller's tax status influences to the price.

Finally, Ayers et al.. (2003) investigate a more general setting to investigate whether shareholder level capital gains tax affects premia by looking at inter-temporal differences in the capital gains tax rate over a 25 year period. The authors investigate the effect of target shareholder's tax status on a sample of 935 corporate acquisitions between 1975 and 2000. The authors show a positive correlation between acquisition premia and multiple measures of

target shareholder capital gains tax rate. They are also able to show that this effect is mitigated by tax-free institutional owners, providing further validity to their findings. Together these studies provide significant evidence that taxes of both the buyer and the seller are factors in determining the purchase price in domestic M&A.

Section 3.3 Comparing Premia in Cross-border and Domestic Mergers and Acquisitions

There is considerable debate whether premia differ between domestic transactions and cross-border transactions. Harris and Ravenscraft (1991) investigate wealth gains of shareholders who sold 1273 U.S. firms between 1970 and 1987 to either domestic or foreign acquirers. The sample of foreign acquirers were from a number of countries; however, the United Kingdom and Canada made up a significant portion of the foreign acquirers, comprising 38% and 21% of their sample, respectively. The authors find that shareholders of targets purchased by foreign purchasers have significantly higher gains than those of domestic purchasers, implying that cross-border transactions have higher premia. Kang (1993) finds similar results looking specifically at Japanese bidders and U.S. targets. However, Dewenter (1995) investigates the results of Harris and Ravenscraft (1991) and Kang (1993) further and finds conflicting results. Dewenter speculates that the results from previous studies may have been confounded by comparisons across industries so she investigates the difference in cross-border and domestic premia and finds no difference when comparing acquisitions within two industries. Though Dewenter's results bring into question previous findings by looking at acquisitions in specific industries, her evidence is limited to the retail and chemicals industries.

Scholes and Wolfson (1990) supply a potential explanation for the difference in bid price between foreign and domestic bidders. Drawing on their framework, they investigate whether the documented difference could be explained by considering all taxes. Using the setting of the *Tax Reform Act* of 1986 (TRA 86), Scholes and Wolfson argue that the legislation increased explicit taxes while decreasing implicit taxes resulting in no difference in the market for domestic investors but providing a benefit to foreign investors.[2] Foreign bidders are made better off because they receive foreign tax credits for explicit taxes but receive no credit for implicit taxes. The authors then show some evidence of increased foreign investment into the U.S. post TRA 86 by looking at the volume and value of domestic and foreign acquisitions for the 4 quarters before and after TRA 86. However, Kang (1993), Collins, Kemsley and Shackelford (1995), and Dewenter (1995), all test this prediction and fail to find the predicted result, while others such as Swenson (1994) finds support for Scholes and Wolfson. Therefore, whether cross-border transaction premia differ from domestic transaction premia, and the role of taxes in these differences remains an open empirical question.

Section 3.4 Transfer Pricing Literature

Another potential difference between the domestic and cross-border setting is that unlike domestic acquisitions where extant research has investigated transactional taxes, tax planning for international M&A requires the consideration of the taxes on acquisition and future taxes on cross-border operations. Also important are differences in risk associated with those structures.

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[2] Explicit taxes are tax dollars paid directly to taxing authorities. Implicit taxes are those paid in the form of lower before-tax rates of return on tax-favoured investments [as defined in Scholes, Wolfson et al. (2005)].

Risks attributable to tax uncertainty in post-acquisition operations can be substantial and are often attributed to transfer pricing, as evidenced by the GlaxoSmithKline case (described previously). Other recent examples of significant reassessments resulting from transfer pricing audits include Symantec Corporation that received a $1 Billion tax reassessment from the IRS relating to a disagreement over transfer pricing between the company and it's recently acquired Irish subsidiary, Veritas Software Corp; and Synopsis Inc., who owed nearly $500 million in 2005 (*Wall Street Journal* 2005, Boesenkool, 2006). The U.S. is not the only country enforcing their multinational tax laws. In 1996, several notable companies including Coca-Cola, Goodyear, and Proctor & Gamble, received tax assessments from Japan totaling $496 million (Steiner, 1996).

This anecdotal evidence suggests that corporations were using transfer pricing as a tool for reducing tax. Several academic studies also find evidence of an association between tax planning and transfer pricing. Jacob (1996) extends Harris (1993) to consider whether intra-company transfers play a role in minimizing the global tax rate of multinational corporations. Jacob looks at a sample of 206 firms between 1982 and 1984 and 289 firms in 1988 to 1990. He collected data on intra-firm transactions from the annual statements and considers whether firms with more intra-firm transactions have lower global tax rates. The results are consistent with Jacob's hypothesis and suggest that transfer pricing can be used as an effective tax planning strategy. Looking at the response of corporate tax revenue to tax changes, Bartelsman and Beetsma (2000) find further evidence consistent with tax planning through transfer pricing. Specifically, they find that increases in the tax rate appear to be related to decreases in reported revenue. Grubert et al.. (1993) document evidence that

foreign controlled U.S. corporations have a persistent taxable income around zero. The authors interpret this as evidence of the use of transfer pricing for tax planning.

Collins, Kemsley and Shackelford (1997) build on this study by investigating whether it is transfer pricing on inventories that is responsible for the documented effect of Grubert et al.. (1993). The authors look specifically at the wholesale trade industry between 1981 and 1990 using tax return data from the IRS. The authors hypothesize that if firms are manipulating sales to foreign affiliates to reduce profits then these firms should have a weaker relation between sales and gross profits. The authors' dependent variable is the change in gross profits over the change in sales. Their main independent variable of interest is the absolute value of taxable income interacted with a dummy variable indicating foreign controlled firms. The authors predict that if foreign firms are using transfer pricing to manipulate taxable income reported, the relation between taxable income and the dependent measure will differ between foreign and domestically controlled firms. The coefficient on the interaction described above is insignificant indicating that foreign controlled companies are manipulating their taxable income no different than domestic companies. In additional tests, the authors find evidence suggesting a systematic difference between foreign controlled and domestic firms but one that can not be explained by their measure of transfer pricing. Although there appears to be some mixed results, evidence from both anecdotal and prior academic literature appears to suggest that transfer pricing has been used as an effective tax planning tool.

As governments have become concerned about multinational entities' use of transfer pricing to avoid paying taxes, countries have begun to implement and enforce a wide array of transfer pricing rules. Significant focus on transfer pricing by governments began in the mid-

1990's when the United States enacted a new set of stricter transfer pricing laws and the OECD issued guidelines on transfer pricing. Over the following decade, countries around the world began to enact their own version of transfer pricing laws. As Chapter 2 explained, the variance in transfer pricing laws has lead to a number of tax risks and opportunities for international business. A recent survey by PricewaterhouseCoopers in the U.K. found that 78% of respondents felt that corporate tax risk has gone up (*International Tax Review*, 2006). However, the growing importance of tax risk appears to be new to most corporations' senior managers. A survey by Deloitte in 2003, found that only 50% of tax directors from the UK's FTSE 350 felt that senior management took a high level of interest in tax. By 2005, this number swelled to 74% (*International Tax Review*, 2005). Similarly, Ernst & Young's annual *Global Transfer Pricing Survey* found that in 2000 only 43% of tax departments were involved in the beginning/planning phases of business change projects and 9% of tax departments were not involved in the process at all. By 2005, 68% of multinationals surveyed involved their tax department in the beginning/planning phases of business change projects and only 5% excluded the tax department from business change activities.[3] The growing awareness of these tax-related risk can also be evidenced by the growing supply for insurance products against tax risks (Logue, 2005). While tax risk has risen in importance during the past two decades, whether that awareness has altered M&A activities or premia is an unanswered question.

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[3] Ernst & Young has conducted a global survey on transfer pricing every second year beginning in 1997. They performed independent interviews with 348 parent companies and 128 subsidiaries in 22 countries in the 2005 survey.

Section 3.5 Model of Expected Transfer Pricing Cost and Hypothesis development

To investigate whether transfer pricing risk affects cross-border M&A premia, I begin by modelling expected transfer pricing cost. The expected transfer pricing cost provides us with a more tangible way to think about transfer pricing risk by estimating an amount of tax payable at risk due to transfer pricing. Expected transfer pricing cost is calculated as follows:

$$TP = A \times Pr(D) \qquad\qquad (1)$$

TP is the expected transfer pricing cost and is the product of, A, the amount potentially subject to reassessment by a government tax authority and Pr(D), the probability of the difference being detected. The probability of the difference being detected is directly related to the transfer pricing regimes of the countries involved in the transaction. Operating in countries with a significant focus on transfer pricing increases the scrutiny of transfer pricing practises, and therefore, increases the probability of detection of any transfer pricing differences.

A is a function of the value of the pricing difference on the transaction, the difference allowance, the volume of transactions, the corporate tax rate and any penalties applicable on reassessment. Both the size of the pricing difference and the number of intra-company transactions influence the amount at risk. Also the company must consider the penalties charged on transfer pricing differences which are specific to each country. In my sample, described in Chapter 4, the penalties ranged from no penalties in Ireland up to 400% and potential jail time in Singapore. (Deloitte 2006)

The pricing difference can be decomposed into intentional differences and unintentional differences. These differences arise when the company's choice of a transfer

price varies from the government's opinion of the "true" transfer price.[4] Intentional

differences may occur when a company chooses a price different from the "true" transfer

price as part of its tax planning strategy. This is the type of difference which governments are

looking to detect. However, unintentional differences are also common and occur when the

government's opinion of what the true arms length price is differs from the company's best

estimate of a true price. Because the government does not distinguish between intentional and

unintentional differences, unintentional differences are susceptible to the same penalties and

tax restatements. Lastly, when assessing the appropriateness of a transfer price governments

may come up with a range within which they deem a price to be acceptable. This range is

also affected by the strictness of the country's transfer pricing regime. For example, there are

six main methods for calculating transfer prices.[5] Countries that have stricter rules often

specify the use of a certain pricing method in certain circumstances. This would result in a

much smaller range of appropriate prices than that of countries that allow the taxpayer to

choose any of the four methods at any time.

Equations (2) and (3) summarize the determination of the amount at risk and the

pricing difference. Note that because governments are very unlikely to enforce a reassessment

that would decrease the company's tax payable and result in a refund, two formulas are

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[4] Anecdotal evidence suggests that when governments perform a transfer pricing audit they come to a determination of the appropriate transfer price. They often arrive at this number by using proprietary data from tax returns of similar business transactions that are not available to the taxpayer.(KPMG 2005). If the taxpayer disagrees with the governments stance they may appeal. However, in Canada, appeals have proven to be costly, time consuming, and generally unsuccessful. It should also be noted that the decision of an appropriate transfer price has no bearing on the other country involved because the decisions of one government are not binding to the other government, even if treaties exist. Taxpayers may enter the competent authority, where representatives of the two governments involved attempt to negotiate a mutually acceptable price to avoid double taxation. However, it should be noted that the decision of the competent authority is also not binding.
[5] The six standard methods are comparable uncontrolled price (CUP), cost plus method, resale price method, transactional net margin method, residual profit spit and comparable profit method.

needed for whether the price being assessed is for a good or service coming into the country

or leaving out of the country.

$$A = ((E \times N) \times t_c) + H \tag{2}$$

$$E = e_i + e_u = \begin{cases} If \; in & \max \; \left[P_c - P_g^{max}, 0 \right] \\ If \; out & \max \; \left[P_g^{min} - P_c, 0 \right] \end{cases} \tag{3}$$

Substituting equation (2) and equation (3) into equation (1) we get a full model of transfer pricing risk as follows:

$$TP = [N \times (e_i + e_u)] \times t_c + H] \times Pr(D) \tag{4}$$

Where

TP	= the value of transfer pricing risk
A	= the potential amount at risk
Pr(D)	= the probability of detection
E	= the amount of the pricing difference
N	= the number of transactions
t_c	= the corporate tax rate
H	= the penalty applicable on the difference
e_i	= the intentional transfer pricing difference
e_u	= the unintentional transfer pricing difference
Pc	= the transfer price chosen by the company
P_g^{max}	= the expected maximum acceptable price to the government
P_g^{min}	= the expected minimum acceptable price to the government

As mentioned previously, countries vary in the severity of their transfer pricing laws.

As international competition for tax dollars increases, transfer pricing audits are becoming

routine as many countries become more focused on transfer pricing and adopt stricter rules.

Sixty three percent of the respondents to the Ernst &Young 2005 survey report having

undergone a transfer pricing audit during 2002-2005. More surprising is that 40% of those

audits have resulted in adjustments by the tax authority (Ernst & Young, 2005b). At the other

extreme, five of the 27 countries in my sample have yet to enact any specific rules with regard

to transfer pricing.

Governments that focus on transfer pricing often increase audit rates leading to an increase in the probability of detecting transfer pricing differences. They also may increase the amount at risk through stiffer penalties. Strict transfer pricing rules may also lead to other tax and non-tax costs associated with being audited including loss of public image, and limited tax planning opportunities, all of which increase a company's overall tax liability. Acquiring a company in a stricter transfer pricing country therefore increases the transfer pricing risk and limits the tax planning opportunities by increasing the probability of detection. Alternatively, acquiring a company in a less strict transfer pricing country could decrease the probability of detection and subsequent transfer pricing risk and may lead to increased tax planning opportunities. As cases such as GlaxoSmith Kline and Symantec have shown these risks to be significant, the acquisition price should be affected. Therefore, I hypothesize

H1: **The size of premia to mergers and acquisitions is negatively correlated with the difference in transfer pricing risk between the target's country and acquirer's country.**

Equation (4) shows that transfer pricing risk is increasing in N, the number of cross-border intra-company transactions. A higher volume of transactions may also increase your chances of audit as governments having limited resources target firms with the largest potential amount at risk. Strategic acquisitions generally result in the acquired firm becoming an integrated part of the operating company which leads to an increased number of transactions between the newly acquired firm and the parent entity. Alternatively, financial acquisitions generally result in few intra-company transactions as the acquisition is generally

for investment purposes. Therefore, due to a lower amount of intra-company transactions I predict

H2: **The effect of the difference in transfer pricing risk on the acquisition premia will be smaller for financial acquisitions than strategic acquisitions.**

One of the difficulties faced by practitioners when developing a transfer price is finding an external comparable. Charges for goods and services related to intellectual property may be difficult to price if there is not an observable and economically similar transaction in the market. Therefore, even if the company does not try to manipulate the price, the tax authority and the taxpayer may come to different conclusions on the price. This unintentional difference can be a source of large adjustments. Because there is judgment involved and a potential for manipulation, these transactions have become a target for many tax authorities around the world. Research-intensive and profitable industries such as the pharmaceutical industry have been explicitly targeted by some tax authorities (Ernst & Young, 2006). Therefore, due to the increase in unintentional differences related to the complexity of transactions I predict

H3: **The effect of the difference in transfer pricing risk on premia will be larger for acquisitions of firms with high levels of intellectual property.**

3.6 Chapter Summary

Extant literature has shown that taxes affect the premia paid in domestic mergers and acquisitions. The Scholes-Wolfson framework suggests that the effect of taxes on premia may be different in a cross-border setting due to a different set of taxes and costs facing the parties. Consistent with this perspective, several studies document a difference between cross-border and domestic premia. There is some evidence that considering explicit and

implicit taxes may partially explain this difference. Finally, there is evidence that transfer

pricing is an important tax planning tool in the cross-border setting. However, transfer prices

have significant opportunities and risks in this context depending how active the country's tax

authorities are. Due to these significant opportunities and risks, I hypothesize that the relation

between differences in transfer pricing risk and transaction premia is negative. Transfer

pricing risk will have a larger effect on premia for firms that face higher risks due to

unintentional differences in calculating transfer prices such as firms with high intellectual

property. Alternatively, transfer pricing risk will have a smaller effect on premia for firms

that have a lower exposure to the risk such as firms acquired for non-strategic reasons.

Chapter 4

Research Design: Merger and Acquisition Premia Tests

Section 4.1 Introduction

This chapter describes the research design and sample used to test the hypotheses developed in Chapter Three concerning the effect of taxes on merger and acquisition premia. Section 4.2 describes the research design. Section 4.3 describes the sample used to test the hypotheses and Section 4.4 summarizes the chapter.

Section 4.2 Research Design

My research design is based on the work of Ayers et al. (2003) who investigate the effect of shareholder taxes on mergers and acquisitions (M&A) premia as described in Chapter Three, and on the work of Rossi and Volpin (2004) who investigate the effect of shareholder protection on the structure and premia of cross-border M&A.

One of the challenges of analyzing the effect of taxation on these aspects of M&A transactions is controlling for many non-tax factors that could be important. The design used by Rossi and Volpin (2004) incorporates many non-tax factors important to the cross-border M&A setting. The authors' main research question involves investigating the effect of government policies that protect shareholder's rights on cross-border M&A transactions. So although they do not consider tax issues, their design is easily adapted and many of the variables are relevant to my research question.

Rossi and Volpin (2004) use several proxies for their main variable, shareholder protection. Their main measure is an index based on La Porta et al. (1998) that combines an index of the quality of law enforcement and an index of the rights of shareholders with respect to management. Alternatively, the authors also employ an index of accounting standard's

quality based on CIFAR ratings and a dummy variable for common-law countries. The

authors test the relation between their main measure and potential differences in cross-border

M&A: Volume of M&A for the target country, number of hostile bids, pair-wise volume tests

between specific countries, M&A premia, and M&A structure. To test their hypotheses, the

authors use a sample of 45,686 deals from 49 countries taken from the SDC database. The

M&A transactions occurred between 1990 and 1999. The specific number of transactions and

countries varies across tests due to data availability. For example, the premia and structure

tests that are most similar to my study use 35 countries and had 4,007 observations. The

authors find that increased shareholder protection results in a higher volume of M&A

transactions, more hostile bids, larger premia and a higher frequency of share-for-share

transactions.

I adopt the M&A premia and structure models used by Rossi and Volpin. For the

model in this chapter testing M&A premia the model in Chapter Seven testing M&A

structure, I include all variables that were significant in Rossi and Volpin's results. I extend

the models used by Rossi and Volpin (2004) to incorporate the tax and accounting factors of

interest to this study and to recognize additional variables identified in other research in

accounting and finance, specifically Ayers at al (2003).

This results in the following models that are used to test the effect of transfer pricing risk on acquisition premia:

$$\text{Log}(\text{Prem}_i) = \beta_0 + \beta_1 \Delta TP_{t-a} + \beta_2 \text{Fin}_a + \beta_3 IP_t + \beta X + \varepsilon \qquad (1)$$

$$\text{Log}(\text{Prem}_i) = \beta_0 + \beta_1 \Delta TP_{t-a} + \beta_2 \text{Fin}_a + \beta_3 IP_t + \beta_4 \text{Fin}_a \times \Delta TP_{t-a} + \beta_5 IP_t \times \Delta TP_{t-a} + \beta X + \varepsilon \qquad (2)$$

where:

Prem_i = The acquisition premia for a transaction, calculated as percentage increase in the initial bid price over the target's closing price four weeks before the announcement of the deal. (Rossi and Volpin, 2004)

ΔTP_{t-a} = The difference in transfer pricing risk calculated as the target's transfer pricing strictness minus the acquirer's transfer pricing strictness. Transfer pricing strictness is an indicator variable equal to 1 if the country is classified as strict; 0 otherwise.

Fin_a = An indicator variable equal to 1 if the acquisition is a financial acquisition; 0 otherwise. This measure is taken from the SDC Platinum database, which defines a financial acquisition as a transaction where a financial institution acquires a non-financial firm.

IP_t = An indicator variable equal to 1 if the target is in an industry with a high level of intellectual property that is, if its primary activities are within the US Census Bureau's Advanced Technology Classification System; 0 otherwise.

X = A vector of control variables including:

Shareholder Protection$_a$ = A measure of shareholder protection developed by Rossi and Volpin (2004).

Size$_t$ = Log of the target's market capitalization 4 weeks prior to bid (Rossi and Volpin, 2004).

Hostile$_i$ = An indicator variable equal to one if the target's management opposed the bid; 0 otherwise. This measure was found to be significant in both Ayers at al (2003), and Rossi and Volpin (2004).

Tender offer$_i$ = An indicator variable equal to one if the offer was a tender offer; 0 otherwise (Rossi and Volpin 2004).

Mandatory bid$_i$= An indicator variable equal to one if the target country requires a tender offer to protect minority investors after the acquirer acquires a certain percentage; 0 otherwise (Rossi and Volpin, 2004).

Toe-hold$_a$= The percentage of ownership the bidder held in the target prior to the announcement of the bid (Ayers et al., 2003; Rossi and Volpin, 2004).

ROA$_t$ = The ratio of the target's earnings to total assets.

Competing bid$_i$ = An indicator variable equal to one if there was a competing bid; 0 otherwise. (Ayers et al. 2003).

US$_t$ = An indicator variable equal to one if the target is a U.S. firm; 0 otherwise (Rossi and Volpin, 2004). This is to control for the large proportion of U.S. firms in my sample.

UK$_t$ = An indicator variable equal to one if the target is a UK firm; 0 otherwise (Rossi and Volpin, 2004). This is to control for the large proportion of UK firms in my sample.

The dependent variable is the natural log of the bid premia calculated as the difference in the initial bid price and the target's share price four week weeks prior to the bid divided by the price four weeks prior. The measure is taken from the SDC database. Consistent with the previous work of Rossi and Volpin, I take the natural log as the variable despite being a percent has a skewed distribution with some large outliers. In supplemental analysis, I test the model using an unlogged measure of premia. [6]

I developed an indicator of transfer pricing strictness by performing a k-median cluster analysis using 16 year-specific traits of the country's transfer pricing regime. The k-median analysis partitions the data into k non-overlapping groups based on the factors of interest.[7] The groups are formed through an iterative process where an observation is assigned to the group whose mean is closest to its own. New group medians are then calculated and the process continues until finally no observations switch groups. To determine the appropriate

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[6] To correct for outliers, the unlogged premia is windsorized at 1%.
[7] A k-means method was also applied as a specification check and produced identical results with the exception of France and Austria.

number of groups within the data, I calculated the Calinski & Harabasz pseudo F for one to five groups. The pseudo F for the groupings peaked at two clusters using for both the k-median and k-mean analysis, indicating that there are two identifiable groups in the data. The result is a variable taking a value of 1 if the country is identified in the strict transfer pricing group and 0 otherwise.

Table 1 summarizes the results by country for select years over the sample period. The traits of the transfer pricing regime used to calculate the measure are described in Appendix B. I collected 14 of the traits from the Deloitte Strategy Matrix for Global Transfer Pricing from 2000-2006. This allowed me to compute the measures for each country each year during this period to reflect any changes. For years prior to 1999, I used the values as of 1999 for any year in which the country had transfer pricing rules in place. If the country did not have transfer pricing rules in place, the values for that year were put to zero. Table 1 summarizes the effective dates for each country's transfer pricing rules. The remaining two traits were the assessment of the risk of being audited for transfer pricing from the Ernst and Young Transfer Pricing Guide 2005 and the assessment of risk of transfer pricing penalty from the KPMG Transfer Pricing Guide 2006. Since these measures were not available across the sample period, I used the one-time values for all years in which a country had transfer pricing rules in place. As well as the primary measure, I developed 6 alternative measures to use as specification checks. These measures are also outlined in Appendix B. H1 predicts a negative coefficient on the difference between the transfer pricing classification for the target's country and the acquirer's country.

The identification of the acquisition as a financial acquisition was taken from the SDC Platinum database. SDC determines an acquisition to be a financial acquisition if the acquirer

is a financial institution or investment company who acquires at least 50% of a firm that is not a bank, financial institution or investment company. This is a crude proxy for the expected volume of intra-company transfers between the acquirer and the target. Equation (3) interacts financial acquisition with the transfer pricing risk measure. H2 predicts there is less transfer pricing risk for these transactions due to a lower volume of intra-company transactions. Therefore, a positive coefficient on the interaction is predicted to offset the negative effect of the increase in transfer pricing risk; that is, expected to be less discount in the purchase premia due to transfer pricing risk for financial transactions.

A firm is identified as a high intellectual property firm if its primary activities are classified within the US Census Bureau's advanced technology product classification system. H3 predicts higher risk for these transactions due to the increased complexity of intra-company transactions. Equation (4) interacts the high intellectual property variable with the transfer pricing risk measure. H3 predicts a negative coefficient on the interaction indicating that the effect of increased risk on premia, predicted as a negative coefficient, is stronger for these transactions.

Due to the complexity of issues that have the potential to affect a cross-border M&A, control variables are required to isolate the effect of hypothetical relations. To control for the general effect of a country's legal state and protection of shareholders, I include shareholder protection, calculated as the difference in shareholder protection between the two countries. Rossi and Volpin (2004) find this measure to be positively correlated with premia of cross-border M&A. The measure is based on La Porta et al. (1998), that combines an index of the quality of law and an index of law enforcement. Size is included, consistent with Rossi and Volpin (2004), to control for differences that the size of the target has on acquisition premia.

Rossi and Volpin find size to be negatively related to premia. *Hostile bid* identifies

transactions where the target's management opposed the bid. Both Ayers et al. (2003) and

Rossi and Volpin (2004) find hostile bids generally require higher premia. *Tender offer*

identifies transactions where a tender offer was made. Tender offers are generally associated

with higher premia (Rossi and Volpin, 2004).

      Competing bid identifies transactions where there was competition for the target. As

would be expected, an increase in demand due to a competing bid has been shown to have a

positive effect on premia (Ayers et al. 2003; Rossi and Volpin 2004). Toe-hold is the

percentage of the target owned by the acquirer prior to the bid. Ayers et al. (2003) find it

negatively related to premia.   Data for size, hostile bid, tender offer, competing bid, and toe-

hold, were all extracted from the SDC database. *Mandatory bid* is equal to 1 if in 1995 the

country had a threshold that required the acquirer to make a mandatory tender offer to

minority shareholders. Rossi and Volpin (2004) find that a legislated tender offer results in a

lower premia being paid. I used the target ROA to control for the target's performance prior

to the acquisition. This is similar to Ayers et al. (2003), who use ROE calculated as net

income divided by market capitalization four weeks prior to bid. Since my dependent

measure is calculated using the market capitalization four weeks prior to bid, I chose to use

ROA as an alternative.

      Finally, a large portion of my sample is comprised of target firms from the U.S. and

United Kingdom. Although the influence of these observations is mitigated somewhat by the

change in the primary variables (transfer pricing rules, capital gains tax and accounting

policies) within the countries over time, the regression also includes dummy variables for

targets from the United States and United Kingdom to control for additional factors specific to these countries, similar to Rossi and Volpin.

Section 4.3 Sample

The sample of M&A transactions was selected from the SDC Platinum database. I chose all cross-border M&A from 1990-2005. Any transaction involving a country that wasn't included in Rossi and Volpin's sample of 49 countries was excluded to insure data availability. I then chose all countries with greater than 1% of the total number of M&A transactions from 1990-2005 as a target or acquirer. This resulted in selecting mergers and acquisitions from 27 countries. I then limited the sample to only transactions where the deal value was greater than $10 million. This resulted in a sample of 14,033 transactions. However, the number of transactions for each test is significantly less because not all transactions had the required data.

Previous studies have questioned the reliability of data provided by the SDC database.(Ellis, Michaely, and Ohara (2000), Betton, Eckba and Thorbrun (2005), and Boone and Mulherin (2007) Ellis Michaely and Ohara determined that after spot checking the data, they could not rely on the overallotment usage data found on SDC. Berman, Eckba and Thorburn confirm 1834 bids identified as tender offers to ensure reliability in their data. The authors removed 702 of the observations that could not be verified with the Wall Street Journal. Boone and Mulherin (2007) check SDC's identification of incidence of termination provisions against SEC filings and find that the SDC data is incomplete as it failed to identify termination provisions 25% of the time. Although, these precise measures are not the focus of my study, I did rely on three important measures from the SDC database; deal value, year of

completion and financial acquisition. Given the data quality issues previously identified, it is prudent to analyze the reliability of the SDC data I used.

My analysis of the validity of the SDC financial acquisition variable has been discussed in detail in Section 5.3.5. After comparing the details of 50 acquisitions across 4 countries with a third party source from Lexis Nexis, I found that the measure was reasonably reliable for countries with large samples (U.S., Germany and Japan). However, I found the measure to be less reliable for smaller countries such as Korea.

To investigate the reliability of the deal value and year of completion data, I randomly selected a sample of 25 transactions to confirm the details. Using Lexis Nexis, I found details of the acquisitions reported in the business press. I found the year of completion to be recorded accurately 100% of my test sample. However, I found 8% (2 out of 25) to contain discrepancies in the deal value that appeared to be in error. Overall I found all measures to be accurate at a minimum of 90% of the time. However, the reader should consider the impact of this data quality when interpreting the results.

Tables 2 and 3 outline descriptive statistics for the sample used in the cross-border M&A premia tests. The sample described in these tables contains 1308 observations. The largest restriction in the premia tests were that the variables required to calculate the premium; these values are available for 1527 observations, 1308 of which ended up in the final sample.   The resulting sample, of 1308 observations, has characteristics similar to the overall sample of 14,033 which are not tabulated. The overall sample is made up of 8.5% financial acquisitions and 22% of the targets are considered to have high levels of intellectual property. The final sample of 1308 observations is made up of 8% financial acquisitions and a slightly higher level of 30% of high intellectual property targets. Due to data restrictions,

the premium can not be compared across the entire sample however comparing it with the sample used in Rossi and Volpin, my premium of my sample has mean value of 54% compared to 45% in the previous study.

Section 4.4 Chapter Summary

I develop a regression model for testing the three hypotheses in Chapter Three by using three steps. I first use the control variables shown to be significant in Rossi and Volpin (2004). I then include any significant control variables from Ayers et al. (2003). Lastly, I introduce the own tax and accounting measures needed to test my hypotheses. Specifically, I develop the measure of transfer pricing strictness using annual data from the Deloitte Strategic Matrix and the Transfer Pricing Guides of Ernst & Young and KPMG. I use cluster analysis to classify country/year observations as strict or less-strict as described in section 4.2. I use this measure as the primary measure for testing the hypotheses developed in Chapter Three. I estimate the model using a final sample of 1,308 cross-border M&A transactions taken from the SDC database. The results are presented in Chapter Five.

Chapter 5

Results: Merger and Acquisition Premia Tests

Section 5.1 Introduction

This chapter presents the results from the merger and acquisition premia tests. The main test

results are presented in Section 5.2. Results of specification tests are presented in Section 5.3.

Section 5.4 provides results of supplemental analysis and Section 5.5 summarizes the chapter.

Section 5.2.1 Main Results Using Difference Variable

The main tests of the effect of transfer pricing policies on merger and acquisition premia were

outlined in equations (1) and (2) of chapter 4 and are presented in columns (1) and (2) of

Table 4, respectively. The OLS regression models were estimated using the sample of 1308

cross-border M&A transactions from 27 countries between 1990 and 2005 as described in

chapter 4.

Column (1) of Table 4 shows the result of estimating equation (1). Regression

coefficients, and, p-values in brackets, are presented. The main coefficient of interest is the

coefficient on Δ*(Transfer pricing strictness)t-a*, which is the proxy for transfer pricing risk.

This variable measures the difference between the transfer pricing risk of the target and of the

acquirer (where transfer pricing risk is coded as 1 or 0). The coefficient on the transfer

pricing risk variable is -0.11 and statistically significant at the 1% level. Holding all other

factors in the model constant, this indicates that acquirers will pay a lower premia for a target

that increases their transfer pricing risk relative to a target that lowers their transfer pricing

risk. This finding supports H1 that firms will pay a premium to decrease transfer pricing risk

or demand a discount for transactions that increase their exposure to transfer pricing risk.

Alternatively stated, acquirers from high-transfer-pricing-risk countries pay a premium for

firms in low-risk countries while acquirers from low-risk countries require a discount to do business in a high-transfer-pricing-risk country.

The coefficient for the financial acquisition variable, which is an indicator variable that takes the value of one if the transaction is considered a financial acquisition, as described in Chapter Four, and 0 otherwise, is -0.37 and significant at the 1% level. This coefficient is consistent with financial acquisitions generally involving a lower premium relative to non-financial acquisitions. Previous literature reviewed is silent on the predicted relation between financial acquisitions and premia. However, this result is consistent with anecdotal evidence which would suggest that acquirers in financial acquisitions generally look for underperforming targets in order to improve or breakup the company to generate a return or only buy if it is a bargain. An underperforming target likely warrants a smaller premium.

The coefficient on the variable indicating target firms in industries with high levels of intellectual property is 0.14 and significant at the 1% level. Similar to the financial acquisition variable, extant literature does not predict a relation between high intellectual property targets and a premium. However, the results suggest that on average during the sample period, targets with high intellectual property received a higher premium relative to firms that did not have high levels of intellectual property, ceteris paribus.

The models in equations (1) and (2) control for a number of non-tax effects. With the exception of financial acquisitions and high levels of intellectual property, extant literature presents both theory and evidence that each of these variables can have an effect on premia. The control variables for size, hostile bid, tender offer, toe-hold and competing bidder are all significant and consistent with previous research. ROA and shareholder protection are the only variables whose signs are opposite that predicted.

The coefficient on shareholder protection is -0.02 and is marginally significant at a 10% level. Rossi and Volpin predict that shareholder protection should have a positive relation to premia; however, we do not find their predicted result. This difference could be due to the difference in sample. Rossi and Volpin (2004) use a sample of 49 countries. Our sample includes 26 of those countries which generally include the most developed countries in the Rossi and Volpin sample. Therefore, it is possible that this sample lacks the variation in the shareholder protection measure to estimate its effect properly. Another alternative is that the shareholder protection variable could be correlated with the transfer pricing variable as both involve government policy. Spearman correlation on these two variables is -0.28 and significant at the 1% level.

The coefficient on size of the target is -0.08 and significant at the 1% level. This is consistent with the findings of Rossi and Volpin(2004) that the size of the target is negatively related to the premium. The coefficient on hostile bid is 0.21 and moderately significant at the 10% level. This is consistent with prior evidence from both Ayers et al. (2003) and Rossi and Volpin(2004) that hostile bids result in higher premiums. The coefficient on tender offer is 0.24 and significant at a 1% level of significance level. Consistent with the findings of Rossi and Volpin (2004) this suggests that in order to be successful in purchasing a high percentage of shares, tender offers must offer a high premia. The coefficient on mandatory bid rule is -0.05 and is not significant at conventional measures. This variable is measured as 1 if the country required a mandatory tender offer on certain takeovers or 0 otherwise. Consistent with Rossi and Volpin this coefficient is negative; however, unlike the previous authors' findings, my coefficient is not significant. The coefficient on competing bid is 0.19 and moderately significant at the 10% level. As predicted, a competing bid results in a higher

premium (Ayers et al. 2003). Both Ayers et al. (2003) and Rossi and Volpin predict that the percentage of prior ownership in the target held by the acquirer (toe-hold), should result in a lower premium. I find corroborating evidence of this negative relationship as the coefficient on toe-hold is -0.01 and significant at a 1% level. Ayers et al. (2003) find their proxy for target performance, ROE, to be positively correlated with premia. I find that my proxy of target performance, ROA, to be negative and only moderately significant at a 10% level. The coefficient on ROA is -0.0008.[8]

Overall column (1) provides evidence which is consistent with Hypothesis One and extant literature. The results suggest that after controlling for a number of factors known to effect premia, acquirers will pay a lower premia for a target that increases their transfer pricing risk relative to a target that doesn't increase their transfer pricing risk or alternatively acquirers will pay an increased premia for a target that decreases their transfer pricing risk relative to a target that doesn't decrease their transfer pricing risk, ceteris paribus.

Equation (2) is the model used to test Hypothesis Two and Three. Hypothesis Two predicts that financial acquisitions which face a lower potential transfer pricing cost due to a lower volume of intra-company transactions will also face a lower transfer pricing risk. Using this crude proxy for the anticipated volume of intra-company sales, the coefficient on the interaction between financial acquisitions and Δ*(Transfer pricing strictness)t-a* is predicted to be positive. Column 2 shows the results of estimating equation (2). Consistent with the hypothesis, the coefficient on the interaction between financial acquisition and transfer pricing risk is positive and significant at the 10% level, using a one-tailed test. The estimate of the coefficient on the interaction is 0.32. When this coefficient is compared to that on the

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[8] Windsorizing this variable at 1% and 5% results in the coefficient being insignificant at conventional levels though the sign on the coefficient remains negative.

main effect of Δ*(Transfer pricing strictness)t-a*, -0.08, the implied coefficient of this variable

for financial acquisitions is 0.24; however this implied coefficient is not statistically different

from zero. Therefore, it appears that while the transfer pricing strictness is related to the

premia paid for non-financial acquisitions, there is not evidence of a relation for financial

acquisitions.

Column (2) also presents the results of testing Hypothesis Three. Hypothesis Three

predicts that transactions where the target has high levels of intellectual property have a

higher level of unintentional difference in transfer pricing due to the difficulty in estimating

an appropriate transfer price. This unintentional difference increases the potential at-risk

transfer pricing cost and therefore the transfer pricing risk associated with strict transfer

pricing regimes. Therefore, I expect the coefficient on the interaction between the high

intellectual property variable and Δ*(Transfer pricing strictness)t-a* to be negative, because the

negative relation between transfer pricing risk and premium is predicted to be more

pronounced for these transactions. Consistent with the hypothesis, the coefficient on the

interaction between high intellectual property targets and transfer pricing risk is negative and

significant at the 4% level. The coefficient is -0.19. This suggests that relative to acquisitions

in low intellectual property industries, premia are more sensitive to transfer pricing strictness

for acquisitions of high intellectual property industries. Thus suggesting the relation between

the transfer pricing risk and the premium is stronger for high intellectual property firms,

consistent with these firms facing even greater transfer pricing risk.

The conclusions from the coefficients on the control variables are consistent with the

discussion of column (1) with two exceptions. The significance of the coefficient on hostile

bid improves and becomes significant at the 5% level but the coefficient on target ROA is no longer significant at a 10% level.

The coefficient on the main effect of Δ*(Transfer pricing strictness)t-a* needs to be interpreted with care. This coefficient measures the effect of transfer pricing risk in transactions which are non-financial acquisitions and have non-high intellectual property targets. The result shows that transfer pricing risk still has a negative relation to premia as the coefficient is -0.08. The coefficient is moderately significant at the 7% level of significance.

Section 5.2.2 Main Results Using Risk-Up and Risk-Down Variables

To investigate the difference between risk increasing and risk decreasing acquisitions, I run two separate sets of tests. These analyses are motivated by a potential concern that the effect of decreasing strictness is not the same as the effect of increasing strictness. In other words, the relation between the difference in transfer pricing strictness and premia paid is not linear.

The first tests separate the independent variable of difference in transfer pricing risk into two dummy variables: risk-up, which has a value of 1 if the difference in transfer pricing strictness is equal to 1, and zero otherwise; and risk-down, which has a value of 1 if the difference in transfer pricing strictness is equal to -1, zero otherwise. The second set of tests estimate equations (1) and (2) using separate samples of acquirers from strict transfer pricing countries and acquirers from less-strict transfer pricing countries.

The results of replacing the three-level variable in the main tests with the risk up/risk-down variables are presented in Table 5. The first column estimates equation (1). The coefficient on risk-up and risk-down are expected to have negative and positive signs respectively indicating that risk-up, an increase in transfer pricing risk, is associated with a decrease in the acquisition premium and alternatively risk-down, a decrease

in transfer pricing risk, is associated with an increase in the premium. Results in Column (1)

show that both coefficients on risk-up and risk-down are consistent with the expected signs, -

0.09 and 0.14 respectively, and statistically significant at the 10% level of significance. The

coefficient on risk-down is over 50% larger than the coefficient on risk-up suggesting that a

linear relation between risk-up and risk-down may not exist and therefore it may be important

to consider the effects separately.

Panel (b) tests whether the coefficient for risk-up and a negative risk-down coefficient

are statistically equivalent. The test provides an F statistic of 3.00. This provides weak

evidence that the null hypothesis of a linear relation between risk-up and risk-down can be

rejected at a 10% level. Therefore separate variables should be considered as some detail may

be lost as the effect of risk-up and risk-down are being averaged in the difference variable.

Column (2) provides a more complete model. The coefficient on the main effect of

risk-up is insignificant. The interaction between risk-up and financial acquisition is also

insignificant. Taken together, these estimates fail to demonstrate that firms acquiring targets

in not high intellectual property industries will require a discount and implies that they pay a

similar premia whether the target is in a risk-increasing country or otherwise. However, the

interaction between risk-up and acquisitions with high levels of intellectual property is

significant at the 1% level and has coefficient of -0.32. This suggests that firms acquiring a

target from a high intellectual property industry will pay a lower premia for a target in a

stricter transfer pricing regime relative to buying a target from an equivalent strictness

country.   This is consistent with the prediction that firms in high intellectual property face

higher potential transfer pricing costs and therefore on average demand a discount in the

premia to compensate for these costs. Together the coefficients on these variables suggest

evidence that only firms that are highly susceptible, and therefore more likely aware of high potential transfer pricing costs such as firms with high intellectual property, demand a discount to compensate for the potential costs.   There is no evidence that there is a difference across the financial/non-financial classification. This finding may arise because the tests fail to demonstrate that non-financial acquisitions that are not either financial or high intellectual property pay a discount (i.e. the main effect on the risk-up variable is indistinguishable from zero). Thus financial acquisitions relative to these non-financial acquisitions also do not have a smaller discount.   For risk-increasing transactions, the evidence overall does not supports Hypothesis Two which suggests that non-financial acquisitions should require a discount while financial acquisitions should not since they have very little exposure due to limited intra-firm transactions. The evidence shows that as predicted financial acquisitions do not require a discount. However, contrary to predictions that all non-financial acquisitions will factor increased transfer pricing risk into premia, only non-financial acquisitions facing higher potential transfer pricing costs associated with high levels of intellectual property factor the cost into the premia.

To analyze the effect of decreasing transfer pricing risk in a cross-border merger or acquisition, the coefficients in column (2) of risk-down and its interactions with financial acquisitions and high intellectual property must be considered. The coefficient on the main effect of risk-down is 0.21 and is significant at the 1% level. This suggests that non-financial acquirers where the target is not a high intellectual property firm will pay a premia for a target in a less strict transfer pricing regime relative to a target in a regime of similar strictness as the acquirer, ceteris paribus. This is consistent with the idea that on average firms will pay a premium for the tax planning opportunities associated with operating in a less strict transfer

pricing regime. Specifically, this coefficient suggests that acquisitions that are non-financial and where the target is not a high intellectual property firm are willing to pay a premium that is 21% higher for the tax planning opportunities and reduced risks associated with operating in a less strict transfer pricing regime.

The coefficient on the interaction between risk-down and financial acquisitions is -0.56 and significant at the 2% level. This suggests that relative to non-financial acquisitions, which require a higher premia to operate in a lower risk regime relative to an equivalent regime, financial acquirers pay a lower premia for a target in lower risk regime relative to an equivalent regime, ceteris paribus. This is consistent with expectations that financial acquisitions face little transfer pricing risk due to a low level of intra-company transactions. Therefore, they have no incentive to pay a premium to operate in a less strict transfer pricing regime as it provides them with very limited tax planning opportunities relative to non-financial acquisitions. However, the coefficient on the interaction is more negative than hypothesized: the total of the main

effect and the interaction coefficients is -0.35 rather than being 0. This sum is statistically different from zero at 1%, contrary to expectation and not consistent with Hypothesis Two. This result may indicate noise in the measurement of either risk-down or financial acquisitions. Further analyses of these variables are presented in Section 5.3.5.

The coefficient on the interaction between risk-down and high intellectual property targets is positive as predicted however it is insignificant. This suggests that no statistical difference exists between the premium paid for the tax planning opportunities associated with a less strict regime by firms purchasing high intellectual property firms or others.

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Together this evidence suggests that firms that engage in non-financial transactions, that may lead to increased intra-firm transactions, are willing to pay a premium to reduce the transfer pricing risk and for potential tax planning benefits regardless of their industry and level of intellectual property. While firms that engage in financial acquisitions are unwilling to pay a premium because less strict transfer pricing rules likely provide them with fewer tax planning opportunities. In fact, the coefficients imply that financial purchases require a discount to undertake such risk-reducing transactions.

Overall, the results show that there are noteworthy differences between transactions that increase risk from those that decrease risk. Non-financial acquisitions, regardless of industry, have a larger premium when the acquisition decreases transfer pricing risk rather than maintains the same risk, but financial acquisitions do not differ on this dimension. In fact, no evidence exists that financial acquirers pay a lower premium for increased transfer pricing risk or a higher premium of decreased transfer pricing risk. This is consistent with the hypothesis that financial acquisitions are less susceptible to transfer pricing risk due to a low level of intra-company transactions. The results from column (2) also suggest that the only firms who demand a discount for increased tax risk are firms that are most susceptible to transfer pricing risk; i.e., those who purchase targets with high levels of intellectual property in strict regimes.

This leads to an asymmetric result for non-financial acquisitions: relative to acquiring a target in a similar transfer pricing risk country, all such firms are willing to pay a premium to acquire in a lower-risk country but only high intellectual property acquisitions achieve a discount for acquisitions in higher-risk countries.

Section 5.2.3 Main Results Using Restricted Samples

Table 6 displays the results of estimating equations (1) and (2) on a sub-sample of acquirer's from strict countries and acquirer's from less strict countries. The evidence leads to conclusion similar to those drawn in the previous section and results from Table 5.

Columns (3) of Table 6 shows the results of estimating equation (2) with acquirers who are from strict regimes. The coefficient on between Δ*(Transfer pricing strictness)t-a* is -0.23 and significant at the 1% level, suggesting that relative to acquisitions of targets from equivalent strict countries, acquirers in strict regimes pay a higher premia for targets in less strict countries, ceteris paribus. As risk decreases, premia will increase.[9] Since the interaction between Δ*(Transfer pricing strictness)t-a* and *High Intellectual Property* is insignificant, evidence suggests that there is no difference in the premia firms are willing to pay for less strict targets relative to equivalently strict targets regardless of industry. However, the coefficient on the interaction between Δ*(Transfer pricing strictness)t-a* and *Financial Acquisition* is 0.49 and significant at the 5% level. This suggests that relative to non-financial acquirers, who are willing to pay a premia for target's in less strict countries, financial acquirers are not willing to pay a premia for less strict targets relative to targets in equivalently strict countries. Overall these results are consistent with the risk-down analysis in the previous section and suggest that firms operating in strict transfer pricing regimes are willing to pay a premium for operations in less strict regimes, regardless of industry. However, if the acquisition will not give rise to intra-firm transactions, i.e. financial acquisition, no premium will be paid.

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[9] Since the acquirer is a strict country the target can only be from either a less strict country or equivalently strict country.

Column (4) provides the results of estimating equation (2) with only firms from less strict transfer pricing regimes. The coefficient on Δ*(Transfer pricing strictness)t-a* is negative as predicted but is not significant. The interaction between Δ*(Transfer pricing strictness)t-a* and *Financial Acquisition* is also not significant. The coefficient on Δ*(Transfer pricing strictness)t-a* x *High Intellectual Property* is -0.32 and significant at the 5% level. Together this suggests that generally firms from less strict regimes do not pay a lower premia for a target from a country that is more strict relative to a target from a country that is equivalently strict. This is true for both financial and non-financial acquisitions with the exception of non-financial acquisitions when the target is a high intellectual property firm. Acquirers from less strict countries will pay a lower premia for a target in a strict regime relative to an equivalently strict regime if the target is a high intellectual property firm. These are the firms which face the greatest scrutiny and therefore likely face higher potential transfer pricing costs and factor this into a discount in the premia.

Thus, the results are generally consistent with the hypotheses and provide additional insights into when transfer pricing is likely to have an effect on premia consistent with Table 5. However, the specific interactions between risk-up and risk-down and intellectual property and financial acquisition should be considered with caution as dividing the difference in transfer pricing strictness variable into two parts, risk-up and risk-down, results in some of the interactions making up a very small portion of the overall sample as presented in Table 7.

Section 5.3 Specification Checks

Overall, the results provide evidence that transfer pricing policies affect cross-border M&A premia and that the tax risk associated with transfer pricing is priced in certain circumstances. However, I do four sets of specification checks to investigate potential concerns with design.

The first set of checks investigate whether my results could be driven by any particular country or country pairing in my sample since my primary measure of transfer pricing is an indicator at the country/year level. Specifically I investigate whether my results are driven by the large U.S. representation in my sample, whether my results are driven by any particular country pairing, or whether any specific regional difference or difference amongst regional pairings can be identified. The second set of tests attempts to investigate this further by using alternative testing methods that are not reliant on a country/year indicator and therefore less susceptible to omitted correlated variable issues at the country level. Thirdly, tests are performed to check if my results are robust to alternative specifications of my transfer pricing measure using my entire sample. Finally, tests are performed using the unlogged premia to ensure the results are robust to both logged and unlogged specifications of premia.

Section 5.3.1 Influence of particular country and country-pairing observations in sample

Targets and acquirers from the United States make up 39% and 30% of my sample, respectively. To analyze whether this large proportion of U.S. firms is driving my results, I do three different specification checks. First, I look at results leaving out U.S. observations. Second, I equally weight all country-pairs, rather than deals, within each year. Lastly, I investigate whether any regional differences are present in the calculation of acquisition premia.

Section 5.3.1.1 Non-United States Results

Consistent with the results of Section 5.2.2 which show the importance of considering the effect of risk increasing and decreasing transactions separately, I focus the analysis on the effect of U.S. observations on the tests and results of Table 5. Table 8 and Table 9 displays

the results, without any U.S. observations, of estimating the equations from Column (1) and Column (2) of Table 5, respectively.

Column (1) of Table 9 shows the results of estimating the model from Column (2) of Table 5, with a sample of all non-U.S. acquirers, Column (2) shows the results of all non-U.S. targets, and Column (3) shows the results with neither U.S. acquirers nor U.S. targets.

The following discussion is focused around comparing the main results from Table 5 with the results from the non-U.S. samples. The discussion is divided into results surrounding risk increasing transactions (risk-up) and risk decreasing transactions (risk-down).

Section 5.3.1.2 Risk-Up Results

Table 5 presents results of estimating the risk-up/risk-down model without interactions in Column (1) and with interactions in Column (2). The results from Column (1) of Table 5 display a coefficient for risk-up of -0.09 which is weakly significant at a 10% level. The results of Table 8 suggest that while the coefficient is comparable in magnitude for non-U.S. acquirers -0.07 and even less for non-U.S. targets -0.02 neither is statistically significant. This loss of statistical significance may be due to the decreased sample size. However, when both U.S. targets and acquirers are removed, the coefficient is 0.02 and not significant; suggesting that the risk-up results in Table 5 may be driven by either U.S. targets or U.S. acquirers.

The results from Column (2) of Table 5 using the complete sample of 1305 M&A transactions suggest that the only firms that demand a discount, for risk increasing transactions, are firms in industries with high levels of intellectual property. This is evidenced by the results in Column (2) of Table 5 where the main effect on risk-up is 0.02 and insignificant while the coefficient on the interaction between risk-up and high levels of

intellectual property is -0.32 and is significant at a 1% level. This results in a total effect on

premia for high intellectual property firms of -0.30 when undertaking risk increasing

transactions.

Column (1) of Table 9 investigates if non-U.S. acquirers behave similar to the total

sample that includes U.S. acquirers. It is important to consider this analysis as there are a

number of potential differences across nations that could cause heterogeneity in acquisition

behaviour across acquirers that may not be reflected in the model. The risk-up results in

Column (1) show that the coefficient on the main effect of risk-up is -0.01 and insignificant

while the interaction with high intellectual property target is -0.22 and is significant at a 10%

level and the interaction with financial acquisition is 0.00 and not significant. This results in a

total effect on premia for high intellectual property firms of 0.23 in risk increasing

transactions. Although this overall effect is slightly smaller than the -0.30 effect for high

intellectual firm transactions when including the U.S. firms, the result is substantially

comparable. Overall, when considering risk increasing transactions it appears that U.S.

acquirers and non-U.S. acquirers behave similarly as they only require a discount when

increasing risk for high intellectual firms in non-financial acquisitions.[10]

Analyzing the control variables shows some important differences when excluding

U.S. acquirers. The coefficients on hostile and competing bids are both positive consistent

with the full sample results. However, both competing bid and hostile bid, which are

significant for the overall sample, become insignificant when looking at strictly non-U.S.

acquirers. Looking closely at the non-U.S. acquirer sample, the occurrence of both hostile

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[10] U.S. acquirers were in a situation to undertake risk increasing transactions prior to enacting their own transfer pricing regulations in 1996 when other countries such as Japan already had transfer pricing regulations.

bids and competing bids are comparable between samples of U.S. acquirers and non-U.S. acquirers.[11]

Column (2) investigates if acquirers demand a discount for increasing risk with non-U.S. targets. The column shows that estimating the equation with a sample that excludes U.S. targets results in a coefficient on the main effect of risk-up of 0.06 that is not statistically significant. The coefficient on the interaction between risk-up and high intellectual property targets is -0.25 but is not significant at conventional levels. The coefficient on the interaction between risk-up and financial acquisition is -0.49 and not significant. This suggests that unlike the overall sample that includes U.S. targets, acquirers of non-U.S. targets do not demand a discount for acquiring high intellectual property firms in risk increasing transactions.

This result is not surprising as many of the 39% of acquisitions removed by omitting U.S. targets would be considered risk increasing transactions as the U.S. is one of the world's most strict transfer pricing regimes after 1996. The number of risk-up observations drops from 209, 16% of the overall sample, to 75, 9% of the non-U.S. target sample. Of this reduced sample only 14 observations are both risk-up and high intellectual property firms compared to 71 in the overall sample. Therefore, omitting the large number of transactions of this type (increasing risk and high intellectual property industry).

Column (3) provides the results of omitting both U.S. acquirers and targets. Not surprisingly, the results and conclusions are similar to Column (2) as the sample size is

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[11] Hostile bids occur in 4% of acquisitions with both U.S. and non-U.S. acquirers. Competing bids occur 5% of the time when there is a U.S. acquirer and 4% of the time when there is a non-U.S. acquirer. Further analysis related to upcoming Section 5.4.4.5 drew attention to a difference within Asian targets from other regions. Dropping out the Asian targets from the sample of non-U.S. acquirers results in both hostile and competition being positive and significant consistent with the total sample.

reduced further to 493 total observations. Neither the main effect of risk-up nor the interaction with high intellectual property are significant.

Overall the tests provide evidence that the risk-up results are not driven by U.S. *acquirers*. However, the tests suggest that the discount paid for increasing transfer pricing risk may be more strongly present for, or even exclusively, U.S. targets with high levels of intellectual property in non-financial acquisitions.

Section 5.3.1.3 Risk-Down Results

The results of Column (1) of Table 5 suggest that firms will pay a premium to acquire targets in less strict transfer pricing regimes relative to regimes of similar risk. Table 8 investigates if this result is driven by U.S. observations. The table suggests that the results of Table 5 are not driven by U.S. acquirers or U.S. targets as the coefficients for risk-down in the non-U.S. acquirer and non-U.S. target samples are 0.22 and 0.15, respectively and both significant at a 5% level of significance.

The results of Table 5 in regards to risk decreasing transactions suggest that non-financial acquisition firms are willing to pay a premia to decrease transfer pricing risk. This premia does not appear to be affected by the target being in an industry with high levels of intellectual property as the coefficient on the interaction between high intellectual property target and risk-down is 0.02, but not significant at conventional levels. This results in an average effect on premia for non-financial acquisitions firms equal to the coefficient on the main effect of risk-down of 0.21.

Column (1) of Table 9 investigates the behaviour of non-U.S. acquirers in regards to the premia paid for risk decreasing transactions. The column shows that estimating the equation with non-U.S. acquirers results in a main effect on risk-down of 0.24 which is

significant at a 5% level. The coefficient on the interaction with high intellectual property

targets is also 0.33 and is weakly significant at a 5% level. The coefficient on the interaction

with financial acquisition is -0.75 and not significant at conventional levels. These results

suggest that similar to the overall sample non-U.S. acquirers are willing to pay a premia to

decrease transfer pricing risk. The coefficient is slightly higher than that of U.S. acquirers.

In contrast to the total sample this result is not limited to non-financial acquisitions. Another

notable difference is some evidence that non-U.S. acquirers may be willing to pay an even

larger premia for firms with high levels of intellectual property. This could be due to the

ability of non-U.S. firms to take advantage of greater tax planning opportunities related to

transfer pricing when acquiring firms in less strict areas. The U.S. government is specifically

targeting high intellectual property firms. "Intangible property transfers are drawing

increasing scrutiny from the IRS…The 2003 proposed regulations on services and intangibles

include changes that affect: how intangibles may be characterized; elimination of the "cost

safe harbour" found in the current regulations;…specified methods to evaluate arm's length

charges; and new rules regarding the ownership and development of intangibles" (Ernst &

Young, 2006). This additional attention may negate tax planning opportunities and flexibility

inherent in these high intellectual property industries. Not all strict regime countries target

high intellectual property firms. For example in France, "No specific industries are targeted

for audit."(Ernst & Young, 2006) Therefore, U.S. acquirers of target's with high levels of

intellectual property may not be able to realize the potential benefits available to non-U.S.

acquirers in these industries and thus may be unwilling to pay an additional premia.

Column (2) considers whether U.S. targets affect the results of risk decreasing

transactions. The coefficient on the main effect of risk-down is 0.21 and is significant at a 1%

level. The coefficient on the interaction with high intellectual property targets is 0.01 and is not significant at conventional levels. The coefficient on the interaction with financial acquisition is -0.57 and is significant at a 5% level. This result suggests that, similar to the overall sample, a premia is paid to decrease transfer pricing risk for non-financial acquisitions, however this premia is not affected by the targets' level of intellectual property. The results are not surprising as the U.S. targets make up a very small proportion of the risk decreasing transactions. Therefore, it is unlikely that they should have a large effect on these results.

The results of Column (3) provide the results of omitting observations of both U.S. acquirers and U.S. targets. Estimating the equation with this sample provides a coefficient of 0.28 on the main effect of risk-down that is significant at a 5% level. The interaction between risk-down and high intellectual property targets is 0.38 but is not significant at conventional levels. This results in a similar but slightly larger affect on premia for non-U.S. risk decreasing transactions. Similar to the non-U.S. acquirer results there is no statistical difference between financial and non-financial acquisitions.

The tests provide evidence that U.S. *targets* are not driving the results of the effect of risk decreasing transactions on premia. The tests show that the main effect on risk-down is consistent across both U.S. and non-U.S targets and acquirers. However, the distinction between financial and non-financial acquisitions may be strictly related to U.S. acquirers. Therefore, the evidence of a premia paid for decreasing transfer pricing risk does not appear to be driven by the large proportion of U.S. observations. Additionally, the tests provide evidence that non-U.S. acquirers may be willing to pay an even larger premia when the target

has high levels of intellectual property. This does not appear to be the case for U.S. acquirers who face increased scrutiny in transactions with these firms.

Thus it appears that for non-high intellectual property targets in non-financial acquisitions the more general results of Hypothesis are robust to the influence of U.S. observations. However, some evidence suggests that U.S. targets may be driving the discount paid for increasing risk in the high intellectual property industry. There is also some evidence that non-U.S. acquirers may be willing to pay a higher premia for high intellectual firms operating in less strict regimes. These results could both be related to the IRS's close scrutiny of high intellectual property firms.

To investigate whether the high intellectual property results are related to the IRS's audit focus on intangible property or is in fact only related to specifics of the U.S., I reviewed the Ernst & Young 2006 Transfer Pricing Report which interviews tax authorities around the world about their transfer pricing audit approaches. A variable was created; *intangible_focus* which was equal to one if the target's country's tax authority mentioned a focus on intangibles in its interview with Ernst & Young and zero otherwise. Unfortunately, this report was only prepared in 2006 and not annually, so the assumption is made that any audit strategy by the tax authority was consistent across all years in which the country had transfer pricing regulations. The model from Column (2) was modified first by removing the high intellectual property target indicator and related interaction variables. Secondly, the *intangible_focus* variable, described above was added and interacted with risk-up and risk-down. The modified model was then estimated on a sample of 154 transactions where the targets were all non-U.S. high-intellectual property firms. The coefficient on the main effect of risk-up was 0.38 and not significant. The coefficient on the interaction between *intangible_focus* and risk-up was -

0.57 and weakly significant as a 10% level. Thus the results suggest that firms will pay a lower premium for high intellectual property targets in non-U.S. countries in risk increasing situations when the target's country's transfer pricing audit strategy focuses on intangibles.

Section 5.3.1.4 Country-Pair Tests

To attempt to mitigate the significant influence of any individual country, I estimated the equation from Column (1) of Table 5 and Column (2) of Table 5 using a sample of country-paired observations. To calculate the country-paired observations, I took the mean of all continuous variables and proportion of all indicator variables for each pair of countries within each year. The result is that each country pairing is one observation resulting in equal weighting for each country-pair throughout the sample period regardless of the number of actual transactions between those countries. In this way the unit of analysis moves away from the transaction level to the country-pair level. Although this results in a loss of some detail and observations, it restricts the influence that any country-pairing can have within the sample to provide a clearer understanding as to whether any one country drives the results. The change in unit of analysis results in a sample size reduction of 57%, to 575 total observations. This increases the standard error. The model also does not fit as well as evidenced by the drop in R^2 from 0.13 in Table 5 to 0.08 as shown in Column (4) of Table 8.

Column (4) of Table 9 displays the results of estimating the full risk-up/risk-down model using the sample of country-pairings. Similar to the previous section I will compare the country-pair results to the full sample results from Table 5, first looking at the risk increasing results followed by discussion of the risk decreasing results.

Column (4) of Table 9 shows that estimating the risk-up/risk-down model on the sample of country-pairings produces a coefficient on the main effect of risk-up of 0.03 which

is not significant at conventional levels. The interaction between risk-up and financial acquisition has a coefficient of 0.25 and is also not significant. This is consistent with the result of estimating the interaction on the full sample. Finally, the interaction between risk-up and high intellectual property target is -0.22 and is not significant. This differs from estimation of the full sample as the coefficient from the full sample on this interaction is -0.32 and significant at a 1% level. Overall estimating the risk-up/ risk-down model using country-pairings suggests that risk-up has no effect on premia.

The coefficient for the main effect of the risk-down variable is weakly significant at a 10% level and has a value of 0.17. The interaction between risk-down and financial acquisition is negative with a value -0.45, however it is not significant. The interaction between high intellectual property target and risk-down is also insignificant. Consistent with estimates using the full sample, the main effect on risk-down is positive and weakly significant while the interaction with high intellectual property is insignificant. Contrary to findings using the full sample, the country-pairings sample does not show a difference between the premia paid in financial and non-financial acquisitions. As the coefficient is similar in magnitude when estimated on the entire sample but has a much larger standard error the loss of statistical significance could be a result of the smaller N. In summary, the tests do not find evidence that the risk-down results from Table 5 are the result of significant influence by any individual country. However, the findings suggest a high intellectual property discount in risk increasing transactions and a difference between financial and non-financial acquisitions in the premium paid for risk decreasing transactions may be attributed to specific country pairings. This is consistent with results from the previous section which suggest that the high intellectual property discount is strongly associated with U.S. targets, specifically.

Section 5.3.1.5 Region Tests

To test whether there were differences in the acquisition behaviour and premia across geographical regions, region indicator variables were included in the risk-up/risk-down model of Column (1) of Table 5. A set of region variables were included in the model and interacted with risk-up and risk-down. The regions were taken from Rossi and Volpin (2004) and included America (including both North and South America), Europe, Africa and Asia (including Australia and New Zealand). Indicator variables were created that were equal to one if the acquirer was in that region and 0 otherwise. Table 10 summarizes the independent variables across regions. The indicator variables were focused on the geographical region of the acquirer as it is the acquirer that makes the decision to buy and ultimately determines what premium they are willing to offer. Therefore, it is important to see if the decision making behaviour varies across regions given the cross-border setting. Indicators are included in the model for Africa, Asia, and America. Europe is used as the base case as it has the largest number of observations.

Column (1) of Table 11 displays the results of including the region variables and interactions in the risk-up/risk-down model for the entire sample. The main effect on risk-down is 0.23 and significant at a 10% level. None of the regional interactions with risk-down are significant. This suggest that acquirers are willing to pay a higher premium for a target in a less strict regime relative to a target in an equally strict regime. The evidence suggests no difference in the premium paid for risk decreasing transactions across regions.

The main effect on risk-up is -0.11 and is significant at a 10% level. The interactions with Africa and America are not significant. However, the interaction with Asia is 0.33 and significant at a 10% level resulting in a total risk-up effect for Asia of 0.22. This suggests that

while on average acquirers from Europe, America and Africa pay a lower price for a target in a stricter transfer pricing regime relative to one of similar risk, Asian acquirers will in fact pay a premium for the target in the stricter regime.

Column (2) and Column (3) present results investigating the difference between financial and non-financial acquisitions across regions. Column (2) estimates the same model as Column (1) using a sample of non-financial acquisitions.

The main effect for risk-down for non-financial acquisitions is 0.29 and significant at a 5% level. The main effect for risk-down for the sample of financial acquisitions in Column (3) was -0.58 but is not significant. The interactions for the region indicators are risk-down are all not significant for both financial and non-financial acquisitions. This suggest that for non-financial acquisitions acquirers are willing to pay a premium to purchase a target in a less strict regime relative to an equivalently risk regime. This result is independent of the region of the acquirer. Financial acquisitions pay no statistically significant difference for a target in a less strict regime than they would for an equivalently risk regime and no evidence exists of a difference across acquirers from different regions.

The main effect on risk-up is -0.12 for the non-financial acquisitions and is significant at a 10% level. Similar to the results for the overall sample the only regional interaction with a significant coefficient was Asia. The coefficient on the interaction between Asia and risk-up is 0.32 and significant at a 10% level. This suggests that while African, American and European acquirers pay a lower premium for a risk increasing target relative to a risk neutral target, Asian acquirers will pay a higher premium.

For financial acquisitions the main effect on risk-up is -0.08 but is not significant. None of the interactions between the region indicators and risk-up are significant for the

financial acquisitions indicating that there does not appear to be a difference in the premium paid for a target in a stricter regime or for a target in an equivalently strict regime for financial acquisitions and this effect does not appear to be different across regions. [12]

Thus the result of Column (2) and Column (3) appear consistent with Hypothesis Two as the effects of transfer pricing risk on premium are significant for the non-financial acquisitions while the effects of transfer pricing risk are not significant in the financial acquisition sample. There is no evidence that this differs across the regions of the acquirer with the exception of risk increasing, non-financial acquisitions when the acquirer is from Asia.

Similar to the analysis for Financial and non-financial acquisitions in Columns (2) and (3), Columns (4) and (5) investigate the effect of high intellectual property targets and non-high intellectual property targets across regions.

The main effect on risk-down was 0.31 and 0.21 and significant at a 10% level for high intellectual property targets and non-high intellectual property targets, respectively. The interaction variables between the region indicators and risk-down are not significant in either sample. Thus no evidence exists of a difference across regions in regards to the relation between premia and risk decreasing transactions.

The coefficient on the main effect for risk-up is -0.20 and significant at a 10% level for the sample of high intellectual property targets. None of the interactions with the region variables are significant indicating that there is not a statistically significant difference in behaviour of acquirers across regions in regards to the premium paid for risk increasing targets relative to risk neutral targets.

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[12] It should be noted that there were no risk increasing financial acquisitions performed by African or Asian acquirers in the sample.

The main effect on risk-up is -0.04 for the non-high intellectual firms but is not significant. The interaction between America and risk-up is 0.40 and significant at a 5% level. This suggest that American acquirers will pay more for a non-high intellectual property target that is in a stricter transfer pricing regime relative to a neutral regime, while acquirers from other regions will not.

The results suggest that the predictions of Hypothesis One hold in general for high intellectual property firms regardless of the region of acquirer. However, though non-high intellectual property targets receive a higher premium when in less strict regimes relative to risk neutral regimes, the converse does not hold true for non-high intellectual property targets; in risk increasing transactions no acquirers pay a discount and in fact acquirers from the American region pay a premium.

Section 5.3.1.6 Region Pairings Tests

To investigate whether there are any differences in the effect of transfer pricing risk within and across regions, a model is estimated similar to the one described in the previous section. However, rather than indicators for simple regions, a set of 15 indicator variable are used to analyze the transfer pricing effects across pairings of targets and acquirers from the 4 regions. The pairing of a European target and a European acquirer was used as the base case as it is the most populace pairing in the sample.

Table 12 displays the results of the main effect of risk-down and the resulting interactions of risk-down with the 15 regional pairing variables. The coefficient on the main effect of risk-down is 0.26 and is significant at a 10% level. Three interactions were significant at at least a 10% level these include: American Co. purchasing African Co., American Co. purchasing European Co. and Asian Co. purchasing European Co. The

coefficients for these interactions are -0.61, -0.34 and -0.78, respectively. This suggests that while the majority of region pairings, including all transactions within the same region, result in a premium being paid for a target in a lower risk regime relative to a neutral regime, American acquirers will not pay a premium for African or European companies in lower risk regimes.

These results suggest a difference in the premium paid for a European target between a European acquirer and non-European acquirer. To investigate if this difference is related to the target's membership in the EU, I broke the Europe region into EU and non-EU regions and ran the test again. The results showed that the lack of premium for risk-reducing targets was strictly related to targets in non-EU countries. I then investigated if it was specifically related to any individual non-EU country by systematically dropping out observations from one of the non-EU countries and rerunning the test. The results were robust across non-EU countries and did not appear to be driven by any one country. Lastly, since many non-EU countries were Scandinavian countries with high tax rates such as Finland and Sweden in the early 1990's and Norway throughout the sample period, I included a measure of the difference in target and acquirer tax rate to control for less strict regimes that had higher tax rates and therefore would be less likely to result in a premium. Controlling for the tax rate lead to similar results as described above with the exception that the interaction between the indicator variable for American purchaser-European target and risk-down is no longer significantly different from zero. Thus, an American acquirer will pay a premium for a risk reducing European target if the target's tax rate is lower than its own.

The risk-up results are found in Table 13. The main effect on risk-up is -0.05 and is not significant at conventional levels. The interactions with regional pairings are not

significant with the exception of American and European purchasers of Asian targets. The coefficients on these interactions are both positive, significant at a 5% level, and reverse the main effect on risk-up. This suggests that despite being risk increasing, European and American acquirers are willing to pay a premium for Asian targets in stricter regimes relative to neutral regimes.

Section 5.3.2 Different measures of transfer pricing focus.

The primary measure of transfer pricing focus in my study is an indicator variable equal to 1 if the country has a strict transfer pricing focus and 0 otherwise. Although this measure varies across countries and within countries over the sample period, potentially the measure could be picking up a country or country pairing effect that is unrelated to the tax phenomenon of interest in model. Analysis discussed in Section 5.3.1 attempted to discover if the results could be attributed to any particular country or country pairing. An alternative approach is to use an alternative measure that is less likely to be influenced by any particular country or country pairing effect. In this section, analysis is performed using an alternative measures of transfer pricing focus: an 18 point index.

Section 5.3.2.1 Index measure

An alternative to the dichotomous transfer pricing risk measure is to use the 18 point index from Appendix B as the raw score of transfer pricing strictness rather than to use the factors from the index in a cluster analysis to develop an indicator variable of transfer pricing strictness. The index includes 14 variables measured as a 1 or 0 and two variables measured on a three-point scale resulting in a country/year score between 0 and 18. Similar to the prior test I use equation (2) but I replace the Δ *(Transfer pricing strictness) t-a* variable with the *TP index* variable. I test the measure using three samples of acquirers; Transfer Pricing

Strictness=1 (TPS=1), TPS=2 and TPS=3. Column (1), Column (2) and Column (3) of Table 14 display the results of estimating the model described above on the sample of acquirers with TPS=1, TPS=2 and TPS=3 respectively. The Transfer Pricing Strictness (TPS) measure is equal to one if the country has no transfer pricing rules, two if the country has rules but is less strict in enforcement and three if the country has rules and strictly enforces them.

Column (1) of Table 14 displays the results for the sample of acquirers from countries that have no transfer pricing rules. The coefficient on Transfer Pricing Index is -0.01 and is weakly significant at a 10% level. This suggests that acquirers from countries with no transfer pricing rules are willing to pay less for a firm in a country with stricter transfer pricing rules than they are for a firm with less strict rules, ceteris paribus.

Column (2) displays the results for acquirers from countries that have transfer pricing rules but weakly enforce them. The coefficient on the Transfer pricing index is -0.01 and is weakly significant at a 10% level. This suggests that similar to acquirers who come from countries with no rules, acquirers from countries where transfer pricing rules are weakly enforced may be willing to pay less for firms from strict transfer pricing regimes relative to less strict transfer pricing regimes, ceteris paribus. Similar, to the estimations using this sample with the trichotomous measure, the coefficients on mandatory bid rule and competing bidder in this sample are again significant but not consistent with the predicted sign. Again this could be evidence that the sample may not have the statistical power to estimate these coefficients properly.

The results of estimating the model on a sample of acquirers from countries that have transfer pricing rules and strictly enforce them are displayed in Column (3). The coefficient on Transfer Pricing Index for this sample is three times larger than for the other two samples

as it is -0.03 and significant at a 2% level. This suggests that consistent with acquirers from countries with no rules or countries with less strict rules, acquirers from strict transfer pricing countries are willing to pay more for a target in a less strict regime relative to a country from a strict regime, ceteris paribus. The results suggest that this premia for targets in less strict regimes is even more pronounced for acquirers from strict countries as the magnitude of the coefficient is three times larger.

Considering this alternative test it appears consistent that acquirers from strict transfer pricing countries and countries without transfer pricing rules are willing to pay more for target's in less strict transfer pricing regimes relative to target's in strict transfer pricing regimes.

Section 5.3.2.2 Residual Analysis

Another way to investigate if the tax effect is what is truly being measured is to analyze the residuals remaining after regressing the natural log of the premium on the control variables based on the transfer pricing risk measures. If the measure is reflecting the underlying tax phenomenon as hypothesized the residuals should be consistent with predictions

Table 15 summarizes the residuals test above using the 18 point transfer pricing index for both the target and acquirer. If the index is capturing transfer pricing risk, there should be positive residuals distributed in the upper-right half of the table as this is where the acquirers risk is larger than the targets and the transaction is therefore reducing risk. Conversely, there should be negative residuals in the bottom-left half of the table as this region of the distribution indicates that the targets transfer price index is larger than the acquirers indicating that the target will increase the acquirer's risk. The table shows that the majority of residuals in the upper-right are positive as 75% are greater than zero. Alternatively, the majority of

residuals in the bottom left are negative. Thus although the measure is not perfect as neither

half is 100% positive or negative, the distribution does suggest that the measure may be

measuring some element of transfer pricing risk.

In further analysis, the upper-right half has a mean residual of 0.19 while the bottom-

left half has a residual of -0.09.   A T-test of whether the residuals of the upper half are larger

than bottom provides a p-value of 0.01. Therefore, there does seem to be evidence to suggest

that the 18 point transfer pricing index does appear to be measuring some element of risk.

Section 5.3.3 Alternative Specifications of Transfer Pricing Risk

As a specification check on the robustness of the transfer pricing risk measure, the three

hypotheses described in Section Three were tested separately using all five transfer pricing

measures described in Appendix B. The measure of Δ*(Transfer pricing strictness)t-a* used in

the main tests is a composition of data from two sources: the 14 point transfer pricing policy

index taken from the Deloitte Transfer Pricing Strategy matrices from 2000-2005 and the

country-specific risk assessments from the KPMG and Ernst & Young transfer pricing

reference guides in 2005. The KPMG and Ernst & Young guides provide a more direct

measure of the risk associated with transfer pricing in each country, however, the measure

does not vary over time. The 14 point transfer pricing index varies over time as well as across

countries however it is not a direct assessment of risk associated with transfer pricing. As

alternative measures, I therefore test Transfer Pricing Focus 2, which uses strictly the index;

Transfer Pricing Manual, which is a measure which combines the KPMG and Ernst & Young

risk assessments; Transfer pricing E&Y, which is strictly the E&Y assessment of transfer

pricing audit risk; and lastly a very general measure, Transfer Pricing Rules, which is simply

an indicator variable as to whether the country had any transfer pricing rules in place in any particular year.

I find that all of the coefficients on the transfer pricing measures are consistent with the predicted sign. Table 16 displays the results from estimating equation (1). The coefficient of interest for equation (1) is Δ*(Transfer pricing strictness)t-a*. The coefficient is significant at a 1% level for the original measure used and the measure based on both the KPMG and E&Y risk assessment, Transfer Pricing Manual. The E&Y alone measure is also highly significant at the 2% level. The measure based on the index alone is only moderately significant at the 6% level. The least significant measure is the Transfer Pricing Rule measure which is significant at the 9% level. Overall the measures provide support for the construct validity of the original measure as all the coefficients are consistent with the predicted sign and are significant at least the 10% level.

Table 17 displays the results of estimating equation (2) using the alternative measures. Equation (2) allows us to test Hypotheses Two and Three by analyzing the coefficients on the interactions of Δ*(Transfer pricing strictness)t-a* with the financial acquisition variable and with the high intellectual property variable, respectively.

The coefficient on Δ*(Transfer pricing strictness)t-a* x *Financial Acquisition*, is positive for all measures and ranged from a magnitude of 0.32 for the original measure to 0.09 for the E&Y measure. The measure is significant at the 5% level for the 14 point index measure and moderately significant at the 6% and 8% level for the original measure and E&Y-KPMG combined measure respectively. It is not statistically significant at conventional levels for either the E&Y only measure or the Transfer Pricing Rules measure.

The coefficient on Δ(*Transfer pricing strictness*)*t-a* x *High Intellectual Property* is

negative as predicted for all measures and ranged from -0.22 for the Transfer Pricing Rules

measure to -0.07 for the E&Y only measure. The coefficients are significant at the 5% level

for all measures with the exception of the 15 point index measure which is significant at a

10% level.

The coefficient on the main effect of Δ*(Transfer pricing strictness)t-a* is negative as

predicted for all measures and ranged from -0.02 for the rules measure to -0.09 for the

combined KPMG-E&Y measure. The original measure and the combined KPMG-E&Y

measure are both significant at 6% and 4% levels respectively. The other measures are not

significant at conventional levels.

Across all measures and tests in Tables 5 and 6, the coefficients on the control

variables are substantially similar to the results discussed in Section 5.2 when estimating

equations (1) and (2). Overall these alternative proxies for transfer pricing risk provide results

which are consistent with predictions and the main results discussed in Section 5.2, providing

additional validity to the results discussed in 5.2 and the proxy used to measure transfer

pricing risk.

Section 5.3.4 Alternative Specification of Premia

Consistent with Rossi and Volpin, this study takes the natural log of premia to correct for

potential problems in the distribution of premia. Taking the natural log of a variable which is

already a percentage is not commonly done in prior literature. Therefore, I performed the

tests of Table 4 and the main test of Table 5 using premia rather than the natural log of

premia, as a robustness check on my results. A secondary advantage to using the unlogged

premia, is that it allows a more intuitive interpretation of the magnitude of the coefficient

beyond discussion of a directional relationship. To correct for outliers unlogged premia is winsorized at the 1% level.

Column (1) of Table 18 shows the result of estimating equation (1) using unlogged premia as the dependent variable. The main results are consistent with the results using the logged premia discussed in Section 5.2. The coefficient on Δ*(Transfer pricing strictness)t-a is* -3.62 and is significant at a 5% level. This suggests that a firm in a strict transfer pricing regime is willing to pay a 3.6% premia for a target in a less strict regime compared to a target in a strict regime all other things being equal.

Column (2) of Table 18 displays the results of estimating equation (2) using the unlogged premia. Again the results are consistent with the previous discussion. The coefficient on the interaction of financial acquisitions and Δ*(Transfer pricing strictness)t-a* is 10.62 and significant at a 2% level. Combined with the main effect of Δ*(Transfer pricing strictness)t-a* this suggests that acquirers in a financial acquisition from a less strict regime will not pay a premia for decreasing tax risk by entering a less strict tax regime and in fact will demand an 8.35% discount relative to a strategic acquirer.

The coefficient on the interaction between high intellectual property variable and Δ*(Transfer pricing strictness)t-a* is -7.81 and significant at a 7% level of significance. This suggests that a firm with a high level of intellectual property and therefore a higher level of potential transfer pricing cost will demand a 10% discount to increase their transfer pricing risk by entering a strict regime while operating in a less strict regime.

Table 19 provides further insight into the premia related to risk increasing and decreasing behaviour. The table shows the tests from Table 5 when using unlogged premia as the dependent measure. The results are consistent with the main findings described

previously. The coefficient on risk-down is 4.96 and significant at a 10% level, while the interaction with high intellectual property is 0.85 but not significant. This suggests that firms regardless of industry are willing to pay a 4.96% premia to decrease their tax risk associated with transfer pricing by purchasing a firm in a less strict tax regime. However, the interaction between risk-down and financial acquisition has a coefficient -19.93 and is significant a 1% level. This suggests that financial acquirers unlike strategic acquirers will not pay a premium and in fact require a 15% discount to purchase a firm in a less strict country.

The coefficient on risk-up is 0.21 but is not significant. However, the coefficient on the interaction between risk-up and high intellectual property is -12.38 and significant at a 5% level. This suggests that only firms with the highest potential transfer pricing costs are likely to demand a discount for entering a more strict transfer pricing regime. On average a firm in an industry with high levels of intellectual property will require a 12% discount. The interaction of risk-up with financial acquisition has a coefficient of -7.35 but is also insignificant. This suggests that financial acquirers do not require a discount to enter a more strict transfer pricing regime. This is consistent with Hypothesis Two as these acquisitions may not have much exposure to transfer pricing risk due to low levels of intra-firm transactions.

Overall the results using the unlogged premia are consistent with the results in Section 5.2.

Section 5.3.5 Validity of Financial Acquisitions Variable

A number of studies in the management sciences and business strategy literature have discussed the difference between two distinct types of acquisitions: *Financial acquisitions* and *Strategic acquisitions*.

The general commonality in definitions across many studies in this area is that strategic acquisitions involve operational synergies and financial acquisitions do not. (Nilsson, 1997; Healy, Palepu and Ruback, 1997; Beusch, 2004). Operational synergies are achieved by more integration in the firm resulting in financial acquisitions requiring less integration (Beusch 2004). Therefore due to less integration, an acquisition undertaken for financial purposes would expect to have less intra-firm transaction between the acquirer and its newly acquired subsidiary than if the acquisition was undertaken for strategic or synergetic reasons. As the expected transfer pricing cost as described in equation (2), is increasing in the level of expected intra-firm transactions, I use the distinction between financial and non-financial acquisitions as a proxy for expected level of intra-firm transactions. SDC provides a variable identifying financial acquisitions defined as follows:

> "Financial Acquirer Flag: 'Y' indicates that the acquirer is a financial company (buyout firm, venture capital company, merchant bank, commercial bank, etc.) and is acquiring more than 50% of the target, the target's main industry is non-financial and *it must be acquired for financial rather than strategic reasons."*

I use this variable to proxy for the expected level of intra-firm transactions, hypothesizing that on average financial acquisitions as defined by the SDC database will lead to fewer intra-company transactions.

To check the appropriateness of this variable I do two sets of investigations. First, I looked into the reliability of the measure from the SDC database. As mentioned previously in Section 4.3, previous studies have shown that there can be reliability issues with the SDC database (Ellis, Michaely, and Ohara, 2000; Betton, Eckba and Thorbrun, 2005; and Boone and Mulherin, 2007). As this variable, may not be a simple black and white variable it is important to check whether this measure is actually reflecting what the definition describes.

The second set of tests attempt to validate the assumption suggested by the management literature that financial acquisitions lead to less intra-firm transactions. I do this by comparing the inter-segment eliminations as reported in the Compustat Segment File for financial and non-financial acquisitions and the firms that undertake them.

Section 5.3.5.1 Reliability Check

For my study, the key to the definition supplied by SDC is that a firm "must be acquired for financial rather than strategic reasons". One concern is that transactions where a financial firm purchases a firm in a different industry is simply marked as a financial acquisition when in fact management may have had strategic motivations relating to the conglomerate. To check the reliability of the coding of managements' intentions, I attempted to code 50 acquisitions myself. Using the target's name, acquirer's name and the year of the transaction I searched Lexis Nexis for articles from the business press describing the merger. I checked 20 American firms, 10 German firms, 10 Japanese firms and 10 South Korean firms. The results for U.S., German and Japanese firms were all quite strong with at least 80% agreement between my coding and SDC for all of the countries.[13] However, the South Korean sample seemed much weaker as only 60% of the transactions appeared to be correct. The classification as a financial acquisition appeared to be based solely on if the firms were in different industries rather than management intent. Although, this assumption holds many times it fails to pick up strategic acquisitions in conglomerates. Therefore, the reader should be aware that the reliability of this measure in some of my smaller countries may be questionable so caution should be taken.

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[13] 1 American firm appeared to be coded incorrectly and 2 appeared unclear from the articles I could find. I found no clear errors in the German sample. 1 Japanese appeared incorrect while another appeared unclear by the articles I found.

Section 5.3.5.2 Validity of Intra-firm transactions

To test whether the suggestion that financial acquisitions lead to fewer intra-firm transactions was valid, I looked at three separate types of tests. First I compared the level of inter-segment eliminations for firms who only made financial transactions to those that only made strategic transactions. Secondly, I looked at the intra-segment eliminations surrounding transactions identified as financial or non-financial by SDC. Thirdly, to ensure that this measure was not simply picking up an industry variable I compared the changes in inter-segment eliminations surrounding strategic and financial acquisitions within the financial industry.

To perform the validity test I used net sales and inter-segment eliminations for all Compustat firms from 2005-1997.[14] I merged this data with all U.S. acquisitions from the SDC for this same period.[15] From the SDC database, I took the Financial Acquirer variable listed above. I then created an inter-segment percentage variable for each firm/year. The inter-segment percentage variable was equal to the total inter-segment eliminations for the firm/year divided by total sales for the firm/year. This was my base variable of comparison for my three tests.

In the first test, I looked to see whether firms who undertook strictly financial acquisitions during the sample period had on average less inter-segment eliminations (intra-firm transactions) than those firms who undertook strictly non-financial acquisitions, as identified by the SDC database. Taking a close look through the SDC data to assess the reliability, suggested that a large number of the financial acquisitions that were undertaken were done so by firms that do strictly financial acquisitions. While very few firms that

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[14] I chose this time period since it was the most key to my study as this is when the most changes in transfer pricing regulations took place. Due to the large number of U.S. transactions in the SDC database for the period of 1990-2005 a subsample was required.
[15] I use U.S. acquisitions as the Compustat segment file is dominantly U.S. firms.

undertook non-financial acquisitions ever undertook a financial acquisition. Therefore, looking at how these firm characteristics relate to inter-segment eliminations provides insight into the expected post acquisition levels of intra-firm transactions.

Using a t-test to compare the mean of inter-segment percentage for the two groups I found a resulting p-value of 0.01. The results suggest that firms that make strictly-financial acquisitions on average have less inter-segment eliminations than firms that undertake strictly financial acquisitions. However, as the sample includes an uneven amount of firm/year observations per firm there is potential that certain firms could be biasing the findings. To control for this I took the mean of inter-segment percentage across firm/year observations within each firm resulting in one mean inter-segment percentage and therefore one observation for each firm. I then used this sample to rerun the test. A t-test is used to compare the means of inter-segment percentage between the two groups. This results in a p-value of 0.18 that the mean of inter-segment eliminations for strictly financial acquirers was less than that of strictly non-financial acquirers. The test fails to reject the null that financial acquirers do not have less inter-segment eliminations than non-financial acquirers. However, the increased standard error could be due to the reduced number of observations. The reduced sample results in 5858 observations for non-financial firms and only 53 for strictly financial firms. Looking at the confidence intervals for the means of inter-segment percentage for the two groups appears to suggest a difference. The mean of inter-segment percentage for the non-financial group has a 95% confidence interval of 0.14 to 0.20 while the confidence interval for the financial group is smaller at 0.03 to 0.09. Therefore, although not statistically significant, there appears to be some evidence that firms that undertake strictly financial acquisitions have on average a lower level of inter-segment eliminations.

An additional test investigating the intra-firm characteristics of financial acquirers, regressed the percentage of all mergers and acquisitions performed by the firm between 1990 and 2005 that were identified as financial acquisitions by SDC, the *financial_percentage*, on the average inter-segment percentage for the firm for the period. This resulted in a coefficient on the *financial_percentage* of -0.13 and was significant at a 1% level. The intercept had a value of 0.20 and was also significant at a 1% level. These results suggest that a firm that undertook only financial acquisitions, *financial_percentage* equal to 1, would have on average 7% of their total sales to entities within the firm. Alternatively, a firm with only non-financial acquisitions, a financial_percentage equal to 0, would have on average 20% of its total sales between entities within the firm or nearly three times as many as the purely financial acquisition firm.

The second set of tests looks to see whether the specific acquisitions identified by SDC as financial or non-financial result in a change in the levels of inter-segment eliminations. I measure the change in the inter-segment percentage as the percentage change from the year prior to the acquisition to the year following the acquisition. I do not include the year of the acquisition as the effect on this year could vary between acquisitions depending on the timing of the acquisition during that year. Comparing the means of the change in inter-segment eliminations surrounding financial acquisitions to non-financial acquisitions, results in a p-value of 0.29 that is not statistically significant at conventional levels. Similar, to the above findings, statistical power may be an issue due to the small number of financial acquisitions which had segment data for both the year prior and year post. This resulted in 87 financial acquisitions and 5317 non-financial acquisitions. Similarly, the confidence intervals for the means of change in inter-segment eliminations surrounding these

acquisitions suggest that the financial acquisitions may lead to less inter-segment eliminations as financial acquisitions have a confidence interval at 95% that the mean is between 0.0003 and 0.004 while the non-acquisition transactions have a confidence interval of 0.017 and 0.04.

However, to attempt to validate that it is the acquisition that is responsible for the change in inter-segment eliminations, the test is ran again on a sample of acquisitions where the acquired company is at least 10% of the value of the acquiree prior to the acquisition. The largest transactions are the most likely to have a measurable effect on the overall percentage of inter-segment eliminations. Not surprisingly, using this restriction results in an even smaller sample of financial and non-financial acquisitions, to counteract this sample reducing effect, I look at the change between the year prior and the year of the acquisition resulting in 18 and 1425 observations for financial and non-financial transactions, respectively.[16] The results are similar to above where the T-test is not statistically significant however the confidence intervals of -0.002 to 0.005 for the financial acquisitions and 0.005 to 0.013 for the non-financial acquisitions suggest that the large financial acquisitions result in a smaller change in inter-segment eliminations than larger non-financial acquisitions.

The last set of tests looked at the difference between financial and non-financial acquisitions within the same industry. These tests are done to investigate whether the results of the validation tests are simply picking up an industry-specific characteristic. Since the majority of the financial acquisitions take place in the financial industry, the tests compare the change in inter-segment eliminations surrounding financial and non-financial acquisitions in the financial industry.[17] Again similar to the prior results, the t-test appears to lack statistical

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[16] All other acquisition level tests use the year prior and year post transaction.
[17] Financial industry is identified as NAICS codes on the primary industry between 520000 and 529999.

power to reject the null.[18] However, analysis of the 95% confidence intervals provides weak

evidence that the financial acquisitions in the financial industry result in a smaller change in

inter-segment eliminations than non-financial acquisitions as defined by the SDC database.

The confidence interval for the mean of change in inter-segment eliminations for financial

acquisitions is -0.002 to 0.005 and the confidence interval for non-financial acquisitions in the

financial industry is 0.009 to 0.03.

Review of the financial acquisitions between 1990 and 2005; show that collectively

the tests provide weak evidence suggesting the SDC measure of financial acquisitions may

have some validity as a measure of expected intra-firm transactions. The tests investigating

the characteristics of firms who undertake financial acquisitions suggest that there is a

statistically lower amount of intra-firm transactions for companies who perform solely

financial acquisitions relative to firms who perform solely non-financial acquisitions and that

the percentage of financial acquisitions performed appears to be negatively related to level of

intra-firm sales. However, as discussed, the statistical power of the tests relating specific

financial (non-financial) acquisitions to reduced (increased) levels of intra-firm transactions

did not lead to statistically significant results. Therefore, the reader should evaluate the

results with caution.

Section 5.4 Supplemental testing: High and Low Risk Target Preference Analysis

An additional investigation into the preferred targets of strict and less strict acquirers is

presented in Table 19. Table 20 shows the frequency of high-risk and low-risk acquirers

purchasing high and low-risk targets. Panel (a) suggests that targets from strict transfer

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[18] The sample results in 41 observations for the financial acquisitions and 606 observations for the non-financial acquisitions. The p-value on the t-test was 0.18.

pricing regimes most often attract acquirers from strict transfer pricing regimes while low-risk acquirers prefer low-risk targets. The chi‾square test shows that classifications are not independent at a 1% level of statistical significance. This provides evidence to support De Waegenaere et al. (2006), which models inconsistent transfer pricing rules in a multinational setting. The De Waegenaere et al. (2006) study suggests that moving from a high-risk country to a low-risk country may increase the audit activity of the acquirer's home country. This may be the motivation for acquirers from strict transfer pricing regimes choosing targets in other strict regimes. The result suggests that transfer pricing risk may affect the multinationals decisions of where to locate as well as how much to pay in cross-border acquisitions. Panel (b) reproduces the analysis in Panel (a), but without US and UK observations. Conclusions are the same.

It is possible that these results are driven by the period before 1996 where all but three of the countries were considered to be "less strict".[19] To investigate this prior to 1996 possibility, an additional specification check on Table 21 shows that the results are consistent when the sample is restricted to a post-1996 period. Since the data from the Deloitte transfer pricing guides were available for years 2000-2005 and had to be extrapolated to pre-2000 years, a second check is done to restrict the sample to post-2000 to ensure that the result is not driven by a measurement error. The results of the restricted sample shown in Table 21 are consistent.

Section 5.5 Conclusion

Results suggest that transfer pricing risk is priced into some merger and acquisition premia. Specifically, it appears that, as predicted, financial acquisitions pay neither a premium nor a

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[19] 1996 was the year the U.S. adopted their initial transfer pricing rules.

discount to increase or decrease transfer pricing risk. Evidence suggests that if a transaction is a non-financial transaction and is likely to have some intra-firm transactions then the acquirers are willing to pay a premium to operate in a less strict transfer pricing regime regardless of industry. However, only firms in industries that face high potential transfer pricing costs, demand a discount when transfer pricing risk is increased.

Specification checks suggest that the premia paid for targets in less strict transfer pricing regimes appears not to be driven by any particular country or country pairing and appear robust using an alternative index measure. However it should be noted that evidence of a discount related to increasing transfer pricing risk for high intellectual firms may be related to U.S. targets and may be being driven by the IRS's strong focus on high intellectual property industries. This focus by the IRS may also be reducing the premia paid for high intellectual property firms in less strict regimes by U.S. acquirers as some evidence exists that non-U.S. acquirers pay an additional premia for high intellectual property targets in less strict regimes relative to not high intellectual property targets.

Besides the constraints listed above some evidence suggests the existence of particular differences across regions and region pairings. Although, the results appear to hold whenever the transaction is within a region, the evidence suggests that Asian acquirers will not pay a premium for European firm in a risk decreasing transaction and that European and American acquirers may actually pay a premium to purchase an Asian target in a risk increasing transaction.

Chapter 6

The Effect of Taxes on Cross-Border Merger and Acquisition Structure: Literature Review and Hypothesis Development

6.1 Introduction

This chapter summarizes extant literature and motivates the hypotheses investigating the effect of taxes on acquisition structure in a cross-border setting. Section 6.2 discusses literature investigating the effect of taxes on domestic M&A structure. Section 6.3 discusses research surrounding information asymmetry and how it may differ across domestic and cross-border M&A. Section 6.4 describes the model of acquisition structure determination by Brown and Ryngaert (1991) and develops hypothesis four and five. Section 6.5 discusses extant literature surrounding the impact of financial reporting disclosure on information asymmetry and develops hypothesis six. Section 6.6 summarizes the chapter.

6.2 Effect of Tax on Domestic Mergers and Acquisitions Structure

Within the accounting and finance M&A literature, acquisition structure generally refers to the tax status (taxable or tax-free) and the consideration paid to target shareholders (e.g., cash, shares, or a combination of cash and shares) (Erickson 1998; Ayers et al. 2004). Many countries allow an acquisition to be structured to avoid current shareholder level capital gains tax if a certain percentage of the compensation received is in the form of shares in the continuing entity. This tax deferral is to allow for companies to be restructured without triggering tax when there is a continuance of ownership. Because the potential tax savings are significant, there is the potential for these tax policies to influence how mergers and acquisitions are structured. However, consistent with the Scholes-Wolfson framework (described in Chapter 2), the fact that share-consideration may result in tax savings is not

sufficient to ensure that share-for-share structures will be preferred once all tax and non-tax costs are considered. Therefore, the trade-off between shareholder level taxes and other factors on acquisition structure has been a question of interest.

The effect of shareholder-level taxes on M&A structure has proven to be a difficult question to address in extant literature. This is largely due to the difficulty in estimating the shareholders' tax arising from a transaction, typically relating to the capital gains (Ayers et al. 2004). Though a tax rate and a sale price are relatively easy to estimate, it is difficult to know the third part of the gain, historic cost of the shares. A variety of proxies have been used to estimate the shareholders' capital gain. Auerbach and Reishus (1988) use the gain over the two years prior to the acquisition as a proxy for the shareholder's capital gain. They investigate a sample of 318 mergers and acquisitions of large firms over a time period from 1968-1983 and find no evidence of a tax effect. Similarly, Erickson (1998) estimated the target shareholders' capital gain by using the average price in the two years prior to the transaction as the initial cost, rather than simply the gain from two years prior, and a sample of 340 corporate acquisitions between 1985 and 1988. Consistent with Auerbach and Reishus (1988), he was unable to show that the capital gains tax is correlated with the structure chosen. However, a two year period may not accurately estimate the holding period of shareholders as Shackelford and Landsman (1995) find in the case of the RJR Nabisco takeover. Using proprietary data these authors find that the average shareholder holding period was approximately 9.9 years with a high level of variance. Contrary to prior studies, Ayers, Lefanowitz and Robinson (2004) develop a different method for proxying the effect of capital gains taxes. By comparing different capital gains tax regimes in the United States from 1975-2000, Ayers et al. (2004) estimate a correlation between the highest marginal tax

rate on individuals' capital gains and the use of tax-free acquisition structures. Over this period the tax rate on capital gain changed four times and ranged from 20% to 35%. Using a sample of 516 acquisitions, the authors find their hypothesized result and conclude that shareholder level capital gains taxes do affect domestic mergers and acquisitions. Ayers et al. (2004) reconcile their findings to the previous studies by pointing to their measure of shareholder level capital gains which relies on tax rate variance and avoids the estimation of the holding period of the target shareholder. The cross-border M&A environment is a strong setting for applying the Ayers et al. (2004) model because capital gains rates vary both over time and across jurisdictions.

6.3 Information Asymmetry: Domestic versus Cross-border Mergers and Acquisitions

Considering the Scholes-Wolfson framework, I propose that the value maximizing structure in the international setting may be different from that in the domestic setting due to the number of non-tax factors that either do not exist in the domestic setting or are not as prevalent. For example, in a cross-border setting, bidders may choose not to offer a share exchange because they may not want to comply with that nation's security regulations (BenDaniel et al., 2002). Nation-specific rules may also preclude ownership of foreign shares by some shareholders. For example, in Canada until 2005 there was a limit on the percentage of foreign content allowed to be held within a Registered Retirement Savings Plan (RRSP). Finally, investors often choose investments that are geographically closer and therefore may simply prefer not to hold foreign shares (Coval and Moskowitz, 1999; BenDaniel et al., 2002). However, the primary difference between the domestic and cross-border setting is the increased information asymmetry between bidders and targets in an international setting. Coval and Moskowitz(2001) look at the effect of distance on the performance of mutual funds

and find persistent abnormal returns for local investments due to increased information availability. Portes and Rey (2005) investigate the bi-lateral gross cross-border equity flow between 14 countries between 1989 and 1996. They find that information asymmetry affects foreign direct investment decisions and conclude that "the geography of information is the main determinant of the pattern of international transactions" (Portes and Rey, 2005). Together this evidence suggests that information asymmetry is an important factor in cross-border business and likely greater in a cross-border transaction than in a domestic merger or acquisition. Brown and Ryngaert's model of acquisition structure ties in information asymmetry as an important factor when considering payment in cash or shares.

6.4 Brown and Ryngaert (1991) Model

Brown and Ryngaert (1991) develop a theoretical model that predicts the structure of the acquisition based on two key factors: the tax attributes of the target shareholders and information asymmetry concerning the value of the bidder. Previous studies, which modeled the choice to pay for an acquisition with shares or non-shares consideration, noted that bidders with private information about the value of its shares only offered stocks when its shares were overvalued leading to a "lemons" problem. Brown and Ryngaert introduce the tax advantage aspect of using stock as consideration in order to enrich the setting and provide an alternative reason for issuing stock.

Using game theory, the authors model a three-step negotiation where (1) The target's management presents a take-it or leave it offer to management concerning an offer made up of a certain percentage of shares and cash, (2) The bidder either accepts one of the target managements offers, makes an all cash offer or ends the game by rejecting the offers. Note

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that the bidder can not counter with an alternative offer containing stock, and (3) The target's shareholders vote on whether to accept the bidder's offer if one is made.

The model makes some important assumptions. First the model assumes that the bidder's value is either high or low and while the bidder knows its type the target does not. Therefore, there is asymmetric information about the value of the bidder. The target's shareholders are risk neutral and require a return of R for nontaxable compensation and R plus a premium for a taxable transaction. Consistent with the Scholes-Wolfson framework, both parties are attempting to maximize their after tax wealth.

One of the main results of the analysis is that the amount of stock used in a non-taxable transaction is a trade-off between the additional capital gains penalties of a cash transaction and the underpricing of the marginal bidder's stock associated with information asymmetry between the bidder and the target.

Consistent with the findings of Ayers et al. (2004) and the predictions of Brown and Ryngaert (1991) I hypothesize

H4 **Cross-border transactions where the target shareholders face high shareholder-level taxes are more likely to use a share-for-share exchange.**

Consistent with the Scholes-Wolfson framework and Brown and Ryngaert (1991)'s prediction that tax benefits will be traded off with non-tax costs such as information asymmetry, I hypothesize

H5 **The positive relation between capital gains tax rates and the use of a share-for-share exchange will be mitigated by increased information asymmetry.**

6.5 Information Asymmetry and Financial Reporting Disclosure

Bushman and Smith (2001) review the accounting literature and develop a model of how financial reporting information affects governance. The model suggests higher quality financial reporting can have economic benefits by reducing the information asymmetry among investors. The authors call for more cross-country studies to help test the predictions of their model. Young and Guenther (2003) answer their call for more cross-country studies and operationalize their model by developing a cross-country measure of financial reporting quality on a 15 point index. They use the index to investigate what role financial reporting has on capital mobility. They find that higher quality financial reporting leads to an increase in the mobility of capital across countries, suggesting that higher quality financial reporting reduces information asymmetry. Therefore, I expect that if higher quality financial reporting reduces information asymmetry it should lead to a great use of tax-efficient share for share exchanges. This leads to my last hypothesis:

H6   The positive relation between capital gains tax rates and the use of a share-for-share exchange will be increased by the presence of higher quality financial reporting.

6.6 Chapter Summary

Investigating the effect of shareholder capital gains tax on acquisitions structure has been challenging due to the difficulty in estimating the size of the gain. Ayers et al. (2004) use an alternative proxy by looking at acquisitions across a long horizon over a number of different capital gains tax rates. Using this measure, based on tax rate variance, the authors are able to show that shareholder capital gains taxes due affect the structure of acquisition structures. Cross-border mergers and acquisitions provide a strong setting for using this proxy, as tax rate vary not only over time but across countries. Due to differences in non-tax costs, such as information asymmetry, results from the domestic setting may not extend to the international

setting. Brown and Rynagaert (1991) predict that the use of shares as consideration in an

acquisition will be related to the level of capital gains tax, however this may be traded off

against increased information asymmetry concerning the value of the bidder's shares. This

prediction makes up my hypotheses four and five. Bushman and Smith (2001) predict that

financial reporting quality can reduce information asymmetry. Therefore, I hypothesize that

higher quality financial reporting will reduce information asymmetry and lead to more tax

efficient acquisition structures.

Chapter 7

Research Design: M&A Structure Tests

7.1 Introduction

This chapter describes the research design and sample used to test the hypotheses developed in Chapter Six concerning the effect of taxes on merger and acquisition (M&A) structure. Section 7.2 describes the research design. Section 7.3 describes the sample used to test the hypotheses and Section 7.4 summarizes the chapter.

7.2 Research Design

The process to develop a research model to investigate the hypotheses developed in Chapter 6 was similar to the process described in Section 4.2. I began by considering Rossi and Volpin (2004)'s investigation into the effect of shareholder protection regulation on M&A structure in a cross-border setting. I included all variables found to influence significantly M&A structure in their study. I then turned to the accounting literature which looked more specifically at tax and M&A structure. I include in my equation all variables found to be significant in Ayers, Lefanowitz and Robinson (2004). Lastly, I added the tax and accounting variables required to test the hypotheses.

To test the hypotheses relating to acquisition structure, I use an OLS regression with the percentage of stock compensation as the dependent measure. This is different from the dependent measure of Rossi and Volpin; they use an indicator equal to 1 if for all cash compensation, and 0 otherwise. Therefore, when comparing coefficients between the two studies the expected sign will be reversed. The data for my dependent measure is taken from the SDC Platinum database. Extant research generally assumes that cash transactions are

taxable while share-for-share exchanges are tax-free.[20] With the assistance of the Toronto

Deloitte office, I collected information from tax offices from the 27 countries in the sample. I

collected data regarding the rules for cross-border share-for-share exchanges relevant to that

country across my sample period of 1990-2005. The common assumption that a share-for-

share exchange can be structured tax-free is true for 88% of the transactions in my sample.[21]

The explanatory variable for shareholder tax is measured as the individual capital

gains rate on corporate shares in the country of the ultimate parent of the target.[22] The data

was collected for each country-year from the PricewaterhouseCoopers Worldwide Tax Guide.
[23] Therefore, my data and model are dynamic to tax policy changes within countries. I also

use an indicator of whether the country allows a tax-free share-for-share exchange as a refined

measure to isolate the effect of taxes on the percentage of stock compensation.

Information asymmetry (IA) is measured based on share turnover ratio, a common

proxy used in the accounting and finance literature (e.g.,Bartov and Bodnar, 1996).[24] A larger

share turnover ratio indicates greater liquidity and therefore less information asymmetry.

Although this measure is often used at the firm level, I use the average share turnover ratio

from the country's stock exchange as a measure of the liquidity of the market, and therefore a

general proxy of information asymmetry for shares in that country. This data was collected

for each country-year from the World Bank Database.

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[20] Technically the share-for-share exchange is not tax-free but allows for a tax deferral as the tax on the gain will become payable when the shares are finally sold.
[21] In order to qualify for tax-free status, the percentage of shares must be above a specific threshold in some countries. This threshold varies from 0 where countries provide tax-free status proportional to the percentage of shares compensation to as high as a 90% threshold. Over most countries that allow a tax-free exchange, a larger percentage of share compensation indicates a higher percentage of tax-free status.
[22] The SDC database identifies the target and the ultimate parent of the target. Since the ultimate parent is likely the selling shareholder I use their tax rate.
[23] The rate used is the capital gains rate on shares when the shareholder had a significant interest. Significant interest varied across countries but it was generally anything over 5% and resulted in a higher tax rate in countries where there were separate rates for these shareholders.
[24] Share turnover ratio = total shares traded/ total shares outstanding

The measure of the quality of the country's financial reporting standards is based on Bushman and Smith (2001) who show that higher quality financial reporting can reduce information asymmetry. I begin with the 15-point index developed by Young and Guenther (2003), as the measure of financial reporting quality.[25] I then calculate the index for International Accounting Standards and reflect the change in the country-level index, as countries adopted IAS over my sample period. I then calculate the median index rating and classify countries as a 1 if they are above the median, indicating a high quality of financial reporting, and 0 otherwise.[26]

Overall this provides the following model to test my hypotheses:

$$Percentage\_of\_stock_i = \beta_0 + \beta_1 CGT_t + \beta_2 IA_b + \beta_3 SFS_b + \beta_4 CGT_t*IA_b + \beta X + \varepsilon_1 \quad\quad (3)$$

$$Percentage\_of\_stock_i = \beta_0 + \beta_1 CGT_t + \beta_2 IA_b + \beta_3 SFS_b + \beta_4 Disc_b + \beta_5 CGT_t* Disc_b + X + \varepsilon_1 \quad\quad (4)$$

Where:
Percentage of stock$_i$ = The value of stock compensation received over the total value of compensation received.

CGT_t = The capital gains tax rate for the country of the ultimate parent of the target in the year of the transaction.

IA_b = The average stock turnover ratio for the country's stock market multiplied by -1 (Brown &Ryngaert, 1991).

SFS_t = An indicator equal to one if the country of the ultimate parent of the target country allows a tax-free exchange of shares in a cross border acquisition.

$Disc_b$ = A measure of quality of the acquirer's financial reporting standards. It is measured as an indicator variable equal to 1 if the acquirer's country has financial reporting standards scored above the median on the modified Young and Guenther (2003) index.

X= a vector of control variables including:
Shareholder Protection$_a$ = A measure of shareholder protection developed by Rossi and Volpin (2004).

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[25] Appendix C outlines the measure for each country and for International Accounting Standards
[26] The Young and Guenther index was not calculated for 6 of my countries. For these countries I used the measure of accounting standards quality from the Center for International Financial Analysis and Research, from the 1990 report used in Rossi and Volpin (2004). If the country's measure was above the median I coded them as 1, or a 0 otherwise.

Hostile$_i$ = An indicator variable equal to one if the target's management opposed the bid. This measure was found to be significant in both Ayers at al (2004), and Rossi and Volpin (2004).

Tender Offer$_i$ = An indicator variable equal to 1 if the offer was a tender offer and 0 otherwise (Rossi and Volpin 2004).

Target Size$_t$ = The log of the target's market capitalization four weeks prior to the bid (Rossi and Volpin 2004).

Mandatory Bid$_i$= An indicator variable equal to one if the target country requires a tender offer to protect minority investors after the acquirer acquires a certain percentage; 0 otherwise (Rossi and Volpin, 2004).

Foreign Currency$_{t,b}$ = Ratio of bidder's currency to the target's currency valued in US$.[27]

7.3 Sample

The same sample selection process was used for the tests of acquisition structure as described in Chapter 4 for tests of acquisition premia. My sample was taken from the SDC database for all transactions between the 27 most common countries in the database. This resulted in an overall sample of 14,033 transactions; however, due to the specific data requirements to estimate the tests described in section 7.2, the final sample has 5,837 transactions. Tables 15 and 16 provide descriptive statistics for the sample of transactions used to test equations (3) and (4). Table 22 provides details of some variables of interest summarized by country. Similar to the tests of acquisition premia, the sample is heavily weighted to U.S. and UK targets, which make up 32%, and 19% of the targets, respectively. The average capital gains tax rate is 20%. The average capital gains tax rate across the sample period by country shows a high of 35.90% in Norway, and a low of 0.00% in several countries. Over the sample period, the average annual rate has cut in half from a high of 30% in 1990, to an average rate

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[27] This measure has not been included before in structure or premium tests but could impact a bidder's decision to use cash rather than shares when bidding on a foreign entity. It has been shown to affect location decision (di Giovanni, 2005).

of 15% in 2005. Table 23 shows that although the percent-of-stock has an average value of 22%, the median is 0, indicating that the distribution is clustered at the ends of the distribution. This is consistent with Brown and Ryngaert's (1991) prediction that all cash bids or all share bids are preferred.

7.4 Chapter Summary

I develop a regression model to test the hypotheses developed in Chapter 6 based on Rossi and Volpin (2004) investigation of M&A structure in a cross-border setting and Ayers, Lefanowitz and Robinson (2004) study of the effect of shareholder tax rates on M&A structure in a domestic setting. I use the percentage of shares compensation as the dependent measure. My independent measures include the highest individual capital gains tax rate for the ultimate target's country, the share turnover ratio for the country's stock exchange as a proxy for information asymmetry, and a measure of the quality of financial reporting standards in the acquirer's country using a modified version of the index of Young and Guenther (2003). This model is estimated on a sample of 5,837 cross-border M&A transactions among 27 countries over the period of 1990 to 2005. Chapter 8 presents the results of estimating the models.

Chapter 8

Results: Merger and Acquisition Structure Tests

8.1 Introduction

This chapter presents the results from the merger and acquisition structure tests. The main test results are presented in Section 8.2. Results of Specification tests are presented in Section 8.3. Section 8.4 summarizes the chapter.

8.2 Main Results

The main tests of the effect of transfer pricing policies on merger and acquisition structure were outlined in equations (3) and (4) of chapter 7 and are presented in Tables 9 and 10. The OLS regression models were estimated using the sample of 5833 cross-border M&A transactions from 27 countries between 1990 and 2005 as described in chapter 7.

Table 24 displays the results of testing Hypothesis Four. In column (1) of Table 24, the coefficient on the capital gains rate is 0.14 and significant at a 1% level indicating that higher capital gains tax rates are correlated with increased use of share-for-share exchanges. This relation is consistent with the hypothesis. Also in support of the effect of tax on acquisition structure, the coefficient on *foreign share-for-share* is 2.53 and significant at the 5% level, indicating that acquisitions where the target shareholders are in a country that allows a tax free share-for-share exchange are more likely to use share-for-share exchange. Brown and Ryngaert (1991) predict that information asymmetry regarding the bidder's shares reduces the use of share-for-share exchange as. The estimates are consistent with this; the coefficient on information asymmetry is -0.03 and significant at the 1% level.

As documented by Ayers et al. (2004) and Rossi and Volpin (2004), hostile bids are negatively related to the use of share-compensation. The coefficient on the hostile variable is -5.47 and is moderately significant at the 10% level.

Rossi and Volpin (2004) provide evidence that tender offers are less likely to use shares as compensation than non-tender offers. Consistent with this prediction the coefficient is -12.46 and is highly significant at the 1% level.

I predict that the strength of the acquirer's currency relative to the target's currency will be negatively related to the use of share compensation. The coefficient on foreign currency is -0.02 and is significant at a 1% level suggesting that as the acquirer's currency strengthens they are more likely to substitute cash compensation for share compensation.

Rossi and Volpin (2004) find that acquisitions where the target is in a country that requires a tender offer to protect minority shareholders are more likely to use share compensation. Consistent with this prediction, the coefficient on mandatory bid is 0.36; however, the coefficient is not significant at conventional levels.

There is extant evidence that the larger the target is, the more likely the acquirer is to use shares as compensation in the purchase (Rossi and Volpin 2004). The coefficient on target size is -0.81 and is significant at the 1% level. This result is contrary to the previous study which predicts a positive relationship.

Previous work has documented that as shareholder protection in the target's country decreases relative to the acquirer's country's shareholder protection, so does the use of shares as compensation because the target shareholders in low protection countries view shares as more likely to be expropriated (Rossi and Volpin 2004). The coefficient on shareholder protection is -0.55 and significant at the 1% level indicating that as the target countries level

of shareholder protection decreases the demand for share-for-share transactions.[28] Overall,

with the exception of target size, I find the control variables consistent with extant research.

Column 2 includes the interaction of the capital gains tax rate and the ability to use tax-free share-for-share exchanges. The coefficient on this interaction is 0.15 and significant at

the 4% level, indicating that shareholders that capital gains tax rate is correlated with share

use only when the share-for-share exchange structure permits tax-free status Consistent with

expectations, the main effect of both the share-for-share and capital gains tax rate variables

become insignificant in the presence of the interaction. This outcome is expected because the

individual shareholder capital gains tax rate should have no effect on the structure of a cross-border merger or acquisition if the use of shares does not lead to a tax-free benefit. Similarly,

if the target country's tax rate is zero there is no benefit to the tax-free structure. As an

additional specification check, the country-specific threshold for the percentage of

compensation required in a transaction to be classified as a tax-free acquisition is included in

the regression. The coefficient is 0.03 and is significant at a 2% level as shown in Table 25.

This suggests that parties to the acquisition react to higher statutory requirements by

increasing the percentage of share compensation in order to qualify for tax-free status. In both

of these additional models, the control variables remain substantially similar as described in

column (1).

Table 26 provides estimates of equations (3) and (4). Column (1) tests the interaction of

the capital gains tax rate with the information asymmetry proxy to test Hypothesis Five based

on the prediction of Brown and Ryngaert (1991). Consistent with these predictions, the

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[28] As described in Chapter 7, shareholder protection is calculated as the difference between the bidder and target countries measured as the bidder's country less that of the target's country.

coefficient on the interaction is -0.01 and significant at roughly the 1% level of significance. This suggests that as predicted, information asymmetry reduces the tax effect.

The coefficient on the main effect of Capital gains tax rate is -0.17 and significant at the 1% level. This coefficient appears to be opposite of that expected as it appears to suggest a negative relation between capital gains tax rate and the use of share-for-share exchange. However, since this model interacts two continuous variables, the main effects become difficult to interpret. The coefficient on capital gains tax rate is the effect of capital gains tax rate when information asymmetry is equal to 0. However, the value 0 is signifcantly outside the range of the information asymmetry variable. As a result, the main effect of the capital gains tax rate does not provide any meaningful information and hence no sign was predicted for this variable. The coefficient on *information asymmetry* is -0.06 and is significant at the 1% level. Similar care must be taken when interpreting this main effect because the tax rate is rarely zero in the sample of countries. The coefficient on disclosure quality is 8.63 and is significant at the 1% level. This is consistent with the prediction that acquirer's from countries with higher quality financial reporting are more likely to be able to use their shares as compensation. The results from the control variables are consistent with the results discussed for Table 24.

The prediction of Hypothesis Six is tested in column (2). The interaction of the quality of accounting disclosure with the tax rate measure is 0.14 and is significant at a 3% level. Thus, higher financial reporting quality is correlated with the use of more tax-efficient acquisition structures in a cross-border setting.

The coefficient on capital gains tax rate is 0.17 and is significant at the 1% level. The coefficient on disclosure quality is 6.06 and is significant at the 1% level. As discussed

above, because the model includes the interaction of two continuous variables the main effects should be interpreted with care. The coefficient on information asymmetry becomes insignificant in this model. This may be due to some correlation between disclosure and information asymmetry. Consistent with the prediction of Bushman and Smith (2001) model, information asymmetry and high quality financial reporting are negatively correlated with a Pearson correlation measure of -0.27, statistically significant at the 1% level. Due to this correlation and the potential collinearity, the interactions in Table 26 are ran in two separate regressions rather than together in one. Like column (1) and Table 24, the control variables are consistent with predictions with the exception of target size.

8.3 Specification Tests

As a specification check, I used three additional measures of financial reporting disclosure quality. I use the original measure of Guenther and Young (2003) as well as the measures of enforcement of accounting standards and quality of accounting standards from Hope (2003). Hope uses the CIFAR ratings to estimate a country-level measure of financial reporting disclosure quality. This data is commonly used throughout accounting research, though it recently has come under some criticism. Guenther and Young (2003) explains that the CIFAR ratings may not be appropriate as a country level measure because these ratings are often the result of the choices of individual companies and not the financial reporting environment of the country. Bushman and Smith (2001) also state that "The CIFAR index is likely to be a fairly noisy measure of the relative amount of information provided by a country's financial reporting regime". For these reasons, I also use Hope's accounting enforcement measure as an additional proxy. This measure is developed based on a number of factors including a country-level audit spending measure, rule of law, and insider trading

rules. Table 27 summarizes the results of the alternative measures of country-level disclosure

quality. As well as the original Guenter and Young (2003) index and the Hope (2003)

disclosure and enforcement measures, I created three indicator variables based on Hope's

disclosure and enforcement measures. In total seven disclosure measures are tested. The

coefficient of interest, the interaction between disclosure quality and capital gains tax rate, is

positive and significant at the 10% level for all measures and is significant at the 5% level for

5 of the 7 measures. The coefficient ranged in magnitude from 0.03 on the original Guenther

model and Hope disclosure quality measure to 0.21 using Hope's enforcement measure as an

indicator variable split at the median. Across all measures the control variables remain

consistent with the previous discussion. Overall the alternative measures enforce the validity

of the financial reporting disclosure construct and provide further support for the hypotheses.

Lastly, as the dependent measure is censored at 0, I ran the tests using a Tobit model.

The results from the equations tested using OLS in Table 24 and Table 26 are tested using

Tobit in Table 28 and 29.   The conclusions remain consistent across all tests. The main

variables of interest for Hypothesis One, the coefficient on capital gains tax rate in column (1)

of Table 28 and the coefficient on the interaction of capital gains rate and foreign share-for-

share are 0.33 and 0.40 and significant at the 1% and 5% levels, respectively. Together these

provide evidence that higher capital gains tax rates lead to increased use of share-for-share

exchanges. The coefficient of interest for testing Hypothesis Two is the interaction between

capital gains tax rate and information asymmetry presented in column (1) of Table 29. The

coefficient is expected to be negative because information asymmetry is expected to mitigate

the positive influence of capital gains tax rates. The coefficient estimated in the Tobit model

is -0.01 and significant at the 1% level. This supports the prediction of Hypothesis Two.

Finally, Hypothesis Three is tested by analyzing the interaction between quality of financial reporting disclosure in the acquirer's country and the capital gains tax rate of the target shareholders. If higher quality financial reporting reduces information asymmetry, as Bushman and Smith (2001) predicted, then higher quality financial reporting should lead to increased use of share-for-share exchanges in the presence of high capital gains tax rate. The coefficient on the interaction is 33.05 and is significant at the 3% level. Therefore, the tests suggest that higher quality financial reporting leads to increased use of tax-efficient share-for-share exchanges in the presence of high capital gains tax rates. Overall these results lead us to conclude that the results described in Section 8.3 are robust to censorship of the dependent variable and provide support for the conclusions discussed.

8.4 Chapter Summary

Evidence suggests that shareholder capital gains taxes affect the structure of cross-border M&A. Higher capital gains tax rates result in increased use of tax-efficient share-for-share exchanges in countries that provide such incentives. Information asymmetry surrounding the acquirer's shares reduces the use of share-for-share exchanges and mitigates the effect of capital gains taxes as the target shareholder's trade off the tax savings with potential non-tax costs associated with the information asymmetry surrounding the acquirers' shares. However, high quality financial reporting standards in the acquirer's country are positively associated with use of share-for-share exchanges. High quality financial reporting facilitates the use of more tax-efficient M&A structures.

Chapter 9

Conclusion

Using a large sample of merger and acquisitions from 27 countries over a 16-year period, I investigate how tax and financial reporting policies affect cross-border mergers and acquisitions. Specifically, I focus on the effects of transfer pricing policies on M&A premia and the effects of shareholder-level capital gains and high quality financial reporting on M&A structure.

To investigate the effects of transfer pricing policies on M&A premia, I develop a regression model using three steps. I first use the control variables shown to be significant in Rossi and Volpin (2004). I then include any significant control variables from Ayers et al. (2003). Lastly, I introduce my own tax and accounting measures of interest. Specifically, I develop a measure of transfer pricing strictness using annual data from the Deloitte Strategic Matrix and the Transfer Pricing Guides of Ernst & Young and KPMG. I use cluster analysis to classify country/year observations as strict or less-strict. I use this measure as my primary measure for testing the hypotheses investigating the effects of transfer pricing policies on cross-border M&A. I test the model using a sample of 1,308 cross-border M&A transactions taken from the SDC database.

I find evidence that firms in non-financial acquisitions pay a premium to reduce the tax risk associated with strict transfer pricing rules. There is no evidence of a difference in this premium across industries. However, evidence suggests that only firms in non-financial acquisitions facing high levels of increased potential transfer pricing costs such as firms purchasing targets with high levels of intellectual property demand a discount for the

increased potential cost. Additionally, results supply no evidence that acquirers in financial acquisitions factor transfer pricing risk into premiums paid. This is consistent with financial acquisitions having less intra-firm transactions and therefore a lower exposure to transfer pricing risk.

Supplemental tests show that the results are robust to an alternative 18 point index measure of transfer pricing risk. Further tests also suggest that though there is no evidence that the premia for risk-decreasing transactions is specifically related to any country or country-pair, the discount related to risk-increasing targets in high intellectual property industries may be specifically related to targets in country's where tax authorities target these industries. Regional pairings tests show that although, the results appear to hold whenever the transaction is *within* any specific region, there may be some differences when the transaction is *between* certain regions. Specifically, the evidence suggests that Asian acquirers will not pay a premium for European firm in a risk decreasing transaction and that European and American acquirers may actually pay a premium to purchase an Asian target in a risk increasing transaction.

The second set of tests investigates the effect of shareholders' capital gains taxes and high quality financial reporting on M&A structure. I develop a regression model based on Rossi and Volpin (2004)'s investigation into M&A structure in a cross-border setting and Ayers, Lefanowitz and Robinson (2004)'s study into the effect of tax on M&A structure in a domestic setting. I use the percentage of compensation made up of shares as the dependent measure. My independent measures include: the highest individual level capital gains tax rate for the ultimate target's country in the year of the transaction, the share turnover ratio for the country's stock exchange in the year of the transaction as a proxy for information asymmetry,

and a measure of the quality of financial reporting standards in the acquirer's country based on Young and Guenther (2003) and modified to reflect countries adoption of international accounting standards. This model is tested on a sample of 5,837 cross-border M&A transactions between 27 countries over the period of 1990 to 2005.

I find that shareholder-level capital gain taxes influence the structure of an acquisition in a cross-border setting. This is consistent with Ayers et al. (2004)'s findings in the domestic setting, and provides further support reconciling their findings with previous results in the accounting literature. The influence of shareholder-level taxes is reduced by the presence of information asymmetry concerning the acquirers stock, though higher quality financial reporting reduces information asymmetry and improves the tax efficiency of acquisition structure, providing tangible economic benefit to shareholders.

The results of this study contribute to the accounting literature in a number of different ways. First this study expands our understandings into the tax and non-tax costs that are traded off in cross-border mergers and acquisitions.

The first half of the study provides evidence that tax policies can affect the premia of cross-border mergers and acquisitions. The study is the first that I am aware of to show that costs associated with uncertain tax positions are priced into M&A. This may be of interest not only to policy makers that deal directly with transfer pricing policies but also accounting standard setters. This is the first year that *Financial Interpretation 48* comes into effect in the United States. This policy requires an estimate of uncertain tax positions be disclosed. Many people have opposed this standard saying that it will not provide any meaningful information to investors. The evidence of this study suggests that uncertain tax costs can impact business decision makers.

The evidence also provides insights into current transfer pricing practices. The evidence suggests that operating in less strict transfer pricing regimes may provide economically significant tax planning opportunities as firms that are likely to undertake intra-corporate transactions are willing to pay a premium to operate in less strict countries. The evidence also suggests that there may be a significant difference in potential transfer pricing costs between industries which may lead to dispersion in awareness as firms operating in more highly scrutinized industries with higher potential transfer pricing costs demand a discount when increasing their risk by purchasing a target in a strict regime, while firms in less scrutinized industries do not. The evidence also supports the model developed in chapter 3 which helps predict which firms have the highest potential transfer pricing costs. This model may have potential use either in industry for firms that may need to make estimations of potential transfer pricing costs or in future research surrounding transfer pricing and tax risk. Overall this study provides evidence that substantiates anecdotal evidence that transfer pricing is economically important issue in international business.

The second half of the study provides evidence of the effect of shareholder level capital gains tax on the structuring of cross-border M&A. These tests extend the findings of Ayers et al. (2004) that shareholder taxes affect acquisition structure into the cross-border setting. This provides further support for Ayers et al. (2004)'s reconciliation with previous studies which found conflicting results. Additionally, this study provides new information about the effect of information asymmetry as a non-tax cost on efficient tax planning. This finding may have impacts on future research as well as practitioners. Further tests show that information asymmetry can be reduced by high quality financial reporting, facilitating more

tax efficient structuring of cross-border M&A. Therefore, this study documents a tangible

and economically significant benefit to high quality financial reporting.

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Table 1
Summary of transfer pricing strictness measure by country over selected years*

	Effective Date of Transfer Pricing Rules**	1990	1995	2000	2005
Argentina	1998	0	0	0	0
Australia	1981	1	1	1	1
Austria	1996	0	0	1	1
Belgium	1998	0	1	1	1
Brazil	1997	0	0	1	1
Canada	1998	0	0	1	1
Denmark	1998	0	0	1	1
Finland	-	0	0	0	0
France	1996	0	0	1	1
Germany	1983	1	1	1	1
Hong Kong	-	0	0	0	0
India	2001	0	0	0	1
Ireland	-	0	0	0	0
Italy	1986	1	1	1	1
Japan	1986	0	0	0	0
Malaysia	2003	0	0	0	1
Mexico	1994	0	0	0	0
Netherlands	2002	0	0	0	1
New Zealand	1995	0	0	1	1
Norway	-	0	0	0	0
Singapore	1947	0	0	0	0
South Africa	1995	0	0	0	0
Spain	1995	0	0	0	0
Sweden	1928	0	0	0	0
Switzerland	-	0	0	0	0
United Kingdom	1998	0	0	1	1
United States	1996	0	0	1	1
Total strict-rule countries		3	4	12	15

*Tpfocus measure, value of 1 denotes countries with strict transfer pricing rules, see Appendix B
** Dates per KPMG Global Transfer Pricing Review (2005)

Table 2

*Distribution of sample of 1308 cross-border merger and acquisitions completed between 1990-2005
used to estimate equations (1)-(2), across countries*

	Acquirer		Target	
	N	Percent	N	Percent
Argentina	2	0.00	1	0.00
Australia	63	0.05	89	0.07
Austria	6	0.00	4	0.00
Belgium	20	0.02	0	0.00
Brazil	3	0.00	2	0.00
Canada	102	0.08	97	0.07
Denmark	23	0.02	16	0.01
Finland	16	0.01	12	0.01
France	86	0.07	59	0.05
Germany	0	0.00	22	0.02
Hong Kong	18	0.01	12	0.01
India	1	0.00	4	0.00
Ireland	18	0.01	0	0.00
Italy	28	0.02	0	0.00
Japan	25	0.02	12	0.01
Malaysia	8	0.01	7	0.01
Mexico	8	0.01	1	0.00
Netherlands	64	0.05	35	0.03
New Zealand	8	0.01	15	0.01
Norway	8	0.01	27	0.02
Singapore	19	0.01	14	0.01
South Africa	15	0.01	15	0.01
Spain	20	0.02	11	0.01
Sweden	43	0.03	36	0.03
Switzerland	39	0.03	7	0.01
United Kingdom	268	0.20	298	0.23
United States	397	0.30	512	0.39
Total Sample	1308	1.00	1308	1.00

Table 3

*Descriptive Statistics for 1308 cross-border merger and acquisitions completed
between 1990-2005 used to estimate equations (1)-(2)*

Variable	Mean	Standard Deviation	25th Percentile	Median	75th Percentile
Premium	3.61	0.8958	3.19	3.72	4.18
Δ transfer pricing risk (t-a)	0.05	0.5120	0.00	0.00	0.00
Target transfer pricing focus	0.68	0.4679	0.00	1.00	1.00
Acquirer transfer pricing focus	0.62	0.4849	0.00	1.00	1.00
Financial	0.08	0.2658	0.00	0.00	0.00
Intellectual Property	0.3	0.4572	0.00	0.00	1.00
Shareholder Protection	-0.49	2.0369	-1.00	0.00	0.00
Target size	5.11	1.6285	3.85	4.93	6.30
Hostile	0.04	0.1990	0.00	0.00	0.00
Tender Offer	0.66	0.4715	0.00	1.00	1.00
Mandatory Bid	0.28	0.4483	0.00	0.00	1.00
Competing Bid	0.05	0.2109	0.00	0.00	0.00
Toe-hold	3.35	10.5074	0.00	0.00	0.00
Target ROA	-1.39	35.8400	0.13	3.46	7.24

Table 4

Effect of the difference in transfer pricing rule severity on acquisition premia

The table presents the results of four OLS regression models for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the natural logarithm of the acquisition premium, or the bid price as a percentage of the closing price of the target four weeks before the announcement. Independent variable at the country-level is Δ(Transfer pricing strictness)t-a, a measure of the difference in strictness of transfer pricing rules between the country of the target and the acquirer. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, US targets, a dummy variable equal to one if the target is a firm in the United States, and UK targets, a dummy variable equal to one if the target is a firm in the United Kingdom. The independent variables at the deal level are financial acquisition, a dummy variable equal to one if the acquisition is a financial acquisition, and High Intellectual Property target, a dummy equal to one if the target's primary activities are classified under the US census bureau's advanced technology product classification system. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, competing bidder, a dummy variable equal to one if there was a competing bidder for the target, toe-hold, the percentage of the target's shares held by the acquirer prior to the bid, and target ROA, the target's return on assets measured as the target's net income divided by total assets. The one-tailed p-values are presented in parentheses.

	Predicted sign	(1)	(2)
Δ(Transfer pricing strictness)t-a	(-)	-0.1145***	-0.0848*
		(0.008)	(0.061)
Financial acquisition	(?)	-0.3655***	-0.3113***
		(0.000)	(0.002)
Δ(Transfer pricing focus)t-a x Financial acquisition	(+)		0.3245*
			(0.056)
High Intellectual Property target	(?)	0.1448***	0.1780***
		(0.004)	(0.001)
Δ(Transfer pricing focus)t-a x High Intellectual Property target	(-)		-0.1914**
			(0.035)
Financial acquisition x High Intellectual Property target	(?)		-0.1741
			(0.263)
Shareholder protection	(+)	-0.0178*	-0.0178*
		(0.095)	(0.093)
Size of target	(-)	-0.0846***	-0.0847***
		(0.000)	(0.000)
Hostile bid	(+)	0.2136*	0.2151**
		(0.064)	(0.026)
Tender offer	(+)	0.2362***	0.2388***
		(0.000)	(0.000)
Mandatory bid rule	(-)	-0.0456	-0.0455
		(0.325)	(0.321)
Competing bidder	(+)	0.1875*	0.1855*
		(0.067)	(0.067)
Toe-hold	(-)	-0.0118***	-0.0116***
		(0.000)	(0.000)
Target ROA	(+)	-0.0008*	-0.0007
		(0.097)	(0.113)
US targets	(?)	0.2294***	0.2362***
		(0.010)	(0.008)
UK targets	(?)	0.1641**	0.1719**
		(0.043)	(0.034)
Intercept		3.770***	3.770***
		(0.000)	(0.000)
R^2		0.1199	0.1248
N observations		1308	1308

***, **, * indicate significance at 1%, 5%, 10%, respectively

Table 5

Specification check of the decomposition of is Δ(Transfer pricing strictness)t-a into risk increasing and risk decreasing acquisitions

The table presents the results of four OLS regression models for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the natural logarithm of the acquisition premium, or the bid price as a percentage of the closing price of the target four weeks before the announcement. Independent variable at the acquisition-level is risk up, an indicator variable equal to 1 if Δ(Transfer pricing strictness)t-a equals 1 and 0 otherwise, and risk down, an indicator variable equal to 1 if Δ(Transfer pricing strictness)t-a equals -1 and 0 otherwise. Δ(Transfer pricing strictness)t-a is a measure of the difference in strictness of transfer pricing rules between the country of the target and the acquirer. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, US targets, a dummy variable equal to one if the target is a firm in the United States, and UK targets, a dummy variable equal to one if the target is a firm in the United Kingdom. The independent variables at the deal level are financial acquisition, a dummy variable equal to one if the acquisition is a financial acquisition, and High Intellectual Property target, a dummy equal to one if the target's primary activities are classified under the US census bureau's advanced technology product classification system. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, competing bidder, a dummy variable equal to one if there was a competing bidder for the target, toe-hold, the percentage of the target's shares held by the acquirer prior to the bid, and target ROA, the target's return on assets measured as the target's net income divided by total assets. The one-tailed p-values are presented in parentheses.

Panel (a)	Predicted sign	(1)	(2)
Risk up	(-)	-0.09	0.02
		(0.08)	(0.43)
Risk up x Financial acquisition	(+)		-0.02
			(0.46)
Risk up x High Intellectual Property target	(-)		-0.32
			(0.01)
Risk down	(+)	0.14	0.21
		(0.04)	(0.01)
Risk down x Financial acquisition	(-)		-0.56
			(0.02)
Risk down x High Intellectual Property target	(+)		0.02
			(0.46)
Financial acquisition	(?)	-0.36	-0.29
		(0.00)	(0.01)
High Intellectual Property target	(?)	0.14	0.20
		(0.00)	(0.00)
Shareholder protection	(+)	-0.02	-0.02
		(0.12)	(0.11)
Size of target	(-)	-0.08	-0.09
		(0.00)	(0.00)
Hostile bid	(+)	0.21	0.22
		(0.03)	(0.03)
Tender offer	(+)	0.23	0.24
		(0.00)	(0.00)
Mandatory bid rule	(-)	-0.04	-0.04
		(0.34)	(0.34)
Competing bidder	(+)	0.18	0.18
		(0.07)	(0.08)
Toe-hold	(-)	-0.01	-0.01
		(0.00)	(0.00)
Target ROA	(+)	0.00	0.00
		(0.09)	(0.11)
US targets	(?)	0.23	0.25
		(0.01)	(0.01)
UK targets		0.17	0.18
		(0.04)	(0.03)
Intercept	(?)	3.76	3.75
		(0.00)	(0.00)
R^2		0.1198	0.1270
N observations		1308	1308

Table 5   (Continued)

Specification check of the decomposition of is Δ(Transfer pricing strictness)t-a into risk increasing and risk decreasing acquisitions

This table tests for a statistical difference between the coefficient on Risk-up and the negative coefficient of Risk-down.

Panel (b)

Test: Risk-up= - Risk-Down

$F(1, 1293)= 3.00$

Prob>F=.0835

Table 6

Comparison of Equation (1) and Equation (2) Results for Subsamples of Strict and Less-strict Acquirers
The table presents the results of four OLS regression models for two different sub- sample of cross-border M&A transactions from 27 countries from 1990-2005. The first sub-sample is denoted as strict acquirers measured as acquisitions where acquirers have a transfer pricing strictness equal to 1. The second sub-sample is less strict acquirers identified as acquisitions by acquirer's with a transfer pricing strictness measure of 0.The dependent variable is the natural logarithm of the acquisition premium, or the bid price as a percentage of the closing price of the target four weeks before the announcement. Independent variable at the country-level is Δ(Transfer pricing strictness)t-a, a measure of the difference in strictness of transfer pricing rules between the country of the target and the acquirer. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, US targets, a dummy variable equal to one if the target is a firm in the United States, and UK targets, a dummy variable equal to one if the target is a firm in the United Kingdom. The independent variables at the deal level are financial acquisition, a dummy variable equal to one if the acquisition is a financial acquisition, and High Intellectual Property target, a dummy equal to one if the target's primary activities are classified under the US census bureau's advanced technology product classification system. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, competing bidder, a dummy variable equal to one if there was a competing bidder for the target, toe-hold, the percentage of the target's shares held by the acquirer prior to the bid, and target ROA, the target's return on assets measured as the target's net income divided by total assets. The one-tailed p-values are presented in parentheses.

		Equation (1)		Equation (2)	
	Predicted sign	Strict Acquirers	Less-Strict Acquirers	Strict Acquirers	Less-Strict Acquirers
Δ(Transfer pricing strictness)t-a	(-)	-0.17	-0.12	-0.23	-0.02
		(0.02)	(0.07)	(0.01)	(0.42)
Financial acquisition	(?)	-0.43	-0.14	-0.27	-0.11
		(0.00)	(0.26)	(0.01)	(0.36)
Δ(Transfer pricing focus)t-a x Financial acquisition	(+)			0.49	-0.18
				(0.04)	(0.33)
High Intellectual Property target	(?)	0.22	0.02	0.25	0.17
		(0.00)	(0.42)	(0.00)	(0.08)
Δ(Transfer pricing focus)t-a x High Intellectual Property target	(-)		0.02	-0.02	-0.32
			(0.42)	(0.46)	(0.04)
Financial acquisition x High Intellectual Property target	(?)			-0.25	0.76
				(0.21)	(0.02)
Shareholder protection	(+)	-0.02	0.02	-0.02	0.00
		(0.11)	(0.46)	(0.09)	(0.46)
Size of target	(-)	-0.09	-0.07	-0.09	-0.07
		(0.00)	(0.00)	(0.00)	(0.00)
Hostile bid	(+)	0.32	0.11	0.33	1.10
		(0.02)	(0.24)	(0.02)	(0.23)
Tender offer	(+)	0.17	0.33	0.18	0.32
		(0.01)	(0.43)	(0.01)	(0.00)
Mandatory bid rule	(-)	-0.09	0.11	-0.09	0.10
		(0.23)	(0.23)	(0.24)	(0.26)
Competing bidder	(+)	0.36	-0.19	0.37	-0.22
		(0.01)	(0.15)	(0.01)	(0.13)
Toe-hold	(-)	-0.01	-0.01	-0.01	-0.02
		(0.01)	(0.00)	(0.00)	(0.00)
Target ROA	(+)	0.00	0.00	0.00	0.00
		(0.11)	(0.22)	(0.12)	(0.20)
US targets	(?)	0.20	0.36	0.22	0.36
		(0.07)	(0.01)	(0.05)	(0.01)
UK targets	(?)	0.16	0.23	0.17	0.25
		(0.10)	(0.06)	(0.09)	(0.04)
R^2		0.1418	0.112	0.1469	0.1204
N observations		814	494	814	494

Table 7

Distribution of Risk change, Financial Acquisitions and High Intellectual Property Targets
This table summarizes the distribution of cross-border merger and acquisitions according to the change in strictness of transfer pricing regimes in the acquisition and whether the target has a high level of intellectual property or the acquisition is a financial acquisition.

Panel (a): Acquisitions that decrease risk

		Financial Acquisition						High Intellectual Property		
		0	1	Total				0	1	Total
Risk-down	0	1079	91	1170		Risk-down	0	807	363	1170
	1	123	15	138			1	112	26	138
	Total	1202	106	1308			Total	919	389	1308

Panel (b): Acquisitions that increase risk

		Financial Acquisition						High Intellectual Property		
		0	1	Total				0	1	Total
Risk-up	0	1000	99	1099		Risk-up	0	781	318	1099
	1	202	7	209			1	138	71	209
	Total	1202	106	1308			Total	919	389	1308

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Table 8

Specification check into the effect of U.S. observations on risk increasing and risk decreasing acquisitions on equation (1)

The table presents the results of four OLS regression models investigating the effect of U.S. observations on the results from Column (1) of Table 5. Column (1) of the following table represents the results for the sample of cross-border M&A transactions from 27 countries from 1990-2005 omitting all acquisitions with a U.S. acquirer. Column (2) presents the results for the sample of cross-border M&A transactions used in Table 10 omitting all acquisitions with a U.S. target. Column (3) presents the results for the sample of cross-border M&A transactions used in Table 10 omitting both all acquisitions with either a U.S. acquirer or a U.S. target. Column (4) presents the results of estimating equation (2) using a sample of equally weighted country pairs for each year. Each country pair in each year represents one observation. The proportion or mean of each measure across acquisitions for each country pair in each year are used as the measure for each variable. See Table 5 for a descriptions of all variables. Note that the sample used for columns (1)-(3) includes only non-financial acquisitions. The one-tailed p-values are presented in parentheses.

Panel (a)	Predicted sign	(1) Non-U.S. Acquirers	(2) Non-U.S. Targets	(3) Non-U.S. All	(4) Country-Pair Tests
Risk-up	(-)	-0.07	-0.01	0.02	-.02
		(0.14)	(0.46)	(0.40)	(0.42)
Risk-down	(+)	0.22	0.15	0.26	0.18
		(0.02)	(0.02)	(0.01)	(0.02)
Financial acquisition	(?)	-0.34	-0.40	-0.42	-0.70
		(0.01)	(0.01)	(0.01)	(0.01)
Risk-up x Financial acquisition	(+)				
Risk-down x Financial acquisition	(-)				
High Intellectual Property target	(?)	0.02	0.01	0.02	0.01
		(0.36)	(0.35)	(0.43)	(0.43)
Risk-up x High Intellectual Property target	(-)				
Risk-down x High Intellectual Property target	(+)				
Shareholder protection	(+)	-0.01	0.01	0.01	-0.01
		(0.13)	(0.35)	(0.26)	(0.15)
Size of target	(-)	-0.06	-0.10	-0.08	-0.08
		(0.00)	(0.00)	(0.00)	(0.00)
Hostile bid	(+)	0.13	0.32	0.24	0.17
		(0.18)	(0.00)	(0.03)	(0.26)
Tender offer	(+)	0.24	0.20	0.27	0.17
		(0.00)	(0.01)	(0.00)	(0.05)
Mandatory bid rule	(-)	-0.14	-0.05	-0.14	-0.11
		(0.11)	(0.27)	(0.11)	(0.09)
Competing bidder	(+)	0.05	0.33	0.19	0.34
		(0.35)	(0.01)	(0.15)	(0.15)
Toe-hold	(-)	-0.01	-0.01	-0.01	-0.02
		(0.00)	(0.00)	(0.00)	(0.00)
Target ROA	(+)	0.00	-0.00	0.00	-0.00
		(0.35)	(0.20)	(0.35)	(0.35)
US targets	(?)	0.24			
		(0.02)			
UK targets	(?)	0.16	0.18	0.16	
		(0.10)	(0.04)	(0.08)	
Intercept		3.68	3.86	3.73	4.01
		(0.00)	(0.00)	(0.00)	(0.00)
R^2		0.11	0.14	0.13	0.07
N observations		911	796	548	575

Table 9

Specification check into the effect of U.S. observations on risk increasing and risk decreasing acquisitions on equation (2)

The table presents the results of four OLS regression models investigating the effect of U.S. observations on the results from Column (2) of Table 5. Column (1) represents the results for the sample of cross-border M&A transactions from 27 countries from 1990-2005 omitting all acquisitions with a U.S. acquirer. Column (2) presents the results for the sample of cross-border M&A transactions used in Table 10 omitting all acquisitions with a U.S. target. Column (3) presents the results for the sample of cross-border M&A transactions used in Table 10 omitting both all acquisitions with either a U.S. acquirer or a U.S. target. Column (4) presents the results of estimating equation (2) using a sample of equally weighted country pairs for each year. Each country pair in each year represents one observation. The proportion or mean of each measure across acquisitions for each country pair in each year are used as the measure for each variable. See Table 5 for a descriptions of all variables. Note that the sample used for columns (1)-(3) include only non-financial acquisitions. The one-tailed p-values are presented in parentheses.

Panel (a)	Predicted sign	(1) Non-U.S. Acquirers	(2) Non-U.S. Targets	(3) Non-U.S. All	(4) Country-Pair Tests
Risk up	(-)	-0.01	0.06	0.08	0.03
		(0.47)	(0.27)	(0.27)	(0.40)
Risk down	(+)	0.24	0.21	0.28	0.17
		(0.03)	(0.01)	(0.02)	(0.10)
Financial acquisition	(?)	-0.29	-0.29	-0.34	-0.68
		(0.03)	(0.02)	(0.02)	(0.02)
Risk up x Financial acquisition	(+)	0.00	-0.49	-0.45	0.25
		(0.50)	(0.18)	(0.20)	(0.26)
Risk down x Financial acquisition	(-)	-0.75	-0.57	-0.69	-0.45
		(0.13)	(0.02)	(0.16)	(0.16)
High Intellectual Property target	(?)	0.13	0.19	0.07	0.00
		(0.06)	(0.02)	(0.32)	(0.49)
Risk up x High Intellectual Property target	(-)	-0.22	-0.25	-0.21	-0.22
		(0.07)	(0.16)	(0.20)	(0.27)
Risk down x High Intellectual Property target	(+)	0.33	0.02	0.38	0.32
		(0.04)	(0.45)	(0.05)	(0.17)
Shareholder protection	(+)	-0.02	-0.00	0.01	-0.02
		(0.08)	(0.50)	(0.40)	(0.16)
Size of target	(-)	-0.06	-0.11	-0.08	-0.08
		(0.00)	(0.00)	(0.00)	(0.00)
Hostile bid	(+)	0.15	0.34	0.26	0.19
		(0.17)	(0.00)	(0.03)	(0.27)
Tender offer	(+)	0.22	0.18	0.23	0.16
		(0.00)	(0.03)	(0.04)	(0.07)
Mandatory bid rule	(-)	-0.10	-0.04	-0.12	-0.11
		(0.19)	(0.36)	(0.16)	(0.09)
Competing bidder	(+)	0.03	0.30	0.18	0.36
		(0.45)	(0.02)	0.20	(0.18)
Toe-hold	(-)	-0.01	-0.01	-0.01	-0.02
		(0.00)	(0.00)	(0.00)	(0.00)
Target ROA	(+)	0.00	-0.00	-0.00	-0.00
		(0.50)	(0.20)	(0.03)	(0.25)
US targets	(?)	0.23			
		(0.02)			
UK targets	(?)	0.16	0.18	0.17	
		(0.08)	(0.04)	(0.08)	
Intercept		3.66	3.84	3.73	
		(0.00)	(0.00)	(0.00)	
R²		0.11	0.15	0.13	0.08
N observations		911	796	548	575

Table 10

Summary of Data by Acquirer's Geographical Area

	Africa	America	Asia	Europe	Total
No of Observations	15	512	142	639	1308
Number of High Intellectual targets	1	184	25	179	389
Number of Financial Acquisitions	1	42	16	47	106
Number of Risk Increasing Transactions	13	77	47	172	309
Number of Risk Decreasing Transactions	0	83	15	93	191

Table 11

Specification check into the effect of risk-up and risk-down across regions

The table presents the results of five OLS regression models investigating the effect of increasing and decreasing transfer pricing risk on acquisitions premia across regions. The results from Table 10. The model estimated is the same as that in Column (2) of Table 10 with the addition of indicator variables representing 4 geographical regions: Africa, Asia, America and Europe. The indicator variables are equal to one if the target is from the region and zero otherwise. Only indicators for Africa, Asia and America are included in the model as Europe is used as the base case as it has the most observations. The results for the control variables are similar to those from Table 10 and are not tabulated The one-tailed p-values are presented in parentheses.

Panel (a)	Predicted sign	Total Sample	Non-Financial Acquisitions	Financial Acquisitions	High intellectual Property Targets	Non-High intellectual Property Targets
Africa		-0.1	-0.1	-1.44	0.98	0.01
		(0.86)	(0.86)	(0.01)	(0.00)	(0.98)
America		0.01	0.00	0.21	0.12	-0.06
		(0.84)	(0.98)	(0.53)	(0.23)	(0.41)
Asia		-0.27	-0.30	0.01	-0.76	-0.21
		(0.02)	(0.02)	(0.98)	(0.05)	(0.09)
Risk-down	(+)	0.23	0.29	-0.58	0.31	0.21
		(0.05)	(0.02)	(0.23)	(0.08)	(0.08)
Risk-down x Regional Indicator:						
Africa		N/A	N/A	N/A	N/A	N/A
		N/A	N/A	N/A	N/A	N/A
America		-0.2	-0.19	-0.07	-0.36	-0.10
		(0.22)	(0.22)	(0.94)	(0.25)	(0.58)
Asia		-0.22	-0.23	N/A	N/A	-0.27
		(0.48)	(0.44)	N/A	N/A	(0.39)
Risk-up	(-)	-0.11	-0.12	-0.08	-0.20	-0.04
		(0.09)	(0.08)	(0.43)	(0.07)	(0.34)
Risk-up x Region Indicator:						
Africa		-0.02	0.10	N/A	N/A	-0.26
		(0.98)	(0.86)	N/A	N/A	(0.64)
America		0.14	0.15	0.01	-1.38	0.40
		(0.54)	(0.56)	(0.99)	(0.11)	(0.02)
Asia		0.33	0.32	0.4	0.88	0.19
		(0.08)	(0.10)	(0.53)	(0.05)	'(0.41)

Table 12

Specification check into the effect of regional pairings on risk-down results

The table presents the results of an OLS regression models investigating the effect of regional pairings on the results from column (2) of Table 10. The model estimated is the same of that in Column (2) of Table 10 with the addition of indicator variables for 15 region to region pairings and the subsequent interaction of these indicator variables with Risk-up and Risk-down. Note that the regional pairing of a target from Europe and a seller from Europe was chosen as the base case since it had the highest number of observations across any regional pairing. The results of the control variables are similar to those in Table 10 and not tabulated. As the test is interested in the potential differences in the Risk-up and Risk-down effects across regional pairings, only the interactions are displayed below.   The main effects of the regional pairings indicator variables are not tabulated. The one-tailed p-values are presented in parentheses.

Panel (a)	Predicted sign	Total Sample
Risk-down	(-)	0.26
		(0.09)
Risk-down x Regional pairs (Target_Acquirer)		
Africa_Africa		N/A
		N/A
Africa_America		-0.61
		(0.06)
Africa_Asia		N/A
		N/A
Africa_Europe		0.17
		(0.78)
America_Africa		N/A
		N/A
America_America		0.13
		(0.56)
America_Asia		0.34
		(0.24)
America_Europe		-0.05
		(0.89)
Asia_Africa		N/A
		N/A
Asia_America		-0.43
		(0.42)
Asia_Asia		0.01
		(0.98)
Asia_Europe		0.55
		(0.27)
Europe_Africa		N/A
		N/A
Europe_America		-0.34
		(0.08)
Europe_Asia		-0.78
		(0.04)

Table 13

Specification check into the effect of regional pairings on risk-up results

The table presents the results of an OLS regression models investigating the effect of regional pairings on the results from column (2) of Table 10. The model estimated is the same of that in Column (2) of Table 10 with the addition of indicator variables for 15 region to region pairings and the subsequent interaction of these indicator variables with Risk-up and Risk-down. Note that the regional pairing of a target from Europe and a seller from Europe was chosen as the base case since it had the highest number of observations across any regional pairing. The results of the control variables are similar to those in Table 10 and not tabulated. As the test is interested in the potential differences in the Risk-up and Risk-down effects across regional pairings, only the main effect for risk-up and risk-down and the interactions are displayed below. The main effects of the regional pairings indicator variables are not tabulated. The one-tailed p-values are presented in parentheses.

Panel (a)	Predicted sign	Total Sample
Risk-up	(-)	-0.05
		(0.72)
Risk-up x Regional pairs (Target_Acquirer)		
Africa_Africa		N/A
		N/A
Africa_America		N/A
		N/A
Africa_Asia		N/A
		N/A
Africa_Europe		N/A
		N/A
America_Africa		N/A
		N/A
America_America		-0.06
		(0.81)
America_Asia		0.28
		(0.39)
America_Europe		-0.18
		(0.32)
Asia_Africa		N/A
		N/A
Asia_America		0.71
		(0.02)
Asia_Asia		0.09
		(0.82)
Asia_Europe		1.04
		(0.04)
Europe_Africa		N/A
		N/A
Europe_America		N/A
		N/A
Europe_Asia		0.01
		(0.98)

Table 14

Effect of the difference in transfer pricing rule severity on acquisition premia using an 18 point index measure

The table presents the results of three OLS regression models for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the natural logarithm of the acquisition premium, or the bid price as a percentage of the closing price of the target four weeks before the announcement. Independent variable at the country-level is an 18 point index made up of the factors described in Appendix C. The remaining variables are described in Table 4. The model is estimated using three different samples representing the transfer pricing strictness of the country of the acquirer. Column (1) is a sample of acquisitions where the acquirer is from a level 1 country. Column (2) is a sample where the acquirer is from a level 2 country. Column (3) is from a sample of firms from level 3 countries. The one-tailed p-values are presented in parentheses.

	Predicted sign	(1) Acquirer Transfer Pricing Strictness=1	(2) Acquirer Transfer Pricing Strictness=2	(3) Acquirer Transfer Pricing Strictness=3
Transfer pricing index	(-)	-0.01	-0.01	-0.03
		(0.10)	(0.10)	(0.02)
Financial acquisition	(+)	-0.38	-0.24	0.06
		(0)	(0.23)	(0.42)
High Intellectual Property target	(?)	0.24	-0.06	0.13
		(0)	(0.27)	(0.30)
Shareholder protection	(+)	-0.02	0.00	-0.03
		(0.08)	(0.48)	(0.32)
Size of target	(-)	-0.09	-0.09	-0.01
		(0)	(0)	(0.43)
Hostile bid	(+)	0.3	0.15	0.00
		(0.03)	(0.21)	(0.49)
Tender offer	(+)	0.18	0.3	0.51
		(0.01)	(0.00)	(0.01)
Mandatory bid rule	(-)	-0.14	0.31	-0.28
		(0.13)	(0.07)	(0.11)
Competing bidder	(+)	0.38	-0.39	0.14
		(0.01)	(0.04)	(0.33)
Toe-hold	(-)	-0.01	-0.01	-0.01
		(0.01)	(0.00)	(0.07)
Target ROA	(+)	-0.00	-0.00	-0.00
		(0.12)	(0.43)	(0.08)
US targets	(?)	0.13	0.5	0.21
		(0.14)	(0.01)	(0.24)
UK targets	(?)	0.1	0.37	-0.2
		(0.22)	(0.02)	(0.24)
R^2		0.21	0.12	0.14
N observations		114	380	814

Table 15
Panel a) Distribution of Average Residuals Across Acquirer and Target Transfer Pricing Risk Index Rating

This table displays the average residuals for pairings of acquirer and target transfer pricing risk index ratings from the sample of 1308 cross-border mergers and acquisitions used in Table 10. The residuals are the result of regressing the natural log of premium on the control variables used in Table 10.

	Acquirer Country's Transfer Pricing Risk Measure																		
---	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Mean
Target Country's Transfer Pricing Risk Measure																			
0	0.06																		0.06
1																			0.00
2																			0.00
3																			0.00
4																			0.00
5																			0.00
6							0.84					-0.63							0.11
7							0.40				0.04			0.67	0.09				0.30
8									0.25	0.12				0.56					0.31
9								-0.31		0.15	-0.17	0.05	0.25	-0.10	0.02			0.69	0.07
10				0.11				0.13		0.68	-0.14	0.38	1.34	-0.06	0.18			-0.24	0.26
11							0.14	-0.41	-0.07	0.15	0.73	0.22	-0.42	0.00	1.02			0.89	0.23
12								0.23		-0.28	-0.58	0.09	-0.60	0.24	-0.35			0.37	-0.11
13				-0.11			-1.33	-0.56	0.42	-0.92	-0.41	-0.16	-0.17	-0.12	0.16			0.06	-0.29
14				0.52			-0.49	0.17	-1.60	-0.23	-0.20	0.30	0.44	0.00	-0.09			-0.01	-0.12
15																			0.00
16																	-1.29		-1.29
17							-0.81						0.55	-0.14	0.17	-0.31			-0.14
Mean	0.06	0.00	0.00	0.17	0.00	0.00	-0.21	-0.13	-0.25	-0.04	-0.09	0.03	0.17	0.11	0.13	-0.31	-1.29	0.29	

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Table 15 (continued)

Panel (b) Summary of Residual Distribution

The following four tables compare the distribution of average residuals above the middle line to the average residuals below the middle line. The middle line of the table represents where the Acquirer's Country's transfer pricing risk is equal to the Target's Country's transfer pricing risk. Residuals above the middle line are expected to be positive as the acquirer is decreasing their transfer pricing risk. Residuals below the middle line are expected to be negative as the transaction is increasing transfer pricing risk. In the first set of tables (i) equivalent risk is defined as strictly equivalent. In the second set of tables equivalent risk, the middle line, is defined as the target country's and acquirer country's risk being within two index points of each other.

	Number of Positive Residuals	Number of Negative Residuals	Mean Residual		Number of Positive Residuals	Number of Negative Residuals	Mean Residual
Above	19	6	0.19	Above	12	4	0.22
Below	15	18	-0.09	Below	10	14	-0.17
	P-value of T-test that upper mean is greater than lower mean		0.01		P-value of T-test that upper mean is greater than lower mean		0.00

	Percentage of Positive Residuals	Percentage of Negative Residuals			Percentage of Positive Residuals	Percentage of Negative Residuals	
Above	76.00%	24.00%		Above	75.00%	25.00%	
Below	45.45%	55.00%		Below	41.67%	58.33%	

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Table 16

Specification Check Using Alternative Measures of Transfer Pricing Risk to estimate Equation (1)

The table presents the results of seven OLS regression models for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the natural logarithm of the acquisition premium, or the bid price as a percentage of the closing price of the target four weeks before the announcement. Independent variable at the country-level is a measure of the difference in strictness of transfer pricing rules between the country of the target, indicated in the column heading and calculated as described in Appendix B. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, US targets, a dummy variable equal to one if the target is a firm in the United States, and UK targets, a dummy variable equal to one if the target is a firm in the United Kingdom. The independent variables at the deal level are financial acquisition, a dummy variable equal to one if the acquisition is a financial acquisition, and High Intellectual Property target, a dummy equal to one if the target's primary activities are classified under the US census bureau's advanced technology product classification system. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, competing bidder, a dummy variable equal to one if there was a competing bidder for the target, toe-hold, the percentage of the target's shares held by the acquirer prior to the bid, and target ROA, the target's return on assets measured as the target's net income divided by total assets. The one-tailed p-values are presented in parentheses.

	Predicted sign	Transfer Pricing Focus	Transfer pricing Focus 2	Transfer Pricing Manual	Transfer Pricing Tri	Transfer Pricing Risk	Transfer Pricing E&Y	Transfer Pricing Rule
Δ(Transfer pricing strictness)t-a	(-)	-0.11	-0.08	-0.12	-0.04	-0.10	-0.04	-0.07
		(0.01)	(0.06)	(0.01)	(0.01)	(0.02)	(0.02)	(0.09)
Financial acquisition	(?)	-0.37	-0.37	-0.37	-0.37	-0.36	-0.37	-0.36
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
High Intellectual Property target	(?)	0.14	0.15	0.15	0.14	0.14	0.15	0.14
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Shareholder protection	(+)	-0.02	-0.02	-0.02	-0.02	-0.02	-0.02	-0.01
		(0.10)	(0.09)	(0.06)	(0.14)	(0.10)	(0.11)	(0.16)
Size of target	(-)	-0.08	-0.08	-0.08	-0.08	-0.08	0.08	-0.08
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Hostile bid	(+)	0.21	0.21	0.21	0.21	0.20	0.21	0.21
		(0.06)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)
Tender offer	(+)	0.24	0.24	0.23	0.24	0.23	0.24	0.24
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Mandatory bid rule	(-)	-0.05	-0.06	-0.05	-0.07	-0.09	-0.07	-0.06
		(0.33)	(0.28)	(0.30)	(0.25)	(0.19)	(0.25)	(0.26)
Competing bidder	(+)	0.19	0.19	0.19	0.19	0.19	0.19	0.19
		(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)	(0.07)
Toe-hold	(-)	0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Target ROA	(+)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		(0.10)	(0.10)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)
US targets	(?)	0.23	0.21	0.22	0.22	0.20	0.21	0.20
		(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)
UK targets	(?)	0.16	0.16	0.16	0.14	0.15	0.15	0.15
		(0.04)	(0.05)	(0.05)	(0.08)	(0.07)	(0.06)	(0.06)
R^2		0.1199	0.1178	0.1203	0.1199	0.119	0.1189	0.1173
N observations		1308	1308	1308	1308	1308	1308	1308

Table 17

Specification Check Using Alternative Measures of Transfer Pricing Risk to estimate Equation (2)

The table presents the results of seven OLS regression models for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the natural logarithm of the acquisition premium, or the bid price as a percentage of the closing price of the target four weeks before the announcement. Independent variable at the country-level is a measure of the difference in strictness of transfer pricing rules between the country of the target, indicated in the column heading and calculated as described in Appendix B. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, US targets, a dummy variable equal to one if the target is a firm in the United States, and UK targets, a dummy variable equal to one if the target is a firm in the United Kingdom. The independent variables at the deal level are financial acquisition, a dummy variable equal to one if the acquisition is a financial acquisition, and High Intellectual Property target, a dummy equal to one if the target's primary activities are classified under the US census bureau's advanced technology product classification system. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, competing bidder, a dummy variable equal to one if there was a competing bidder for the target, toe-hold, the percentage of the target's shares held by the acquirer prior to the bid, and target ROA, the target's return on assets measured as the target's net income divided by total assets. The one-tailed p-values are presented in parentheses.

	Predicted sign	Transfer Pricing Focus	Transfer pricing Focus 2	Transfer Pricing Manual	Transfer Pricing E&Y	Transfer Pricing Rule
Δ(Transfer pricing strictness)t-a	(-)	-0.08	-0.07	-0.09	-0.02	-0.02
		(0.06)	(0.12)	(0.04)	(0.12)	(0.34)
Financial acquisition	(?)	-0.31	-0.30	-0.31	-0.31	-0.31
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Δ(Transfer pricing focus)t-a x Financial acquisition	(+)	0.32	0.29	0.29	0.09	0.17
		(0.06)	(0.04)	(0.08)	(0.14)	(0.26)
High Intellectual Property target	(?)	0.18	0.18	0.18	0.18	0.17
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Δ(Transfer pricing focus)t-a x High Intellectual Property target	(-)	-0.19	-0.14	-0.18	-0.07	-0.22
		(0.04)	(0.09)	(0.04)	(0.03)	(0.03)
Financial acquisition x High Intellectual Property target	(?)	-0.17	-0.18	-0.18	-0.19	-0.19
		(0.26)	(0.26)	(0.27)	(0.27)	(0.27)
Shareholder protection	(+)	-0.02	-0.02	-0.02	-0.02	-0.02
		(0.09)	(0.08)	(0.05)	(0.09)	(0.13)
Size of target	(-)	-0.08	-0.08	-0.09	-0.08	-0.08
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Hostile bid	(+)	0.22	0.21	0.22	0.21	0.21
		(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Tender offer	(+)	0.24	0.24	0.24	0.24	0.24
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Mandatory bid rule	(-)	-0.05	-0.06	-0.05	-0.07	-0.07
		(0.32)	(0.27)	(0.26)	(0.24)	(0.23)
Competing bidder	(+)	0.19	0.19	0.19	0.19	0.18
		(0.07)	(0.07)	(0.06)	(0.07)	(0.07)
Toe-hold	(-)	-0.01	0.01	-0.01	-0.01	-0.01
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
R^2		0.1248	0.1223	0.125	0.123	0.1206
N observations		1308	1308	1308	1308	1308

Table 18

Effect of the difference in transfer pricing rule severity on acquisition premia

The table presents the results of four OLS regression models for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the unlogged acquisition premium, or the bid price as a percentage of the closing price of the target four weeks before the announcement. Independent variable at the country-level is Δ(Transfer pricing strictness)t-a, a measure of the difference in strictness of transfer pricing rules between the country of the target and the acquirer. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, US targets, a dummy variable equal to one if the target is a firm in the United States, and UK targets, a dummy variable equal to one if the target is a firm in the United Kingdom. The independent variables at the deal level are financial acquisition, a dummy variable equal to one if the acquisition is a financial acquisition, and High Intellectual Property target, a dummy equal to one if the target's primary activities are classified under the US census bureau's advanced technology product classification system. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, competing bidder, a dummy variable equal to one if there was a competing bidder for the target, toe-hold, the percentage of the target's shares held by the acquirer prior to the bid, and target ROA, the target's return on assets measured as the target's net income divided by total assets. The one-tailed p-values are presented in parentheses.

	Predicted sign	(1)	(2)
Δ(Transfer pricing strictness)t-a	(-)	-3.62	-2.27
		(0.04)	(0.17)
Financial acquisition	(?)	-12.06	-11.71
		(0.00)	(0.00)
Δ(Transfer pricing focus)t-a x Financial acquisition	(+)		10.62
			(0.02)
High Intellectual Property target	(?)	8.7	9.48
		(0.00)	(0.00)
Δ(Transfer pricing focus)t-a x High Intellectual Property target	(-)		-7.81
			(0.07)
Financial acquisition x High Intellectual Property target	(?)		0.8
			(0.47)
Shareholder protection	(+)	-1.02	-1.04
		(0.04)	(0.03)
Size of target	(-)	-5.43	-5.46
		(0.00)	(0.00)
Hostile bid	(+)	8.03	8.19
		(0.06)	(0.06)
Tender offer	(+)	7.65	7.71
		(0.00)	(0.00)
Mandatory bid rule	(-)	-2.82	-2.78
		(0.24)	(0.25)
Competing bidder	(+)	15.28	15.13
		(0.01)	(0.01)
Toe-hold	(-)	-0.36	-0.36
		(0.00)	(0.00)
Target ROA	(+)	-0.05	-0.46
		(0.13)	(0.13)
US targets	(?)	4.32	4.58
		(0.15)	(0.13)
UK targets	(?)	0.22	0.29
		(0.47)	(0.47)
R^2		0.1166	0.1199
N observations		1308	1308

Table 19

Specification check of risk-up and risk-down results using premia
The table presents the results of four OLS regression models for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the unlogged acquisition premium calculated as the bid price as a percentage of the closing price of the target four weeks before the announcement. Independent variable at the acquisition-level is risk-up, an indicator variable equal to 1 if Δ(Transfer pricing strictness)t-a equals 1 and 0 otherwise, and risk-down, an indicator variable equal to 1 if Δ(Transfer pricing strictness)t-a equals -1 and 0 otherwise. Δ(Transfer pricing strictness)t-a is a measure of the difference in strictness of transfer pricing rules between the country of the target and the acquirer. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, US targets, a dummy variable equal to one if the target is a firm in the United States, and UK targets, a dummy variable equal to one if the target is a firm in the United Kingdom. The independent variables at the deal level are financial acquisition, a dummy variable equal to one if the acquisition is a financial acquisition, and High Intellectual Property target, a dummy equal to one if the target's primary activities are classified under the US census bureau's advanced technology product classification system. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, competing bidder, a dummy variable equal to one if there was a competing bidder for the target, toe-hold, the percentage of the target's shares held by the acquirer prior to the bid, and target ROA, the target's return on assets measured as the target's net income divided by total assets. The one-tailed p-values are presented in parentheses.

Panel (a)	Predicted sign	(1)
Risk-up	(-)	0.21
		(0.47)
Risk-down	(+)	4.96
		(0.09)
Financial acquisition	(?)	-8.86
		(0.02)
Risk-up x Financial acquisition	(+)	-7.35
		(0.19)
Risk-down x Financial acquisition	(-)	-19.93
		(0.00)
High Intellectual Property target	(?)	10.92
		(0.00)
Risk-up x High Intellectual Property target	(-)	-12.83
		(0.03)
Risk-down x High Intellectual Property target	(+)	0.85
		(0.46)
Shareholder protection	(+)	-1.06
		(0.03)
Size of target	(-)	-5.52
		(0.00)
Hostile bid	(+)	8.38
		(0.05)
Tender offer	(+)	7.78
		(0.00)
Mandatory bid rule	(-)	-2.96
		(0.23)
Competing bidder	(+)	15.04
		(0.01)
Toe-hold	(-)	-0.363
		(0.00)
Target ROA	(+)	-0.044
		(0.14)
US targets	(?)	4.61
		(0.14)
UK targets	(?)	0.24
		(0.47)
R^2		0.1219
N observations		1308

Table 20

Effect of transfer pricing strictness on target country selection

This table summarizes the distribution of cross-border merger and acquisitions according to the strictness of transfer pricing regimes in the acquirer and target countries.

Panel (a): Total sample

		Acquirer						Acquirer		
		Low risk	High risk	Total				Low risk	High risk	Total
Target	Low risk	285	138	423		Target	Low risk	58%	17%	32%
	High risk	209	676	885			High risk	42%	83%	67%
	Total	494	814	1308			Total	100%	100%	100%

Pearson Chi^2 = 233.182   P= 0.000   Pearson Chi^2 = 233.182   P= 0.000

Panel (b): Sample excluding U.S. and UK targets

		Acquirer						Acquirer		
		Low risk	High risk	Total				Low risk	High risk	Total
Target	Low risk	122	94	216		Target	Low risk	71%	29%	43%
	High risk	49	233	282			High risk	29%	71%	57%
	Total	171	327	498			Total	100%	100%	100%

Pearson Chi^2 = 82.95   P= 0.000   Pearson Chi^2 = 82.95   P= 0.000

Table 21

Effect of transfer pricing strictness on target country selection in Post-1996 and Post-2000 Subsamples

This table summarizes the distribution of cross-border merger and acquisitions according to the strictness of transfer pricing regimes in the acquirer and target countries.

Panel (a): Post 1996

		Acquirer						Acquirer		
		Low risk	High risk	Total				Low risk	High risk	Total
Target	**Low risk**	118	116	234		**Target**	**Low risk**	39%	15%	22%
	High risk	181	649	830			**High risk**	61%	85%	78%
	Total	299	765	1064			**Total**	100%	100%	100%

Pearson Chi^2 = 74.00 P= 0.000   Pearson Chi^2 = 74.00 P= 0.000

Panel (b): Post 2000

		Acquirer						Acquirer		
		Low risk	High risk	Total				Low risk	High risk	Total
Target	**Low risk**	39	48	87		**Target**	**Low risk**	39%	13%	18%
	High risk	60	324	384			**High risk**	61%	87%	82%
	Total	99	372	471			**Total**	100%	100%	100%

Pearson Chi^2 = 36.43 P= 0.000   Pearson Chi^2 = 36.43 P= 0.000

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Table 22

Descriptive Statistics for 5837 cross-border merger and acquisitions completed from 1990-2005 used to estimate equations (3)-(4), by country.

	Acquirer		Target		Mean Percent of Stock Consideration	Mean Target's Capital Gains Tax Rate(%)
	N	Percent	N	Percent		
Argentina	10	0.00	42	0.01	28.43	0.00
Australia	190	0.03	256	0.04	17.70	37.24
Austria	25	0.00	25	0.00	7.12	25.00
Belgium	72	0.01	0	0.00	20.39	18.00
Brazil	27	0.00	74	0.01	18.33	26.67
Canada	492	0.08	457	0.08	35.85	31.98
Denmark	61	0.01	74	0.01	12.78	42.47
Finland	50	0.01	47	0.01	29.04	28.57
France	231	0.04	365	0.06	19.36	17.20
Germany	0	0.00	376	0.06	0.00	0.00
Hong Kong	64	0.01	90	0.02	21.16	0.00
India	23	0.00	0	0.00	17.09	18.17
Ireland	117	0.02	0	0.00	25.36	23.11
Italy	93	0.02	109	0.02	15.58	24.43
Japan	86	0.01	47	0.01	7.86	22.78
Malaysia	41	0.01	26	0.00	17.68	0.00
Mexico	16	0.00	50	0.01	17.40	0.00
Netherlands	153	0.03	219	0.04	14.30	26.06
New Zealand	30	0.01	67	0.01	5.58	0.00
Norway	54	0.01	83	0.01	35.90	26.95
Singapore	68	0.01	60	0.01	21.09	0.00
South Africa	74	0.01	63	0.01	33.37	1.95
Spain	50	0.01	109	0.02	12.51	13.45
Sweden	175	0.03	158	0.03	18.27	29.95
Switzerland	99	0.02	81	0.01	9.94	0.00
United Kingdom	1563	0.27	1116	0.19	16.80	25.15
United States	1973	0.34	1843	0.32	25.86	21.96
Total Sample	5837	100.00%	5837	100.00%	22.80%	20.47%

Table 23

Descriptive Statistics for 5837 cross-border merger and acquisitions completed between 1990-2005 used to estimate equations (3)-(4)

Variable	Mean	Standard deviation	25th Percentile	Median	75th Percentile
Percent stock	21.97	34.98	0.00	0.00	34.30
Capital gains tax rate	20.47	12.08	15.00	20.00	28.00
Hostile	0.01	0.07	0.00	0.00	0.00
Foreign currency	5.65	61.26	0.63	1.00	1.40
Mandatory bid	0.31	0.46	0.00	0.00	1.00
Target size	4.19	1.23	3.13	4.06	5.12
Share-for-share	0.88	0.31	1.00	1.00	1.00
Shareholder protection	0.51	2.40	0.00	0.00	1.00
Disclosure Quality*	12.15	2.36	12.00	12.00	14.00
Information Asymmetry	95.30	48.66	60.30	84.40	123.5

*Measure of quality of financial reporting standards in the country of the acquirer

Table 24

Effect of Shareholder-level Capital Gains Tax Rate on the structure of cross-border mergers and acquisitions

The table presents the results of two OLS regressions for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the percentage of compensation in shares, measured as the value of compensation paid in shares divided by the total value of compensation paid in the transaction. Independent variables at the country level are capital gains tax rate, the highest rate of individual tax on capital gains for significant ownership of shares, information asymmetry measured as the average stock turnover ratio of shares listed in the acquirer's country multiplied by -1 and foreign share-for-share, a dummy variable equal to one if the target shareholder's country allows a tax-free exchange of foreign shares. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, mandatory bid, a dummy variable equal to one if the target country had rules requiring a tender offer to all shareholders if the percentage of share acquired exceeded a threshold and foreign currency, a measure of exchange rate calculated as the acquirer's exchange rate in US$ over the target's exchange rate in US$. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, The one-tailed p-values are presented in parentheses.

	Predicted sign	(1)	(2)
Capital gains tax rate	(+)	0.14 ***	0.03
		(0.00)	(0.36)
Capital gains rate x Foreign share for share	(+)		0.15 **
			(0.04)
Information asymmetry	(-)	-0.03 ***	-0.03 ***
		(0.00)	(0.00)
Hostile	(-)	-5.47 *	-4.9 *
		(0.07)	(0.09)
Tender offer	(-)	-12.46 ***	-12.44 ***
		(0.00)	(0.00)
Foreign currency	(-)	-0.02 ***	-0.02 ***
		(0.00)	(0.00)
Mandatory bid	(+)	0.36	0.66
		(0.36)	(0.26)
Target size	(+)	-0.81 **	-0.82 **
		(0.01)	(0.01)
Foreign share for share	(+)	2.52 **	0.2
		(0.04)	(0.46)
Shareholder protection	(-)	-0.55 ***	-0.63 ***
		(0.00)	(0.00)
R²		0.0224	0.0229
N		5837	5837

***,**,* indicate significance at 1%, 5%, 10% respectively

Table 25

Specification check testing the inclusion of the statutory limit for tax-free qualification
The table presents the results of two OLS regressions for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the percentage of compensation in shares, measured as the value of compensation paid in shares divided by the total value of compensation paid in the transaction. Independent variables at the country level are capital gains tax rate, the highest rate of individual tax on capital gains for significant ownership of shares, information asymmetry measured as the average stock turnover ratio of shares listed in the acquirer's country multiplied by -1 and foreign share-for-share, a dummy variable equal to one if the target shareholder's country allows a tax-free exchange of foreign shares and tax-free limit, the statutory minimum amount of compensation which must be in the form of shares in order for the acquisition to qualify for tax free status. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, mandatory bid, a dummy variable equal to one if the target country had rules requiring a tender offer to all shareholders if the percentage of share acquired exceeded a threshold and foreign currency, a measure of exchange rate calculated as the acquirer's exchange rate in US$ over the target's exchange rate in US$. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, The one-tailed p-values are presented in parentheses.

	Predicted sign	(1)	(2)
Capital gains tax rate	(+)	0.15	-0.02
		(0.00)	(0.37)
Capital gains rate x Foreign share for share	(+)		0.20
			0.01
Tax-Free limit	(+)	0.03	0.02
		(0.02)	(0.07)
Information asymmetry	(-)	0.03	0.03
		(0.02)	(0.00)
Hostile	(-)	-5.29	-3.89
		(0.07)	(0.14)
Tender offer	(-)	-12.31	-12.31
		(0.00)	(0.00)
Foreign currency	(-)	-0.02	-0.02
		(0.00)	(0.00)
Mandatory bid	(+)	-0.09	0.38
		(0.47)	(0.38)
Target size	(+)	-0.99	-1.00
		(0.01)	(0.01)
Foreign share for share	(+)		-0.21
			(0.46)
Shareholder protection	(-)	-0.60	-0.61
		(0.00)	(0.00)
R^2		0.023	0.0241
N		5544	5544

Table 26

Effect of shareholder-level capital gains tax rate on the structure of cross-border mergers and acquisitions in the presence of information asymmetry and high quality financial reporting standards

The table presents the results of two OLS regressions for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the percentage of compensation in shares, measured as the value of compensation paid in shares divided by the total value of compensation paid in the transaction. Independent variables at the country level are capital gains tax rate, the highest rate of individual tax on capital gains for significant ownership of shares, information asymmetry measured as the average stock turnover ratio of shares listed in the acquirer's country multiplied by -1, disclosure quality, a dummy variable equal to 1 if the acquirer country's financial reporting standards scored higher than the median on a 15 point scale, and foreign share-for-share, a dummy variable equal to one if the target shareholder's country allows a tax-free exchange of foreign shares. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, mandatory bid, a dummy variable equal to one if the target country had rules requiring a tender offer to all shareholders if the percentage of share acquired exceeded a threshold and foreign currency, a measure of exchange rate calculated as the acquirer's exchange rate in US$ over the target's exchange rate in US$ Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, The one-tailed p-values are presented in parentheses.

	Predicted sign	(1)	(2)
Capital gains tax rate	(?)	-0.17 **	0.17 ***
		(0.01)	(0.00)
Information asymmetry	(?), (-)	-0.06 ***	-0.00
		(0.00)	(0.38)
Capital gains tax rate x Information asymmetry	(-)	-0.01 ***	
		(0.00)	
Disclosure quality	(+), (?)	8.63 ***	6.06 ***
		(0.00)	(0.00)
Capital gains tax rate x Disclosure quality	(+)	-	.14 **
			(0.03)
Hostile	(-)	-6.33 **	-7.30 **
		(0.04)	(0.03)
Tender offer	(-)	-12.32 ***	-12.32 ***
		(0.00)	(0.00)
Foreign currency	(-)	-0.02	-0.02 ***
		(0.00) ***	(0.00)
Mandatory bid	(+)	-0.58	-.03
		(0.26)	(0.47)
Target size	(+)	-0.72 **	-0.74 **
		(0.02)	(0.02)
Foreign share for share	(+)	2.11 *	2.83 **
		(0.07)	(0.02)
Shareholder protection	(-)	-0.58 ***	-0.63 ***
		(0.00)	(0.00)
R^2		0.039	0.037
N		5837	5837

***,**,* indicate significance at 1%, 5%, 10% respectively

Table 27

Comparison of Multiple Measures of Financial Reporting Standards Quality on the Effect of shareholder-level capital gains tax rate on the structure of cross-border mergers and acquisitions in the presence of information asymmetry and high quality financial reporting standards

The table presents the results of seven OLS regressions for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the percentage of compensation in shares, measured as the value of compensation paid in shares divided by the total value of compensation paid in the transaction. Independent variables at the country level are capital gains tax rate, the highest rate of individual tax on capital gains for significant ownership of shares, information asymmetry measured as the average stock turnover ratio of shares listed in the acquirer's country multiplied by -1 and various measures of disclosure quality. Revised-Guenther measures disclosure quality as a dummy variable equal to 1 if the acquirer country's financial reporting standards scored higher than the median on a 15 point scale which is corrected over time to reflect the adoption of IAS by countries unlike the original Guenther which uses a one-time measure of the 15 point index for each country. Disclosure Quality (Hope) and Disclosure Enforcement (Hope) reflects the measures used by Hope(2003). Indicators based on these measures where the measure is equal to 1 if the country's disclosure score is greater than the mean or median as indicated and 0 otherwise. , Other independent variables include foreign share-for-share, a dummy variable equal to one if the target shareholder's country allows a tax-free exchange of foreign shares. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, mandatory bid, a dummy variable equal to one if the target country had rules requiring a tender offer to all shareholders if the percentage of share acquired exceeded a threshold and foreign currency, a measure of exchange rate calculated as the acquirer's exchange rate in US$ over the target's exchange rate in US$ Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, The one-tailed p-values are presented in parentheses.

	Predicted sign	Disclosure Quality (Revised-Guenther)	Disclosure Quality (Guenther)	Disclosure Quality (Hope)	Disclosure Indicator (Hope)	Disclosure Enforcement (Hope)	Enforcement Indicator (Mean)	Enforcement Indicator (Median)
Capital gains tax rate	(?)	0.17	-0.14	-2.06	0.08	0.11	0.03	0.03
		(0.00)	(0.18)	(0.00)	(0.09)	(0.01)	(0.26)	(0.23)
Information asymmetry	(?), (-)	0.00	-0.04	-0.04	-0.03	-0.03	-0.02	0.00
		-(0.38)	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.36)
Disclosure quality	(+), (?)	6.06	-0.18	-0.96	-5.97	-0.25	5.87	1.91
		(0.00)	(0.26)	(0.00)	(0.00)	(0.36)	(0.00)	(0.15)
Cap. gains tax rate x Disclosure quality	(+)	0.14	0.03	0.03	0.10	0.13	0.10	0.21
		-(0.03)	(0.02)	(0.00)	(0.10)	(0.00)	(0.09)	(0.00)
Hostile	(-)	-7.30	-6.45	-5.54	-5.36	-5.95	-4.93	-6.22
		-(0.03)	(0.04)	(0.06)	(0.07)	(0.05)	(0.10)	(0.05)
Tender offer	(-)	-12.32	-11.84	-11.58	-11.96	-12.07	-12.20	-12.28
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Foreign currency	(-)	-0.02	-0.08	-0.02	-0.02	-0.02	-0.01	-0.02
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Mandatory bid	(+)	-0.03	-0.65	0.52	1.29	2.13	1.70	0.22
		-(0.47)	(0.26)	(0.32)	(0.12)	(0.04)	(0.05)	(0.41)
Target size	(+)	-0.74	-0.95	-1.12	-0.86	-0.97	-0.59	-0.78
		-(0.02)	(0.06)	(0.00)	(0.01)	(0.01)	(0.06)	(0.02)
Foreign share for share	(+)	2.83	3.05	5.93	3.16	3.11	1.22	2.56
		-(0.02)	(0.03)	(0.00)	(0.02)	(0.04)	(0.19)	(0.03)
Shareholder protection	(-)	-0.63	-0.36	-0.94	-0.61	0.02	-1.23	-0.66
		(0.00)	(0.00)	(0.00)	(0.00)	(0.46)	(0.00)	(0.00)
R^2		0.037	0.0248	0.0268	0.0255	0.0281	0.0299	0.0292
N		5837	5553	5519	5833	5519	5833	5833

Table 28

Tobit Estimates of Table 17 'Effect of Shareholder-level Capital Gains Tax Rate on the structure of cross-border mergers and acquisitions'

The table presents the results of two Tobit regressions for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the percentage of compensation in shares, measured as the value of compensation paid in shares divided by the total value of compensation paid in the transaction. Independent variables at the country level are capital gains tax rate, the highest rate of individual tax on capital gains for significant ownership of shares, information asymmetry measured as the average stock turnover ratio of shares listed in the acquirer's country multiplied by -1 and foreign share-for-share, a dummy variable equal to one if the target shareholder's country allows a tax-free exchange of foreign shares. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, mandatory bid, a dummy variable equal to one if the target country had rules requiring a tender offer to all shareholders if the percentage of share acquired exceeded a threshold and foreign currency, a measure of exchange rate calculated as the acquirer's exchange rate in US$ over the target's exchange rate in US$. Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, The one-tailed p-values are presented in parentheses.

	Predicted sign	(1)	(2)
Capital gains tax rate	(+)	0.33	0.03
		(0.00)	(0.44)
Capital gains rate x Foreign share for share	(+)		0.40
			(0.04)
Information asymmetry	(-)	-0.01	-0.04
		(0.04)	(0.03)
Hostile	(-)	-28.29	-27.45
		(0.07)	(0.08)
Tender offer	(-)	-40.64	-40.57
		(0.00)	(0.00)
Foreign currency	(-)	-0.06	-0.07
		(0.01)	(0.01)
Mandatory bid	(+)	-1.24	-0.45
		(0.32)	(0.43)
Target size	(+)	-1.64	-1.66
		(0.03)	(0.03)
Foreign share for share	(+)	8.01	1.99
		(0.02)	(0.35)
Shareholder protection	(-)	-0.74	-0.92
		(0.07)	(0.03)
R^2		0.006	0.006
N		5833	5833

Table 29

Tobit Estimates of Table 18 'Effect of shareholder-level capital gains tax rate on the structure of cross-border mergers and acquisitions in the presence of information asymmetry and high quality financial reporting standards'

The table presents the results of two Tobit regressions for the sample of cross-border M&A transactions from 27 countries from 1990-2005. The dependent variable is the percentage of compensation in shares, measured as the value of compensation paid in shares divided by the total value of compensation paid in the transaction. Independent variables at the country level are capital gains tax rate, the highest rate of individual tax on capital gains for significant ownership of shares, information asymmetry measured as the average stock turnover ratio of shares listed in the acquirer's country multiplied by -1, disclosure quality, a dummy variable equal to 1 if the acquirer country's financial reporting standards scored higher than the median on a 15 point scale, and foreign share-for-share, a dummy variable equal to one if the target shareholder's country allows a tax-free exchange of foreign shares. The control variables at the country level are shareholder protection, a measure of the effective rights of minority shareholders, mandatory bid, a dummy variable equal to one if the target country had rules requiring a tender offer to all shareholders if the percentage of share acquired exceeded a threshold and foreign currency, a measure of exchange rate calculated as the acquirer's exchange rate in US$ over the target's exchange rate in US$ Control variables at the deal value are size of target, the natural logarithm of target's market capitalization four weeks prior to the bid announcement, hostile bid, a dummy variable equal to one if the deal is hostile, tender offer, a dummy variable equal to one if the deal is a tender offer, The one-tailed p-values are presented in parentheses.

	Predicted sign	(1)	(2)
Capital gains tax rate	(?)	-0.38	0.40
		(0.03)	(0.00)
Information asymmetry	(?), (-)	-0.17	-0.03
		(0.00)	(0.13)
Capital gains tax rate x Information asymmetry	(-)	-0.01	
		(0.00)	
Disclosure quality	(+), (?)	18.77	12.57
		(0.00)	(0.00)
Capital gains tax rate x Disclosure quality	(+)		33.05
			(0.03)
Hostile	(-)	-29.33	-30.93
		(0.13)	(0.05)
Tender offer	(-)	-40.19	-40.26
		(0.00)	(0.00)
Foreign currency	(-)	-0.05	-0.05
		(0.02)	(0.02)
Mandatory bid	(+)	-3.21	-1.90
		(0.11)	(0.23)
Target size	(+)	-1.51	-1.53
		(0.05)	(0.04)
Foreign share for share	(+)	7.04	8.68
		(0.03)	(0.01)
Shareholder protection	(-)	-0.76	-0.87
		(0.07)	(0.04)
R^2		0.0086	0.0083
N		5833	5833

Appendix A - An illustration of the effect of transfer pricing on tax payable

Part A) Assume that a U.S. automobile manufacturer, Carco. owns a subsidiary that produces engines in Windsor, Ontario, Canada. The company assembles their automobiles in Detroit, MI, USA. It is 1995 and the U.S corporate tax rate is 35% while the Canadian corporate tax rate is 43.5%. The following table summarizes the effects of two different transfer pricing options.

Option 1) Transfer engines at a price of $5,000.00 per piece

	U.S. Plant	Canadian Plant	Total
Price	$25,000.00	*$5,000.00*	
Cost of engine	*(5,000.00)*		
Other costs	(10,000.00)	(1,000.00)	
Profit margin/unit	10,000.00	4,000.00	
Number of cars sold	100,000.00	100,000.00	
Pre-tax income	1,000,000,000.00	400,000,000.00	$1,400,000,000.00
Tax rate	35%	43.50%	
Tax payable	*350,000,000.00*	*174,000,000.00*	*524,000,000.00*

Option 2) Transfer engines at a price of $1,500.00 per piece

	U.S. Plant	Canadian Plant	Total
Price	$25,000.00	*$1,500.00*	
Cost of engine	*(1,500.00)*		
Other costs	(10,000.00)	(1,000.00)	
Profit margin/unit	13,500.00	500.00	
Number of cars sold	100,000.00	100,000.00	
Pre-tax income	1,350,000,000.00	50,000,000.00	$1,400,000,000.00
Tax rate	35%	43.50%	
Tax payable	*472,500,000.00*	*21,750,000.00*	*494,250,000.00*
Tax savings			**$29,750,000.00**

Part B) Assume that Carco, goes with option 2 above and the Canadian government performs a transfer pricing audit and reassesses a transfer price of $3000.00.

	Canadian Plant (per Carco)	Canadian Plant (Reassessed)	Additional tax
Price	*$1,500.00*	*$3,000.00*	
Cost of engine			
Other costs	(1,000.00)	(1,000.00)	
Profit margin/unit	500.00	2,000.00	
Number of cars sold	100,000.00	100,000.00	
Pre-tax income	50,000,000.00	200,000,000.00	$150,000,000.00
Tax rate	43.50%	43.50%	43.50%
Tax payable	*21,750,000.00*	*87,000,000.00*	65,250,000.00
Additional taxation			**$65,250,000.00**

The result is double taxation on the additional revenue of $150,000 as an additional $65,250,000 is owed in tax in Canada while there is no offsetting deduction in the U.S. plant for the price increase resulting in $490,000,000 in U.S. tax still owing.

Appendix B – Description of Transfer Pricing Factors

I developed seven different proxies for the strictness of transfer pricing (TP) rules. The first measure described, TPfocus, is the measure used in the tables displayed in the paper.

1) Tpfocus – was a measure developed using cluster analysis. It is based on the following measures:[29]

- Priority of method   - 1 if the government identifies an order of TP methods to use; 0 otherwise.
- Tax return disclosure   - 1 if the government requires disclosure on the tax return concerning related party transaction; 0 otherwise.
- Documentation   - 1 if the government has legislation requiring TP documentation ; 0 otherwise
- Contemporaneous   - 1 if the government requires the documentation to be written contemporaneous with transaction ; 0 otherwise
- Secret comparables   - 1 if the government uses proprietary tax data to calculate "revised" transfer price ; 0 otherwise
- Penalty reduction   - 1 if the government does not offers a reduction in penalties ; 0 otherwise
- Taxpayer setoffs   - 1 if the government does not allow related party setoffs (bundling of transactions)
- Competent authority   - 1 if the government does not allow a taxpayer to go to competent authority before paying tax ; 0 otherwise
- Cost contribution   - 1 if the government does not allow cost-contribution arrangements ; 0 otherwise
- Commissionaire   - 1 if the government does not allow commissionaire arrangements ; 0 otherwise
- Foreign comparable   - 1 if the government does not allow foreign comparables when estimating transfer; 0 otherwise.
- Apa   - 1 if the government allows advance pricing agreements; 0 otherwise.
- Self-initiated adjust   - 1 if the government allows a self initiated adjustment; 0 otherwise.
- Benchmark data   - 1 if benchmark data is available to taxpayer; 0 otherwise.
- E&Y risk   - High, medium, low assessment of risk of TP audit from EY TP guide
- KPMG risk   - High medium low assessment of TP penalty enforcement

2) TPfocus2   - Similar to Tpfocus but does not include ey05_risk and kpmg_risk assessments
3) Tpfocus_risk - Sum of KPMG and EY risk assessments (both are 3 pt scales so this makes a 6 pt scale)
4) TPfocus_tri   - 3 if sum of KPMG and EY is 6 (meaning high on both scales), 2 if sum=4, 5, 1 if score is 3 or less
5) TPfocus_ey   - The E&Y 1-3 measure of risk High=3
6) TPfocus_ey2 - 1 if sum of KPMG&EY = 5 or 6, 0 if sum =3 or below, defaulted to EY if summed to 4 (often meant one rated the company a 3 and the other a 1 since they were rating two different risks this is conceivable however I felt risk of audit was more pertinent to my study)
7) TPrule   - 1 if the country has enacted Transfer pricing legislation and 0 if they have not. As of 2005, 6 of my 27 countries still have not enacted legislation.

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[29] The data for all of the measures with the exception of ey05_risk and kpmg_risk, were taken annually from the Deloitte Strategy Matrix for Global Transfer Pricing from 2000-2006. Years prior to 1999 were set to 1999 values if the country had enacted transfer pricing legislation and 0 otherwise.

Appendix C - Calculation of International Accounting Standards Quality using the Young and Guenther (2003) Index

In this table I calculate the quality of International Accounting Standards using the Young and Guenther (2003) Index. The index is calculated in Panel (a) on 14 points of the 15 point scale. The measure for "Disclosure of quarterly information" is not covered under IAS and is specific to the exchange regulations of the country. Panel (B) calculates the total country specific IAS measure by including the score for "Disclosure of quarterly information". I then use the measure of quality of IAS as the measure of quality of financial reporting standards for each country-year after the year of IAS adoption.

Panel (a) **Required disclosures under International Accounting Standards ***

		International Accounting Standards
1)	Disclosure of accounting policy	1
2)	Disclosure of consolidated data	1
3)	Disclosure of equity method for investment	1
4)	Disclosure of segment information	1
5)	Disclosure of current value of building and land	1
6)	Disclosure of asset valuation	1
7)	Disclosure of allowance for doubtful accounts	0
8)	Disclosure of contingencies	1
9)	Separate disclosure of extraordinary items	0
10)	Separate disclosure of costs for discontinued ops.	1
11)	Disclosure of earnings per share	1
12)	Disclosure of the effect of foreign currency translation	1
13)	Statement of cash flows required	1
14)	Substance over form generally followed	1
15)	Disclosure of quarterly information	Country specific
	Total Disclosure score	**12**

*IAS scores for the Young and Guenther (2003) index were assessed using the PricewaterhouseCoopers (2006) comparison of U.S. GAAP and IFRS

Appendix C- Continued

Calculation of International Accounting Standards Quality using the Young and Guenther (2003) Index

Panel (b) Calculation of country specific measure of financial reporting quality

	Year of IAS adoption	Disclosure of quarterly information required	IAS score on 14 prior measures *	*Total IAS score*	Score (Young and Guenther 2003)
Argentina	N/A	N/A	N/A	N/A	N/A
Australia	2005	0	12	*12*	14
Austria	2005	0	12	*12*	-
Belgium	2005	0	12	*12*	11
Brazil	N/A	N/A	N/A	N/A	N/A
Canada	2008	1	12	*13*	13
Denmark	2005	0	12	*12*	13
Finland	2005	0	12	*12*	11
France	2005	0	12	*12*	9
Germany	2005	0	12	*12*	6
Hong Kong	2005	0	12	*12*	11
India	N/A	N/A	N/A	N/A	N/A
Ireland	2005	0	12	*12*	12
Italy	2005	0	12	*12*	4
Japan	2008	0	12	*12*	9
Malaysia	N/A	N/A	N/A	N/A	N/A
Mexico	N/A	N/A	N/A	N/A	N/A
Netherlands	2005	0	12	*12*	10
New Zealand	2007	0	12	*12*	13
Norway	2005	1	12	*13*	9
Singapore	2002	0	12	*12*	12
South Africa	N/A	0	12	*12*	12
Spain	2005	1	12	*13*	11
Sweden	2005	0	12	*12*	5
Switzerland	2005	0	12	*12*	4
United Kingdom	2005	0	12	*12*	12
United States	N/A	1	12	*13*	14

*See panel (a)