บทบาทโครงสร้างเงินทุนเป้าหมายต่อการตัดสินใจทางการเงินของบริษัท:

งานศึกษาเชิงประจักษ์ในประเทศ ออสเตรเลีย สิงคโปร์ และ ไทย

นายเอกชัย ตั้งเสงี่ยมวิสัย

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต

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คณะพาณิชยศาสตร์และการบัญชี จุฬาลงกรณ์มหาวิทยาลัย

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THE ROLE OF TARGET LEVERAGE ON FIRMS' FINANCIAL DECISION:
EMPIRICAL EVIDENCE IN AUSTRALIA SINGAPORE
AND THAILAND

Mr. Eakkachai Tangsageamvisai

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science Program in Finance
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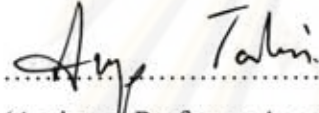Chulalongkorn University
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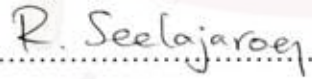By Mr. Eakkachai Tangsageamvisai

Field of Study Finance

Advisor Ruttachai Seelajaroen, Ph.D.
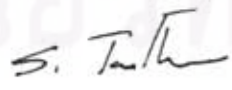
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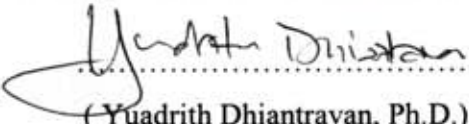
....Dean of the Faculty of Commerce and Accountancy

(Assistant Professor Annop Tanlamai, Ph.D.)

THESIS COMMITTEE

....Chairperson

(Assistant Professor Kessara Thanyalakpark, Ph.D.)

.... Advisor

(Ruttachai Seelajaroen, Ph.D.)

.... Examiner

(Suparatana Tanthanongsakkun, Ph.D.)

.... External Examiner

(Yuadrith Dhiantravan, Ph.D.)

เอกชัย ตั้งเสงี่ยมวิสัย: บทบาทโครงสร้างเงินทุนเป้าหมายต่อการตัดสินใจทางการเงินของ บริษัท: งานศึกษาเชิงประจักษ์ในประเทศ ออสเตรเลีย สิงคโปร์ และ ไทย (THE ROLE OF TARGET LEVERAGE ROLE WHEN FIRMS' FINANCIAL DECISION: EMPIRICAL EVIDENCE IN AUSTRALIA SINGAPORE AND THAILAND) อ. ที่ปรึกษาวิทยานิพนธ์หลัก: ดร. รัฐชัย ศีลาเจริญ, 87 หน้า.

งานศึกษานี้ทำการตรวจสอบบทบาทของโครงสร้างเงินทุนเป้าหมายในการระดมเงินทุน ของบริษัทจดทะเบียนในตลาดหลักทรัพย์ของประเทศ ออสเตรเลีย สิงคโปร์ และ ไทย ระหว่างปี พ.ศ. 2539-2549 กลุ่มประเทศในการศึกษามีความแตกต่างในสภาพแวดล้อมที่เอื้อต่อการระดมทุน ของบริษัทจดทะเบียน ซึ่งมีตั้งแต่ระบบเศรษฐกิจที่พึ่งพิงตลาดไปจนถึงระบบเศรษฐกิจที่พึ่งพิง ธนาคาร บทบาทของโครงสร้างเงินทุนเป้าหมายจะทำการตรวจสอบใน 2 ลักษณะ ลักษณะแรกเมื่อ บริษัทมีความต้องการระดมทุนจากภายนอก บริษัทจะตัดสินใจอย่างไรในการเลือกระหว่าง หนี้ หรือ ส่วนของทุน โดยทดสอบว่าบริษัทจะเลือกแหล่งเงินทุนที่จะสามารถทำให้โครงสร้างเงินทุน จริง ใกล้กับโครงสร้างเงินทุนเป้าหมาย หรือไม่ ส่วนการทดสอบลักษณะที่สองตรวจสอบดูว่า เมื่อ บริษัทเบี่ยงเบนออกจากโครงสร้างเงินทุนเป้าหมายจะมีความพยายามในการปรับโครงสร้างเงินทุน จริง กลับสู่โครงสร้างเงินทุนเป้าหมาย หรือไม่ .

วิธี Univariate และ Binary logit ถูกนำมาใช้ในการทดสอบครั้งนี้ การทดสอบในลักษณะ แรกทำการเปรียบเทียบระหว่าง บริษัทที่ระดมทุนด้วยหนี้ กับ บริษัทที่ระดมทุนด้วยส่วนของทุน สอดคล้องกับทฤษฎี Tradeoff บริษัทจะเลือกแหล่งเงินทุนที่ทำให้โครงสร้างเงินทุนจริง ใกล้กับ โครงสร้างเงินทุนเป้าหมายมากที่สุด ผลการทดสอบนี้สอดคล้องกันในทุกประเทศในกลุ่มตัวอย่าง ขณะการทดสอบในลักษณะที่สองทำการเปรียบเทียบระหว่าง บริษัทที่ทำการระดมทุนจากภายนอก กับ บริษัทที่ไม่มีการระดมทุนจากภายนอกแต่อย่างใด ผลการทดสอบพบว่าทั้ง 3 ประเทศในกลุ่ม ตัวอย่าง เมื่อบริษัทมีการเบี่ยงเบนออกจากโครงสร้างเงินทุนเป้าหมาย จะมีความพยายามในการ ปรับตัวกลับเข้าสู่โครงสร้างเงินทุนเป้าหมาย บริษัทที่มีโครงสร้างเงินทุนจริงอยู่เหนือโครงสร้าง เงินทุนเป้าหมายมีแนวโน้มของการลดระดับหนี้ ขณะที่บริษัทที่มีโครงสร้างเงินทุนจริงต่ำกว่า โครงสร้างเงินทุนเป้าหมายมีแนวโน้มของการระดมทุนด้วยหนี้

ภาควิชา การธนาคารและการเงิน   ลายมือชื่อนิสิต Eakkachai

สาขาวิชา การเงิน   ลายมือชื่ออ.ที่ปรึกษาวิทยานิพนธ์หลัก R. Seelgarey

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KEYWORDS: TARGET LEVERAGE/TRADE-OFF THEORY

EAKKACHAI TANGSAGEAMVISAI: THE ROLE OF TARGET LEVERAGE ROLE ON FIRMS' FINANCIAL DECISION: EMPIRICAL EVIDENCE IN AUSTRALIA SINGAPORE AND THAILAND. ADVISOR: RUTTACHAI SEELAJAROEN, Ph.D., 87 pp.

This study investigates the role of target leverage on financing decisions of firms listed in the stock exchange in Australia, Singapore and Thailand between the periods of 1996-2006. These countries offer different environments for firms to raise external fund ranging from market-based economy to bank-based economy. The role of target leverage is examined in two aspects. The first aspect is, given that firms want to raise external fund, how would they decide between debt and equity. We test whether firms will select the source of fund that makes their leverage ratio closer to the target level. The second aspect is to test whether, when firms deviate from the target leverage ratio, they will try to adjust their leverage back to the target level.

Univariate and Binary logit regressions are applied in this study. The first aspect is tested by comparing between debt issuer and equity issuer. Consistent with the tradeoff theory, the results show that firms tend to select the source of fund that minimize the gap between actual leverage and the target leverage ratios. These results are consistent across countries used in the samples. The second aspect is tested by comparing between firms that involve in financing transactions and firms that do not involve in such transactions. The results show that firms in 3 countries when deviate from the target leverage ratio will adjust back to the target leverage ratio. Overleveraged firms tend to reduce their existing debt while underleveraged firms tend to issue debt.

Department: Banking and Finance   Student's Signature...Eakkachai...

Field of Study: Finance   Advisor's Signature...R. Seelajaroen...

Academic Year: 2008

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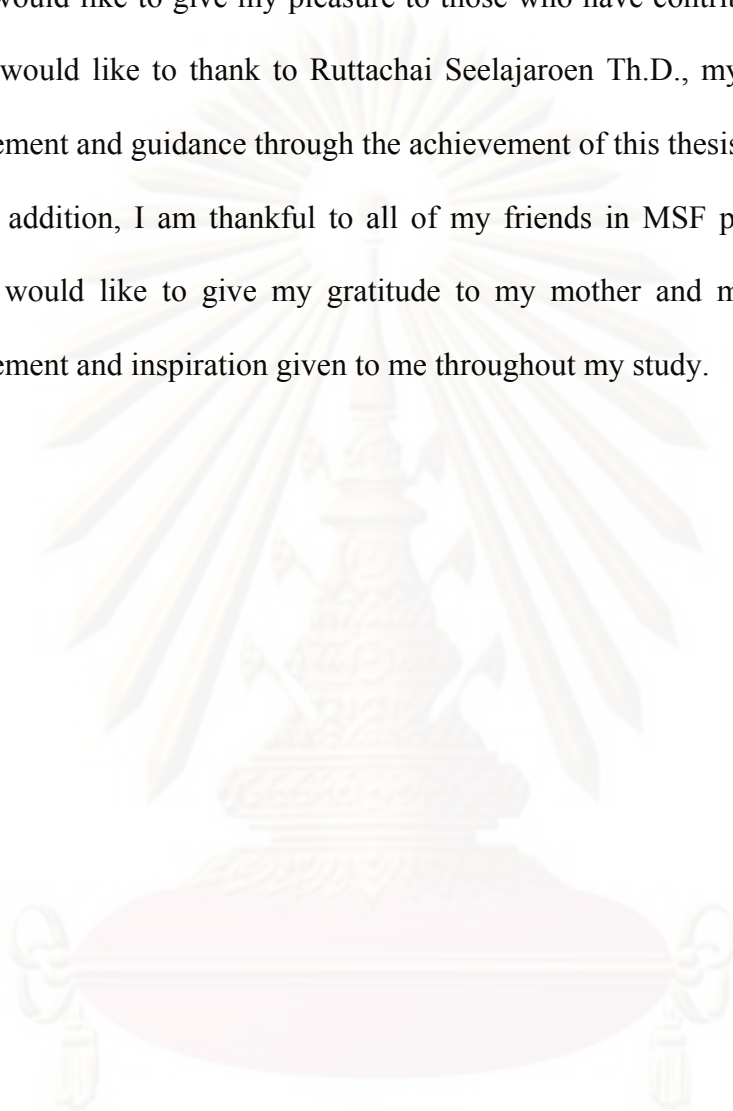
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CHAPTER I

INTRODUCTION

1.1 Background and Problem Review

The Modigliani and Miller model predicts that in the perfect capital market the value of a firm is independent of its capital structure. That is, after investment decisions are made the proportion of debt and equity chosen to finance the firm is irrelevant. Based on this model, the source of financing is not important factor when firm make financial decision. However, the real world capital market is imperfect and so the choice of capital structure becomes an important value-determining factor.

The trade-off theory is one of the main theories that explain the relevance of capital structure. According to this theory, firms choose their capital structure that balance marginal benefits and marginal costs of debt and try to maintain to the target structure. This target will maximize the value of the firm and so a firm will consider its target as one important factor when making a financial decision. The existing empirical studies that are relevant to target capital structure can be classified as follows. The first group of studies examines the determinants of corporate debt ratio (e.g., Titman and Wessels 1988; Rajan and Zingales 1995; Graham 1996; Hovakimian, Opler and Timan 2001). These studies examine the variation in debt ratios across firms and generally find evidence supports the notion that firms' characteristics can explain the variation in debt ratios as predicted by the tradeoff theory. For example, observed debt ratios relate to firm characteristics such as size, growth opportunities, and collateral value of assets. Firms' size explains that larger firms have more diversified assets so they can use more debt than smaller firms while firms that have more tangible assets tend to use more debt because they can use tangible assets as collateral in loan agreements. The positive sign of two variables

evidence in many studies (Rajan and Zingales 1995; Wiwattanakantang 1999; Deesomsak, Paudyal and Pescetto 2004). Firms with high growth opportunities tend to use less debt because an increase in growth opportunities decrease weight of assets in place against growth opportunities and therefore reduces the relative value in case of liquidation. The negative relationship with debt ratio is observed in many empirical studies (Rajan and Zingales 1995; Wiwattanakantang 1999; Deesomsak, Paudyal and Pescetto 2004).

The second group of studies (e.g., Miguel and Pindado 2001; Flannery and Rangan 2004; Bender, Gaud, Hoesli and Jani 2005) examines the behavior of corporate debt ratio over time to see whether firms try to adjust their leverage ratios to the target level. These studies analyze mean reversion behavior of corporate debt ratio and measure the speed of adjustment to the target. In general, these papers conclude that firms do have target capital structures and firms try to close the gap between actual and target which is evidenced by mean reversion behavior of corporate debt ratio. However, the speeds of adjustments documented in literatures are different. For example, Antoniou, Guney and Paudyal (2008) documents the different speed of adjustment in United Kingdom, United States, France, Germany and Japan. French firms being the quickest in adjusting their capital structure towards their target capital structure while Japanese firms are the slowest in adjustment to the target. The difference in adjustment cost and transaction cost play role in explaining the different speed of adjustment. So far most of the studies on the speed of adjustment have focused on US and European samples.

The traditional studies of determinants of corporate debt ratio support tradeoff theory. However, they are difficult to identify specific effects relating to tradeoff theory because an impact of a given factor is often consistent with other theoretical

explanations, for example, pecking order, agency theory and marketing theory. This type of study also fails to capture dynamic dimension in capital structure policies because some studies examine cross-sectional data which do not take into account time. While the study of speed of adjustment captures the dynamic dimension but it does not give the detail in each firms 'corporate transaction (debt issue, equity issue, debt reduction and equity repurchase) whether these transactions are affected by target leverage. If the target leverage ratio exists and firms do follow target leverage ratio, knowing which transactions are affected by target leverage could give investors the signal that firms rebalance their capital to be more optimized so investors can expect increasing in firms' valuation.

The study of debt-equity choice (e.g., Marsh 1982; Jalivand and Harris 1984; Mackie-Mason 1990; Bayless and Chaplinsky 1991; Hovakimian, Opler and Timan 2001; Kalpagonchai 2002; Hovakimian 2004) which examine how firm characteristics affect the choice between debt and equity when firms make financing decisions allow the examination of the role of target leverage affecting each transaction type. These studies hypothesize that firms tend to move toward target leverage when they either raise capital or retire existing capital. The tradeoff theory implies that when raising external fund overleveraged[1] firms should decide to issue equity while underleveraged[2] firm should issue debt. On the other hand, when making repurchasing decision, overleveraged firms should buyback debt while underleveraged firms should buyback equity. Rather than focusing on adjustment to target leverage ratio effect, the study of debt-equity choice also examine the effect of

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[1] Overleveraged firms are firms that have actual leverage above their target leverage.

[2] Underleveraged firms are firms that actual leverage below their target leverages.

operating and market performance which proxy for competing theories such as pecking order and marketing timing theory. The results of these studies have been mixed; Hovakimian, Opler and Titman (2001) find that significant deviation from target leverage ratio can explain debt-equity choice behavior of US firms as predicted by the theory. However, the effect of target leverage on the choice of issuing debt versus issuing equity is marginally significant. Hovakimian (2004) finds only the repurchase decision to be influenced by the target leverage. Kalpagonchai (2002) studies a similar topic using data in Thailand find statistical significance in target leverage ratio. However, the coefficient sign is opposite to the theory. Thai firms tend to deviate further from target when they issue debt or equity. For example, overleveraged firms tend to issue debt rather than equity and underleveraged firms tend to issue equity instead of debt. This contrasts with the tradeoff theory that a firm should move towards target leverage when a firm raises new capital.

Hovakimian (2004) proposes that earlier studies of debt-equity choice (e.g., Marsh 1982; Jalivand and Harris 1984; Mackie-Mason 1990; Bayless and Chaplinsky 1991; Hovakimian, Opler and Timan 2001; Kalpagonchai 2002) have overlooked some aspects of firms' behavior which are also consistent with the tradeoff theory. Hovakimian (2004) argues that firms might consider the target as an important determinant in their financial decision at different situations. The first involves a situation in which firms considering for external fund will select the transaction that can minimize the absolute deviation from target[3]. Second, firms when deviate from target will make a transaction which moves their leverage ratio toward the target

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[3] Hovakimian (2004) propose as Debt-Equity Choice Hypothesis

leverage ratio[4]. The first situation arises when firms need to raise external fund so they have to decide whether to raise fund from equity or debt. According to the tradeoff theory, firms should consider the type of transaction which can minimize the absolute deviation from the target. Contrast with the first situation, second situation involves firms decide whether to enter in capital market in order to adjust leverage ratio toward the target. This time, firms do not decide between debt issuing or equity issuing but firm decide between do and not to do the transaction. For example, overleveraged firms will decide to issue equity or reduce debt rather than do nothing because firms want to adjust their leverage ratio toward the target leverage ratio.

Previous studies of debt-equity choice (Hovakimian, Opler and Titman 2001; Kalpagonchai 2002) focus to explain when firms decide either debt issuing or equity issuing for their financing but they overlook that firms could make transaction for adjusting to target which is consistent with the second situation as mention earlier. Moreover, in examination of the first situation, Kalpagonchai (2002) does not take into account whether the transaction firms made can minimize the absolute deviation from target. For example, underleveraged firms might get closer to the target by equity issuing rather than debt issuing. One might expect that underleveraged firms should issue debt to stay closer to the target leverage ratio. Consider a firm with leverage ratio of 0.2 and has a target leverage ratio of 0.21. This firm wants to raise fund of 0.1 of its total assets. Currently, firm is underleveraged. If firm issues equity, its leverage ratio would become 0.182. If firm issues debt, its leverage ratio becomes 0.273. The absolute deviations from target are 0.028 for equity issue and 0.063 for debt issue. Despite, this firm is underleveraged, it stay closer to target if it choose to

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[4] Hovakimian (2004) propose as Target Adjustment Hypothesis.

issue equity rather than debt[5]. The absolute deviations from target when firms make any transactions are important because based on tradeoff theory firms will obtain benefit of optimal capital structure by stay as close as possible to the target leverage ratio.

Base on Hovakimian (2004) proposition, this paper will examine whether target capital structure determines corporate financial decisions by differentiating between two aspects of the role of target leverage. The countries in the study are Australia, Singapore and Thailand. These countries are in the Asia Pacific region where study on debt-equity choice is less documented. Previous debt-equity choice studies are concentrated in US, UK and Europe (Marsh 1982; Hovakimian 2004; Gaud, Hoesli and Bender 2007).

The different environments in each country, such as the legal and institutional settings, will also provide a good opportunity to examine the role of target leverage in this region. For example, Australia and Singapore are developed capital markets while Thailand is an emerging market. La Porta, Lopez-de-Silanes, Shleifer, and Vishy (1997) find that a better protection of outside investor increases external financing because higher level of protection of outside investors mean the more willingness of investors to give fund. This leads to lower transaction cost and adjustment cost when firms make financing transaction. These countries in investigation have the different level of protection of outside investors. Australia and Singapore have the same level of shareholders right protection and are greater than Thai shareholders. This implies that Australian and Singapore firms do have lower cost in accessing to stock market than Thai firms. In term of debt financing, the legal protection for creditor rights among these three countries are the highest in Thailand while the legal protection for

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[5] This result occurs only when the size of issuing is substantially larger than the deviation from target.

creditor rights is the lowest in Australia. (Laporta, Lopez-de-Silanes, Shleifer and Vishy 1998). Considering between shareholders and creditors protection right imply that firms in this region do have different transaction cost and adjustment cost in term of external fund raising. These differences could affect the firms' decision when they decide to raise external fund. According to the study of speed of adjustment (e.g., Miguel and Pindado 2001; Flannery and Rangan 2004; Bender, Gaud, Hoesli and Jani 2005), firms do adjust their leverage ratio toward the target leverage ratio. However, the speeds of adjustment are different due to difference in transaction and adjustment cost. The different in term of transaction and adjustment cost could lead to a different behavior in the role of target leverage ratio in this region.

In addition, the previous debt-equity choice study in Thailand (Kalpagonchai 2002) does not take into account that the role of target leverage can be classified into 2 aspects. As mention earlier, the study of debt-equity choice in Thailand does not take into account that when firms decide either equity issue or debt issue for external finance whether firms consider to minimize absolute deviation from target. Moreover, second situation where firms adjust to the target has not been investigated. To better identify and differentiate the role of target leverage in Thailand, the reinvestigation is necessary.

This paper also classifies firms into two different types, namely those overleveraged and those underleveraged. Classifying these two kinds of firms in the study can identify the role of target leverage more clearly because over- and under-leveraged firms may have different incentives to adjust back to the target leverage ratio. Pooling these two types of firm together might give a biased result; for example, if overleveraged firms consider the target leverage ratio more important than underleveraged firms because they have higher costs of deviation from the target. If

these two types of firms are aggregated in examination, the role of target leverage in overleveraged firms might be offsetting by underleveraged firms which concern less on target leverage ratio. For the reasons given, this study will investigate whether the role of target act differently between over and under leveraged firms.

1.2 Statement of Problem / Research Questions.

The main research question of this study is "What is the role of target leverage ratio in corporate financing decision? " In order to answer the question, this paper will examine the following points.

1. When make external finance do firms select the transaction (debt Vs equity) which will minimize the absolute deviation from target?

2. For firms that deviate from the target do they make transaction to offset the deviation from the target?

3. Do overleveraged and underleveraged firms consider target leverage ratio as important determinant when making external finance equivalently?

For example, overleveraged firms are likely forced for bankrupt if they cannot meet debt obligation while underleveraged firms forgo the benefit of tax shield from using debt. Therefore, they may be more concern about the target leverage ratio when raising external fund compare to underleveraged firms.

1.3 Objective of the Study

To examine tradeoff theory by study how important the role of target leverage when firms make financial decision.

1.4 Scope of the Study

This thesis sample contains listed firms in Australia, Singapore and Thailand.

Firms included in the sample for each country are firms that have issuance or repurchase transaction size greater than 5% previous year total asset. The period of the study is from 1996 to 2006.

1.5 Contributions

This paper provides empirical evidence on the role of target leverage in explaining corporate financing behavior. It also provides greater understanding about the role of target leverage in explaining the behavior of over- and under- leveraged firms which have different incentives or constraints before making an issue or repurchase decision. To understand the role of target capital structure in different environments, this paper uses cross country samples to ascertain whether or not different environment can lead to different financial decision choice.

1.6 Organization of the study

The remaining of this paper is organized as following. Chapter 2 represents the literatures which mainly focus on tradeoff theory. It reviews the empirical study in tradeoff theory in different aspects. Chapter 3 presents the Data and Methodology in examining the existent of tradeoff theory. Chapter 4 discusses the results from the examination and Chapter 5 make a conclusion and recommendation for further study.

CHAPTER II

LITERATURE REVIEW

In this section, theoretical backgrounds of capital structure are provided to shed more light on the development of capital structure theories. The main capital structure theories that explain the relevance of capital structure in the real world of finance are tradeoff, pecking order and market timing. Each theory does explain capital structure in its own context. However, this paper emphasizes the role of tradeoff theory in explaining the relevance of capital structure.

The first section provides theoretical background of capital structure then empirical studies of tradeoff theory are reviewed in the second section.

2.1 Theoretical Background

2.1.1 Tradeoff Theory

The modern theory of capital structure began with the paper of Modigliani and Miller (1958). Their study was based on strong assumptions, including the following no taxes, no bankruptcy cost, no brokerage costs, investors borrowing at the same rate as corporation, symmetric information between investors and managers. If these assumptions hold true, MM proved that firms' value are unaffected by their capital structure which mean capital structure is irrelevant. However, these assumptions are unrealistic in the real world of finance. Modigliani and Miller (1963) relax some assumptions that there are no taxes. When taxes are present, firms using debt financing can deduct interest payment as an expense. Firms pay less to government meaning that firms have more cash flow available for their investors. Under this circumstance, firms will use 100 percent debt in their capital structure.

100 percent of using debt in capital structure will be true if there are no bankruptcy costs. However, the cost of bankruptcy is practically high. Firms in bankruptcy have very high legal and accounting expenses, they also have a hard time doing their businesses such as losing customers, hardly access to capital market. Bankruptcy problem is likely to arise when firms use more debt. After taking into account for bankruptcy costs, firms cannot afford to use 100 percent of debt in their capital structure. However, debt using gives an advantage of tax shield but the higher level of using debt mean higher cost of bankruptcy at the same time. This argument leads to the development of what is called trade-off theory, in which firms tradeoff the benefit of using debt against the cost of bankruptcy.

2.1.2 Asymmetric Information

Based on Modigliani and Miller (1958) assuming that investors have the same information about firms' prospects as managers which is called symmetric information. However, in fact managers often have better information than outside investors which lead to what is called asymmetric information. Based on this theory, capital structure is designed to mitigate inefficiencies in the firms' investment decisions that cause by asymmetric information problem.

To show what is called asymmetric information, consider two situations, one in which the company's managers know that its prospects are extremely positive (Firms P) and one in which the managers know that future looks negative (Firm N). Firm P consider for fund to meet its new positive NPV project. If firm P raise fund with equity, when profits from new project start flowing in, the price of stock would rise sharply. The profits will be shared to both current shareholders and new shareholders. In this case, current shareholders are doing well but they would have done better if firm P decide not to issue equity. Therefore, investors would expect

firms with positive prospects to avoid issuing new equity for financing, firms would raise a new fund with other means such as internal fund, debt.

Firm N which has negative prospects would do reversely to Firm P. Suppose its managers have information that new orders are declined sharply because a competitor has installed new technology that has improved its products' quality. Firms N must upgrade its own facilities, at a high cost, just to maintain its current sales. Firm N would like to raise fund with equity because new shareholders, in this case, will share the losses. Firm N cannot afford to mimic firm P which issue debt for finance because firm N could be forced into bankruptcy.

According to asymmetric information, equity issue will signal that firms do have a negative prospect so investors will lower their firms' value estimation so the presence of asymmetric information problem cause firms to raise fund in order according to a pecking order. Firms firstly raise capital internally using retain earnings. Secondly, firms raise fund with debt and last resort will be equity.

Myers (1984) studies the topic of asymmetric information shows the implications of pecking order that upon announcement of an equity issue, the market value of the firms' existing shares will fall. To avoid under-pricing by market, firms tend to finance mainly from internal fund or debt issuing. Korajczyk, Deborah and Robert (1990) argue that asymmetric information problem is less severe after firms release information to the public such as annual reports and earning announcements. Therefore firms tend to issue equity after information releases.

Krasker (1986) allows firms to choose the size of the new investment project which finance with equity issue. Krasker confirms the results of Myers that the larger the equity issue the worse the signal to the public and the fall in the firms' stock price.

2.1.3   Agency Costs

Agency costs theory in explaining capital structure is initiated by Jensen and Mecking (1976). They propose that there are two types of conflicts which are conflicts between shareholders and managers and conflicts between shareholders and debtholders.

Conflicts between shareholders and managers arise because managers hold less than 100% of the residual claim. Consequently, they do not capture the entire gain from companies' operation but they bear entire cost of firms' activities. This lead to the motivation that managers can invest less effort in managing firm and may be transfer firms' resource to their personal benefit such as nicer offices, corporate jet and new building. This inefficiency is reduced when managers own the larger portion of equity. Moreover, Jensen (1986) point out that using more debt can reduce this conflicts of interest because debt commits the firms to pay out cash so it reduces the amount of free cash flow available to managers to engage in wasteful activities.

Conflicts between shareholders and debtholders arise because debtholders will gain the fix amount of payment while shareholders will gain more if the new project is successful. This leads to the conflicts of interest that shareholders want to invest in risky project which yields high return. However, debtholders are not compensated for investing in risky project. This effect generally called the asset substitution effect is an agency cost of debt financing.

Jensen and Meckling (1976) argue that an optimal capital structure can be obtained by trading off the agency cost of debt against the benefit of using debt. This lead to a numbers of implications, first one would expect bond or debt contracts to include feature that attempt to prevent asset substitution, such as interest coverage requirement, prohibitions against investment in new or unrelated lines of business.

Second, industries in which the opportunities for asset substitution are limited will have higher debt level. Third, firms which have large amount of cash flow from operations should use more debt to limit free cash flow.

2.1.4   Market timing

Baker and Wurgler (2002) develop another explanation to capital structure theory. They argue that firms tend to issue equity instead of debt when market value is high relative to book value and past market value which firms tend to repurchase equity when market value is low.

Capital structure, by Baker and Wurgler (2002), is the cumulative outcome of past financing decisions. Past financing decisions are known to depend on the past market valuations or timing market behavior.

Market timing leads to the implications that unleveraged firms tend to be firms that raise fund when their market valuations are high while leveraged firms tend to be firms that raise funds when their market valuations are low.

2.2 Empirical studies of tradeoff theory

In this section, rather than explaining the background of capital structure theories, the empirical studies are provided which focus no tradeoff theory.

Since Modigliani and Miller (1958) first propose that capital structure is irrelevant, the theory of capital structure has been studied extensively. A common view is that there exists some target leverage ratio that balance the benefit of using debt, such as tax deductibility of interest payment against the cost of debt, such as bankruptcy costs. Myers (1984) labels this view the static tradeoff theory of capital structure.

The topics used in the investigation of the existence of tradeoff theory are studied extensively. The different implications of the theory are used as following

2.2.1   The Study of the Determinants of leverage ratio

Base on tradeoff theory, firms balance the benefit from debt tax shield and cost of distress to reach optimal capital structure. This optimal level can maximize value of firms. By this implication, the study of determinants of leverage ratio studies the relationship between firms' characteristics and leverage ratio. To see whether, firms' characteristics can explain leverage ratio according to tradeoff theory.

A group of studies (e.g., Titman and Wessels 1988; Rajan and Zingales 1995; Graham 1996a; Hovakimian, Opler and Timan 2001) have tried to investigate what factors have explanatory power in observing debt ratio in G7. The variables that have been found to have a strong link to a firm's leverage ratio are size, growth opportunities, collateral value of assets and marginal tax rates. These variables are consistent with the predictions of the trade-off theory. Firms' size has a positive relation with debt ratio because larger firms have more stable cash flow which decrease the probability of bankruptcy and therefore can use more debt. Tangible asset has a positive sign because tangible asset can be used as collateral so firms can raise fund with more debt. Growth opportunity represents by market to book ratio. An increase in market to book ratio decreases the relative weight of assets in place against growth opportunities and therefore reduces the relative residual value in case of liquidation. As a result, market to book ratio usually has a negative relation with debt ratio.

Deesomsak, Paudyal and Pescetto 2004 investigate the determinant of capital structure of firms operating in Asia Pacific region namely Thailand, Malaysia, Singapore and Australia. The determinants of capital structure variables used in the

examination are similar with G7 study sample. There are tangible asset, profitability, size, grow, non-debt tax shield and earning volatility. The estimated coefficient signs are also similar with G7 samples. Tangible asset has a positive sign as expected but it is not statistical significant in Thailand, Malaysia and Singapore. This can be explained by the tight family held and close relationship of firms with their lender. Singapore firms could also be due to the relatively high level of government ownership so they do not need collateral asset when they want to borrow. Size has positive sign and statistical significant in all sample except Singapore. Non-debt tax shield has negative sign as expected and has statistical significant in all samples.

Antoniou, Guney and Paudyal (2008) examine the determinants of capital structure in United State, United Kingdom, Germany, France and Japan. Unlike, Rajan and Zingales (1995) this study classify samples into two different oriented economies. Germany, France and Japan are in bank oriented economy while United Kingdom and United State are in market oriented economy. The finding supports the previous result on the firms' characteristics effect the leverage ratio. Leverage ratio is positively related to the tangibility of assets and to size of the firm in both types of economies. On the other hand, it declines with increase in profitability, grow opportunities and share price performance. The impact of effective tax rate and dividend payout ratio is dependent on country's rules and regulation. This shows the evidence that the strength and the nature of effect of firm specific factors on capital structure are dependent on the economic and legal traditions of a country.

2.2.2 The Study of target reversion

Since the real financial world does have transaction cost and adjustment cost, firms cannot maintain at target level all the time. However, firms will try to get as close as possible to the target level. This behavior explains that firms will try to adjust

their leverage ratio overtime. This implication leads to examine how fast firms adjust their leverage ratio back to the target. According to the theory firms should adjust back to the target as fast as possible.

Flannery and Rangan 2004 find that US firms try to close the gap between actual debt ratio and target debt ratio. The speed of adjustment is approximately 30% of the gap in each year. This paper also examines other capital structure theories which are pecking order and market timing to compare the result with tradeoff theory. Adding financial deficit and market timing proxy do not change the speed of adjustment significantly. This concludes that tradeoff theory can explain most of the variation in debt ratio.

Kayhan and Titman (2007) examined how cash flows, investment expenditures, and stock price histories affect debt ratio in US. These variables have a substantial influence on changes in capital structure. In particular, the stock price and financial deficits have strong influences on capital structure changes. Stock price has negative relation with capital structure change. Consistent with Welch (2004) that firm tends to issue equity which cause lower leverage ratio. The paper finds that over long horizons their effects are partially reversed. These results indicate that although firms' histories strongly influence their capital structure, over time their capital structure tends to move towards the target capital structure consistent with the trade-off theory. Firms try to adjust back to the target by offsetting the deviation from target.

Antoniou, Guney and Paudyal (2008) investigate the speed of adjustment toward target leverage in different environment. United Kingdom and the United State firms operate in capital market oriented economies while France, Germany and Japan are classified as bank oriented economies. The results confirm the existence of target

leverage that firms do adjust their leverage ratios toward the target. The speeds of adjustment vary across sample countries, being fastest among France, followed by US, UK, German and Japan respectively. The variety of the speeds can be explained by different cost of adjustment and cost of being off the target. Japan firms seem to have low cost of being off the target relative to cost of adjustment while France has relative high cost of being off target to cost of adjustment so they need to adjust toward target quicker.

2.2.3   The Study of Debt-Equity Choice

Base on tradeoff theory, target capital structure is desired. However, firms cannot afford this target level all the time but firms will consider to get as close as possible to the target. This implication leads the way to examine firms' decision when they make external finance whether target capital structure is important determination.

Similar with the study of target reversion, firms adjust toward the target but rather than examining the speed of adjustment. The study of debt-equity choice tries to investigate the way that firms adjust to target leverage. Equity issue, debt issue, debt reduction and equity repurchase are separately examined.

Marsh (1982) investigates debt-equity choice in UK companies between 1959 and1974. The study focused on how companies selected financing instruments at a given point in time. Marsh reached two conclusions. First, companies are heavily influenced by market conditions and the past history of security prices in choosing between debt and equity. Second, there was evidence that companies appear to make their choice of financing instrument as if they have target levels of debt in mind. Hovakimian, Opler and Titman (2001) examined whether or not US firms tend to move towards the target when making capital structure adjustments. This paper finds that target play important role both issue side and repurchase side. A similar study

was carried out by Kalpagonchai (2002) who analyzed Thai data. This paper studied the role of macroeconomic factors in explaining target capital structure and the role of a target capital structure in determining firms' financial decisions. Kalpagonchai concluded that some macroeconomic factors such as the manufacturing production index and private investment index have statistical power in explaining target capital structure. However, the result of the role of target capital structure was not as expected. Thai firms tended to deviate further from the target.

Lie (2002) investigates firms that undertake self-tender offer whether this behavior lead firms to be more optimized. Contrast with the other studies, this study concentrate on self-tender offer transaction not including open market repurchase transactions. This study also applies event study method for examination and classifies firms undertaking self-tender offer into defensive and nondefensive. Both of these firms before making self-tender offer tend to be underleveraged firms that their actual leverage ratio is below the target leverage ratio. Nondefensive self tender offer transaction increase their leverage ratio to the target while firms undertaking defensive self tender offer increase their leverage ratio above the target. Firms undertaking nondefensive self tender offer seem to be more optimized after making the transaction.

Hovakimian (2004) argued that to better identify the role of the target in a debt-equity choice study, the role of target leverage should be considered from 2 aspects. From one aspect, the target adjustment hypothesis, a firm readjusts its capital structure over time when its leverage ratio deviates much further from target. The other aspect, debt-equity choice hypothesis, is when, according to the investment plan, a firm chooses how to finance its investment by choosing the source of funds that can minimize the deviation from target. This paper revealed that US firms do

consider target when they make debt reduction transactions – consistent with Hovakimian, Opler and Titman (2001) but in this study the issuing side was also found to be consistent with the trade-off theory. Debt reduction transactions are found to be consistent with the target adjustment hypothesis while equity issue, equity repurchase and debt reduction are found to be consistent with the trade-off theory according to the debt-equity choice hypothesis. Equity repurchase transaction in this study include both open market and self tender offer transaction which results the different outcome with Lie(2002) that equity repurchase transaction does not move leverage ratio to the target. US firms when decide to issue equity, equity repurchase or debt reduction. These transactions result firms will get closer to the target than firms decide to do another transaction type.

Bender, Gaud and Hoesli (2007) investigated debt-equity choice in Europe. This paper contrasts with the above-mentioned debt-equity choice study. The paper examines the role of target in cross-country samples. They find that target plays an important role when firms reduce the level of leverage that mean firms consider target when they make either debt reduction or equity issue transaction while increasing the level of leverage which are debt issue and equity repurchase does not find evidence of target role. This can explain that overleveraged firms face more cost of bankruptcy while underleveraged forgo the benefit of tax shield but less cost of bankruptcy when they are off the target. This show the evidence of upper barrier causing overleveraged firms need to reduce the level of leverage not to cross this barrier. This is the evidence that over and under leveraged firms are affected by being off the target with different degrees.

CHAPTER III

DATA AND METHODOLOGY

3.1 Hypothesis development

Hovakimian (2004) propose that target leverage play important role in financial decision with two different situations. One situation, firms making external finance considers the choice between debt and equity that can minimize the deviation from target. This is called the debt-equity choice hypothesis. Second, when firms deviate from the target; they tend to make financial transaction which can move toward the target. This is called the target adjustment hypothesis.

The debt-equity choice hypothesis assumes that given financial need firms will decide for external fund either debt or equity. To consistent with tradeoff theory, firms consider the type of fund either debt or equity which can minimize absolute deviation from target.

Hypothesis 1: Firms issue security by choosing the security that minimizes the absolute deviation from the target.

The target adjustment hypothesis assumes that firms when deviate from target will decide to make the type of transaction which can offset the deviation and move toward the target.

Hypothesis 2: Firms when deviate from target make transaction that can move their leverage ratio toward target.

Overleveraged firms face more possibility of bankruptcy while underleveraged firms forgo the benefit of tax shield. These two kinds of firms can revert back to target for optimization base on the theory but overleveraged firms do have more incentive to adjust toward target than underleveraged firms. Because overleveraged

firms face more possibility of bankruptcy. Overleveraged firms should concern more on target leverage ratio compared to underleveraged firms.

Hypothesis 3: Overleveraged firms consider target as more important factor than underleveraged firms

3.2 Data and Scope of the Study

The sample contains firms in stock exchange of Australia, stock exchange of Singapore and stock exchange of Thailand. Firms in financial sector are excluded from the sample because they are highly regulated and their capital structures are significantly different from other sectors. The period of this study is during 1992-2006.

There are 4 main transactions in this study, namely Equity issue, Debt issues, Equity repurchase and Debt reduction. All transactions will be net transactions, net equity issue (net equity repurchase) = proceeds from sale of common stock and preferred stock – amount of common and preferred stock repurchased. Net debt issue (net debt reduction) = proceeds from issuing short or long term borrowing – amount of repayment of amount borrowed. This study examines on financial transactions which are on balance sheet. The transactions which are off balance sheet will not take into account in this examination. The financial transactions which do not report on balance sheet normally involve with lease or contingent liability such as letter of credit.

Following Hovakimian, Opler and Titman (2001), this paper will focus on firms having financing transactions defined as being greater 5% of the pre-issue book value of total assets. Firms that being less than 5% for both debt and equity transactions define as No transaction firms. For example, in a given financial year if net equity issue of firm A is positive and is greater than 5% of the pre-issue book

value of total assets. A is classified as equity issue transaction. However, if net equity issue of firm A is negative and is greater than 5% of pre-issue book value of total assets. A is classified as equity repurchase transaction.

Net equity issue, net equity repurchase, net debt issue and net debt reduction are tracked from the cash flow from financing as reported on Reuter. The reason that uses cash flow statement because debt that comes from operating activity should be excluded. Other accounting variables are collected from DataStream database.

3.3 Methodology

3.3.1 Target estimation

To allow a test of target leverage role in financial decision, target leveraged ratio estimation is required. This target estimation will be applied to both the univariate and multivariate test.

To estimate target leverage ratio, this study use in-sample estimation between 1996-2006 to imply for target leverage ratio. This means that the study assumes that firms can project about their accounting variables to incorporate in estimation process.

This paper will proxy the target by regress the debt ratio against the set of the variables that are used in past studies of debt determinants Lev is the book value of debt ratio. The reason the book value of debt ratio is used because managers consider the accounting number as their information before making any financial decisions. The natural logarithm of sale used as a proxy for firms size (SIZE) which is a common measure for size (Booth, Avivazian, Demirguc-Kunt and MAsksimovic, 2001 ; Rajan and Zingales, 1995; Titman and Wessels, 1988). Larger firms tend to be more diversified and have more access to capital market so they can use more debt. The ratio of net property plant and equipment to total asset (TANG) is used to proxy for tangible asset (Rajan and Zingales, 1995). Tangible asset can be used as collateral

for debt financing can thus be associated with high debt capacity. ROA proxies for internal finance capacity (Hovakimian, Opler and Titman 2001; Kayhan and Titman 2007). ROA is defined as the ratio of earnings before interest, taxes, depreciation and amortization (EBITDA) to total assets. The market to book ratio (MTB) is a common measure for growth opportunities (Booth et al., 2001; Rajan and Zingales, 1995). Firms with high growth opportunities tend to use less debt because an increase in market to book decrease weight of assets in place against growth opportunities and therefore reduces the relative value in case of liquidation. The ratio of depreciation and amortization to total asset (NDTS) as an explanatory variable to proxy for non-debt tax shields (Gaud, Hoesli and Bender, 2007). High depreciation means less benefit of tax shield from using debt. Selling expense to sales (SE) is used to proxy for firms' uniqueness (Hovakimien, Opler and Titman 2001). High uniqueness means that firms have lack of liquidity when they are force to liquidation so low leverage is expected. Another proxy for uniqueness which is used in this study is the ratio of research and development expense to sales (RD). A dummy variable for research and development is used because there are a number of missing observations. This dummy variable is assign as zero when research and development expense is not reported otherwise set to 1.

$$Lev_{i,t} = \alpha_0 + \beta_1 PROF_{i,t-1} + \beta_2 TANG_{i,t-1} + \beta_3 SIZE_{i,t-1} + \beta_4 NDTS_{i,t-1} + \beta_5 MTB_{i,t-1} + \beta_6 SE_{i,t-1} + \beta_7 RD_{i,t-1} + \beta_8 DUM\_RD_{i,t-1} + v_i + \lambda_t + \varepsilon_{i,t} \quad (1)$$

To estimate the target, the panel data will be used as it includes time effect (λ_t) which can control the difference in time. While the difference in firms can be controlled for the heterogeneity through firm-specific effect (v_i). The benefit of using panel data regression can be explained as following, large number of observations,

increase degree of freedom and reduce co linearity problem. For this reason, this study prefers panel data regression.

3.3.2 Univariate Test

Univariate test will allow us to separately test the role of target leverage for equity issue, debt issue, equity repurchase and debt reduction. The debt-equity analysis, such as one used in Hovakimian (2001), does not allow us to test this possibility.

3.3.2.1 The Debt-Equity Choice Hypothesis Test

To test this hypothesis that firms issue security by choosing the security that minimizes the absolute deviation from the target. A projection of post-transaction debt ratios has been constructed (Hovakimian 2004). Projection is the pre-transaction leverage ratio adjusted for the effect of the issue (repurchase), calculated for both the actual and the alternative security. The firms that are classified as having the same significant transaction will be include in the same group and each firm will be constructed the projection both actual and alternative. For example, for net equity issues transaction, projection with actual transaction is calculated as pre-issue total debt/ (pre-issue total assets + issue amount). Projection with alternative transaction, in this case, is the post-issue leverage ratio projected under the assumption that the firm issues debt rather than equity, calculated as [(pre-issue total debt + issue amount)/(pre-issue total assets + issue amount)]. These projections will be minus by the estimated target from equation (1) to derive the projected deviation from target and each projected deviation will be averaged to find mean value. These mean projection deviation will be compared between actual transaction and alternative transaction to see which mean projection minimizes the deviation from target. For debt issues, the latter calculation provides the projected debt ratio with the actual

transaction (debt), while the former calculation provides the projection with the alternative transaction (equity). If actual transaction's absolute deviation from target is less than alternative transaction, this hypothesis will be accepted otherwise will be rejected. For example, consider a firm that have debt ratio 0.2 or 2/10, estimated target 0.21 so this firm deviates from estimated target 0.2-0.21= (-0.01). This firm is under leverage and has a plan to make external finance 10% of total asset (0.1*10=1). If this firm decides to issue equity (actual transaction). Is this firm which issues equity consistent with the debt-equity choice hypothesis?

Projection

Projection (Actual transaction) Issue equity = 2/(10+1)=2/11=0.182

Deviation from Target 0.182-0.21= -0.028

The projected debt ratio is calculated as an alternative transaction if the firm issues debt instead.

Projection (Alternative transaction) Issue Debt = (2+1)/ (10+1) =3/11=0.273

Deviation from Target 0.273-0.21=0.063

From the projection calculation above, if this firm issues equity, it will make absolute deviation from the target equal to 0.028. If this firm issues debt instead, the absolute deviation from the target would be 0.063 which is larger than the issuing equity. This leads to the potential acceptance of the debt-equity hypothesis that this firm chooses the form of security in a way to minimize deviation from the target.

If we use the same number as above but this time the firm decides to issue debt instead, the debt-equity choice hypothesis is rejected because the debt issue deviates far more from the target than the equity issue.

3.3.3   Multivariate Test

To answer the same hypotheses with the univariate test, this time we control for other firm characteristics in multivariate test and see whether target can explain the firm financing choice consistent with the hypotheses.

Two forms of target leverage will be separately tested.

1.   Debt-Equity Choice Hypothesis

2.   Target Adjustment Hypothesis

The debt-equity choice hypothesis given financial need, firms will consider for external either debt or equity. The sample used in this study

The logit[1] regression which is suitable for debt-equity choice study is used for the examinations. The set of explanatory variables in includes deviation from target (LEV-TARGET). Positive is overleveraged firm and negative is underleveraged firm. This variable will capture whether firms deviate from target adjusting toward target. DTLD (Hovakimian, Opler and Titman 2001) is defined as the projected difference between the absolute deviation from target if a firm issues debt, $|LEV_d-TARGET|$ and the absolute deviation from target if a firm issues the same amount of equity, $|LEV_e-TARGET|$. A positive value of this variable indicates that firms would end up closer to the target if they issue equity rather than debt. The following example clarifies the motivation for this variable. Consider a firm with leverage ratio of 0.2 and target leverage of 0.21 that needs new financing in the amount of 0.1 of total assets. Currently this firm is underleveraged, one might think that is should issue debt to move toward target. However, issuing equity for this firm makes its leverage ratio

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[1] Logit is maximum likelihood technique which is suitable for use when the dependent variable is in the form of probability conditional on the value of the explanatory variables. Logit is easier to interpret than probit which the theoretical background analysis is rather complicated. Baxter and Cragg (1970) point out that both techniques give very similar results so this study uses Logit for examining throughout the study.

became 0.182^2. If firm chose to issue debt instead, its leverage ratio becomes 0.273. Thus, despite the fact that the firm is underleveraged, it stays closer to target if is issues equity rather than debt. ROA show firms' operating performances (Hovakimian 2004). This variable is defined as EBITDA to total assets. This variable relates to the availability of internal funds. Firms that have more internal funds tend to use such funds first. Cash or cash equivalent to total asset (CASH) is a control variable (Lie 2002). Market to book (MTB) will capture the effect of the market conditions (Hovakimian 2004). This variable is also a proxy for growth opportunity (control for market timing). Stock return (RET) is also a measure of market performance and can also be interpreted as a proxy for the market timing effect. This variable has a negative relation with debt ratio which provides evidence that firms are more willing to issue equity when firms experience relatively high market valuation. (control for market timing).

To test debt-equity choice hypothesis, firms when decide making external finance, consider the source of fund which can minimize absolute deviation from target. This hypothesis assumes that firms have a financial need so they raise external fund either equity issue or debt issue. This firms' behavior is tested by following equation.

$$Y_{i,t} = \alpha + \beta_1(LEV_{i,t-1} - TARGET_{i,t}) + \beta_2 DTLD_{i,t-1} + \beta_3 ROA_{i,t-1} + \beta_4 CASH_{i,t-1} + \beta_5 MTB_{i,t-1} + \beta_6 RET_{i,t-1} + \varepsilon_{i,t} \quad (2)$$

Setting $Y_{i,t} = 1$ represents debt issue

          $Y_{i,t} = 0$ represents equity issue.

2
   The leverage ratio after equity issuance, LEV_e is calculated as (pre-issue debt)/(pre-issue total assets+ issue amount) while the leverage ratio after debt issuance, LEV_d is calculated as (pre-issue debt+ issue amount)/(pre-issue total assets + issue amount).

Base on Bender, Gaud and Hoesli (2007), the explanatory variables except TARGET will be lagged one year to limit simultaneity bias since the data are collected from annual consolidated accounts to identify debt-equity transaction. To be consistent with the debt-equity choice hypothesis, overleveraged firm should issue equity while underleveraged firm should issue debt. The sign of β_1 should be negative and the sign of β_6 should also be negative to confirm that firms choose the form of securities which minimize the absolute deviation from target.

To test the target adjustment hypothesis, firms when deviate from target tend to make transaction which can move leverage ratio toward target leverage ratio. To investigate firms' behavior, each transaction is run with a no transaction[3] firm.

$$Y_{i,t} = \alpha + \beta_1(LEV_{i,t-1}-TARGET_{i,t}) + \beta_2 ROA_{i,t-1} + \beta_3\ CASH_{i,t-1} + \beta_4\ MTB_{i,t-1} + \beta_5 RET_{i,t-1} + \varepsilon_{i,t} \quad (3)$$

Four regressions are run separately.   1. Debt issue Versus No transaction

2. Equity issue Versus No transaction

3. Debt reduction Versus No transaction

4. Equity repurchases Versus No transaction

Setting $Y_{i,t} = 1$ represents debt issue, equity issue, debt reduction and equity repurchase

$Y_{i,t} = 0$ represents no transaction.

To be consistent with target adjustment hypothesis, the following sign should be observed.

Table 1: The expected sign

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[3]
  No transaction firms are firm that do not pass the 5% significant level of any transaction for 3 consecutive years.

1. Equity issue Vs No transaction		3.Equity repurchase Vs No transaction	
(LEV-TARGET)	β1	(LEV-TARGET)	β1
+	+	+	-
-	+	-	-
2. Debt issue Vs No transaction		**4. Debt reduction Vs No transaction**	
(LEV-TARGET)	β1	(LEV-TARGET)	β1
+	-	+	+
-	-	-	+

For the case of Equity issue Versus No transaction and Debt reduction Versus No transaction, overleveraged firms should issue equity or reduce debt to offset the deviation and move towards the target while underleveraged firms should make no transaction because equity issue or debt reduction will result firms to deviate further from target. The expected sign of β1 should be positive.

For the case of Debt issue Versus No transaction and Equity repurchase Versus No transaction, underleveraged firms should issue debt or repurchase equity to readjust their capital structure towards the target while overleveraged firm tend to make no transaction. The expected sign of β1 should be negative.

CHAPTER IV

RESULTS

4.1 Determinants of the Target Leverage Ratio

An analysis of the determinants of observed leverage ratios is a prerequisite to investigate debt-equity choice. Table1 presents the result of target estimation for 3 countries namely Australia, Singapore and Thailand. The coefficient on, TANG has a positive sign and is statistically significant at 1% level, except for Australia. The positive sign is consistent with tradeoff theory which argues that tangible assets act as collateral. In case of default, tangible assets have higher residual values than other assets so greater the tangible assets, the higher debt capacity. The coefficient on SIZE has a positive sign as expected but it is not significant in Singapore. This result is in line with tradeoff theory that larger firms tend to have more stable cash flows which help them accommodate more debt. Stable cash flows decrease the probability of bankruptcy and therefore the cost of financial distress. MTB has a negative sign in all regressions. However, it is not statistically significant in Australia. An increase in MTB decreases the relative weight of assets in place against growth opportunities and therefore reduces the relative residual value in case of liquidation. As a result, lower target leverage is expected for firms with more grow opportunities under tradeoff theory. PROF enters all regressions with negative sign. This result contrasts with the prediction of tradeoff theory that high profitable firms should have lower the probability of bankruptcy and therefore, have higher target leverage ratios. The results of NDTS vary among the three countries, the sign is positive in Thailand while it is negative sign in Singapore and Australia. SE, RD and DUM_RD are not significant in all regressions.   These variables proxy for firms' uniqueness so these firms are expected to use less leverage.

The target leverage estimation will serve as benchmark. This target estimation should incorporate only tradeoff theory to be accurately measure the firms' optimal leverage ratio. However, the result shows that some variables in model capture other theories effect (pecking order theory) rather than tradeoff theory. PROF is negative which mean profitable firms tend to use less debt. This contrasts with the prediction of tradeoff theory that more profitable firms can engage with more debt. NDTS should be negative because an increase in depreciation reduces the tax burden and therefore reduces the benefit from using debt. SE, RD and DUM_RD are not statistical significant. However, SIZE, TANG and MTB appear to be consistent with tradeoff theory across countries in term of significant level and coefficient sign. These three variables show the strong support of tradeoff theory which are consistent with US and Europe (Hovakimian, Opler and Titman 2001; Gaud, Hoesli and Bender 2007). In Panel B of Table 1 uses three variables as regressors. The results show that all three variables enter regression with expected sign and have statistical significant for all variables except MTB in Australia. This estimation will serve as benchmark in this study.

4.2 Distribution of observation and Descriptive statistics

Table 2 presents the distribution of observations by the form of capital raised or retired by year. The table reveals that Thailand and Singapore are depend more on debt than equity while Australia seem to depend more on equity. In Thailand between period of 1996-2006, the numbers of debt issue transactions (501transactions) are greater than equity issue transaction (121 transactions) nearly 5 times. In Singapore, debt issue transactions (269 transactions) are greater than equity issue transaction (96 transactions) nearly 3 times. However, Australia makes equity issue which is greater than debt issue nearly 1.5 times. These gaps could be explained by the development of

their capital market. Among 3 countries, Australia is more developed stock market followed by Singapore and Thailand so more developed stock market tend to depend more on equity than debt. In case of repurchase the existent capital, Thailand and Singapore do debt reduction while Australia does both debt reduction and equity repurchase. Australian firms reduce debt much more frequently than they repurchase equity (254 debt reduction transactions versus 25 equity repurchase transactions).

Table 3 contains descriptive statistics. Mean, Maximum, Minimum and Standard Deviation value of firms' characteristics (LEV, TARGET, ROA, RET, MTB and CASH) are reported here. All firms' characteristics variables except TARGET are lagged by one period. Maximum and minimum values of all variables are observed to make sure that our data are collected correctly. Overall, both values do not show any unreasonable value in the samples. For example, LEV should be ranged between zero to 1 as well as TARGET.

In Thailand, in term of mean value, debt issuers are less leveraged than equity issuer (0.3507 versus 0.4475) but they have higher target leverage ratio(0.4144 versus 0.3926). Debt issuers are underleveraged comparing to the target leverage ratio (mean LEV of 0.3507 versus mean TARGET of 0.4144). Equity issuers are overleveraged (mean LEV of 0.4475 versus mean TARGET of 0.3926). Debt reduction transactions are also overleveraged (mean LEV of 0.4683 versus TARGET of 0.3955). These spreads between LEV and TARGET of all transactions are in the line with tradeoff theory that underleveraged firms should issue debt while overleveraged firms can make either debt reduction or equity issue. No transaction (firms that net amount issue (repurchased) divided by beginning of the year book value of total assets less than 5%) is underleveraged firm (mean LEV of 0.2003 versus TARGET of 0.2270). The spread of no transaction (0.0267) is the smallest in term of absolute value than other

transactions (0.0637 of debt issue transaction, 0.0549 of equity issue transaction and 0.0757 of debt reduction transaction). This implies that firms tend to stay still by making no transaction if they do not deviate too much from target.

Debt issuers in Thailand on average are the most profitable firms (ROA of 0.1313 versus 0.0924 for equity issue, 0.1163 for debt reduction). Equity issuers have the highest MTB value which supports the argument that high growth firms tend to raise fund with equity.

Singapore is in the same directions with Thailand that in term of mean value, debt issuers are less leveraged than equity issue. No transaction firms are the lowest leverage. In addition, no transaction firms (0.111) stay closer to the target compared to other transactions (0.042 of debt issue, 0.0342 of equity issue and 0.0441 of debt reduction) which is consistent with Thailand. The spreads between LEV and TARGET are consistent with tradeoff theory in all transactions that firms tend to move toward target leverage ratio.

ROA and MTB variables in term of mean value show the same conclusion with Thailand. Debt issuers are the most profitable firms (ROA of 0.0926) while equity issuers are high growth firms (MTB of 1.8178)

In Australia, there are significant equity repurchase transactions which do not present in Thailand and Singapore. Contrast with Thailand and Singapore, in term of mean value, debt issuers in Australia are more leveraged than equity issuers while debt reduction firms are more leveraged than equity repurchase firms. The spread of (LEV-TARGET) for debt issue, equity issue, debt reduction and equity repurchase support the prediction of tradeoff theory that firms move toward target. If firms are underleveraged, firms make either debt issue or equity repurchase. If firms are overleveraged, firms make either equity issue or debt reduction.

Equity repurchase firms in Australia are the most profitable firms (ROA of 0.1982) while equity issue firms are high growth firms (MTB of 1.9585)

Overall, descriptive statistics (mean value of firms' characteristics) especially LEV and TARGET variables support the tradeoff theory. On average, firms make the type of transactions which can move their leverage ratio toward the target leverage ratio.

4.3 Univariate Test

This section the univariate analysis for the role of target leverage is tested. If firms have to decide between debt and equity, firms will select the type of transactions that can minimize absolute deviation from target leverage.

The two projection of leverage ratio are constructed. P1 is the projection of leverage ratio for actual transaction and P2 is the projection of leverage ratio of alternative transaction. To consistent with tradeoff theory, the absolute deviation from the target of P1 should be significantly lower than absolute deviation from the target of P2.

The samples of transactions classified at the first place are overlapped. For example, some firms do both equity issue and debt reduction at the same year (These samples will include in both equity issue transaction and debt reduction transaction) while some firms do only equity issue or debt reduction. To better identify the role of target leverage, the transactions will be differentiated into pure and mixed transaction. Pure is a firm that makes only one transaction for a given year such as pure equity issue defined as firm issuing only equity for a given year. Mixed is a firm that issue one type of security accompanied by a repurchase of another security such as mixed equity issue defined as firm issuing equity and reducing debt for a given year.

Table 4 present mean value of security issue and repurchase. The results of Thailand in Panel A supports tradeoff theory. For debt issue transaction, the mean absolute deviation from target of P1 (DEVIATION1) is 0.0829 while the mean absolute deviation from target of P2 (DEVIATION2) is 0.1444. DTLD is calculated by DEVIATION1-DEVIATION2 to show whether actual transaction will results firms closer to the target than alternative transaction. For example, firms choose to issue debt so debt issue is an actual transaction while equity issue is an alternative transaction(firms do not select equity issue as their source of fund). DTLD for debt issue in Thailand is (-0.0615) which means debt issuing (actual transaction) results firms closer to the target than equity issuing (alternative transaction). T-statistic is test whether DTLD differs from zero significantly. DTLD differ significantly from zero at 1% level for debt issue transaction in Thailand. The negative sign of DTLD means that debt issue firms get closer to the target than it would be if these firms choose to issue equity instead. The same conclusion is applied for pure debt reduction and mixed equity issue. The only transaction that is not consistent with the theory is pure equity issue. Pure equity issuers in Thailand are indifference between pure equity issue and pure debt issue transaction because both transactions result firms insignificantly deviate from the target. No matter, firms choose to issue debt or equity, firms will not deviate from the target significantly difference.

There are also supported evidences of tradeoff theory in Singapore. In Panel B, all transactions except debt issue transaction show statistical significant in DTLD. These results can imply that the way Singapore firms finance will significant less deviate from target than that would be if firms choose alternative form of financing. This is consistent with tradeoff because firms consider to get as close as possible to the target when they decide for external fund between debt and equity.

The case of Australia shown in Panel C, Equity repurchase is presented. There is one insignificant result which is pure debt issue. The result is the same with Singapore. The rest of transactions support the theory. Firms that make debt reduction or equity repurchase consider target as important factor so these firms end up closer to the target than alternative transaction.

Overall, given financial need, firms consider for external fund between debt and equity. However, firms will select the type of securities which result firms staying closer to the target than alternative transaction. The evidence of role of target leverage in financing decision is strongly supported which means firms consider the target leverage ratio as one important factor to determine debt-equity choice. However, debt issue firms in Singapore and Australia seem to be indifference between debt and equity when firms consider making external finance while equity issue firms in Thailand are indifference between debt and equity financing.

4.4 Multivariate Analysis

To be consistent with tradeoff theory, Hovakimian (2004) argues that firms might consider the target as an important determinant in their financial decision at different aspects as mention in earlier chapter.

In this section, the two aspects of the target leverage are reported in multivariate setting which allow us to control for other variables. First, binomial logistic regression between debt and equity are tested, given the firms' decision to issue securities and firms have to select one type of transactions. This will test the debt-equity choice hypothesis that firms making external financing choices between debt and equity consider the type of transaction which can minimize the absolute deviation from target. Second, binomial logistic regressions between each transaction

against no transaction are examined. This will test the target adjustment hypothesis that firms when deviate from the target tend to make transaction which can move their leveraged ratio toward that target. Contrast with the debt-equity choice hypothesis, the target adjustment hypothesis try to explain that rather than deciding between debt-equity choice for raising external fund, firms will consider between make and not to make the transaction for adjust their leverage ratio. This is the reason for testing two hypotheses in this section.

4.4.1 Debt-Equity Choice

Panel A of Table 5 reports the estimation results for the choice between debt issue vs. equity issue in Thailand. This model is estimated three times. First, the model is estimated on a sample of debt issue vs. equity issue. Due to the overlap sample for equity issue which can be classified into 2 subsample groups which are pure equity issue and mixed equity issue transaction. The second estimation is on a sample of debt issue vs. pure equity issue. The last is estimated on sample of debt issue vs. mixed equity issue. The reason to differentiate the transaction into pure and mixed is supported by Hovakimain (2004) which reports that significant role of target leverage in previous debt-equity (Hovakimian, Opler and Titman 2001) choice study is driven by mixed equity issue transaction. To better indentify the role of target leverage in Australia, Singapore and Thailand, this study examine in this manner.

The result for the sample of debt issue and equity issue show that overall Thai firms do consider the target leverage ratio as important factor when they decide debt-equity choice. The evidence show that the deviation from target variable (LEV – TARGET) has a negative sign and statistical significant which mean Thai firms if they are overleveraged, they will tend to select equity as their external finance while underleveraged firms tend to select debt. This result show that Thai firms tend to

choose securities that can move their leveraged ratio toward the target. DTLD is also significant and has a negative sign which mean debt issuer will end up closer to target rather than they decide to finance with equity. ROA is also significant and has a positive sign which imply that more profitable firms tend to finance with debt. Other variables are not significant in this regression.

For the sample of debt issue vs. pure equity issue give the same result except (LEV-TARGET) is not significant. This result can be interpreted that Thai firms when make decision between pure debt[4] and pure equity issue do not consider under or over leveraged position before they make external finance. However, the evidence of significant DTLD show that the security issued can minimize deviation from target. For the sample of debt issue vs. mixed equity issue, this estimation result in the same direction with debt issue vs. equity issue. (LEV-TARGET), DTLD and ROA are significant and have the same sign with the first estimation.

There is an interesting result shows that the significant of (LEV-TARGET) in debt issue vs. equity issue is driven from mixed equity issue transaction. This evidence show that mixed equity issue firms will consider their positions either over or under leverage then these firms tend to move toward the target. The reason that mixed transaction seem to consider more on target leverage ratio is that mixed transaction relatively change firms' capital structure much more than firms do just one transaction.

Panel B report the debt-equity in Singapore. In all sample, the target leverage play a significant role in financial decision. MTB has statistical significant shows that

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[4] Due to no significant equity repurchase transaction in Thailand and Singapore during the period of this study so all debt issue and pure debt issue transaction are the same in this two countries.

high MTB firms tend to select to issue equity which is consistent with theory that these firms have more growth opportunity so they should finance with equity. RET is also significant and has a positive sign which mean high stock return performance firms tend to issue debt.

In case of subsample groups, the regressions result in similar outcomes with Thailand that the role of target leverage is driven from mixed equity issue transaction. Pure transaction between debt and equity issue seem to concern more on market condition and firms' operating performance which result the significant of RET, MTB and CASH while LEV-TARGET and DTLD are not significant in this sample. This concludes that the choice between pure debt and pure equity will be influenced by market and operating factors rather than the target leverage ratio.

Panel C report Australia debt-equity choice. Equity repurchase is presented. This allows the examination of the role of target leverage when firms decide between debt reduction and equity repurchase. In Australia where the equity repurchase transaction is significant in the numbers of observation, the sample of debt issue transaction and equity repurchase transaction are overlapped so differentiating between pure and mixed transaction is required here.

Regardless of the sample used, (LEV-TARGET) are not significant at all. However, DTLD are significant in all regressions except mixed debt issue vs. mixed equity issue. The evidence show that Australia firms do consider the type of securities to issue or reduce that can minimize the deviation from the target. However, the position (under or over leverage) is not considered as important factors in making decision. More profitable firms tend to issue debt or making equity repurchase.

Overall, the results show the strong evidence of target leverage role in Australia, Singapore and Thailand. DTLD is significant and has an expected sign

which is consistent with the theory that firms consider the target as important factor though firms cannot maintain at the target all the time. Firms try to get as close as possible to the target by selecting the type of transactions that can minimize the absolute deviation from target.

To checked goodness of fit in these models, Table 6 reports the calculation of correct prediction from model. Since the dependent variables in the logit model takes a value of 1 or zero, if the predicted probability is greater than 0.5 (cut off level), it will be assigned as 1, but if it is less than 0.5, it will be assigned as zero. The number of correct predictions will be counted and compute the percentage of correct predictions as reported in % Correct. Overall, the percentages of correct prediction in all estimations are greater than 70 %.

4.4.2   Role of target leverage between over-under leverage firms

One of the questions in this study is that do overleveraged firms concern more on target leverage ratio. Overleveraged firms have more chance of facing bankruptcy. They cannot effort to leverage more so they will try to revert back to the target leverage ratio. Underleveraged firms forgo the benefit of using tax shield. However, they will not be forced for bankrupt like overleveraged firms. To differentiate the role of target leverage between over and under leveraged firms, this study uses dummy variable where assign 1 for overleveraged firm and 0 for underleveraged firms.

The results in Table 7 show that the role of target leverage is indifference between over and under leveraged firms in all country samples.   DUM*(LEV-TARGET) and DUM*DTLD are not significant in all samples. These result rejected the hypothesis that overleveraged firms will concern more on target leveraged than underleveraged because they have more cost of bankruptcy. This result implies that firms do consider tax benefit and cost of bankruptcy at the same important level so

there is no difference of target leverage role between over and under leveraged firms when decide for external fund.

4.4.3 Target Adjustment

Firms when deviate from the target leverage ratio will consider to adjust their leverage ratio toward the target. To adjust toward the target, firms will do a transaction that can offsets the deviation from target. For example, overleveraged firms will select between debt reduction and equity issue transaction to lower their leverage ratio toward to the target. To investigate this behavior, logit regression is used by running each transaction against no transaction.

Table 8 presents the results. Panel A, the role of target leverage in determining between making transaction and making no transaction is supported in Thailand. For debt issue transaction vs. no transaction estimation reports the negative sign of LEV-TARGET variable that if firms are overleveraged, firms tend to make no transaction. This can explain that overleveraged firms will deviate further from the target if they choose to issue debt. If firms are underleveraged, firms tend to issue debt instead of making on transaction. This is consistent with the theory that firms try to maintain as close as possible to that target leverage ratio. Other interesting results show that firms that have more cash tend to make no transaction. This can explain that these firms have more internal fund so they do not need to make external finance which has more cost. Another transaction which is consistent with theory is debt reduction transaction. Overleveraged firms tend to make debt reduction while underleveraged firms tend to make on transaction. The role of target leveraged (LEV-TARGET) is insignificant in equity transaction. This could be explained that the target leverage ratio is not determinant factor when firms issue equity. Besides from the target leverage ratio variable in equity issue transaction, ROA and MTB are more explainable in this

transaction that less profitable firms or high market to book firms tend to issue equity. This explains that equity issuer concern more on their operating (ROA) and market performance (MTB) than the target leverage ratio when they want to issue equity. High MTB firms tend to issue equity. This can be explained that if firms observe high market valuation relative to their book value, they will issue equity.

The same conclusion of target role in Thailand can be used in Singapore. In Panel B, debt issue and debt reduction transactions are significant in (LEV-TARGET). Overleveraged firms tend to make debt reduction to adjust toward target instead of using equity issue transaction while underleveraged firm tend to issue equity to revert back to target. High market performance (MTB) or low profitability (ROA) or low stock return performance (RET) firms tend to issue equity.

For Australia in Panel C, equity repurchase enter into the examination. The evidence of target leverage are supported for equity issue, debt issue and debt reduction. However, LEV-TARGET is only marginal significant in equity issue transaction. While equity repurchase does not show any significant of (LEV-TARGET). These results are consistent with Thailand and Singapore that LEV-TARGET variable are significant in both debt issue and debt reduction but equity issue and equity repurchase transaction have no significant on LEV-TARGET variable.

Overall, there are strongly evidences that firms when are overleveraged tend to use debt reduction to offset the deviation and to revert back to the target while underleveraged firms tend to issue debt to move toward the target. This supports that firms do make leverage adjustment and debt seems to be the instrument for adjustment reason because debt is less sensitive to the market. Equity transaction

either equity issue or equity repurchase is influenced by market and operating performance rather than the target leverage ratio.

Table 9 presents the percentage of correct prediction. Overall, the values of correct prediction in all estimations are greater than 60%.

4.5 Robustness Checked

To evaluate the robustness of results, market leverage ratio is used instead of book leverage ratio. Overall, qualitative results which report in Table 10 and Table 11 do not change. However, there are some differences that (LEV_M-TARGET) is statistical significant at 10% when considers debt issue vs. pure equity choice in Singapore. In Australia, (LEB_M-TARGET) this time is significant when firms decide whether to make debt issue or equity issue.

The results are robust to the specification of the target leveraged regression. The qualitative results do not change when the target leverage estimation is based on all variables regression which report in panel A of Table 1. The only difference is that DTLD is not significant in debt vs. equity estimation in Singapore while LEV-TARGET turn out to be significant in debt issue vs. pure equity issue in Singapore.

This paper proxies the target leverage ratio with model base estimation. To check whether the results are sensitive with the target proxy, industry averaged target is used. Overall, the results which report in Table 14 and Table 15 are sensitive with target estimation methods. DTLD are not significant at all regressions in Thailand. The role of target leverage ratios do not show any significant at all in Singapore. However, the coefficient signs are shown as expected. Australia shows the significant and expected sign of DTLD but the coefficient of (LEV-INDUSTRY) in debt issue vs. equity issue sample is positive sign which contrasts to the predicted sign.

In case of target adjustment hypothesis testing, the results in Table 15 are sensitive with industry averaged target. Overall, the coefficients of LEV-INDUSTRY are consistent with the hypothesis in term of significant and sign in all samples except debt issue transaction. Debt issue transaction reports positive sign of (LEV-INDUSTRY) in all regressions which contrast with the prediction. The results show that overleveraged firms tend to issue more debt which causes them to deviate further from target.

Earlier results of hypothesis 3 that test whether the role of target leverage are different between over and under leverage firms report no difference of the role of target leverage in determining financing choices between over and under leverage firms. This means over or under leverage firms consider both tax shield and bankruptcy cost as the same important factors when they decide for external fund. However, this result might show the significant difference if we examine firms that are highly overleveraged and firms that are highly underleveraged. Highly overleveraged firms cannot afford to issue more debt because they can be forced for bankrupt so they should consider for the target reversion by equity issuing. Highly underleveraged firms forgo the benefit of using tax shield. If firms consider the benefit of tax shield is important, they will consider for debt issuing.

To check robustness of result in hypothesis 3, over and under leveraged firms are ranked into quartiles. The samples which are located in quartile 1 and 4 are investigated (firms that are highly over and under leverage respectively). The results in Table 16 reports the same conclusion with the earlier results that there are no differences of target leveraged role between over and under leveraged firms. DUM*DTLD variables show no significance in all countries. This confirms that firms consider both benefit of tax shield and cost of bankruptcy as same important factor.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This study provides empirical evidence of the role of target leverage in Australia, Singapore and Thailand over the period 1996-2006. One role of target leverage is when   firms consider between issuing debt or issuing equity; firm will choose the transaction which can minimize absolute deviation from target. Another role of target leverage, firms adjust their leverage ratio to move toward the target when they deviate from the target leverage ratio.

Overall, the role of target leverage is strongly supported in Australia, Singapore and Thailand. The results show that firms when consider between debt or equity, they will issue the type of securities which can move toward target and that issued security will end up closer to the target than another type of security which firms do not use as source of fund.

By classify the transactions into pure and mixed transaction, the evidences show that when investigate the choice between debts or equity in Singapore and Thailand, the significant of target leverage is driven from mixed equity issue firms. Mixed equity issue firms issue equity and reduce debt at the same year. The size of the transaction for mixed transaction firms are greater than pure transaction firms. Each time, mixed firms make transactions will relatively change their leverage ratio more than pure transaction firms. This make mixed transaction firms to concern more on the target leverage ratio.

Overleveraged firms face more possibility of bankruptcy while underleveraged firms forgo tax shield but less possibility of bankruptcy. Due to the evidence that firm

tend to be more concerned on bankruptcy so overleveraged firms should consider more on target than underleveraged firms. By examination, both of benefit of using debt and the cost of bankruptcy seem to be important. There is indifference of the target leverage role between over and under leveraged firm when they consider for external fund.

Another role of target is examined; the results support the tradeoff theory that firms try to maintain at the target level by adjusting their leveraged ratio. The ways firms can adjust their leverage ratio are equity issue, debt issue, equity repurchase and debt reduction. There are evidences that firms when deviate from the target leverage ratio tend to use debt instead of equity. Debt issue are used when firms are underleveraged to adjust their leveraged toward the target. Debt reduction is used when overleveraged firms want to lower their leverage ratio toward the target.

Although, firms do not maintain at the target level all the time due to transaction cost or adjustment cost. Overall, tradeoff theory can explained firms' behavior that firms do have the target level in mind so they try to maintain at this level by adjusting its capital structure overtime or consider target as one important factor when they need to change their capital structure by choosing the security type which results firms closer to the target.

5.2 Recommendation

The role of target leveraged can be examined both when firms want to make external finance and reduce the existing debt or equity. This study examines the role of target when firms issue debt or equity while the role of target leverage in equity repurchase or debt reduction cannot be analyzed due to a small number of equity repurchase transactions in Singapore and Thailand (equity repurchase is allowed in

Thailand in the year 2002). This leaves further analysis in the future when equity repurchase transaction is increased in a number of observations.

This study investigates the role of target country by country. To analyze whether target is common factor in these countries, pooling sample is required. Due to difference environment, institutional effect control these variables are necessary which is beyond the scope of this study. The further analysis can take into account for more country samples and control for country specific factor as control variables to see whether the target is still an important factor.

The investigation of this study focuses on in-sample analysis. To examine the predictability of the model, out-sample analysis is required. The further study can use out-sample and check the correct of prediction from the estimated model.

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APPENDIX

Table1 Target Estimation

The target estimations for 3 countries (Australia, Singapore and Thailand) using panel data with fixed effect for the period 1996-2006. All variables are lagged by one period. TANG is the ratio of tangible assets to total asset. SIZE is natural logarithm of sales. MTB is the ratio of market value of assets (total assets plus market value of equity less book value of equity) to total asset. PROF is the ratio of EBITDA to total assets. NDTS is the ratio of depreciation and amortization to total assets. SE is selling expense to sales. RD is research and development expense to sale. DUM_RD is dummy variables which equal to zero when research and development expense is not reported. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Panel A

Variable	Thailand		Singapore		Australia	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
TANG	0.1554 ***	(4.9766)	0.1547 ***	(3.8094)	0.0293	(0.7356)
SIZE	0.0237 ***	(2.9892)	0.0015	(0.1723)	0.0204 ***	(3.8185)
MTB	-0.0134 ***	(-2.8706)	-0.0195 ***	(-5.0444)	-0.0046	(-1.5592)
ROA	-0.3779 ***	(-10.6813)	-0.0113	(-0.4527)	-0.0094 ***	(-3.3436)
NDTS	0.3007 *	(1.734)	-0.1593	(-0.7175)	-0.0664 ***	(-3.0099)
SE	0.0166	(1.1508)	-0.0086	(-1.2612)	0.0001	(0.9189)
RD	-0.1956	(-0.5728)	-0.0682	(-0.4341)	-0.0003	(-0.2503)
DUM_RD	0.1125	(1.2902)	-0.0263	(-1.5235)	0.0238	(1.2124)
Intercept	-0.1564	(-1.0733)	0.1944 *	(1.8422)	-0.0579	(-0.9932)
Adjusted R-squared	0.7487		0.7893		0.7354	

Panel B

Variable	Thailand		Singapore		Australia	
	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
TANG	0.1281 ***	(4.6284)	0.1683 ***	(6.0578)	0.0769 ***	(3.081)
SIZE	0.019 ***	(3.0544)	0.0341 ***	(6.882)	0.0156 ***	(4.5778)
MTB	-0.0126 ***	(-4.4316)	-0.0153 ***	(-4.7052)	-0.0003	(-0.4934)
Intercept	0.0114	(0.1236)	-0.2308 ***	(-3.801)	-0.0015	(-0.0407)
Adjusted R-squared	0.7204		0.7079		0.6105	

Table 2 Distribution of Sample Security Issuances by Year

The table consists of distribution of sample security issuance and security repurchase covering the period of 1996-2006. Firms are defiend as issuing (repurchasing) a security when the net amount issued (repurchased) divided by the by beginning of the year book value of assets exceeded 5%.

	Thailand			Singapore			Australia			
	Equity issue	Debt issue	Debt reduction	Equity issue	Debt issue	Debt reduction	Equity issue	Debt issue	Equity repurchase	Debt reduction
2006	22	49	71	15	36	43	59	40	7	31
2005	22	75	52	10	43	32	61	44	7	30
2004	10	63	48	13	35	31	56	27	3	43
2003	11	56	59	16	28	30	53	31	2	37
2002	7	35	71	9	23	29	52	15	0	42
2001	13	34	92	3	22	18	18	27	1	25
2000	6	24	45	10	20	23	10	20	1	16
1999	13	18	68	8	12	15	4	15	2	7
1998	10	15	91	4	17	12	3	11	2	10
1997	1	85	19	6	28	9	8	9	0	9
1996	6	47	21	2	5	3	7	12	0	4
Total	121	501	637	96	269	245	331	251	25	254

Table 3 Sample Characteristics by Issuer Type

Mean, Median, Maximum, Minimum and Standard Deviation value of key characteristics are shown. The sample covers security issuance and repurchases behavior from 1996 to 2006 in Australia, Singapore and Thailand. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. Cases where firms issued (repurchased) both debt and equity in a given fiscal year are omitted. No transaction is firms that net amount issued (repurchased) divided by beginning of the year book value of assets less than 5%. All variables expect TARGET are lagged by one period.

	Thailand							Singapore							Australia					
	Debt issue							**Debt issue**							**Debt issue**					
	LEV	TARGET	ROA	RET	MTB	CASH		LEV	TARGET	ROA	RET	MTB	CASH		LEV	TARGET	ROA	RET	MTB	CASH
Mean	0.3507	0.4144	0.1313	0.0865	1.2300	0.0417	**Mean**	0.2286	0.2706	0.0926	0.0608	1.2632	0.1247	**Mean**	0.2035	0.2492	0.0956	0.0728	1.8468	0.0790
Maximum	0.8570	0.9144	0.4918	3.4716	9.3719	0.5115	**Maximum**	0.8420	0.7878	0.6716	1.6467	4.9581	0.6050	**Maximum**	0.9412	0.7678	0.5429	4.0943	17.1784	0.7876
Minimum	0.0000	0.0095	-0.4652	-2.2792	0.3734	0.0000	**Minimum**	0.0000	0.0408	-1.4532	-1.4419	0.3746	0.0035	**Minimum**	0.0000	0.0069	-1.0797	-1.1457	0.4041	0.0000
Std. Dev.	0.1983	0.1862	0.0868	0.6346	0.7200	0.0561	**Std. Dev.**	0.1613	0.1326	0.1306	0.4564	0.6091	0.1041	**Std. Dev.**	0.1493	0.1246	0.1914	0.5137	1.7460	0.1043
Observations	501	501	501	501	501	501	**Observations**	269	269	269	269	269	269	**Observations**	251	251	251	251	251	251
	Equity issue							**Equity issue**							**Equity issue**					
Mean	0.4475	0.3926	0.0924	0.0655	1.3372	0.0410	**Mean**	0.2417	0.2075	0.0113	-0.2108	1.8178	0.1569	**Mean**	0.1728	0.1584	-0.1681	-0.1451	1.9585	0.1621
Maximum	0.9413	0.8302	0.4744	2.2659	7.1096	0.1975	**Maximum**	0.9565	0.6594	0.4512	1.5622	9.7654	0.6342	**Maximum**	0.9308	0.8614	0.6876	2.3461	12.8805	0.8910
Minimum	0.0000	0.0341	-0.4899	-2.5932	0.3249	0.0000	**Minimum**	0.0000	0.0147	-1.4018	-2.0603	0.5104	0.0086	**Minimum**	0.0000	0.0000	-4.1179	-2.5840	0.4457	0.0001
Std. Dev.	0.2363	0.1688	0.1353	0.7150	0.8203	0.0433	**Std. Dev.**	0.1994	0.1415	0.2592	0.6650	1.5437	0.1402	**Std. Dev.**	0.1924	0.1388	0.5551	0.6890	1.6544	0.1863
Observations	121	121	121	121	121	121	**Observations**	96	96	96	96	96	96	**Observations**	331	331	331	331	331	331
	Debt reduction							**Debt reduction**							**Debt reduction**					
Mean	0.4683	0.3955	0.1163	-0.0722	1.0676	0.0403	**Mean**	0.3020	0.2579	0.0423	-0.1304	1.3028	0.1269	**Mean**	0.2988	0.2300	-0.0766	-0.1569	1.6931	0.0807
Maximum	0.9969	0.8692	0.6135	2.9559	4.4974	0.7689	**Maximum**	0.8557	0.7210	0.6923	1.5183	9.5257	0.5900	**Maximum**	0.9649	0.8614	0.9136	1.6094	39.1861	0.9149
Minimum	0.0547	0.0013	-0.5531	-2.5932	0.3759	0.0000	**Minimum**	0.0001	0.0262	-1.4018	-2.0603	0.4061	0.0040	**Minimum**	0.0000	0.0036	-3.7624	-3.1293	0.3298	0.0000
Std. Dev.	0.2237	0.1718	0.1157	0.6394	0.4620	0.0580	**Std. Dev.**	0.1554	0.1307	0.1999	0.5691	0.9749	0.1006	**Std. Dev.**	0.1747	0.1364	0.5580	0.6786	2.6432	0.1118
Observations	637	637	637	637	637	637	**Observations**	245	245	245	245	245	245	**Observations**	254	254	254	254	254	254

(Continued)

	LEV	TARGET	ROA	RET	MTB	CASH
No transaction						
Mean	0.2003	0.2270	0.1268	-0.0034	1.1079	0.0643
Maximum	0.9956	0.8459	0.4577	2.6290	6.6471	0.4443
Minimum	0.0000	0.0003	-0.4033	-2.2064	0.1994	0.0000
Std. Dev.	0.2677	0.2215	0.1061	0.5539	0.7936	0.0778
Observations	290	290	290	290	290	290

	LEV	TARGET	ROA	RET	MTB	CASH
No transaction						
Mean	0.1681	0.1792	0.0835	-0.0343	1.2969	0.1883
Maximum	0.8213	0.7577	0.3302	1.6094	9.8977	0.8400
Minimum	0.0000	0.0014	-0.4366	-1.7918	0.2728	0.0052
Std. Dev.	0.1688	0.1542	0.0888	0.4453	0.9200	0.1493
Observations	552	552	552	552	552	552

	LEV	TARGET	ROA	RET	MTB	CASH
Equity repurchase						
Mean	0.1490	0.1974	0.1982	0.2133	1.7967	0.1855
Maximum	0.3275	0.3688	0.4041	1.1929	5.3646	0.9861
Minimum	0.0000	0.0069	0.0306	-0.3244	0.6893	0.0000
Std. Dev.	0.1263	0.1244	0.1008	0.3870	1.1956	0.2376
Observations	25	25	25	25	25	25
No transaction						
Mean	0.1553	0.1732	0.0634	-0.0466	1.6424	0.1402
Maximum	0.8725	0.8760	0.8978	1.5307	10.8040	0.9814
Minimum	0.0000	0.0001	-3.2169	-2.1924	0.1688	0.0000
Std. Dev.	0.1640	0.1495	0.3450	0.5143	1.4204	0.1900
Observations	276	276	276	276	276	276

Table 4 Projected Deviation From Target Leverage

These tables provide mean value of security issue and repurchase from the period 1996-2006 in Australia, Singapore and Thailand. To test the role of target leverage in determining firms' decision to issue (repurchase) between debt or equity. For equity issue and repurchase P1 is (actual transaction) = (pre-issue debt/ (pre-issue assets + issue amount). P2 is alternative transaction = (pre-issue debt + issue amount)/(pre-issue assets + issue amount). For debt issue and reduction P1 is actual transaction = (pre-issue debt + issue amount)/ (pre-issue assets + issue amount). P2 is alternative transaction = (pre-issue debt)/ (pre-issue assets+ issue amount). TARGET is target leverage estimated from Table1. DEVIATION1 is mean of absolute value of (P1-TARGET). DEVIATION2 is mean of absolute value of (P2-TARGET). DTLD is mean value of (DEVIATION1-DEVIATION2). T-statistic is tested whether DTLD value differ from zero significantly. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level for DTLD value.

Panel A			Thailand			
	Debt issue	Equity issue	Debt reduction	Pure equity issue	Pure debt reduction	Mixed equity issue
P1	0.4399	0.3776	0.3608	0.2668	0.3590	0.3076
P2	0.2933	0.5407	0.5080	0.4076	0.4969	0.6672
TARGET	0.4209	0.3940	0.3889	0.3449	0.3852	0.4106
DEVIATIO1	0.0829	0.0959	0.0989	0.0960	0.0969	0.1275
DEVIATIO2	0.1444	0.1620	0.1467	0.1010	0.1406	0.2573
DTLD	-0.0615	-0.0661	-0.0479	-0.0050	-0.0436	-0.1298
t-statistic	-12.4052 ***	-5.9196 ***	-9.3158 ***	-0.3211	-8.2165 ***	-6.5433 ***
Observations	588	135	596	49	526	71

Panel B			Singapore			
	Debt issue	Equity issue	Debt reduction	Pure equity issue	Pure debt reduction	Mixed equity issue
P1	0.3347	0.2006	0.2361	0.1688	0.2397	0.1868
P2	0.1966	0.3543	0.3544	0.3225	0.3540	0.4527
TARGET	0.2764	0.2038	0.2677	0.1936	0.2759	0.2189
DEVIATIO1	0.0933	0.0748	0.0745	0.0701	0.0749	0.0685
DEVIATIO2	0.0983	0.1594	0.1060	0.1411	0.0999	0.2337
DTLD	-0.0050	-0.0846	-0.0315	-0.0710	-0.0250	-0.1652
t-statistic	0.4885	-6.9167 ***	-4.77 ***	-4.1534 ***	-3.5903 ***	-7.2531 ***
Observations	308	113	230	72	197	33

Panel C			Australia			
	Debt issue	Equity issue	Debt reduction	Equity repurchase	Mixed debt issue	Mixed equity issue
P1	0.3075	0.1278	0.2244	0.2686	0.3130	0.1783
P2	0.1764	0.3837	0.3569	0.1576	0.0949	0.5322
TARGET	0.2542	0.1551	0.2425	0.2775	0.2539	0.2425
DEVIATIO1	0.0922	0.0689	0.0878	0.0486	0.0594	0.1009
DEVIATIO2	0.0991	0.2425	0.1375	0.1249	0.1590	0.2926
DTLD	-0.0069	-0.1736	-0.0497	-0.0763	-0.0996	-0.1918
t-statistic	-1.0747	-17.0061 ***	-6.5293 ***	-3.6434 ***	-2.6088 **	-7.3098 ***
Observations	274	421	232	14	7	79
	Pure debt issue	Pure equity issue	Pure debt reduction	Pure debt reduction		
P1	0.3117	0.1014	0.2233	0.3033		
P2	0.1712	0.3515	0.3447	0.2095		
TARGET	0.2548	0.1377	0.2431	0.3011		
DEVIATION1	0.1531	0.0661	0.0788	0.0460		
DEVIATION2	0.1496	0.2292	0.1224	0.1016		
DTLD	0.0035	-0.1632	-0.0436	-0.0556		
t-statistic	0.4093	-14.1763 ***	-5.5143 ***	-2.4309 *		
Observations	243	306	152	7		

Table 5 Determinants of Debt-Equity Choice

These tables contain the result of using the LOGIT estimation for Debt-Equity Choice in Australia, Singapore and Thailand for the period 1996 to 2006. All variables expect TARGET are lagged by one period. LEV-TARGET is book leveraged ratio minus target leveraged ratio. DTLD is the projected difference between absolute deviation from target if firms issues debt and the absolute deviation from target if firms issue the same amount of equity instead. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. Case where firms issued (repurchased) both debt and equity in a given fiscal year is omitted. Pure is transaction which firms issue that security only for that firm's year. Mixed is transaction which firms issue of one security accompanied by a repurchase of another security. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Panel A | | | | **Thailand** | | |
| --- | --- | --- | --- | --- | --- |
| | **Debt issue Vs Equity issue** | | **Debt issue Vs Pure equity issue** | | **Debt issue Vs Mixed Equity issue** | |
| **Variable** | **Coefficient** | **z-Statistic** | **Coefficient** | **z-Statistic** | **Coefficient** | **z-Statistic** |
| LEV-TARGET | -3.7817 ** | (-2.5001) | 3.2178 | (1.3884) | -7.2026 *** | (-3.7897) |
| DTLD | -5.7398 *** | (-3.3766) | -6.7936 *** | (-2.7614) | -6.8075 *** | (-3.0306) |
| ROA | 3.8105 *** | (3.3553) | 3.9691 *** | (2.5935) | 3.6956 ** | (2.3054) |
| RET | -0.0744 | (-0.4194) | -0.1508 | (-0.6235) | -0.0382 | (-0.1657) |
| MTB | -0.0989 | (-0.7136) | -0.1624 | (-1.009) | 0.0426 | (0.2084) |
| CASH | -1.8381 | (-0.7951) | -1.3763 | (-0.5025) | 0.1034 | (0.0319) |
| Intercept | 1.2189 *** | (4.6228) | 2.2838 *** | (6.5027) | 1.741 *** | (4.6471) |
| | | | | | | |
| Log likelihood | -251.7539 | | -142.0375 | | -160.9230 | |
| Obs with Dep=0 | 121 | | 44 | | 77 | |
| Obs with Dep=1 | 501 | | 501 | | 501 | |

Panel B | | | | **Singapore** | | |
| --- | --- | --- | --- | --- | --- |
| | **Debt issue Vs Equity issue** | | **Debt issue Vs Pure equity issue** | | **Debt issue Vs Mixed Equity issue** | |
| **Variable** | **Coefficient** | **z-Statistic** | **Coefficient** | **z-Statistic** | **Coefficient** | **z-Statistic** |
| LEV-TARGET | -4.3355 ** | (-2.1816) | -2.4453 | (-1.074) | -5.7433 ** | (-2.1777) |
| DTLD | -4.3376 ** | (-2.2242) | -3.2482 | (-1.5137) | -8.5289 *** | (-2.7417) |
| ROA | 0.586 | (0.5513) | 1.2078 | (0.9966) | -1.6006 | (-1.3918) |
| RET | 1.0344 *** | (3.507) | 1.159 *** | (3.2091) | 1.3416 *** | (2.8826) |
| MTB | -0.6668 *** | (-3.6334) | -0.6201 *** | (-3.2665) | -1.0212 *** | (-3.0014) |
| CASH | -1.6276 | (-1.2758) | -3.3059 ** | (-2.3982) | 6.5551 ** | (2.2966) |
| Intercept | 2.3676 *** | (7.5729) | 2.9859 *** | (8.4978) | 3.3644 *** | (5.9342) |
| | | | | | | |
| Log likelihood | -166.1411 | | -123.0643 | | -79.6142 | |
| Obs with Dep=0 | 96 | | 58 | | 38 | |
| Obs with Dep=1 | 269 | | 269 | | 269 | |

(Continued)

Panel C	Australia			
	Debt issue Vs Equity issue		**Debt reduction Vs Equity repurchase**	
Variable	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**
LEV-TARGET	-0.2478	(-0.2033)	2.1584	(0.5173)
DTLD	-7.6031 ***	(-5.9287)	-10.8526 ***	(-2.9591)
ROA	1.7808 ***	(3.7192)	-4.6388 ***	(-3.0289)
RET	0.2349	(1.2084)	-0.644	(-1.5377)
MTB	0.1781 **	(1.9904)	0.0363	(0.1719)
CASH	-3.9296 ***	(-3.9466)	-4.1659 *	(-1.9033)
Intercept	0.2102	(1.2177)	3.7113 ***	(6.7172)
Log likelihood	-301.2741		-52.9549	
Obs with Dep=0	331		25	
Obs with Dep=1	251		254	
	Pure Debt issue Vs Pure Equity issue		**Pure Debt reduction Vs Pure Equity repurchase**	
Variable	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**
LEV-TARGET	0.829	(0.6475)	-0.5455	(-0.0996)
DTLD	-7.5262 ***	(-5.6227)	-13.4177 **	(-2.498)
ROA	2.0122 ***	(3.9795)	-4.018 *	(-1.8952)
RET	0.1512	(0.734)	-0.9226	(-1.5385)
MTB	0.2391 **	(2.4677)	0.0581	(0.1244)
CASH	-4.7447 ***	(-4.4911)	-6.8492 ***	(-2.8112)
Intercept	0.4475 **	(2.4195)	4.2279 ***	(5.0877)
Log likelihood	-258.6718		-30.2862	
Obs with Dep=0	257		16	
Obs with Dep=1	242		180	
	Mixed Debt issue Vs Mixed Debt issue			
Variable	**Coefficient**	**z-Statistic**		
LEV-TARGET	2.3947	(0.2571)		
DTLD	-20.5637 **	(-1.9612)		
ROA	9.6644	(1.3146)		
RET	-0.2612	(-0.2128)		
MTB	-0.1333	(-0.3856)		
CASH	-23.1247	(-1.5693)		
Intercept	-1.513	(-1.3965)		
Log likelihood	-14.2086			
Obs with Dep=0	74			
Obs with Dep=1	9			

Table 6 Percentage of Correct Prediction in Debt-Equity Choice

Table present the percentage of correct prediction defines as number of correct prediction from logit regression to total number of observations. 1 assigns as firms issuing debt while 0 assigns as firms issuing equity. The predicted value from logit regression will be cut off by 0.5 level.

Thailand

Panel A	Debt issue Vs Equity issue			Debt issue Vs Pure equity issue			Debt issue Vs Mixed equity issue		
	Estimated Equation			Estimated Equation			Estimated Equation		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<=C	25	14	39	2	2	4	20	9	29
P(Dep=1)>C	96	487	583	42	499	541	57	492	549
Total	121	501	622	44	501	545	77	501	578
Correct	25	487	512	2	499	501	20	492	512
% Correct	20.66	97.21	82.32	4.55	99.6	91.93	25.97	98.2	88.58
% Incorrect	79.34	2.79	17.68	95.45	0.4	8.07	74.03	1.8	11.42

Singapore

Panel B	Debt issue Vs Equity issue			Debt issue Vs Pure equity issue			Debt issue Vs Mixed equity issue		
	Estimated Equation			Estimated Equation			Estimated Equation		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<=C	36	10	46	18	4	22	13	3	16
P(Dep=1)>C	60	259	319	40	265	305	25	266	291
Total	96	269	365	58	269	327	38	269	307
Correct	36	259	295	18	265	283	13	266	279
% Correct	37.5	96.28	80.82	31.03	98.51	86.54	34.21	98.88	90.88
% Incorrect	62.5	3.72	19.18	68.97	1.49	13.46	65.79	1.12	9.12

Australia

Panel C	Debt issue Vs Equity issue			Debt reduction Vs Equity repurchase		
	Estimated Equation			Estimated Equation		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<=C	261	71	332	6	4	10
P(Dep=1)>C	70	180	250	19	250	269
Total	331	251	582	25	254	279
Correct	261	180	441	6	250	256
% Correct	78.85	71.71	75.77	24	98.43	91.76
% Incorrect	21.15	28.29	24.23	76	1.57	8.24

	Pure debt issue Vs Pure equity issue			Pure debt reduction Vs Pure equity repurchase		
	Estimated Equation			Estimated Equation		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<=C	179	47	226	6	3	9
P(Dep=1)>C	78	195	273	10	178	188
Total	257	242	499	16	180	196
Correct	179	195	374	6	178	184
% Correct	69.65	80.58	74.95	37.5	98.33	93.87
% Incorrect	30.35	19.42	25.05	62.5	2.00	6.13

(Continued)

Mixed Debt issue Vs Mixed debt issue			
	Estimated Equation		
	Dep=0	Dep=1	Total
P(Dep=1)<=C	72	4	76
P(Dep=1)>C	2	5	7
Total	74	9	83
Correct	72	5	77
% Correct	97.3	55.56	92.77
% Incorrect	2.7	44.44	7.23
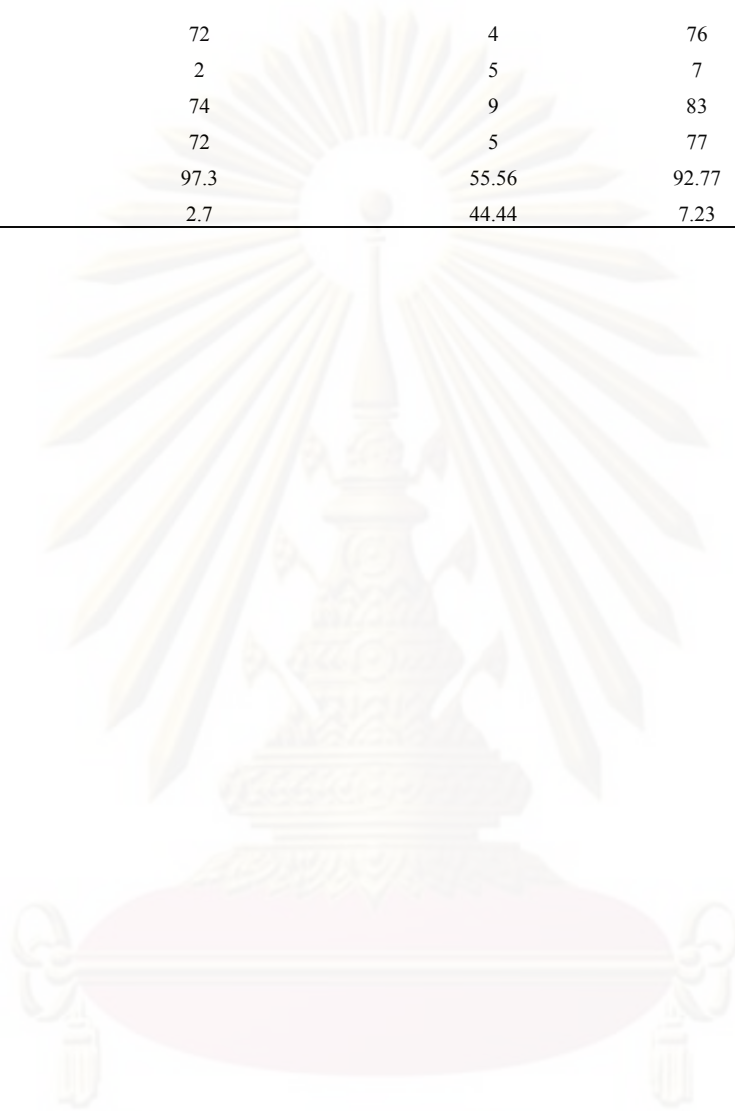
Table 7 Test the Difference Between Over and Under Leverage Firm

This table presents the difference between over and under leveraged firms in Australia, Singapore and Thailand for the period 1996-2006. All variables expect TARGET are lagged by one period. LEV-TARGET is book leveraged ratio minus target leveraged ratio. DTLD is the projected difference between absolute deviation from target if firms issues debt and the absolute deviation from target if firms issue the same amount of equity instead. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. DUM is dummy variable where set to 1 if firms are overleveraged (LEV-TARGET) greater than zero or set to 0 if firms are underleveraged (LEV-TARGET) less than zero. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Panel A	Thailand					
	Debt issue Vs Equity issue		Debt issue Vs Pure equity issue		Debt issue Vs Mixed Equity issue	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-1.592	(-0.532)	-0.6871	(-0.2057)	-3.9787	(-0.6634)
DTLD	-6.6308 **	(-2.3841)	-6.1754 *	(-1.9587)	-7.7579	(-1.5967)
ROA	4.9837 ***	(3.311)	3.7491 **	(2.1199)	9.092 ***	(3.173)
RET	-0.1703	(-0.6622)	-0.2269	(-0.7855)	-0.096	(-0.1989)
M_TO_B	-0.0019	(-0.0099)	-0.056	(-0.2747)	0.3472	(0.9669)
CASH	-2.5053	(-0.8227)	-3.6849	(-1.1932)	7.0244	(0.9313)
Intercept	1.0863 **	(2.5288)	1.8443 ***	(3.717)	0.8508	(1.0605)
DUM	0.6611	(1.0797)	0.2587	(0.279)	1.2741	(1.3394)
DUM*(LEV_B_-TARGET)	-4.0595	(-1.1237)	13.0411	(1.5792)	-3.7645	(-0.5883)
DUM*DTLD	-0.7508	(-0.1898)	-5.2894	(-0.7622)	0.6768	(0.118)
DUM*ROA	-2.914	(-1.2538)	2.8448	(0.6956)	-7.9491 **	(-2.3028)
DUM*RET	0.1103	(0.3131)	0.1825	(0.3008)	-0.0135	(-0.0245)
DUM*M_TO_B	-0.1164	(-0.4003)	-0.3263	(-0.8544)	-0.3137	(-0.6823)
DUM*CASH	2.9084	(0.6199)	10.733	(1.261)	-7.0968	(-0.8364)
Log likelihood	-249.1885		-138.0218		-157.5958	
Obs with Dep=0	121		44		77	
Obs with Dep=1	501		501		501	

Panel B	Singapore					
	Debt issue Vs Equity issue		Debt issue Vs Pure equity issue		Debt issue Vs Mixed Equity issue	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-6.2442	(-1.333)	-5.4993	(-1.09)	-9.1978	(-0.7821)
DTLD	-2.7338	(-1.002)	-2.7354	(-0.9554)	-5.9626	(-0.8353)
ROA	3.2079 *	(1.6833)	4.3714 *	(1.9296)	0.8277	(0.2619)
RET	0.6086	(1.5119)	0.5882	(1.3134)	0.6763	(0.7544)
M_TO_B	-0.6151 ***	(-2.9001)	-0.6748 ***	(-2.8896)	-0.7252	(-1.4985)
CASH	-3.3604 **	(-2.1544)	-4.5278 ***	(-2.6749)	5.2057	(1.0757)
Intercept	2.2164 ***	(4.9785)	2.7161 ***	(5.4331)	2.7629 ***	(3.0175)
DUM	0.8024	(0.9178)	0.7658	(0.674)	1.5824	(1.1286)
DUM*(LEV_B_-TARGET)	3.322	(0.6096)	4.5555	(0.7169)	4.3755	(0.359)
DUM*DTLD	-3.7978	(-0.8111)	-2.2987	(-0.3765)	-0.8061	(-0.0952)
DUM*ROA	-4.6572 **	(-1.9953)	-4.7329 *	(-1.6938)	-4.368	(-1.2292)
DUM*RET	1.072 *	(1.6773)	1.6104 *	(1.8856)	1.1545	(1.0668)
DUM*M_TO_B	-0.7103	(-1.3223)	-0.3438	(-0.5191)	-1.3099	(-1.497)
DUM*CASH	5.3202 *	(1.7355)	3.7552	(1.0268)	1.8867	(0.295)
Log likelihood	-162.3998		-119.9374		-77.3762	
Obs with Dep=0	96		58		38	
Obs with Dep=1	269		269		269	

(Continued)

Panel C	Australia			
	Debt issue Vs Equity issue		**Debt reduction Vs Equity repurchase**	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	0.7131	(0.3175)	-4.9931	(-0.9144)
DTLD	-7.1461 ***	(-4.2376)	-8.4107 **	(-2.1209)
ROA	2.4888 ***	(3.8575)	-4.5821 ***	(-2.705)
RET	0.0908	(0.3488)	-0.5342	(-1.1698)
MTB	0.205 *	(1.8293)	-0.0587	(-0.1902)
CASH	-4.9111 ***	(-3.9966)	-2.9288	(-1.2514)
Intercept	0.3253	(1.2759)	2.7215 ***	(3.666)
DUM	0.0871	(0.1886)	1.7446	(0.9856)
DUM*(LEV-TARGET)	-2.3672	(-0.7976)	18.5606	(0.7183)
DUM*DTLD	-1.6179	(-0.5173)	9.4053	(0.6103)
DUM*ROA	-2.0958 **	(-2.1665)	2.8148	(0.6777)
DUM*RET	0.4261	(1.0399)	-0.863	(-0.5618)
DUM*MTB	-0.0971	(-0.5459)	0.0421	(0.0785)
DUM*CASH	3.0935	(1.4719)	-4.2539	(-0.5084)
Log likelihood	-297.5957		-49.2849	
Obs with Dep=0	331		25	
Obs with Dep=1	251		254	

	Pure Debt issue Vs Pure Equity issue		**Pure Debt reduction Vs Pure Equity repurchase**	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	0.7224	(0.3057)	-13.8462	(-1.3023)
DTLD	-7.4661 ***	(-4.2911)	-7.8263	(-1.2909)
ROA	2.418 ***	(3.6829)	-3.3373	(-1.2281)
RET	0.1865	(0.6816)	-1.4197	(-1.3817)
MTB	0.1726	(1.5393)	0.0998	(0.1838)
CASH	-5.0151 ***	(-4.0108)	-5.4636 **	(-2.1075)
Intercept	0.532 **	(1.991)	2.4837 **	(2.3523)
DUM	-0.1086	(-0.2275)	4.6534	(1.1446)
DUM*(LEV-TARGET)	-1.2664	(-0.4)	25.8541	(0.801)
DUM*DTLD	-1.163	(-0.3504)	4.8814	(0.2038)
DUM*ROA	-0.9084	(-0.7991)	-1.122	(-0.1788)
DUM*RET	-0.0233	(-0.0529)	-1.0905	(-0.3248)
DUM*MTB	0.2032	(0.9707)	-0.25	(-0.2098)
DUM*CASH	1.7454	(0.7664)	-11.6932	(-0.9234)
Log likelihood	-256.3204		-27.0470	
Obs with Dep=0	257		16	
Obs with Dep=1	242		180	

Table 8 Logit Regression Comparing Firms That Issue (Repurchase) to No Transaction

These tables contain the result of using the LOGIT estimation for each transaction against no transaction in Australia, Singapore and Thailand for the period 1996 to 2006. All variables expect TARGET are lagged by one period. LEV-TARGET is book leveraged ratio minus target leveraged ratio. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. No is no transaction firms which have not been classified 5% condition. Case where firms issued (repurchased) both debt and equity in a given fiscal year is omitted. Pure is transaction which firms issue that security only for that firm's year. Mixed is transaction which firms issue of one security accompanied by a repurchase of another security. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Panel A			Thailand			
	Debt issue Vs. No		Equity issue Vs. No		Debt reduction Vs. No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-3.319 ***	(-4.6265)	-1.8243	(-1.2431)	7.2608 ***	(9.1504)
ROA	0.0978	(0.1146)	-3.8412 ***	(-2.7989)	1.786 **	(2.2185)
RET	0.2349 *	(1.7814)	0.4274	(1.5638)	-0.0962	(-0.7151)
MTB	0.2717 **	(2.1813)	0.477 ***	(2.9547)	-0.1825	(-1.3507)
CASH	-6.6723 ***	(-5.3796)	-3.9333	(-1.3432)	-4.941 ***	(-4.2574)
Intercept	0.4056 **	(2.2108)	-1.9416 ***	(-6.5253)	0.7376 ***	(4.1888)
Log likelihood	-491.1735		-120.5138		-475.3871	
Obs with Dep=0	290		290		290	
Obs with Dep=1	501		44		560	

Panel B			Singapore			
	Debt issue(All) Vs. No		Pure equity issue Vs. No		Pure debt reduction Vs. No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-5.4479 ***	(-5.328)	1.1326	(0.6184)	6.4816 ***	(5.6623)
ROA	1.3595	(1.3521)	-3.145 ***	(-2.7532)	-0.6137	(-0.7709)
RET	0.3706 **	(2.0784)	-0.7135 **	(-2.1927)	-0.3507 *	(-1.8478)
MTB	0.0011	(0.0106)	0.4697 ***	(4.5101)	0.0064	(0.0578)
CASH	-4.6597 ***	(-6.3415)	0.3015	(0.3079)	-2.749 ***	(-3.6775)
Intercept	-0.2751 *	(-1.6831)	-2.9001 ***	(-10.0918)	-0.5955 ***	(-3.1605)
Log likelihood	-476.6603		-174.6661		-411.9528	
Obs with Dep=0	552		552		552	
Obs with Dep=1	269		58		207	

Panel C   **Australia**

	Debt issue Vs. No		Equity issue Vs. No		Debt reduction Vs. No		Equity repurchase Vs. No	
	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-3.9848 ***	(-3.5144)	1.9058 *	(1.8507)	10.728 ***	(7.3641)	-1.9477	(-0.4569)
ROA	-0.2635	(-0.6942)	-1.9164 ***	(-5.0227)	-0.2682	(-0.6509)	3.0016 *	(1.6673)
RET	0.4548 **	(2.2143)	0.0715	(0.3927)	-0.1118	(-0.4716)	1.6521 **	(2.5719)
MTB	0.1989 **	(2.5473)	0.1421 *	(1.8839)	-0.1337	(-0.907)	-0.357 *	(-1.854)
CASH	-3.9878 ***	(-4.724)	0.3493	(0.6374)	-2.6059 ***	(-2.7457)	2.8257 **	(2.2572)
Intercept	-0.1697	(-1.0955)	-0.3784 **	(-2.4497)	-0.2252	(-0.967)	-3.4906 ***	(-7.1962)
Log likelihood	-333.1706		-341.3978		-247.8390		-52.5874	
Obs with Dep=0	276		276		276		276	
Obs with Dep=1	242		257		180		16	

Table 9 Percentage of Correct Prediction in Firm That Issue (Repurchase) to No transaction

Table present the percentage of correct prediction defines as number of correct prediction from logit regression to total number of observations. 1 assigns as firms make transaction (Debt issue, Equity issue, Debt reduction or Equity repurchase) while 0 assigns as no transaction. The predicted value from logit regression will be cut off by 0.5 level.

Panel A — **Thailand**

	Debt issue Vs. No			Equity issue Vs. No			Debt reduction Vs. No		
	Estimated Equation			Estimated Equation			Estimated Equation		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<=C	71	48	119	288	42	330	102	53	155
P(Dep=1)>C	219	453	672	2	2	4	188	507	691
Total	290	501	791	290	44	334	290	560	850
Correct	71	453	524	288	2	290	102	507	609
% Correct	24.48	90.42	66.25	99.31	4.55	86.83	35.17	90.54	71.65
% Incorrect	75.52	9.58	33.75	0.69	95.45	13.17	64.83	9.06	28.35

Panel B — **Singapore**

	Debt issue Vs. No			Equity issue Vs. No			Debt reduction Vs. No		
	Estimated Equation			Estimated Equation			Estimated Equation		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<=C	507	208	715	549	54	603	524	183	707
P(Dep=1)>C	45	61	106	3	4	7	28	24	56
Total	552	269	821	552	58	610	552	207	759
Correct	507	61	568	549	4	553	524	24	548
% Correct	91.85	22.68	69.18	99.46	6.9	90.66	94.93	11.59	72.2
% Incorrect	8.15	77.32	30.82	0.54	93.1	9.34	5.07	88.41	27.8

(Continued)

Panel C	Australia											
	Debt issue Vs. No			**Equity issue Vs. No**			**Debt reduction Vs. No**			**Equity repurchase Vs. No**		
	Estimated Equation			Estimated Equation			Estimated Equation			Estimated Equation		
	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total	Dep=0	Dep=1	Total
P(Dep=1)<=C	197	107	304	234	138	372	246	82	328	276	15	291
P(Dep=1)>C	79	135	214	42	119	161	30	98	119	0	1	1
Total	276	242	518	276	257	533	276	180	456	276	16	292
Correct	197	135	332	234	119	353	246	98	344	276	1	277
% Correct	71.38	55.79	64.09	84.78	46.3	66.23	89.13	54.44	75.43	100	6.25	94.86
% Incorrect	28.62	44.21	35.91	15.22	53.7	33.77	10.87	45.56	24.57	0	93.75	5.14

Table 10 Determinants of Debt-Equity Choice on Market Leverage

These tables contain the result of using the LOGIT estimation for Debt-Equity Choice in Australia, Singapore and Thailand for the period 1996 to 2006. All variables expect TARGET are lagged by one period. LEV_M-TARGET is market leveraged ratio minus target leveraged ratio. DTLD is the projected difference between absolute deviation from target if firms issues debt and the absolute deviation from target if firms issue the same amount of equity instead. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. Case where firms issued (repurchased) both debt and equity in a given fiscal year is omitted. Pure is transaction which firms issue that security only for that firm's year. Mixed is transaction which firms issue of one security accompanied by a repurchase of another security. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Panel A — **Thailand**

Variable	Debt issue Vs Equity issue		Debt issue Vs Pure Equity issue		Debt issue Vs Mixed Equity issue	
	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV_M_-TARGET	-4.0808 ***	(-3.0353)	2.6252	(1.4733)	-4.3142 ***	(-3.1221)
DTLD	-4.4529 ***	(-2.6697)	-7.8838 ***	(-3.4785)	-10.6641 ***	(-5.87)
ROA	3.5871 ***	(3.4176)	3.7679 **	(2.4994)	3.8641 ***	(2.6407)
RET	-0.1654	(-0.9416)	-0.1852	(-0.7488)	-0.012	(-0.052)
MTB	-0.5159 ***	(-3.2522)	-0.246	(-1.4683)	-0.1836	(-1.0264)
CASH	-0.1813	(-0.0789)	-1.8054	(-0.6334)	0.5045	(0.1514)
Intercept	1.5991 ***	(5.9132)	2.4804 ***	(6.8634)	1.9379 ***	(5.3459)
Log likelihood	-268.4921		-141.3906		-167.2511	
Obs with Dep=0	130		45		85	
Obs with Dep=1	498		498		498	

Panel B — **Singapore**

Variable	Debt issue Vs Equity issue		Debt issue Vs Pure Equity issue		Debt issue Vs Mixed Equity issue	
	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV_M_-TARGET	-5.1393 ***	(-2.6992)	-4.1627 *	(-1.8509)	-7.1405 **	(-2.5011)
DTLD	-3.8829 **	(-2.1817)	-2.2057	(-1.0909)	-6.951 **	(-2.3622)
ROA	1.0438	(0.9681)	1.4531	(1.2365)	-1.119	(-0.9277)
RET	0.9476 ***	(2.9436)	1.2617 ***	(3.2309)	1.0071 **	(2.0616)
MTB	-0.6484 ***	(-3.3086)	-0.5583 ***	(-2.8614)	-1.102 ***	(-3.0853)
CASH	-0.5626	(-0.4014)	-2.4377	(-1.6036)	6.924 **	(2.3874)
Intercept	2.2781 ***	(7.0123)	2.8701 ***	(7.8905)	3.3988 ***	(5.954)
Log likelihood	-155.3669		-112.6747		-77.4342	
Obs with Dep=0	82		49		33	
Obs with Dep=1	270		270		270	

(Continued)

Panel C — **Australia**

Variable	Debt issue Vs Equity issue		Debt reduction Vs Equity repurchase		Pure Debt issue Vs Pure Equity issue		Pure Debt reduction Vs Pure Equity repurchase	
	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV_M_-TARGET	-2.4478 *	(-1.6522)	2.8455	(0.7257)	-1.6946	(-1.011)	2.0595	(0.3988)
DTLD	-6.5963 ***	(-5.5569)	-11.6737 ***	(-3.7101)	-6.1801 ***	(-4.9284)	-14.3864 ***	(-3.1632)
ROA	1.901 ***	(3.816)	-3.8236 ***	(-2.9612)	2.1223 ***	(4.0601)	-3.1378 *	(-1.777)
RET	0.196	(0.9845)	-0.5127	(-1.2365)	0.1666	(0.7967)	-0.7694	(-1.3195)
M_TO_B	0.1404 *	(1.6661)	0.0141	(0.0659)	0.1988 **	(2.115)	-0.0365	(-0.0799)
CASH	-3.7923 ***	(-3.7802)	-4.8387 **	(-2.5102)	-4.6454 ***	(-4.3318)	-6.4931 ***	(-2.8786)
Intercept	0.1859	(1.112)	3.6815 ***	(6.6489)	0.3992 **	(2.212)	4.2398 ***	(4.9597)
Log likelihood	-298.5328		-54.2200		-257.1255		-31.0641	
Obs with Dep=0	328		26		252		17	
Obs with Dep=1	249		254		240		172	

Variable	Mixed Debt issue Vs Mixed Equity issue	
	Coefficient	z-Statistic
LEV_M_-TARGET	4.6829	(0.7109)
DTLD	-22.1326 **	(-2.5473)
ROA	9.8508	(1.3323)
RET	-0.0207	(-0.0165)
M_TO_B	-0.1019	(-0.297)
CASH	-25.543	(-1.6288)
Intercept	-1.531	(-1.3976)
Log likelihood	-13.9974	
Obs with Dep=0	76	
Obs with Dep=1	9	

Table 11 Logit Regression Comparing Firms That Issue (Repurchase) to No Transaction on Market Leverage

These tables contain the result of using the LOGIT estimation for each transaction against no transaction in Australia, Singapore and Thailand for the period 1996 to 2006. All variables expect TARGET are lagged by one period. LEV_M-TARGET is market leveraged ratio minus target leveraged ratio. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. No is no transaction firms which have not been classified 5% condition. Case where firms issued (repurchased) both debt and equity in a given fiscal year is omitted. Pure is transaction which firms issue that security only for that firm's year. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Panel A   **Thailand**

	Pure Equity issue Vs No		Pure Debt issue Vs No		Pure Debt reduction Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV_M_-TARGET	-1.31	(-0.9527)	-3.1365 ***	(-4.7303)	5.9514 ***	(8.4419)
ROA	-3.4363 **	(-2.5502)	0.8214	(0.9673)	0.6837	(0.9397)
RET	0.3772	(1.3707)	0.1148	(0.8649)	-0.0139	(-0.1055)
MTB	0.4975 ***	(2.9941)	0.2401 *	(1.8466)	0.247 *	(1.7525)
CASH	-3.7398	(-1.2744)	-6.496 ***	(-5.1808)	-5.5362 ***	(-4.659)
Intercept	-1.9752 ***	(-6.554)	0.3547 *	(1.8704)	0.4771 **	(2.5389)
Log likelihood	-122.3487		-486.3507		-493.7521	
Obs with Dep=0	289		289		289	
Obs with Dep=1	45		498		570	

Panel B   **Singapore**

	Pure Equity issue Vs No		Pure Debt issue Vs No		Pure Debt reduction Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV_M_-TARGET	2.7628	(1.4002)	-4.4069 ***	(-4.7159)	5.9578 ***	(5.3702)
ROA	-3.8039 ***	(-3.1362)	1.8828 *	(1.8642)	-1.0973	(-1.4467)
RET	-0.6879 **	(-2.0107)	0.2324	(1.2928)	-0.254	(-1.3182)
MTB	0.5718 ***	(4.3807)	0.0516	(0.4361)	0.1175	(1.0443)
CASH	0.4146	(0.3919)	-4.3546 ***	(-5.8945)	-2.5745 ***	(-3.3819)
Intercept	-3.0482 ***	(-9.8112)	-0.3709 **	(-2.1557)	-0.7071 ***	(-3.6174)
Log likelihood	-160.1550		-476.5907		-406.4839	
Obs with Dep=0	532		532		532	
Obs with Dep=1	53		270		209	

(Continued)

Panel C

	Australia							
	Pure Equity issue Vs No		**Pure Debt issue Vs No**		**Pure Debt reduction Vs No**		**Pure Equity repurchase Vs No**	
Variable	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**
LEV_M_-TARGET	2.0471	(1.5663)	-5.4011 ***	(-4.0372)	9.9871 ***	(6.7315)	-4.905	(-1.0639)
ROA	-1.9307 ***	(-4.9448)	-0.0971	(-0.253)	-0.5408	(-1.4587)	1.3076	(1.0696)
RET	0.1261	(0.6609)	0.3731 *	(1.865)	0.1567	(0.6833)	1.3107 **	(2.1796)
MTB	0.145 *	(1.9184)	0.1679 **	(2.1838)	-0.0023	(-0.0172)	-0.2834	(-1.5187)
CASH	0.3167	(0.5863)	-3.6105 ***	(-4.3337)	-2.7822 ***	(-2.8886)	3.2587 ***	(2.9186)
Intercept	-0.3897 **	(-2.495)	-0.1414	(-0.9183)	-0.4042 *	(-1.8227)	-3.2716 ***	(-7.1351)
Log likelihood	-336.9181		-326.4830		-254.1776		-56.3877	
Obs with Dep=0	271		271		271		271	
Obs with Dep=1	252		240		172		17	

Table 12 Determinant of Debt-Equity Choice on Alternative Target

These tables contain the result of using the LOGIT estimation for Debt-Equity Choice in Australia, Singapore and Thailand for the period 1996 to 2006. All variables expect TARGET are lagged by one period. LEV-TARGET is book leveraged ratio minus target leveraged ratio. TARGET is base on the estimation in panel A of Table 1. DTLD is the projected difference between absolute deviation from target if firms issues debt and the absolute deviation from target if firms issue the same amount of equity instead. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. Case where firms issued (repurchased) both debt and equity in a given fiscal year is omitted. Pure is transaction which firms issue that security only for that firm's year. Mixed is transaction which firms issue of one security accompanied by a repurchase of another security. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Panel A		Thailand				
	Debt issue Vs Equity issue		**Debt issue Vs Pure Equity issue**		**Debt issue Vs Mixed Equity issue**	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-4.2623 **	-2.5584	1.9431	0.7068	-7.4611 ***	-3.6640
DTLD	-5.7068 ***	-3.1354	-6.3463 **	-2.3004	-6.9255 ***	-2.9573
ROA	3.2968 **	2.5282	3.6354 **	2.0665	2.7292	1.5381
RET	-0.1325	-0.6957	-0.1653	-0.6409	-0.1072	-0.4306
MTB	-0.2021	-1.3204	-0.2754	-1.6243	0.0197	0.0716
CASH	-3.7412	-1.5336	-3.6788	-1.2851	-1.0544	-0.3011
Intercept	1.57 ***	5.0911	2.5474 ***	6.3213	2.0654 ***	4.5913
Log likelihood	-207.2825		-119.2562		-130.7117	
Obs with Dep=0	97		37		60	
Obs with Dep=1	439		439		439	

Panel B		Singapore				
	Debt issue Vs Equity issue		**Debt issue Vs Pure Equity issue**		**Debt issue Vs Mixed Equity issue**	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-8.8752 ***	-3.0394	-5.4591 *	-1.8244	-10.3612 ***	-2.8735
DTLD	-2.4794	-0.8512	-5.3809	-1.6114	-0.3898	-0.0919
ROA	0.0058	0.0053	0.317	0.2655	-1.2058	-0.7743
RET	1.4057 ***	3.2497	1.9818 ***	3.3563	1.3278 **	2.2841
MTB	-0.5163 **	-2.1255	-0.5715 **	-2.2284	-0.8148	-1.3778
CASH	0.0768	0.0368	-0.184	-0.0758	6.437	1.4601
Intercept	2.3396 ***	5.1780	3.2095 ***	5.7752	2.8837 ***	3.3233
Log likelihood	-77.1643		-52.9018		-43.2052	
Obs with Dep=0	44		25		19	
Obs with Dep=1	141		141		141	

(Continued)

Panel C	Australia							
	Debt issue Vs Equity issue		**Debt reduction Vs Equity repurchase**		**Pure Debt issue Vs Pure Equity issue**		**Pure Debt reduction Vs Pure Equity repurchase**	
Variable	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**
LEV-TARGET	-0.8265	-0.3076	9.2634	1.5531	1.5106	0.4965	9.799	1.4291
DTLD	-9.0049 ***	-4.1752	-11.3506 **	-2.0500	-9.3861 ***	-4.1524	-12.7264 **	-1.9682
ROA	1.5162 **	2.5001	-11.3446 **	-2.2928	1.8408 ***	2.6329	-11.5758 **	-2.0302
RET	0.2959	0.9241	0.6085	0.7110	0.1103	0.3215	0.9897	0.9555
MTB	0.1285	1.0938	0.2915	0.9708	0.2917 **	2.0461	-0.413	-0.4612
CASH	-2.3188 **	-2.0236	-7.8949 **	-2.5065	-3.1172 **	-2.5458	-10.2092 **	-2.5255
Intercept	-0.4188	-1.4557	4.986 ***	4.0209	-0.2623	-0.7834	6.5999 ***	3.1623
Log likelihood	-129.6441		-20.4681		-115.9512		-13.8976	
Obs with Dep=0	185		11		154		9	
Obs with Dep=1	93		99		91		62	

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Table 13 Logit Regression Comparing Firms That Issue (Repurchase)
to No Transaction on Alternative Target

These tables contain the result of using the LOGIT estimation for each transaction against no transaction in Australia, Singapore and Thailand for the period 1996 to 2006. All variables expect TARGET are lagged by one period. LEV-TARGET is book leveraged ratio minus target leveraged ratio. TARGET is one the estimation in panel A of Table1. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. No is no transaction firms which have not been classified 5% condition. Case where firms issued (repurchased) both debt and equity in a given fiscal year is omitted. Pure is transaction which firms issue that security only for that firm's year. Mixed is transaction which firms issue of one security accompanied by a repurchase of another security. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Thailand

Panel A	Debt issue Vs No		Equity issue Vs No		Debt reduction Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	2.3505 ***	5.3137	3.2947 ***	5.9427	6.3892 ***	13.3991
ROA	2.2309 **	2.5560	0.8918	0.7340	2.3915 ***	2.9622
RET	0.2324 *	1.7222	0.2889	1.4337	-0.151	-1.0983
MTB	0.1663	1.6326	0.2976 **	2.1684	-0.2623 **	-2.0029
CASH	-7.9855 ***	-5.9397	-4.3404 **	-2.0001	-3.9238 ***	-3.2687
Intercept	0.3246 **	1.9658	-1.4201 ***	-6.2993	0.897 ***	5.3676
Log likelihood	-509.4586		-206.4075		-485.3287	
Obs with Dep=0	372		372		372	
Obs with Dep=1	439		97		580	

	Pure debt reduction Vs No		Pure equity issue Vs No		Mixed equity issue Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	6.1359 ***	12.7397	1.0142	1.3162	4.1525 ***	6.1978
ROA	2.7427 ***	3.2603	-2.6386	-1.5661	3.5886 **	2.1839
RET	-0.2112	-1.4849	0.4882 *	1.6558	0.1699	0.7033
MTB	-0.3276 **	-2.3500	0.5231 ***	3.1797	0.0543	0.2733
CASH	-3.7075 ***	-3.0620	-3.891	-1.2851	-4.8002 *	-1.7075
Intercept	0.7963 ***	4.6363	-2.3889 ***	-7.8268	-1.9845 ***	-6.8787
Log likelihood	-466.0514		-113.2595		-144.4913	
Obs with Dep=0	372		372		372	
Obs with Dep=1	516		37		60	

Singapore

Panel B	Debt issue Vs No		Equity issue Vs No		Debt reduction Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-5.7382 ***	-3.2516	13.2609 ***	3.9821	10.7931 ***	5.2913
ROA	1.7226	1.4453	-0.943	-0.5901	0.1497	0.1292
RET	0.0335	0.1393	-1.1644 ***	-2.9642	-0.571 **	-2.2429
MTB	0.6113 ***	2.6041	0.8916 ***	3.1514	0.5205 **	2.1945
CASH	-4.7059 ***	-3.9255	-0.6572	-0.3544	-1.8598	-1.5665
Intercept	-0.5781 **	-2.0046	-3.148 ***	-5.9142	-1.2182 ***	-3.6844

(Continued)

Log likelihood	-216.7649		-88.78471		-193.063
Obs with Dep=0	207		207		207
Obs with Dep=1	141		44		127

	Pure debt reduction Vs No		Pure equity issue Vs No		Mixed equity issue Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	9.8282 ***	4.7435	9.7401 **	2.1403	17.2831 ***	3.9509
ROA	-0.4879	-0.4157	-2.3385	-1.3579	1.043	0.4493
RET	-0.6394 **	-2.4066	-1.6 ***	-3.1826	-0.7958	-1.4976
MTB	0.5106 **	2.1792	0.9356 ***	3.3625	0.9433 *	1.8340
CASH	-1.6094	-1.3528	0.5763	0.2851	-6.3439	-1.4387
Intercept	-1.2687 ***	-3.8760	-3.8402 ***	-6.1264	-3.7509 ***	-4.2206
Log likelihood	-183.8875		-61.65881		-44.4953	
Obs with Dep=0	207		207		207	
Obs with Dep=1	112		25		19	

Panel C				Australia			
	Debt issue Vs No		Equity issue Vs No		Debt reduction Vs No		Equity repurchase Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-5.373 **	-2.2929	6.9058 ***	2.8904	12.034 ***	4.6002	-2.9892	-0.5904
ROA	-1.4031 *	-1.8119	-3.6287 ***	-5.7352	-2.3761 ***	-3.0039	1.8403	0.8318
RET	0.8165 **	2.2385	0.7009 **	2.4803	0.1959	0.5828	1.3506	1.5629
MTB	0.3135 **	2.4091	0.2453 **	2.2389	0.2179 *	1.6474	-0.3825	-1.2219
CASH	-4.4504 ***	-3.8535	-1.0769	-1.5036	-3.9874 ***	-3.4372	1.3914	0.8531
Intercept	-0.3489	-1.1868	0.5848 **	2.3351	0.5173 *	1.8646	-2.4719 ***	-3.5702
Log likelihood	-122.6875		-161.5512		-112.5986		-33.85664	
Obs with Dep=0	110		110		110		110	
Obs with Dep=1	93		185		99		11	

(Continued)

Variable	Pure debt issue Vs No		Pure equity issue Vs No		Pure debt reduction Vs No		Pure equity issue Vs No	
	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-5.3125 **	-2.2751	0.9598	1.6101	11.4912 ***	3.8644	-2.8818	-0.5153
ROA	-1.4101 *	-1.8285	-3.6948 ***	-5.7213	-1.3804 *	-1.6547	1.9244	0.8684
RET	0.7868 **	2.1599	0.7341 **	2.4979	0.1178	0.3010	1.0877	1.2154
MTB	0.3125 **	2.4100	0.2144 *	1.7413	-0.042	-0.1674	-0.4029	-1.2561
CASH	-4.3588 ***	-3.7934	-0.6221	-0.8445	-3.2983 **	-2.5564	2.413	1.4639
Intercept	-0.3725	-1.2655	0.2349	0.8478	0.3844	0.9542	-2.8718 ***	-3.7244
Log likelihood	-121.6984		-150.2955		-94.4323		-29.09351	
Obs with Dep=0	110		110		110		110	
Obs with Dep=1	91		154		62		9	

Variable	Mixed debt issue Vs No		Mixed equity issue Vs No	
	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-17.8156	-1.0903	29.1389 ***	4.4106
ROA	26.6552	1.0585	-2.7337 **	-2.5105
RET	8.6216	1.3387	0.4367	0.6647
MTB	-2.2859	-1.1159	0.5327 ***	2.9369
CASH	-78.3647	-1.2309	-4.9669 **	-2.3149
Intercept	-4.5795 *	-1.6684	-0.6869 *	-1.6908
Log likelihood	-5.867693		-41.93009	
Obs with Dep=0	110		110	
Obs with Dep=1	2		31	

(Continued)

Log likelihood	-121.6984	-150.2955	-94.4323	-29.09351
Obs with Dep=0	110	110	110	110
Obs with Dep=1	91	154	62	9

	Mixed debt issue Vs No		Mixed equity issue Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-17.8156	-1.0903	29.1389 ***	4.4106
ROA	26.6552	1.0585	-2.7337 **	-2.5105
RET	8.6216	1.3387	0.4367	0.6647
MTB	-2.2859	-1.1159	0.5327 ***	2.9369
CASH	-78.3647	-1.2309	-4.9669 **	-2.3149
Intercept	-4.5795 *	-1.6684	-0.6869 *	-1.6908
Log likelihood	-5.867693		-41.93009	
Obs with Dep=0	110		110	
Obs with Dep=1	2		31	

Table 14 Determinant of Debt-Equity Choice on Industry Averaged Target

These tables contain the result of using the LOGIT estimation for Debt-Equity Choice in Australia, Singapore and Thailand for the period 1996 to 2006. All variables except INDUSTRY are lagged by one period. LEV-INDUSTRY is book leveraged ratio minus target leveraged ratio. INDUSTRY is based on industry averaged target. DTLD is the projected difference between absolute deviation from target if firms issues debt and the absolute deviation from target if firms issue the same amount of equity instead. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. Case where firms issued (repurchased) both debt and equity in a given fiscal year is omitted. Pure is transaction which firms issue that security only for that firm's year. Mixed is transaction which firms issue of one security accompanied by a repurchase of another security. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

Panel A   **Thailand**

Variable	Debt issue Vs Equity issue		Debt issue Vs Pure equity issue		Debt issue Vs Mixed equity issue	
	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	-2.7806 ***	(-3.6419)	-0.8364	(-0.7671)	-3.6712 ***	(-4.187)
DTLD	0.1141	(0.0943)	0.6053	(0.344)	-0.9512	(-0.666)
ROA	2.3836 **	(2.4063)	3.1238 *	(1.8591)	1.6589	(1.2806)
RET	-0.0274	(-0.1734)	-0.2148	(-0.9327)	0.0517	(0.2697)
MTB	-0.2028	(-1.4987)	-0.2298	(-1.0895)	-0.1142	(-0.5743)
CASH	-1.547	(-0.7767)	-1.5433	(-0.7906)	-0.6049	(-0.221)
Intercept	1.6509 ***	(6.4669)	2.5511 ***	(6.4662)	2.2046 ***	(6.1142)
McFadden R-squared	0.0653		0.0319		0.1083	
Log likelihood	-289.8460		-147.5312		-205.3857	
Obs with Dep=0	120		43		77	
Obs with Dep=1	526		526		526	

Panel B   **Singapore**

Variable	Debt issue Vs Equity issue		Debt issue Vs Pure equity issue		Debt issue Vs Mixed equity issue	
	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	-0.7582	(-0.6501)	-0.0978	(-0.0674)	-2.0795	(-1.3343)
DTLD	-1.514	(-0.8615)	-0.8568	(-0.3876)	-2.6472	(-1.1213)
ROA	1.9579 *	(1.9498)	2.5987 **	(2.3345)	-0.6133	(-0.6151)
RET	0.9933 ***	(3.7299)	1.0278 ***	(3.0909)	1.2693 ***	(3.2162)
MTB	-0.7569 ***	(-4.1446)	-0.698 ***	(-3.7566)	-1.138 ***	(-3.5959)
CASH	-2.6834 **	(-2.3212)	-4.0365 ***	(-3.1605)	4.7963 *	(1.8314)
Intercept	2.405 ***	(7.6282)	2.9939 ***	(8.5097)	3.3496 ***	(6.392)
McFadden R-squared	0.1517		0.1868		0.1635	
Log likelihood	-188.3654		-135.8967		-96.5780	
Obs with Dep=0	104		66		38	
Obs with Dep=1	273		273		273	

(Continued)

Panel C <div align="center">**Australia**</div>

	Debt issue Vs Equity issue		Debt reduction Vs Equity repurchase	
Variable	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**
LEV-INDUSTRY	2.0057 ***	(3.0743)	3.1353 **	(2.3409)
DTLD	-2.4623 ***	(-2.8095)	-0.0979	(-0.5718)
ROA	2.4091 ***	(6.3858)	0.0804	(0.4634)
RET	0.0644	(0.4211)	-0.8792 **	(-2.3643)
MTB	0.1081 *	(1.7559)	0.1288	(0.808)
CASH	-4.5838 ***	(-6.2089)	-3.1813 ***	(-3.1315)
Intercept	-0.1127	(-0.8289)	2.3778 ***	(6.6621)
Log likelihood	-422.3723		-77.8441	
Obs with Dep=0	548		28	
Obs with Dep=1	266		262	

	Pure Debt issue Vs Pure Equity issue		Pure Debt reduction Vs Pure Equity repurchase	
Variable	**Coefficient**	**z-Statistic**	**Coefficient**	**z-Statistic**
LEV-INDUSTRY	3.0539 ***	(3.9873)	3.2782 *	(1.8102)
DTLD	-2.4514 ***	(-2.5818)	0.1026	(0.1859)
ROA	2.4424 ***	(6.3339)	0.3255	(1.2073)
RET	-0.0039	(-0.0237)	-1.1283 **	(-2.071)
MTB	0.1721 **	(2.4753)	-0.096	(-0.3266)
CASH	-5.4074 ***	(-6.7071)	-5.6816 ***	(-3.6793)
Intercept	0.0727	(0.4945)	3.188 ***	(5.5454)
Log likelihood	-369.5755		-43.4590	
Obs with Dep=0	473		18	
Obs with Dep=1	256		175	

	Mixed debt issue Vs Mix equity issue	
Variable	**Coefficient**	**z-Statistic**
LEV-INDUSTRY	-2.9053	(-0.8658)
DTLD	-1.6806	(-0.3516)
ROA	9.4041 **	(2.1967)
RET	-0.7746	(-0.8257)
MTB	-0.3738	(-1.2617)
CASH	-1.2679	(-0.4525)
Intercept	-2.027 ***	(-2.8299)
Log likelihood	7.1927	
Obs with Dep=0	75	
Obs with Dep=1	10	

Table 15 Logit Regression Comparing Firms That Issue (Repurchase) to No Transaction on Industry Averaged Target

These tables contain the result of using the LOGIT estimation for each transaction against no transaction in Australia, Singapore and Thailand for the period 1996 to 2006. All variables except INDUSTRY are lagged by one period. LEV-INDUSTRY is book leveraged ratio minus target leveraged ratio. INDUSTRY is target based on industry averaged target. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. Firms are defined as issuing (repurchasing) when the net amount issued (repurchased) divided by beginning of the year book value of assets exceeded 5%. No is no transaction firms which have not been classified 5% condition. Case where firms issued (repurchased) both debt and equity in a given fiscal year is omitted. Pure is transaction which firms issue that security only for that firm's year. Mixed is transaction which firms issue of one security accompanied by a repurchase of another security. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level

Thailand						
Panel A	**Debt issue Vs No**		**Equity issue Vs No**		**Debt reduction Vs No**	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	2.6355 ***	(7.2169)	3.6068 ***	(7.0902)	4.7384 ***	(12.5135)
ROA	0.6145	(0.7797)	-0.3901	(-0.3518)	2.2021 ***	(2.9132)
RET	0.1541	(1.1836)	0.1339	(0.6842)	-0.3244 **	(-2.3986)
MTB	0.2573 **	(2.5541)	0.4073 ***	(2.9901)	-0.1966	(-1.6138)
CASH	-5.6147 ***	(-4.8035)	-4.6623 **	(-2.164)	-4.8697 ***	(-4.2256)
Intercept	0.5106 ***	(3.2203)	-1.2034 ***	(-5.3791)	0.9219 ***	(5.6721)
Log likelihood	-547.9045		-221.9757		-521.3878	
Obs with Dep=0	369		369		369	
Obs with Dep=1	526		120		631	
	Pure debt reduction Vs No		**Pure equity issue Vs No**		**Mixed equity issue Vs No**	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	4.5334 ***	(11.7835)	1.508 **	(2.1709)	4.6497 ***	(7.3154)
ROA	2.6161 ***	(3.2616)	-2.7129 *	(-1.8793)	1.9726	(1.4057)
RET	-0.3742 ***	(-2.6994)	0.3904	(1.3725)	-0.0071	(-0.031)
MTB	-0.2895 **	(-2.1713)	0.5165 ***	(3.1869)	0.2868	(1.6191)
CASH	-4.5679 ***	(-3.9225)	-4.0618	(-1.3619)	-5.4795 **	(-1.9908)
Intercept	0.8229 ***	(4.8617)	-2.1628 ***	(-7.356)	-1.8296 ***	(-6.4407)
Log likelihood	-497.1898		-123.6968		-157.4856	
Obs with Dep=0	369		369		369	
Obs with Dep=1	550		43		77	

Panel B

Singapore						
	Debt issue Vs No		**Equity issue Vs No**		**Debt reduction Vs No**	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	0.5231	(1.0445)	2.1187 ***	(3.0075)	3.7742 ***	(6.8321)
ROA	2.1887 **	(2.2247)	-2.9031 ***	(-3.195)	-0.8546	(-1.3276)
RET	0.3468 **	(1.9868)	-0.5429 **	(-2.2058)	-0.3458 **	(-1.971)
MTB	0.042	(0.415)	0.5263 ***	(5.3098)	0.1607 *	(1.7486)
CASH	-4.4246 ***	(-5.6577)	-0.1487	(-0.1629)	-1.6302 **	(-2.0664)
Intercept	-0.3087 *	(-1.8739)	-2.3162 ***	(-9.8005)	-0.7777 ***	(-4.3102)
Log likelihood	-505.1390		-259.2136		-450.8496	
Obs with Dep=0	590		590		590	
Obs with Dep=1	273		104		248	

(Continued)

Variable	Pure debt reduction Vs No		Pure equity issue Vs No		Mixed equity issue Vs No	
	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	4.0474 ***	(7.0006)	1.458 *	(1.6539)	2.7037 ***	(2.6477)
ROA	-0.6207	(-0.8462)	-3.8424 ***	(-3.7006)	-2.2146 *	(-1.8504)
RET	-0.3499 *	(-1.8458)	-0.517 *	(-1.6714)	-0.634 *	(-1.6966)
MTB	0.0769	(0.7523)	0.5453 ***	(5.2471)	0.4922 ***	(3.4838)
CASH	-0.9133	(-1.1252)	1.158	(1.1713)	-5.6527 **	(-2.4232)
Intercept	-0.948 ***	(-4.9248)	-3.0128 ***	(-10.659)	-2.6455 ***	(-7.286)
Log likelihood	-413.5056		-189.5668		-118.9253	
Obs with Dep=0	590		590		590	
Obs with Dep=1	214		66		38	

(Continued)

Australia

Panel C	Debt issue Vs No		Equity issue Vs No		Debt reduction Vs No		Equity repurchase Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	1.68 ***	(3.1661)	1.0585 **	(2.4522)	4.6805 ***	(8.097)	2.0416 *	(1.7804)
ROA	-0.0178	(-0.0545)	-1.7101 ***	(-6.093)	-0.0308	(-0.1885)	1.5572	(1.5502)
RET	0.3802 **	(2.1213)	0.3359 **	(2.5597)	-0.2746 *	(-1.6493)	0.6002	(1.3954)
MTB	0.0534	(1.2909)	-0.0226	(-0.6042)	0.0148	(0.3221)	-0.2376	(-1.5318)
CASH	-2.775 ***	(-4.2038)	0.5512	(1.4765)	-1.3523 **	(-2.2363)	2.4186 ***	(2.7878)
Intercept	0.0942	(0.7784)	0.4098 ***	(3.7948)	-0.1383	(-1.0849)	-2.5398 ***	(-7.5837)
Log likelihood	-381.0656		-546.4412		-343.8494		-91.6772	
Obs with Dep=0	329		329		329		329	
Obs with Dep=1	266		548		262		28	

	Pure debt issue Vs No		Pure equity issue Vs No		Pure debt reduction Vs No		Pure equity repurchase Vs No	
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	1.6217 ***	(3.05)	0.3463	(0.7476)	4.6287 ***	(7.3251)	2.1733	(1.5302)
ROA	-0.1307	(-0.4038)	-1.7748 ***	(-6.1389)	0.2855 *	(1.6538)	0.914	(1.0313)
RET	0.4096 **	(2.2608)	0.3908 ***	(2.8478)	-0.2139	(-1.0542)	0.8545 *	(1.7061)
MTB	0.0618	(1.4738)	-0.0366	(-0.9675)	-0.2125 *	(-1.6457)	-0.269	(-1.484)
CASH	-3.0744 ***	(-4.4334)	0.7704 **	(2.0271)	-1.519 *	(-1.8736)	3.3793 ***	(3.3278)
Intercept	0.0746	(0.6091)	0.1954 *	(1.7456)	-0.2011	(-0.9716)	-3.1297 ***	(-7.4818)
Log likelihood	-371.9733		-509.3176		-272.1864		-64.3382	
Obs with Dep=0	329		329		329		329	
Obs with Dep=1	256		473		175		18	

(Continued)

Variable	Mixed debt issue Vs No		Mixed equity issue Vs No	
	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-INDUSTRY	1.9895	(1.095)	3.711 ***	(4.999)
ROA	5.5989 **	(2.1756)	-1.0596 ***	(-3.3071)
RET	0.0698	(0.088)	-0.1205	(-0.4651)
MTB	-0.284	(-0.8908)	0.0678	(1.223)
CASH	-1.1727	(-0.4984)	-2.5577 **	(-2.3254)
Intercept	-3.5167 ***	(-6.1531)	-1.3824 ***	(-7.2441)
Log likelihood	-41.2582		-162.2254	
Obs with Dep=0	329		329	
Obs with Dep=1	10		75	

Table 16 Test the Difference Between Over and Under Leverage Firm
When Classify Into Quartile 1 and Quartile 4

This table presents the difference between over and under leveraged firms in Australia, Singapore and Thailand for the period 1996-2006. All variables expect TARGET are lagged by one period. LEV-TARGET is book leveraged ratio minus target leveraged ratio. DTLD is the projected difference between absolute deviation from target if firms issues debt and the absolute deviation from target if firms issue the same amount of equity instead. ROA is EBITDA to total asset. RET is natural logarithm of change in total return index. MTB is market value of total asset to book value of total asset. CASH is cash and cash equivalents to total assets. DUM is dummy variable where set to 1 if firms are overleveraged (LEV-TARGET) greater than zero or set to 0 if firms are underleveraged (LEV-TARGET) less than zero. This table examine firms that are in quartile 1 and quartile 4. The quartiles are classified based no (LEV-TARGET) variables. *** indicates significance at the 1% level. ** indicates significance at the 5% level * indicates significance at the 10% level.

	Thailand					
	Debt issue Vs Equity issue		Debt issue Vs Pure equity issue		Debt issue Vs Mixed equity issue	
Panel A						
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	0.2258	(0.0427)	-0.2179	(-0.0528)	-19.4707 **	(-2.0599)
DTLD	-7.3103	(-1.3283)	-10.6177	(-1.4841)	-1.4293	(-0.1189)
ROA	4.5897 **	(2.0084)	4.095	(0.8743)	13.6704 **	(2.2253)
RET	-0.1204	(-0.2635)	0.4364	(1.4103)	-1.3008 ***	(-2.5961)
MTB	-0.2265	(-0.4051)	-0.8801	(-1.1864)	1.7965	(1.1015)
CASH	3.9745	(0.5706)	2.7182	(0.4918)	8.9554	(0.7302)
Intercept	1.3234	(1.0424)	1.9867 **	(2.019)	-2.9391	(-0.7659)
DUM	0.1588	(0.1152)	-0.1347	(-0.1195)	4.746	(1.2195)
DUM*(LEV-TARGET)	-8.0266	(-1.3732)	11.4284	(1.3348)	9.105	(0.9251)
DUM*DTLD	4.4252	(0.6861)	1.4284	(0.1582)	-1.9269	(-0.1531)
DUM*ROA	-1.5142	(-0.4908)	1.7689	(0.3053)	-10.2323	(-1.5714)
DUM*RET	0.0276	(0.0523)	-0.6071	(-0.8641)	1.1907 **	(1.9863)
DUM*MTB	0.0879	(0.1459)	0.5402	(0.6943)	-1.6884	(-1.0226)
DUM*CASH	-3.3783	(-0.4009)	8.3566	(0.9498)	-9.6917	(-0.7307)
Log likelihood	-128.8752		-62.9810		-94.1024	
Obs with Dep=0	75		21		57	
Obs with Dep=1	219		240		216	

	Singapore					
	Debt issue Vs Equity issue		Debt issue Vs Pure equity issue		Debt issue Vs Mixed equity issue	
Panel B						
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	-3.1196	(-0.3387)	-3.4867	(-0.2904)	-5.3391	(-0.895)
DTLD	3.7093	(0.4277)	3.0706	(0.3474)	-4.4956	(-0.7615)
ROA	0.9818	(0.2544)	2.9644	(0.822)	-11.7644 ***	(-4.9268)
RET	-0.5692	(-0.652)	0.9216	(0.9019)	-3.4658 ***	(-4.5703)
MTB	-0.7081 *	(-1.6823)	-0.8435	(-1.6002)	0.1652	(0.391)
CASH	-4.2506	(-1.3562)	-3.1121	(-0.8199)	-2.3787	(-1.0909)
Intercept	3.9419 ***	(2.7868)	3.8324 **	(2.2851)	5.897 ***	(4.2893)
DUM	-1.7016	(-1.0447)	-0.8208	(-0.4236)	-2.0791	(-1.1976)
DUM*(LEV-TARGET)	1.002	(0.1047)	3.2683	(0.2621)	1.4937	(0.2276)
DUM*DTLD	-8.7397	(-0.9177)	-7.4023	(-0.7471)	-2.5183	(-0.3404)
DUM*ROA	-2.4724	(-0.5974)	-2.9268	(-0.6771)	8.6044 ***	(3.0993)

Variable						
DUM*RET	2.1761 **	(2.1337)	1.1055	(0.9328)	5.1551 ***	(5.1463)
DUM*MTB	-0.5803	(-0.8265)	0.0532	(0.0666)	-1.9253 **	(-2.3765)
DUM*CASH	10.6912 **	(2.2747)	1.8665	(0.3722)	9.5379 *	(1.9357)
Log likelihood	-77.8395		-58.6811		-43.3502	
Obs with Dep=0	53		28		27	
Obs with Dep=1	124		131		120	

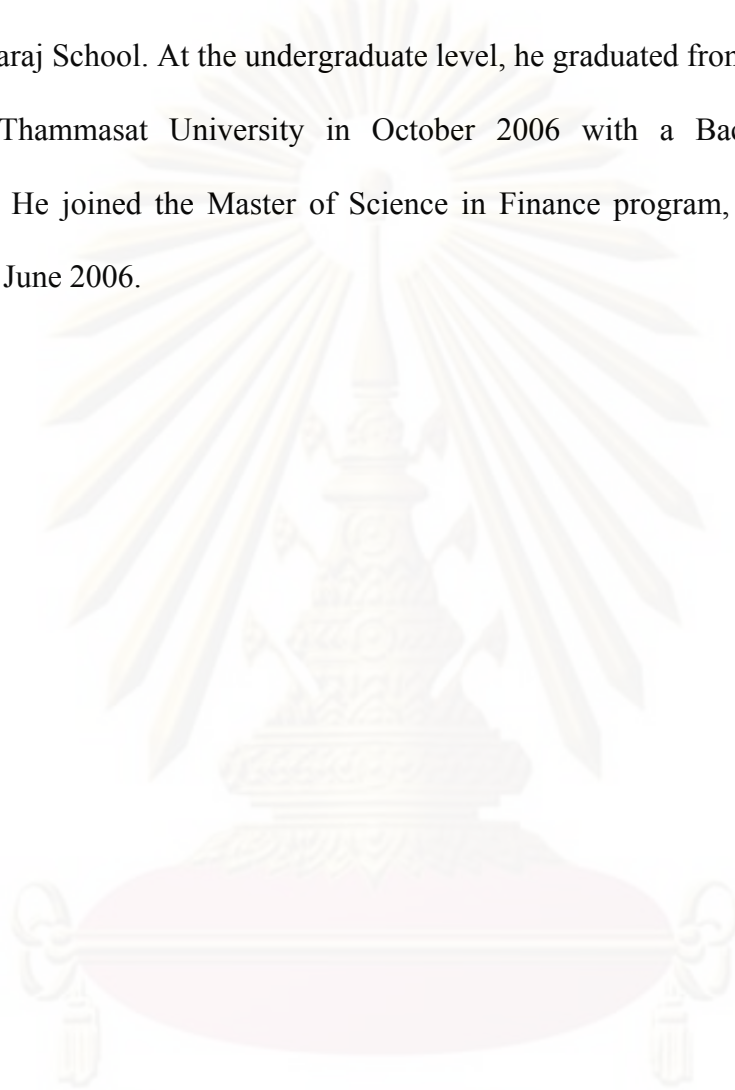| (Continued)	Australia			
	Debt issue Vs Equity issue		Pure debt issue Vs Pure equity issue	
Panel C				
Variable	Coefficient	z-Statistic	Coefficient	z-Statistic
LEV-TARGET	1.7415	(0.5079)	1.1791	(0.3028)
DTLD	-9.7889 ***	(-2.8477)	-10.0328 ***	(-3.0283)
ROA	4.3534 ***	(3.0466)	4.3773 ***	(2.7007)
RET	0.2773	(0.4366)	0.449	(0.6619)
MTB	-0.0986	(-0.9412)	-0.1419	(-1.3237)
CASH	-1.3174	(-0.7368)	-1.0808	(-0.5961)
Intercept	0.2471	(0.4371)	0.3465	(0.5489)
DUM	-0.4875	(-0.6602)	-0.0896	(-0.1177)
DUM*(LEV-TARGET)	-3.3189	(-0.8264)	-1.8486	(-0.4269)
DUM*DTLD	0.7763	(0.1571)	2.3906	(0.5308)
DUM*ROA	-2.8538 *	(-1.685)	-2.5335	(-1.3136)
DUM*RET	0.1462	(0.1949)	-0.2329	(-0.3063)
DUM*MTB	0.6272 ***	(3.2291)	0.5051 ***	(2.7536)
DUM*CASH	-1.9531	(-0.6307)	-1.4975	(-0.5556)
Log likelihood	-135.6410		-126.6027	
Obs with Dep=0	158		117	
Obs with Dep=1	121		123	

Table 17 Size of Pure and Mixed Transaction

This table presents the size of Pure and Mixed transactions for the period 1996 to 2006. Size is calculated as transaction size to total asset. Pure is transaction which firms issue that security only for that firm's year. Mixed is transaction which firms issue of one security accompanied by a repurchase of another security

	Thailand		Singapore		Australia	
	Pure equity issue	Mixed equity issue	Pure equity issue	Mixed equity issue	Pure equity issue	Mixed equity issue
	SIZE	SIZE	SIZE	SIZE	SIZE	SIZE
Mean	0.175828	0.402997179	0.182412	0.379196093	0.278879	0.450298582
Maximum	0.679807	1.29927919	0.986565	1.442510877	0.999327	1.278987625
Minimum	0.054649	0.115204516	0.052185	0.102403721	0.050416	0.108714908
Std. Dev.	0.130742	0.230825573	0.174698	0.304621711	0.233706	0.292793999
Observations	49	82	70	41	285	82

BIOGRAPHY

Mr. Eakkachai Tangsageamvisai was born in October 26, 1982 in Ubonratchathanee, Thailand. At the secondary school, he graduated from Benjamamaharaj School. At the undergraduate level, he graduated from the Faculty of Economics, Thammasat University in October 2006 with a Bachelor of Arts (Economics). He joined the Master of Science in Finance program, Chulalongkorn University in June 2006.