เกณฑ์คงค้างของบริษัทที่เสนอขายหลักทรัพย์ต่อสาธารณชนเป็นครั้งแรก

นางสาวกรชนก เพศประเสริฐ

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ACCRUALS BY GOING PUBLIC FIRMS

Miss Kornchanok Pesprasert

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for the Degree of Master of Science Program in Finance

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กรชนก เพศประเสริฐ : เกณฑ์คงค้างของบริษัทที่เสนอขายหลักทรัพย์ต่อสาธารณชน
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หลัก : ผศ. ดร.มนพล เอกโยคยะ, 107 หน้า.

งานวิจัยนี้ศึกษาระดับของรายการคงค้างในดุลยพินิจของผู้บริหารของบริษัทที่จะเข้า
จดทะเบียนในตลาดหลักทรัพย์ทั้งก่อนและหลังการเสนอขายหุ้นใหม่แก่ประชาชนเป็นครั้งแรก
ผลการศึกษาพบว่าผู้บริหาร ได้ทำการตกแต่งรายได้โดย มียอดรายการคงค้างในดุลยพินิจของ
ผู้บริหารก่อนทำการเข้าจดทะเบียนในตลาดหลักทรัพย์สูงกว่าช่วงหลังการเสนอขายหุ้นใหม่แก่
ประชาชนเป็นครั้งแรก ผลการศึกษานี้สอดคล้องกับวิธีการอื่นในการวัดรายการคงค้างในดุลย
พินิจของผู้บริหาร เรายังได้ทำการศึกษาระดับรายการคงค้างในดุลยพินิ   จของผู้บริหารตาม
คุณลักษณะต่างๆ ของบริษัทที่จะเข้าจดทะเบียนในตลาดหลักทรัพย์ ผลการทดสอบพบว่าไม่มี
ความแตกต่างอย่างมีนัยสำคัญของบริษัทที่ถูกตรวจสอบโดยผู้ตรวจสอบจากบริษัท   Big 4
และ non-Big 4 เราพบว่าบริษัทรายงานรายการคงค้างในดุลยพินิจของผู้บริหารในช่วงก่อน
เข้าตลาดสูงกว่าหลังเข้าตลาดอย่างมีนัยสำคัญ โดยไม่คำนึงถึงระดับความยากง่าย ในการหา
มูลค่า นอกจากนี้ เราพบว่า บริษัทมียอดรายการคงค้างในดุลยพินิจของผู้บริหารก่อนทำการ
เข้าจดทะเบียนในตลาดหลักทรัพย์สูงกว่าช่วงหลังเข้าตลาดโดยไม่คำถึง   โครงสร้างความเป็น
เจ้าของ ปริมาณหุ้นที่เสนอขายแก่นักลงทุนสถาบัน และขนาดของบริษัท ผลการศึกษาบริษัทที่
ใช้วิธีในการตั้งราคา แบบ fixed price มีการตกแต่งรายได้อย่างมีนัยสำคัญในช่วงก่อนเข้า
ตลาดหลักทรัพย์สูงกว่าหลังเข้าตลาด   เราพบว่าบริษัท มียอดรายการคงค้างในดุลยพินิจของ
ผู้บริหารสูง มากทั้งในช่วงก่อนและห ลังเข้าตลาดหลักทรัพย์ โดยไม่คำนึงถึงอัตราการเติบโต
ของรายได้ รายงานนี้ยังศึกษาความสัมพันธ์ระหว่าง underpricing และการตกแต่งรายได้ เรา
พบว่า underpricing และการตกแต่งรายได้มีความสัมพันธ์ในเชิงบวกต่อกัน จากการศึกษา
ตามที่ได้กล่าวไปนี้ จึงสรุปได้ว่า บริษัทที่จะเข้าจดทะเบียนในตลาดหลักทรัพย์ได้ทำการตกแต่ง
รายได้โดย มียอดรายการคงค้างในดุลยพินิจของผู้บริหารก่อนทำการเข้าจดทะเบียนในตลาด
หลักทรัพย์สูงกว่าช่วงหลังการเสนอขายหุ้นใหม่แก่ประชาชนเป็นครั้งแรก ทั้งนี้ ระดับยอด
รายการคงค้างในดุลยพินิจของ ผู้บริหารมีความแตกต่างกันไปตา มคุณลักษณะต่างๆ ของ
บริษัทที่จะเข้าจดทะเบียนในตลาดหลักทรัพย์

ภาควิชา____การธนาคารและการเงิน___ ลายมือชื่อนิสิต...
สาขาวิชา___การเงิน_____ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก.................
ปีการศึกษา_2555_____

5382053426 : MAJOR   FINANCE

KEYWORDS : ACCRUALS / EARNINGS MANAGEMENT / INITIAL PUBLIC OFFERING / FINANCIAL REPORTING

KORNCHANOK PESPRASERT: ACCRUALS BY GOING PUBLIC FIRMS.
ADVISOR : ASST. PROF. MANAPOL EKKAYOKKAYA, Ph.D., 107 pp.

This thesis studies the level of discretionary accruals of Thai IPO firms both prior and post-IPO years. It provides evidence that Thai IPO firms, on average, utilize higher discretionary accruals during pre-IPO than post-IPO years. The findings are robust with respect to alternative discretionary accruals measures. I also comprehensively examine discretionary accruals among various characteristics of IPO firms. I find earnings management in IPO firms either audited by Big 4 or non-Big 4 auditors. Besides, I find IPO firms utilize greater discretionary accruals during pre- than post-IPO years regardless of the level of difficulty in valuation of work in process. In addition, I find discretionary accruals are higher during pre-IPO than post-IPO years regardless of ownership retention, institutional investor involvement and firm size. The results indicate that only IPO firms that use fixed price offering to set the offer price utilize higher discretionary accruals during pre-IPO than post-IPO years. I find that IPO firms manipulate their earnings in both pre- and post-IPO years regardless of sales growth. This thesis also examines the association between underpricing and earnings management in pre-IPO years and I find the positive relation between underpricing and earnings management. I conclude that IPO firms utilize higher discretionary accruals during pre- than post-IPO years. The level of discretionary accruals is different among various characteristics of IPO firms.

Department : Banking and Finance   Student's Signature _____

Field of Study : Finance _____   Advisor's Signature _____

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CHAPTER I

INTRODUCTION

1.1 Background and Problem Review

An accrual accounting is a standard accounting method that measures a performance and position of a company by recognizing revenues when earned and expenses when incurred regardless of cash inflow or outflow. Under the accrual accounting method, managers are allowed to exercise an accounting discretion in reporting their earnings which more accurately reflects the economic conditions relative to cash accounting method in terms of timing and matching principles. The accounting discretion may give managers the incentive to manipulate earnings in order to mislead investors, especially when firms plan to go public as initial public offering (IPO) firms (Teoh, Wong, and Rao, 1998). The primary reason that firms plan to go public is to raise capital and use the proceeds from share offerings to fund its investments. The shares issued by the firms are known as primary shares, while the shares sold by the insiders are known as secondary shares.

Since there is no determination of the market price for issuers and underwriters to refer to when they set the offering price, nonprice information which is financial statements presented in the prospectus is considered as the primary source of information for pricing IPO shares (Friedlan, 1994). Prospectuses provide information about issuing firms including the firm structure, risk factors, nature of business, current financial status, capital structure and any relevant information required by the Security and Exchange Commission (SEC). Nonprice information also has been used by investors when they consider investing in IPO firms. The absence of market price as a valuation benchmark and reliance on nonprice information also provides managers of issuing firms strong incentives to exercise accounting discretion to manipulate earnings before going public in order to get high proceeds from their initial offerings because the offer price has a direct impact on the wealth of the issuers. Teoh, Wong and Rao (1998) and Teoh, Welch, and Wong (1998) find evidence that issuers of initial public offering

(IPO), on average, employ unusually high abnormal accruals in the IPO year, and after issue, when high abnormal accruals cannot be sustained, they experience poor long-run earnings and stock return performance. DuCharme, Malatesta, and Sefcik (2001) conclude that aggressive earnings management through abnormal (discretionary) accruals one year prior going public increases initial firm value, but decreases returns to investors after going public. Subramanyam (1996) indicates that discretionary accruals (abnormal accruals) are associated with stock prices, future earnings, and cash flows, and conclude that managers can exercise accounting discretion to improve the informativeness of reported earnings.

The above evidences suggest that issuers aggressively manipulate their earnings through discretionary accruals to mislead investors when they plan to go public. Because there are high information asymmetries between the issuers and the investors in IPO firms, and little publicly available information about these firms at the time of initial public offerings other than information that contained in the prospectuses, an incentive may arise for managers to employ accruals to manipulate the offer price. It may be difficult for investors to distinguish the difference between accrual and cash flow components of earnings. Sloan (1996) indicates that stock prices act as if investors "fixate" on reported earnings and fail to reflect information that earnings comprised both accruals and cash flows components. The investors rely heavily on reported earnings rather than cash flows because they believe that earnings provide them the best economic position of the firms causing them to misvalue the IPO firms.

In contrast, Aharony, Lin, and Loeb (1993) find very weak evidence that managers choose accounting methods to boost reported earnings in the year prior to the initial public offerings. Venkataraman, Weber, and Willenborg (2008) extend Teoh, Wong and Rao (1998) and Teoh, Welch, and Wong (1998) and provide no evidence that pre-IPO accruals are unusually high. To the contrary, they suggest that IPO firms with an increase in liability led auditors to allow them with less accounting discretion. However, accrual management would depend on management's judgment. Following Healy and Wahlen (1999), earnings management is defined as a strategy used by insiders or

management of a company to deliberately alter the company's reported earnings to either mislead some stakeholders or to affect contractual outcomes. Accruals play an important role in which firms exercise accounting discretion to manipulate reported earnings.

After reviewing many papers related to accruals of IPO firms, most papers examine the accruals in the IPO year and post-IPO years in explaining the association between accruals in IPO year and subsequent long-run stock returns and earnings performance. There appears to be no study that comprehensively how IPO firms manage their earnings before and after IPO. Because the existing studies test the association of discretionary accruals around IPO years and subsequent long-run firm performance, the main motivation in this study is to examine the level of discretionary accruals as the proxy of earnings management by Thai IPO firms where managers have incentives to exercise the accounting discretion to manipulate firms' reported earnings in both pre- and post-IPO years. There may be several factors affecting how firms manage earnings in pre- and post-IPO years because of the difference in the incentives across firms. Therefore, I also study in-depth how firms utilize accruals before and after the IPO. The motivation that I test discretionary accruals of Thai IPO firms using Thai data because Thai market presents itself as an interesting place to test my research question due to the difference in its institutional features from US market. Because earnings management (accounting manipulation) can occurs easier in Thailand due to traditionally low legal enforcement quality in Thailand (La Porta, et al, 1997 and 1998). In addition, they are new to the market and limited information available to the public. Fan and Wong (2002) indicate that public corporations in East Asia have low levels of transparency and disclosure quality. Moreover, there is a strong control concern in Thailand because most Thai firms are classified as high ownership concentration or family controlled businesses. This shows interesting evidence in finding out the level of discretionary accruals should be more or less severe when owners retain a lot of ownership. Additionally, IPO firms in Thailand, as an emerging market, tend to be small firms and fixed-price offerings. There are two types of IPOs pricing techniques in

Thailand which are book-built and fixed-price offerings unlike in the US market which is a book building market. For book-built issues, investors tend to be institutions who are more sophisticated investors rather than individuals. On the other hand, investors in fixed-price offerings tend to be individual investors who are less sophisticated. Therefore, using Thai data allows me to investigate the relation between pricing techniques and degree of earnings management by going public firms. Moreover, my thesis is the first to examine earnings management among IPO firms with different share allocations (High and low institutional investor involvement). Additionally, I separate audit firms based on reputation into two groups which are Big 4 and non-Big 4 audit firms. A Big 4 auditor should serve as certification of the quality of accounting numbers. This certification effect should provide valuable information to investors, especially in the market with traditionally low disclosure quality such as Thailand. This is why it is useful to use Thai data to test earnings management of Thai IPO firms.

1.2 Statement of Problem/Research Question

This study attempts to answer the question "How manipulated is accounting information provided by going public firms?" It implies the reliability of accounting information produced by going public firms in an environment of poor investor protection. This thesis examines the level of discretionary accruals as the proxy of earnings management in both pre- and post-IPO years.

1.3 Objective of the Study

The objective of this thesis is to comparatively examine the level of discretionary accruals which is the proxy of earnings management provided by going public firms in both pre- and post-IPO years.

1.4 Scope of the Study

This empirical research examines the level of discretionary accruals (accounting manipulation) provided by going public firms in both pre- and post-issuing IPO. I investigate and focus on the size of accounting manipulation prior and post-IPO years

by using IPO data in Thailand when they went public during year 2001 to 2007. Cross-sectional Modified Jones Model with industry interaction term is applied to test the level of discretionary accruals both pre- and post-IPO years.

1.5 Contribution

This research provides empirical evidence on the degree of earnings management provided by going public firms in both prior and post-IPO years. The key contribution of my study is to provide new insights into how going-public firms manage their earnings through discretionary portions of total accruals both before and after the public offering. My research is the first to study in-depth how going-public firms manage their earnings by performing seven sub-tests. The sample-partition tests include the reputation of auditors (Big4 and Non Big4), the difficulty in valuation of working process, ownership retention, firm size, pricing techniques, share distribution, and sales growth. Last, I also study underpricing of IPO firms between high and low degree of discretionary accruals in pre-IPO years. No prior studies comprehensively examine discretionary accruals by going as in-depth as my research.

It provides the implications for investors and regulators. Investors may want to use information in firms' prospectuses before initial public offering to distinguish accruals among issuing firms. The regulators or the accounting standard setters who are heavily concerned with the informativeness of accounting numbers should find this thesis useful as empirical documentation of the degree and nature of use of accruals by firms going public in an emerging economy.

1.6 Organization of the Study

The reminding of this thesis is organized as follows: Chapter II provides the literature reviews and hypothesis developments. Chapter III describes data and methodology. Chapter IV states the empirical results and result discussion and Chapter V provides the conclusion and areas for future research.

CHAPTER II
LITERATURE REVIEW

2.1 IPO Process

An initial public offerings (IPO) occurs when a company raises capital by issuing securities and selling them to the public for the first time. The IPO process begins with discussions between two parties; a going public firm and an underwriter about how to take the firm public. The issuing firm needs to prepare an offering prospectus, which contains information about the issuing firm's business, competitors, future prospects, risk factors, audited financial statements and so on as the primary source of information for investors.

The main reason that IPO firms initially sell securities to the public in the primary market is to raise equity capital. Going public firms in Thailand need to apply for an approval from the Securities and Exchange Commission of Thailand (Thai SEC) and they need to disclose relevant information to the investors for their decision-making. The company has to file a Registration Statement for the Offer for Sale of Securities (69-1 form) and a prospectus that includes audited financial statements for the most recent three years, along with information about the firm's business, risk profile and so on. There are two primary markets in Thailand for trading securities. First, the Stock Exchange of Thailand (SET) that provides a market for large companies with at least 300 million baht in paid-up capital. Second, the Market for Alternative Investment (mai) that is the market for small and medium-sized enterprises (SMEs) having between 20 and 300 million baht in paid-up capital.
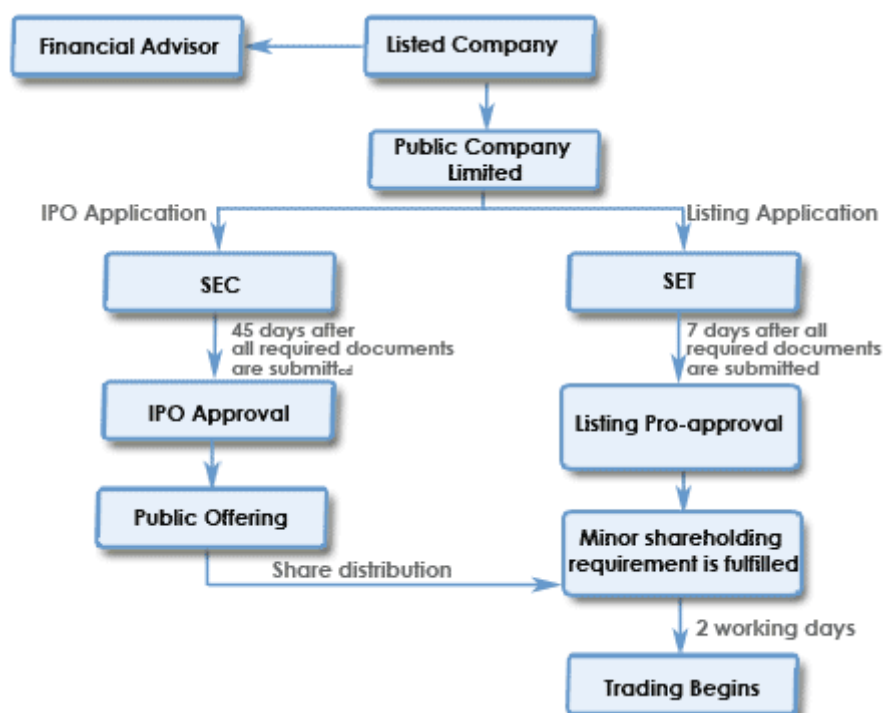
Figure 1 : Listing procedures for common shares in Thailand (Source: SET website)

The Securities and Exchange Commission of Thailand (Thai SEC) applies the same criteria and regulations governing distribution of shares as any other listed firms. Listed companies in mai must meet the same criteria as those listed on SET concerning public disclosure of information. Therefore, mai-listed and SET-listed companies have the same requirements. According to the Securities and Exchange Act B.E.2535 (A.D.1992); regulations of the Stock Exchange of Thailand specified the general listing criteria for common shares. The main qualification for a company applying to list its common shares on SET are as follow;

Status of the applicant

- A public limited company or corporation established under special law.

Paid-up capital in common shares (after public offering)

- $\geq$ 300 million baht

Distribution of minority shareholders (after public offering)

- Number of minor or non-strategic shareholders $\geq$ 1,000 shareholders
- Hold $\geq$ 25% of paid-up capital for companies with 300 million baht $\leq$ paid-up capital < 3,000 million baht.
- Hold $\geq$ 20% of paid-up capital for companies with paid-up $\geq$ 3,000 million baht.

Public offering

- Must have been granted approval by SEC
- Number of shares cumulatively offered for sale:
    - $\geq$ 15% of paid-up capital if paid-up capital < 500 million baht
    - $\geq$ 10% of paid-up capital or 75 million baht in shares, whichever is higher if paid-up capital $\geq$ 500 million baht

After the companies get the approval for initial public offering at the SEC and files a listing application with the SET and all required documents and information has been submitted, the consideration for listing and going public application is usually completed in about 30-45 days. In the US, the regulations for going public are based on the Securities Act of 1933, but typically involves professional judgment applies in practice. The Securities and Exchange Commission in United States is concerned with full disclosure of material information which the company needs to disclose material information in form of prospectus to the public for their decision-making. For shares not sold in the offering, an original entrepreneur or pre-issue shareholders commit not to sell their shares in a lock-up period or silent period, typically about 180 days (3 months) or longer after IPO date while in Thailand, a lock-up period extends for one year after listing. Lockup period or silent period prohibits company insiders from selling their shares for a set period of time to ensure that shares owned by these pre-issue shareholders do not enter the public market too soon after the IPO.

Teoh, Wong, and Rao (1998) indicate that the features of the IPO process offer issuers the opportunities and incentives to manipulate their earnings. First, there is little

information available to the public about going public firms so they have to rely on financial statement information reported in the prospectus. Second, underwriters normally use price-earnings multiple of listed firms in the same industry to set the offer price. Therefore, issuers and underwriters may have an incentive to report favorable financial statement information in the prospectus to enhance the proceeds.

Not only incentives to manage earnings in pre-IPO, the issuers have many incentives to continue to manage earnings in the period after the IPO in order to meet the analyst' expectations to support the stock price in the secondary market. In addition, there is a silent period or lockup period that prohibits IPO firms from selling their shares after the IPO for a set period of time. Thus, issuers may have an incentive to maintain high earnings especially during the first year after the offering.

2.2 Literature Review and Research Hypotheses

The IPO process is sensitive to earnings management which offers insiders both motivation and opportunities to manage their reported earnings. Because there are high information asymmetries between issuing firms and investors at the time of offering and also no news media coverage of firms in the pre-IPO years (Rao, 1993), investors are forced to rely on financial statements information presented in the prospectus.

Healy and Wahlen (1999, 368) defined that "earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers". Wangkittikal (2008) examine the level of discretionary accruals in Thai IPO firms before and after accounting standards reform. She finds that only income decreasing manipulation is significantly lower after reform while the income increasing manipulation still exists. Teoh, Wong and Rao (1998) and Teoh, Welch and Wong (1998) find that firms report high earnings when going public by opportunistically managing abnormal accruals followed by poor long-run performance. As a result,

investors are disappointed upon accruals reversal because they behave as if they are fixated on high reported earnings.

This evidence contrasts with Subramanyam (1996), who finds that firms in general (not only IPO firms) with high accruals predict high future earnings. He indicates that managers might manage earnings to communicate private information in order to make investors attach values to abnormal accruals. Jain and Kini (1994) find a decline in post-IPO issue operating performance, measured by returns on assets and cash flows deflated by assets, relative to pre-IPO issue both before and after industry adjustment. They provided reason that managers could attempt to window-dress accounting numbers before going public which leads to overstated pre-IPO performance and understated post-IPO performance. Stein (1989) shows that managers may attempt to manipulate accounting numbers to mislead investors by inflating pre-IPO earnings.

There are few prior researches that study discretionary accruals in pre-IPO years. DuCharme, Malatesta, and Sefcik (2001) indicate that aggressive earnings management one year before going public increases initial firm value but subsequently decreases returns to investors. They measure initial firm value by taking the offer price times the total number of shares outstanding after the IPO, then regress initial firm value on variables which are the functions of initial market value of equity. In addition, Friedlan (1994) finds evidence that issuers of IPOs make income-increasing abnormal accruals in the most current statements included in the prospectus before going public. In contrast, Venkataraman, Weber, and Willenborg (2008) extend Teoh, Wong, and Rao (1998) and Teoh, Welch, and Wong (1998) by using pre-IPO data to compute one year pre-IPO accruals, they find no evidence that pre-IPO accruals are unusually high. This evidence is consistent with Aharony, Lin, and Loeb (1993) who find lack of evidence that managers choose accounting methods to increase reported earnings in the period before going public. They measure earnings management two years prior to the IPO based on the limited financial information in prospectus. However, they address a different question by investigating whether managers manage their earnings before going public through the choice of accounting conventions. Roosenboom, Goot and

Merens (2003) study earnings management by IPO firms in a European country and find evidence that manager manipulate their earnings in the first year after going public and subsequently suffer poor returns but lack of evidence of earnings management found in the years before the IPO. They investigate earnings management two years before and after IPO years by using discretionary portions of current accruals as a proxy for earnings management. However, they address different objective from my thesis. The objective of Roosenboom, et al (2003) is to examine accruals utilized by managers before and after the IPO, while the objective of my thesis is to comparatively examine the level of discretionary accruals provided by going public firms in both pre- and post-IPO years. There appears to be no prior studies that go in-depth about how firms utilize accruals to manage their earnings before and after the IPO.

La Porta, et al (1997 and 1998) indicate that there is low legal enforcement quality in Thailand. Fan, and Wong (2002) also indicate that public corporations in East Asia have low levels of transparency and disclosure quality. Leuz, Nanda, and Wysocki (2003) suggest that earnings managements is more pervasive in countries with low legal enforcement, less developed stock markets, high ownership retention and lower disclosure levels. Lobo and Zhou (2001) find a negative relationship between corporate disclosure and earnings management after controlling for the effects of confounding variables. It shows that the higher the corporate disclosure, the lower the earnings management. It is also consistent with the objectives of SEC in encouraging the companies to disclose more material information. According to the evidence above, I can infer that earnings management occurs easier in Thailand because of those characteristics. Because managers have both incentives and opportunities to manipulate earnings, they tend to choose accounting discretion in order to mislead investors and increase their wealth. The greater the offering price, the greater cash receipts from sales to insiders of IPO firms.

One argument lies in the incentives to get as high as possible the offer price. To the extent that, maximizing the offer price is the issuer's first-order objective, then poor post-IPO performance due to pre-IPO manipulation will not be its main concern.

Therefore, I expect that IPO firms will utilize more discretionary accruals before going public than post-IPO. In this study, the discretionary portions of total accruals are used as a proxy of earnings management. The first hypothesis is then developed.

Hypothesis 1; IPO firms utilize higher discretionary accruals before going public than after IPO periods.

Auditing can reduce the information asymmetry between the insiders and the external investors. The incentive for managers to manipulate earnings by choosing accounting discretion is limited because of the requirement that accounting reports presented in the prospectus must be audited by an external accounting firm to verify compliance with Thai Accounting Standards (TAS). However, this limitation on earnings management is imperfect because Thai Accounting Standards allows managers to choose accounting discretion by managing accruals in recognizing the timing and matching principles of revenues and expenses. Sufficient managing accruals may be permitted within TAS to allow for substantial earnings management.

The role of auditors is to verify that the financial statements are in accordance with TAS. It does not imply the most accurate representation of the firm's condition. They audit financial statements based on a reasonable basis. They need to verify management's estimation and judgment on discretionary accrual items whether it violates TAS or not. Underwriters, generally rely on auditor's opinion to see whether audited financial statements represent the accuracy of reported accounting numbers. Titman and Trueman (1986) define auditor quality as the accuracy of information supplied to investors. Bradshaw, Richardson and Sloan (1999) find evidence that firms with high accruals have a lower chance of receiving a qualified opinion. In contrast, other studies report that there is a positive association between the level of accruals and audit qualification. Butler, Leone, and Willenborg (2004) find no evidence to support that firms with modified audit opinions manage earnings more than those with clean opinions. Teoh and Wong (1993) conclude that the financial statements audited by Big-Eight firms which are identified as a higher quality are more credible than those audited

by non Big-Eight firms. DeFond and Jiambalvo (1993) report that disagreements between auditors and clients result from incentives to manipulate earnings and are more likely to occur when firms have high audit quality defined as the Big Six auditors. Becker, DeFond, Jiambalvo, and Subramanyam (1998) find evidence that companies audited by non-Big Six auditors indicate discretionary accruals that are significantly higher than the discretionary accruals of companies audited by Big Six auditors. They also find that companies audited by non-Big Six auditors have significantly higher variation in discretionary accruals relative to companies audited by Big Six auditors. Francis and Krishnan (1999) indicate that auditors tend to issue a qualified audit report for high accrual firms. They also report that firms audited by non-Big Five auditors report higher levels of discretionary accruals. Gore et al. (2001) find that non-Big Five auditors allow more earnings management than Big Five auditors. Lennox (1999) also find that audit reports issued by large auditors are more informative than small auditors and showed that size of auditors is positively associated with audit accuracy. However, Aharony, Lin, and Loeb (1993) find only very weak evidence that earnings management was associated with the quality of auditors and underwriters employed by going public firms.

Since July 1998, Big Six auditors became Big Five audit firms consisting of;

- Arthur Andersen
- Ernst & Young
- Deloitte & Touche
- PricewaterhouseCoopers
- Peat Marwick Mithchell, Peat Marwick, now is KPMG

Then it became Big Four audit firms in year 2002. The end of Arthur Andersen came when Enron collapsed which was audited by Arthur Andersen. I examine the effect of the reputation of auditors on earnings management measured by discretionary accruals. The effectiveness of auditing is expected to vary among firms with the different reputation of auditors. I separate audit firms according to the reputation of auditors into two groups which are Big four auditors and non-Big four auditors. Big four auditors are

characterized as having high reputation of auditing due to their technology in detecting earnings managements while non-Big four auditors are characterized as having low reputation. To the extent that Big-4 auditors have better reputation than non-Big-4 auditors, then discretionary accruals allowed by Big-4 auditors should be less than discretionary accruals allowed by non-Big-4 auditors in both pre- and post-IPO years. Therefore, I expect that there is a lower level of discretionary accruals for IPOs audited by a Big-4 audit firm than for IPOs audited by a non-Big-4 audit firm in both pre- and post-IPO years. In other words, IPO firms that utilize higher discretionary accruals before going public than post-IPO period exist only for firms audited by non-Big-4 audit firm.

Then second hypothesis is developed.

Hypothesis 2; Discretionary accruals are greater during pre- than post-IPO years only for IPO firms audited by non-Big-4 audit firms.

Wangkittikal (2008) find evidence that the construction and services industries of Thai IPO firms report the highest discretionary accruals and the oil, gas, mining, farming, fishing and food industries of IPO firms report the lowest discretionary accruals during pre-accounting standards reform. Xiong, et al. (2010) find that the machinery industry reports the highest discretionary accruals while the electronic equipment industry report the lowest (negative) discretionary accruals prior IPO issue. Sun and Rath (2009) find that earnings management occurs across several industries in Australia. Earnings management with income-decreasing accruals is found in firms in energy, metals and mining, industrials and the information technology industries while income-increasing earnings manipulation is found in the health care, and telecommunication & utilities industies. Nelson, et al. (2002) find no substantial difference in earnings management is observed among various industries.

To my knowledge, this thesis is the first to address discretionary accruals utilized by going public firms which are grouped in industry 1 (IND1) and industry 2 (IND2) based on the level of difficulty in valuation of work in process in both pre- and post-IPO years. To the extent that IPO firms that are grouped in IND2 include real estate,

construction, technology, natural resources and farming industries are considered as the most difficulty in valuation of work in process based on their natures involve high estimation and judgment in revenue recognition, then discretionary accruals utilized by IPO firms grouped in IND2 should be higher due to a greater room for managers to manipulate their earnings relative to the industry that is simpler in valuation of work in process(IND1). Therefore, I expect discretionary accruals are higher in pre-IPO than post-IPO years exist only for firms within the industry that have high difficulty in valuation of work in process.

Hypothesis 3; Discretionary accruals are greater during pre- than post-IPO years only for IPO firms within the industry that have the most difficulty in valuation of work in process.

Wiwattanakantang (2000) examines the ownership structure of Thai listed firms and finds that Thai listed firms have a high degree of ownership concentration and the controlling shareholders are mainly families. Fan and Wong (2002) indicate that high ownership retention and large separation of ownership and control which are common in East Asia is associated with low earnings informativeness to investors because of information asymmetry. When the pre-issue owners retain larger ownership in the firm, the dilution costs of underpricing to insiders become lower (Barry, 1989). The pre-issue owners who retain large ownership in the firm have the supermajority control over any minority shareholders. Their first-order objectives are not to boost the offer price, but they would like to get access to the capital market. Therefore, I expect IPO firms that utilize higher discretionary accruals before going public than post-IPO period exist only for firms with low ownership retention. For the pre-issue owners who retain less ownership in the firms, they do not have the absolute control. Their first-order objectives are to boost the offer price rather than getting access to the capital market. Therefore, the managers who retain large ownership in the firms have weaker incentives to manipulate their earnings in an attempt to boost the offer price.

Hypothesis 4; Discretionary accruals are greater during pre- than post-IPO years only for IPO firms with low ownership retention.

Firm size is usually used as a proxy for information available to the market. Information for large-sized firms should be more available to the public than for small-sized firms. Albrecht and Richardson (1990) indicate that small firms have higher incentives to manipulate their earnings than large firms. They indicate that larger firms may receive more analyst attention and investor scrutiny than small firms. Therefore, the incentives to manipulate their earnings will be less for large firms than small firms. Lee and Choi (2002) also find that firm size is a variable that can impact a firm's tendency to manipulate earnings. They indicate that small-sized firms are more likely to manage earnings to avoid their losses than large-sized firms. They use firm size as a proxy for information asymmetry as managers of small firms are able to retain their private information more successfully than large firms. Kim, Liu, and Rhee (2003) find evidence that firm size plays several roles in earnings management. Smaller firms engage more in earnings management to avoid losses than large firms. The larger the firm size, the less the earnings management will be. They state that it is easier for large-sized firms to report positive earnings than positive change in earnings, while the small-sized firms find it difficult to report positive earnings. Aharony, Lin, and Loeb (1993) find the results that there is more earnings management in small firms and firms with large financial leverage. Sun and Rath (2009) report evidence from Australia that small size firms and firms with low profitability have an abnormally high degree of earnings management.

I anticipate that IPO firms that utilize higher discretionary accruals before going public than post-IPO period exist only for small-sized IPO firms. Then the following hypothesis is developed.

Hypothesis 5; Discretionary accruals are greater during pre- than post-IPO years only for small-sized IPO firms.

To see what price the issuer will sell is challenging in IPO firms. There are two mechanisms for pricing IPOs, the fixed price method and book-building method. Fixed price offerings are pricing technique without first soliciting investors demand. In contrast, book-building offerings are pricing technique used by underwriters. To build a book, the underwriter solicits potential investors' demand (pre-orders) during a road show that provides sufficient information to set the final offer price, which better reflects the market valuation. Both methods require underpricing. For fixed price offerings, underpricing is required to compensate the uninformed investors. While for book-building offerings underpricing is required to reward investors for providing information (Benveniste and Spindt, 1989).

Benveniste and Busaba (1997), compare two methods for selling IPOs; fixed price method and American book-building when investors can observe each other's subscription decisions and have correlated information about the true after-market share value. They find that the fixed price method can create cascading demand while book-building generates greater expected proceeds but also generates greater uncertainty to the issuer. They also indicate that both methods for selling IPOs can be optimal depending on the characteristics of IPO firms. Ritter (1998) explains that when issuers use book-building for selling IPOs, underwriter may underprice IPOs to induce regular investors to reveal their valuation truthfully. This leads to an expectation for partial adjustment of the offer price indicated in prospectus to the final one.

There are both fixed price and book-building offerings in Thailand, while the US market is a book-building offering. For book-built issues, the participating investors tend to be regular investors who are typically well informed. While investors in fixed price offerings tend to be individual investors who are less sophisticated typically for small issues (Loughran et al., 1994). Since there is greater investor involvement in setting the offer price, the level of discretionary accruals should be lower in book building than in fixed-price offering.

Hypothesis 6; Discretionary accruals are greater during pre- than post-IPO years only for IPO firms using fixed-price offering.

Many prior studies examining IPO allocations emphasize the distinction between institutional and individual or retail investors. Loughran, et al. (1994) indicate that lower offer price is provided to regular investors (institution) in order to induce investors to truthfully reveal their valuation used to set the offering price. According to the information asymmetry arise between issuers and investors whom are informed differently, it may be difficult for the issuers to manipulate accounting numbers when issuing a large offering relative to a small offering. Normally, IPO firms have their target investors before going public. Consequently, they decide how manipulated their earnings will be according to their target investors.[1] However, there is no prior research in finance studying earnings management on the different share allocations. My thesis is the first to examine earnings management among IPO firms with different share allocations.

As Thai IPO firms tend to be small in size or small offering, they are usually marketed to individual investors rather than institutional investors. I expect that discretionary accruals of IPO firms that have low institutional investor involvement are higher than firms that have high institutional investor involvement.

Hypothesis 7; Discretionary accruals are greater during pre- than post-IPO years only for IPO firms that have low institutional investor involvement.

Prior research studies sales growth of firms with different degree of earnings management. Sun and Rath (2009) find evidence that high sales growth is related to high earnings management measured by discretionary accruals. They indicate that firms with a high degree of discretionary accruals in absolute value are likely to have faster growth rates than firms with low discretionary accruals. Madhogarihia, Sutton, and

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[1] Ritter and Welch (2002) explain that issuers and underwriters have market planning to decide to whom shares are allocated to. In reality, underwriters do window dressing for their clients to report favorable accounting information in prospectus in order to increase the opportunity of having the issue fully subscribed.

Kohers (2009) examine earnings management among growth and value firms and they find that managers of growth firms manipulate their earnings by making income-increasing and income-decreasing accruals more aggressively than value firms. Zach (2004) reports that sticky high accruals firms experience with high past and future sales growth.[2]

To my knowledge, this thesis is the first to address discretionary accruals by going public firms among high, medium, and low sales growth in both pre- and post-IPO years. Growth in sales is exogenous and it is used as a proxy of firm's investment opportunity. To the extent that accruals usage is a response to investment opportunity, there will be no earnings management by IPO firms with high investment opportunity. In other words, if IPO firms have low investment opportunity, they might have incentives to manage their earnings to boost the offer price. Therefore, I expect that discretionary accruals of IPO firms that have low sales growth are higher than firms that have high sales growth in both pre- and post-IPO years.

Hypothesis 8; Discretionary accruals of IPO firms that have low sales growth are greater than IPO firms that have high sales growth in both pre- and post-IPO years.

Kim and Ritter (1999) who report that price-earnings multiples using forecasted earnings result in more accurate valuation than using historical earnings. From the evidence of Viriyakorkitkul (2011), he finds underpricing of IPO stocks when using price multiples with future performance forecasted by analysts. Normally, the P/E of unlisted firms is usually less than the P/E of IPO firms, which could make profit for IPO firms when they plan to go public. In general, underpricing or issue discount is the difference between the offering price and the market price on the first trading day. Underpricing occurs when the offer price below the expected aftermarket price. This new issue underpricing phenomenon exists in every country around the world with a stock market. However, the amount of underpricing will vary from country to country (Ritter, 1998). One

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[2] Zach (2004) defines sticky as the firms that belong to an extreme accrual decile (high or low) in two consecutive years.

explanation of new stocks issue underpricing is information asymmetry between insiders and outside investors. Managers have more information than investors. Thus, uninformed investors face the risk of poor judgment when other investors are better informed, so underpricing arises as the cost of IPO firms to compensate uninformed investors for the risk of ending up with bad IPO performance (Rock, 1986). Because of information asymmetry, managers can exercise accounting discretion to inflate their earnings in an attempt to reduce new issue underpricing.

Loughran et al. (1994) review evidence of short-run underpricing of IPOs in 25 countries including Thailand and average initial returns varies across countries depend on pricing mechanisms, characteristics of the firms going public, and institutional constraints. Average initial returns tend to be higher when there is a greater degree of government interference, earlier setting a fixed offering price in the process of going public and the riskier are the firms going public. Besides, they also find evidence that IPO firms tend to have low returns in the long run. Purnanandam and Swaminathan (2004) find evidence that IPOs are overvalued at the offer price relative to matching firms and tend to increase aftermarket, and revert to fair value in the long run. It is inconsistent with the prediction from traditional information asymmetry theories of IPO pricing that predict most IPOs are undervalued and should earn the largest first-day return. Zheng (2007), studied the evidence of overvalued IPOs at the offer price in Purnanandam and Swaminathan (2004), he finds that IPOs are not overvalued anymore after address two issues which are controlling for growth expectation and another issue is whether new primary shares are included when calculating price multiples. He also points out that IPOs do not underperform the matching firms which are consistent with the traditional view that IPOs are underpriced at the offering.

Several studies give the reasons for underpricing. Loughran and Ritter (2004) refer to the changing risk composition hypothesis and find that riskier IPOs will be more underpriced than less-risky IPOs. Ritter (1998) reviews many reasons for IPO issue underpricing. For example, the winner's curse hypothesis, which explains that less informed investors require more discounts (more underpricing) to compensate for the

bias in the allocation of new issues. According to the changing risk composition hypothesis, the investors would require discount on the new issues to compensate with the quality of limited information provided in the prospectus. Although investors cannot fully detect earnings management, some still aware of accounting manipulation, then IPO firms with high discretionary accruals would have to give more discounts to investors. However some investors unaware of earnings management, trust only the reported earnings as evidence from Sloan (1996). Thus, they do not require sufficient discount for new issues.

If firms' issues are risky, they have to set high issue discount to compensate investors about their uncertain future performance. This provides managers with incentives to manipulate their earnings to get high proceeds from their offering. If accruals successfully fool investors, it can be hypothesized as below;

Hypothesis 9; Discretionary accruals in pre-IPO years are negatively related to an issue discount.

CHAPTER III

DATA AND METHODOLOGY

3.1 Sample Selection and Data

The initial sample of domestic Thai initial public offerings consists of 189 Thai IPO firms that went public on the Stock Exchange of Thailand (SET) and the Market for Alternative Investment (mai) between January 2001 and December 2007. I apply this period in order to see the trends of discretionary accruals two years in pre- and post-IPO years. Therefore, I collected the data from the year 1998 to 2009. IPOs made from 2001 through 2007 were identified using data from the Securities and Exchange Commission Thailand (SEC) website.

Of these 189 sample firms, 143 firms are listed on the Stock Exchange of Thailand, and the remaining 46 firms are listed on the Market for Alternative Investment. I include Thai IPO firms that listed on SET and mai because there is the same disclosure quality of listing firms on both markets although the size of paid up capital requirement is different. IPOs from banking, financial sectors and utility industry (24 firms) are excluded from the sample since the financial reporting requirements for firms in these industries are different from industrial firms. These industries are highly associated with the local regulators such as the Bank of Thailand (BOT) and the Insurance Department. IPO firms in the utility industry are also dropped from the study because earnings management is not expected. I exclude IPO firms that provide incomplete financial data in prospectuses, firms that were delisted within 2 years from the IPO. IPO firms must have three full years financial statements available before and after going public. These factors make the financial statements for the estimation period (two fiscal years in pre- and post-IPO) incomparable and prevent me from estimating discretionary accruals. These selection criteria yield a final sample size of 108 IPO firms. Table I shows the selection process of Thai IPO firms by each of the requirements just discussed.

Financial statement data for three years prior to the IPO are hand-collected from prospectuses provided by the Securities and Exchange Commission Thailand website. Financial data concerning the years after going public are obtained from SET Market Analysis and Reporting Tool (SETSMART). IPO firms' unadjusted price for calculating underpricing are obtained from Datastream. Gross property, plant and equipment (Gross PPE) and the current portion of long-term debts are not provided by Datastream database, so I obtain these accounts from Bloomberg.

Table 1	
Selection Process for Sample Firms Going Public from 2001 through 2007	
The sample firms are a subset of all Thai firms making initial public offering from 2001 through 2007. Several selection criteria were applied.	
Thai IPO firms (2001-2007)	189
Less	
Financial services industry	22
Utility industry	2
Subtotal	165
Financial data in prospectus unavailable*	9
Delisted after IPO**	4
Lack of financial data after IPO	43
Outlier	1
Final Sample	**108**
* I was unable to obtain the financial data in prospectus for TSTH, MPIC, TEAM, ADAM, PTL, PTT, YNP, AMC, and ROYNET	
** 4 firms delisted not later than 2 years after going public : RRC, AF, TOC, and EGV	

Table 2 presents the descriptive statistics for the 108 IPO firms. The sample covers a wide range of industries; total 15 industries grouped by INDC3 code obtained from Datastream are represented. IPO firms are concentrated in the industrial goods & services (INDGS), construction & materials (CNSTM) and basic resource industries (BRESR), making up 44.4% of the total sample. Panel B reports the time distribution of sample IPO firms from year 2001 through 2007. There is some clustering of IPO firms in time; relatively higher volume years are in year 2004 and 2005.

Panel C reports the immediate post-IPO firm characteristics. The average value of market capitalization is about 8,800 million baht, but the median is only 2,300 million baht. The mean and median total assets in the fiscal year prior going public are about 4,000 million baht and 820 million baht respectively. IPO firms experience high sales revenue increases as a percentage of total assets in year -1 with mean 62.62% and median 30.15%. The change in sales scaled by lagged total assets is a key variable in the regression model to estimate the discretionary accruals as the proxy for earnings management. IPO firms' years of operating history (Age) is calculated by the difference between the year that firms were established and the year that firms went public. The mean and median age of the sample firms are 14.28 years and 12.19 years respectively. Initial public offerings are sold at a mean offer price of 10 baht per share and a median of 5 baht per share. Initial return or underpricing is calculated as the difference between the first-day closing price of trading and the offer price as the proportion of the offer price. The sample IPO firms are underpriced, on average, by 13.46% (median 2.42%).

Table 2

Sample Characteristics

The final sample consists of 108 Thai IPO firms going public in the period from 2001-2007. The distribution of the sample is reported in Panel A by industry (INDC3 from Datastream) excluded industry of Banks, Financial Services, Insurance and Utilities, and in Panel B by IPO calendar year. Panel C characteristics are measured at the time of the IPO. Market value is computed as the number of shares outstanding after the offering times the closing price on the first day trading. Total assets figures pertain to the fiscal year prior to going public. ΔSales is the change in sales from year-1 to year 0 scaled by total assets in year -1. Age is the number of years between the establish date and the IPO year. Offer price is the price of newly issued shares to public. Initial returns or underpricing is defined as the percentage difference between the first day closing price of trading and the offer price.

Panel A : Industry Distribution			
INDC3	Industry	Freq.	%
AUTMB	AUTOMOBILE&PARTS	6	5.6%
BRESR	BASIC RESOURCE	13	12.0%
CHMCL	CHEMICALS	5	4.6%
CNSTM	CONSTRUCTION&MATERIALS	16	14.8%
FDBEV	FOOD&BEVERAGE	4	3.7%
HLTHC	HEALTHCARE	3	2.8%
INDGS	INDUSTRIAL GOODS&SERVICES	19	17.6%
MEDIA	MEDIA	4	3.7%
OILGS	OIL&GAS	2	1.9%
PERHH	PERSONAL&HOUSEHOLD GOODS	7	6.5%
RLEST	REAL ESTATE	8	7.4%
RTAIL	RETAIL	5	4.6%
TECNO	TECHNOLOGY	9	8.3%
TELCM	TELECOM	3	2.8%
TRLES	TRAVEL & LEISURE	4	3.7%
Total		108	100.0%

Panel B : Time Distribution				
Fiscal Year-End	Freq.	%	Cum. Freq.	Cum. %
2001	1	0.9%	1	0.9%
2002	9	8.3%	10	9.3%
2003	16	14.8%	26	24.1%
2004	32	29.6%	58	53.7%
2005	27	25.0%	85	78.7%
2006	14	13.0%	99	91.7%
2007	9	8.3%	108	100.0%
Total	108	100.0%		

Panel C : Immediate Post-Offering Firm Characteristics					
Units	Market Value (Million baht)	Total Assets (Million Baht)	ΔSales (%)	Age (years)	Offer Price (Baht)	Initial Returns (%)
Mean	8,766.01	3,944.03	62.62%	14.28	9.93	13.46%
Median	2,311.98	821.10	30.15%	12.19	4.90	2.42%

3.2 Methodology

3.2.1 Measures of Earnings Management

Reported earnings consist of two components, which are cash flow from operations (CFO) and accruals (accounting adjustments). Total accruals can be decomposed into current and long-term components. I evaluate both total accruals and these two components separately. To measure discretionary accruals as a proxy for earnings management, total accruals are evaluated because IPO firms' managers can manipulate earnings by exercising accounting discretion over both short-term and long-term discretionary accruals. Managers can manipulate earnings by reporting higher current accruals, for example, by reporting lower allowance for bad debts to delay recognition of expenses. For long-term accruals, managers can exercise accounting discretion over long-term accruals by accelerating depreciation and amortization to report lower net long-term assets.

According to the difficulty for investors to distinguish the component of accruals which are discretionary and nondiscretionary accruals, therefore I need a model to decompose accruals into these two components. Nondiscretionary accruals (normal accruals) are dictated by firm and industry conditions which are normal to firms, while discretionary accruals (abnormal accruals) are subject to manipulation by management. Thus, this thesis studies earnings management of IPO firms by measuring discretionary accruals as the proxy for accounting manipulation in both pre- and post-IPO period.

Total accruals (TAC) can be decomposed into 4 variables, discretionary current accruals (DCA), discretionary long-term accruals (DLA), nondiscretionary current accruals (NDCA), and nondiscretionary long-term accruals (NDLA). In this thesis, I mainly focus on total accruals that can be decomposed into discretionary portion of total

accruals (TDA) and nondiscretionary portion of total accruals (NDA) because IPO firms' managers can manage earnings over both short-term and long-term discretionary accruals.[3]

Teoh, Welch, and Wong (1998) and Teoh, Wong, and Rao (1998) measure discretionary accruals as the proxy of earnings management by using an extension of the cross-sectional Jones Model (1991). Dechow, Sloan, and Sweeney (1995) find that the cross-sectional Modified Jones Model provides the most powerful test of earnings management. Therefore, I use the cross-sectional Modified Jones Model to decompose total accruals into two components; discretionary and nondiscretionary accruals so that I can measure the discretionary portion of total accruals as a proxy for accounting manipulation.

First, in order to calculate discretionary accruals as a proxy for earnings management, total accruals need to be obtained.

Total accruals (TAC) are defined as the difference between net income and cash flows from operations (CFO) as shown below;

$$TAC \equiv Net\ Income - Cash\ Flows\ from\ Operations \qquad (1)$$

Jones (1991) proposes the following expectations model for total accruals to control for the effect of changes in the firm's economic conditions on nondiscretionary accruals. The Jones Model (1991) for nondiscretionary accruals in event year is shown below;

$$\frac{TAC_{j,t}}{TA_{j,t-1}} = \alpha_0 \left(\frac{1}{TA_{j,t-1}}\right) + \alpha_1 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) + \alpha_2 \left(\frac{PPE_{j,t}}{TA_{j,t-1}}\right) + \epsilon_{j,t} \qquad (2)$$

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[3] Four components of total accruals; discretionary and nondiscretionary current accruals and discretionary and nondiscretionary long-term accruals used for the robustness test are reported in Appendix.

where

$TAC_{j,t}$ = total accruals in year *t* for firm j;

$\Delta Sales_{j,t}$ = sales in year *t* less sales in year *t* - 1 for firm j;

$PPE_{j,t}$ = gross property, plant, and equipment in year *t* for firm j;

$TA_{j,t-1}$ = total assets in year *t* - 1 for firm j;

$\epsilon_{j,t}$ = error term in year *t* for firm j.

I run cross-sectional regression of total accruals on the change in sales and gross property, plant and equipment using an estimation sample of all stocks in SET with the same industrial group and same year, excluding firms going public in that year and firms that are listed less than three years. There are 15 industries used to run regression between year 1999 and 2009.

In equation (2), change in sales and gross property, plant, and equipment are included in the expectation model in order to control for change in nondiscretionary accruals because expected or normal accruals change over time due to changes in economic circumstances. Total accruals includes change in working capital accounts, such as inventories, accounts receivable, accounts payable, etc., that mainly depend on change in revenues or sales. Sales are used to control for the economic circumstances of the firms because they are mainly used to measure the firm's operation before manipulation by management. Gross property, plant, and equipment are also included in the model because total depreciation expenses are included in the measurement of total accruals. All variables in the model presented by equation (2) are scaled by lagged total assets (Weighted Least Squares Regression) to reduce heteroscedasticity effect due to firm size problem. Jones (1991) assumes that lagged total assets are positively associated with the variance of the disturbance term.

The cross-sectional regression of the Jones Model presented in equation (2) is running without an intercept because all variables in the accruals expectation model are scaled by lagged total assets in order to reduce heteroscedasticity. The intercept in this model is also scaled by lagged total assets by assuming that the intercept is able to compare across firms. Without fixed assets (PPE), there are no operation activities (Sales), and therefore, no accruals in the firms. With this assumption, the intercept equals 0 and can be comparable across firms.

I obtain gross property, plant, and equipment of IPO firms from the notes to financial statement provided by prospectuses. The estimated parameters $\hat{\alpha}_0$, $\hat{\alpha}_1$ and $\hat{\alpha}_2$ estimated by industry and calendar year from cross-sectional Jones Model presented in equation (2) will be plugged into the following equation in order to obtain expected or nondiscretionary accruals (NDA) for an IPO firm in a given year.

$$NDA_{i,t} \equiv \hat{\alpha}_0 \left(\frac{1}{TA_{i,t-1}} \right) + \hat{\alpha}_1 \left(\frac{\Delta Sales_{i,t}}{TA_{i,t-1}} \right) + \hat{\alpha}_2 \left(\frac{PPE_{i,t}}{TA_{i,t-1}} \right) \qquad (3)$$

where

$\hat{\alpha}_0, \hat{\alpha}_1, and\ \hat{\alpha}_2$ = the estimated intercept and slope coefficients for firm i in year t.

Prior studies find that the cross-sectional Modified Jones Model provides the most powerful test of earnings management because this model is designed to eliminate the tendency of the Jones (1991) Model with the error in discretionary accruals measurement when sales are discretionary exercised. The only adjustment in this modified model relative to original model is that the change in sales is adjusted for the change in trade receivable. This modified version of Jones Model assumes that changes in credit sales result from accounting manipulation.

In the Modified Jones Model, the estimated parameters from equation (2) will be plugged into the following equation;

$$NDA_{i,t} \equiv \hat{\alpha}_0 \left(\frac{1}{TA_{i,t-1}} \right) + \hat{\alpha}_1 \left(\frac{\Delta Sales_{i,t} - \Delta TR_{i,t}}{TA_{i,t-1}} \right) + \hat{\alpha}_2 \left(\frac{PPE_{i,t}}{TA_{i,t-1}} \right) \qquad (4)$$

where

$\hat{\alpha}_0, \hat{\alpha}_1, and\ \hat{\alpha}_2$ = the estimated intercept and slope coefficients for firm i

                                in year t;

$\Delta TR_{i,t}$ = net receivable in year t less net receivable in year t - 1

                                for firm i.

The fitted total accruals of IPO firms from the Modified version of Jones Model as presented in equation (4) are calculated by using coefficients from the regression in equation (2) and the change in sales after subtracting the change in trade receivables to avoid manipulation over credit sales.[4] The fitted total accruals are considered to be normal for the firms' operation that is called nondiscretionary portion of total accruals (NDA).

Discretionary accruals $(TDA_{i,t})$, for IPO firm i in year t are represented by the difference between actual total accruals (equation (1)) and expected or nondiscretionary accruals (equation (4)). The residual is shown below;

$$TDA_{i,t} = \frac{TAC_{i,t}}{TA_{i,t-1}} -\ NDA_{i,t} \qquad\qquad (5)$$

Discretionary portion of total accruals (TDA) presented in equation (5) is not normal for the firm's and industry conditions, but it is considered to be abnormal discretionary accruals that have been managed by IPO firms' managers. Higher absolute value of discretionary portion of total accruals indicates more earnings management. This absolute value of the discretionary portion of total accruals is used as a proxy for earnings management.[5] According to the earlier discussion, I expect that discretionary portion of total accruals (TDA) is the superior proxy for accounting manipulation.

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[4] In other words, increasing in credit sales that result in higher trade receivables is considered as earnings management presented by discretionary accruals.

[5] Absolute value of discretionary accruals does not explain the type of manipulation. It captures only the level of accounting manipulation regardless the type of manipulation (positive or negative discretionary accruals).

To obtain the discretionary portion of total accruals (TDA), the Modified Jones Model with industry interaction terms is applied. According to the Modified Jones model provides insufficient sample in many industries (<30 observations), adding industry interaction terms is better because it allows for industry variation.[6]

First, I use the cross-sectional Modified Jones Model with industry interaction term to separate total accruals into two components; discretionary and nondiscretionary accruals. Discretionary portions of total accruals are used as the proxy for earnings management.

I run cross-sectional regression of total accruals on the change in sales and gross property, plant and equipment and adding industry interaction terms to allow for industry variation using industry of Automobile as a base group. An estimation sample includes all stocks in Stock Exchange of Thailand (SET) from year 1999 to 2009, excluding firms going public in that year and firms that have been listed less than three years.

$$\frac{TAC_{j,t}}{TA_{j,t-1}} = \beta_1 \left(\frac{1}{TA_{j,t-1}}\right) + \beta_2 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) + \beta_3 \frac{PPE_{j,t}}{TA_{j,t-1}} + \beta_4 \left(\frac{1}{TA_{j,t-1}}\right) BRESR +$$

$$\beta_5 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) BRESR + \beta_6 \frac{PPE_{j,t}}{TA_{j,t-1}} BRESR + \beta_7 \left(\frac{1}{TA_{j,t-1}}\right) CHMCL +$$

$$\beta_8 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) CHMCL + \beta_9 \frac{PPE_{j,t}}{TA_{j,t-1}} CHMCL + \beta_{10} \left(\frac{1}{TA_{j,t-1}}\right) CNSTM +$$

$$\beta_{11} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) CNSTM + \beta_{12} \frac{PPE_{j,t}}{TA_{j,t-1}} CNSTM + \beta_{13} \left(\frac{1}{TA_{j,t-1}}\right) FDBEV +$$

$$\beta_{14} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) FDBEV + \beta_{15} \frac{PPE_{j,t}}{TA_{j,t-1}} FDBEV + \beta_{16} \left(\frac{1}{TA_{j,t-1}}\right) HLTHC +$$

$$\beta_{17} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) HLTHC + \beta_{18} \frac{PPE_{j,t}}{TA_{j,t-1}} HLTHC + \beta_{19} \left(\frac{1}{TA_{j,t-1}}\right) INDGS +$$

$$\beta_{20} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) INDGS + \beta_{21} \frac{PPE_{j,t}}{TA_{j,t-1}} INDGS + \beta_{22} \left(\frac{1}{TA_{j,t-1}}\right) MEDIA +$$

$$\beta_{23} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) MEDIA + \beta_{24} \frac{PPE_{j,t}}{TA_{j,t-1}} MEDIA + \beta_{25} \left(\frac{1}{TA_{j,t-1}}\right) OILGS +$$

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[6] Modified Jones model with industry interaction term is applied because of the small size of Thai capital market that prevents me from estimating year-by-year regressions on industry basis. Therefore, I decide to aggregate overall industries and included dummies in the regression model to allow for industry variation in nondiscretionary accruals.

$$\beta_{26} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) OILGS + \beta_{27} \frac{PPE_{j,t}}{TA_{j,t-1}} OILGS + \beta_{28} \left(\frac{1}{TA_{j,t-1}} \right) PERHH +$$

$$\beta_{29} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) PERHH + \beta_{30} \frac{PPE_{j,t}}{TA_{j,t-1}} PERHH + \beta_{31} \left(\frac{1}{TA_{j,t-1}} \right) RLEST +$$

$$\beta_{32} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) RLEST + \beta_{33} \frac{PPE_{j,t}}{TA_{j,t-1}} RLEST + \beta_{34} \left(\frac{1}{TA_{j,t-1}} \right) RTAIL +$$

$$\beta_{35} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) RTAIL + \beta_{36} \frac{PPE_{j,t}}{TA_{j,t-1}} RTAIL + \beta_{37} \left(\frac{1}{TA_{j,t-1}} \right) TECNO +$$

$$\beta_{38} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) TECNO + \beta_{39} \frac{PPE_{j,t}}{TA_{j,t-1}} TECNO + \beta_{40} \left(\frac{1}{TA_{j,t-1}} \right) TELCM +$$

$$\beta_{41} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) TELCM + \beta_{42} \frac{PPE_{j,t}}{TA_{j,t-1}} TELCM + \beta_{43} \left(\frac{1}{TA_{j,t-1}} \right) TRLES +$$

$$\beta_{44} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}} \right) TRLES + \beta_{45} \frac{PPE_{j,t}}{TA_{j,t-1}} TRLES + \varepsilon_{j,t} \tag{6}$$

where

$TAC_{j,t}$	= total accruals in year t for firm j;
$\Delta Sales_{j,t}$	= sales in year t less sales in year t - 1 for firm j;
$PPE_{j,t}$	= gross property, plant, and equipment in year t for firm j;
$TA_{j,t-1}$	= total assets in year t - 1 for firm j;
$\epsilon_{j,t}$	= error term in year t for firm j;

BRESR, CHMCL, CNSTM, FDBEV, HLTHC, INDGS, MEDIA, OILGS, PERHH, RLEST, RTAIL, TECNO, TELCM, and TRLES are the industry dummy variables, equals to 1 if IPO firm *j* is in the industry of basic resource, chemicals, construction and materials, food and beverage, healthcare, industrial goods and services, media, oil and gas, personal and household goods, real estate, retail, technology, telecom, and travel or leisure respectively, 0 otherwise.

The regression model in equation (6) is running without an intercept to reduce heteroscedasticity. All variables in the accruals expectation model are scaled by lagged total assets. This equation includes the industry dummy variables and interaction terms in order to allow the industry variation.

I did winsorization for the regression analysis (mean+/- 3SD) to reduce the possibility of outliers.

After I run cross-sectional regression as equation (6) for all stocks in Stock Exchange of Thailand from year 1999 to 2009, I keep all coefficients and add them into the equation (4) to get nondiscretionary accruals (NDA) for each IPO firm, then I plug NDA in the equation (5) to get discretionary accruals (TDA) for each IPO firm that represents a proxy of earnings management.

3.2.2 Measure of Initial Return or Underpricing

Earnings management can lead to mispricing of IPO shares that can affect an issue discount and post-IPO performance. Thus, I hypothesize that discretionary accruals in pre-IPO years are negatively related to an underpricing. To test the association between discretionary accruals and underpricing, first I need to calculate underpricing or initial return which is the function of offer price and first day market closing price. It can be calculated as the following equation (equation (7));

$$Underpricing \ or \ Initial \ Return = \frac{Price_{day \ 1} - Offer \ Price}{Offer \ Price} \tag{7}$$

3.2.3 Univariate Tests of Significance of Discretionary Accruals

- Examining hypotheses H1-H9 to test whether mean discretionary accruals is significantly different from zero by accessing One-Sample t-test. In addition, I also access the Wilcoxon Signed-Rank test which is the nonparametric statistical hypothesis test to test whether median discretionary accruals is statistically different from zero. The formula of one sample t-test statistic is shown below;

$$t = \frac{\bar{x} - \mu_0}{s/\sqrt{n-1}} \tag{8}$$

where

$\bar{x}$ = sample mean,

μ_0 = population mean which is equal to 0,

s = standard deviation of the sample, and

n = sample size

- Examining hypotheses H2-H9 by accessing Independent Two-Sample t-test to test whether means discretionary accruals between two groups are significantly different. Due to unequal sample sizes and variance between two groups, this independent t-test also known as Welch's t-test that allow for unequal variance and sample size. The t statistic to test the equality of means are calculated as below;

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \tag{9}$$

where

$\bar{x}_i$ = sample mean,

s_i^2 = sample variance, and

n = sample size

I also access the nonparametric statistical hypothesis test called Wilcoxon Rank-Sum Test (also called the Mann-Whitney U Test) for these hypotheses to test whether the medians discretionary accruals between two groups are statistically different.

- H1-H7 is also examined by accessing Matched-Pairs t-test to test whether there is a significant mean difference in discretionary accruals of the same IPO firms between pre-IPO and post-IPO period. I also access Wilcoxon Matched-Pairs Signed Ranks to test whether there is a significant median difference in discretionary accruals of the same IPO firms between pre-IPO and post-IPO period.

3.2.4   Multivariate Analysis

To assess the robustness of univariate test, I run a regression to perform a horse-race test to contrast pre-IPO and post-IPO discretionary accruals by performing a regression on sets of independent variables and control variable. The dependent variable is the difference in discretionary accruals between pre- and post-IPO years. The independent variables are subsamples of hypotheses discussed in previous chapter. The estimated coefficients of the independent variables will be examined whether they correspond with the result from univariate testing. Specifically, hypothesis 2 to hypothesis 7 (H2 – H7) imply that there should be a difference in discretionary accruals between pre- and post-IPO years between (1) Big4 and non-Big4 auditors, (2) difficulty and non-difficulty in valuation of work in process, (3) high and low ownership retention, (4) small and large firm size, (5) book-building and fixed price offerings, and (6) low and high institutional investors involvement.

The regression is performed by using the difference in discretionary accruals between pre- and post-IPO years as the dependent variable as shown in equation (10). The independent variables comes from all sub-hypotheses test which consist of eight dummy variables which are Big4, IND1, High Ownership Retention, Small Firm Size, Medium Firm Size, Fixed Price, Low Institution Dist, and Medium Institution Dist. The first dummy variable is Big4, which is used to represent the reputation of auditors employed by IPO firms. It equals 1 if the auditors are Big4 auditors and equal 0 if it is non-Big4 auditors. The second one is IND1. It equals 1 if the IPO firms are grouped in IND1 which represents that firms have the lowest possibility in accounting estimation and judgment and equals 0 otherwise. The next dummy variable is High Ownership Retention, equaling 1 if the pre-issue owners retain large ownership in the firms and 0 otherwise. For Small Firm Size, it equals 1 if it is small firm, and equals 0 otherwise. Next is Medium Firm Size, equaling 1 if it is medium firm, and 0 otherwise. Next dummy variable is Fixed Price. It is used to represent the pricing techniques employed by IPO firms. It equals 1 for IPO firms using fixed price offering and equals 0 for IPO firms using book-building. For Low Institution Dist, it represents the percentage of shares marketed to institutional

investors. It equals 1 if there is low percentage of shares distributed to institutional investors, and 0 otherwise. The last dummy variable is Medium Institution Dist that equals 1 if there is medium percentage of shares distributed to institutional investors, and 0 otherwise.

In order to control for the effects on the difference of discretionary accruals between pre- and post-IPO years, sales growth in pre-IPO years (year -2 and year -1) is used as the control variable in this regression.

To address the problem of multicollinearity, I drop some independent variables that might be correlated to other variables as shown in equation (11) to equation (14).[7] The estimated coefficients from each regression will be discussed in the next chapter.

Equation (10)

$$TDA_{pre-post} = \propto + \beta_1 Big4_i + \beta_2 IND1_i + \beta_3 High\ Ownership\ Retention_i + \beta_4 Small\ Firm\ Size_i + \beta_5 Medium\ Firm\ Size_i + \beta_6 Fixed\ Price_i + \beta_7 Low\ Institution\ Dist_i + \beta_8 Medium\ Institution\ Dist_i + \beta_9 PreSG_i + \varepsilon_i$$

Equation (11): Drop Firm Size variables

$$TDA_{pre-post} = \propto + \beta_1 Big4_i + \beta_2 IND1_i + \beta_3 High\ Ownership\ Retention_i + \beta_4 Fixed\ Price_i + \beta_5 Low\ Institution\ Dist_i + \beta_6 Medium\ Institution\ Dist_i + \beta_7 PreSG_i + \varepsilon_i$$

Equation (12): Drop Big4 variable

$$TDA_{pre-post} = \propto + \beta_1 IND1_i + \beta_2 High\ Ownership\ Retention_i + \beta_3 Small\ Firm\ Size_i + \beta_4 Medium\ Firm\ Size_i + \beta_5 Fixed\ Price_i + \beta_6 Low\ Institution\ Dist_i + \beta_7 Medium\ Institution\ Dist_i + \beta_8 PreSG_i + \varepsilon_i$$

Equation (13): Drop Fixed Price variable

$$TDA_{pre-post} = \propto + \beta_1 Big4_i + \beta_2 IND1_i + \beta_3 High\ Ownership\ Retention_i + \beta_4 Small\ Firm\ Size_i + \beta_5 Medium\ Firm\ Size_i + \beta_6 Low\ Institution\ Dist_i + \beta_7 Medium\ Institution\ Dist_i + \beta_8 PreSG_i + \varepsilon_i$$

Equation (14): Drop Institution Dist variables

$$TDA_{pre-post} = \propto + \beta_1 Big4_i + \beta_2 IND1_i + \beta_3 High\ Ownership\ Retention_i + \beta_4 Small\ Firm\ Size_i + \beta_5 Medium\ Firm\ Size_i + \beta_6 Fixed\ Price_i + \beta_7 PreSG_i + \varepsilon_i$$

[7] The correlation Table of all independent variables is reported in an appendix.

CHAPTER IV

EMPIRICAL RESULTS AND RESULT DISCUSSION

This thesis shows the empirical results of all hypotheses and provides a discussion on the results of discretionary accruals exercised by Thai IPO firms in pre- and post-IPO years, including issue discount or underpricing. There are three main sections of the empirical results. The first section shows the level of discretionary accruals of Thai IPO firms in pre- and post-IPO years. This section also shows the results of mean and median difference of discretionary accruals of Thai IPO firms among groups of Big4 vs non-Big4 auditors, difficulty vs non-difficulty in valuation of work in process, high vs low ownership retention, small vs large firm size, book-building vs fixed price offerings, low vs high institutional investors involvement, and low vs high sales growth. The second section reports the results of underpricing among low, medium and high degree of absolute value of discretionary accruals in pre-IPO years. The last section reports the estimated coefficients of multivariate analysis whether or not the results are in line with the univariate results.

4.1 The Use of Discretionary Accruals in Pre- and Post-Issuing IPO

4.1.1 Discretionary Accruals of 108 Thai IPO Firms

Table 3 presents the descriptive statistics of 108 Thai IPO firms' asset-scaled absolute discretionary accruals during pre-IPO and post-IPO periods. I estimate the modified version of the cross-sectional Jones (1991) model with industry interaction terms as described in the methodology section in order to determine discretionary accruals during the years prior and after firms going public. The mean absolute discretionary accruals are 0.49, 0.50, 0.32, 0.20, and 0.13 in year -2, -1, 0, 1, and 2 respectively. It suggests that IPO firms manipulate their earnings by utilizing more discretionary accruals prior to the IPO than in the years after the IPO. When focusing on the average discretionary accruals in pre- and post-IPO years, it shows that the average value of absolute discretionary accruals in pre-IPO years (year -2 and -1) is 0.50 that is

more than the average value of absolute discretionary accruals in post-IPO years (year 1 and 2) that have the average value of 0.16. Most existing studies do not study earnings management in years prior to the IPO. This evidence is contrast to the findings of Roosenboom, Goot, and Mertens (2003) who report that the amount of discretionary accruals vary from year -2 to year +3 and the amount peaks in year 0 (IPO year). They find earnings management only in the IPO year as the first year that firms going public, but not in the years prior to the IPO. However, the final sample in this study consists of 64 IPO firms which are extremely small.

Figure 3 shows the trend of absolute discretionary accruals (TDA) during the year before and after firms going public (year -2 to year 2). The figure shows that absolute discretionary accruals peak in year -1 and then decline steadily. When focusing on the average value of absolute discretionary accruals during pre- and post-IPO years, it can be interpreted that management of Thai IPO firms engage in more earnings management during pre-IPO than post-IPO years.

To get a better understanding of the discretionary accruals trend, I also report the mean and median sales, net sales after deducting trade receivables, earnings before interest and tax (EBIT), and net income or earnings during the years before and after the IPO as shown in Table 4. The time series patterns of mean sales, sales minus trade receivables, EBIT, and earnings are shown in figure 4, and figure 5 for median. The patterns of all four variables; sales, sales minus trade receivables, EBIT, and earnings suggest that Thai IPO firms experience favorable economic circumstances before going public until 2 years after IPO. The mean (median) sales show the increasing trend start in year -2 from 2,727 (627) million baht to 6,568 (1,564) million baht in year 2. While the mean (median) sales after deducting trade receivables also show the increasing trend start from 2,435 (471) million baht in year -2 to 5,972 (1,251) million baht in year 2. Both sales and sales after deducting trade receivables show the upward trends start from 2 years prior firms going public (year -2) until 2 years after IPO (year 2). Earnings before interest and tax (EBIT) and earnings also show the increasing trends as sales and sales minus trade receivables, but the average value of EBIT and

earnings start to decline in year 1 after IPO, while the median EBIT and earnings start to decline in the year of IPO. The mean (median) EBIT starts in year -2 from 282 (55) million baht to 581 (109) million baht. Earnings also shows upward trends with mean (median) moving from 167 (31) million baht in year -2 to 403 (73) million baht in year 2.

According to the trend of discretionary accruals and the four variables just discussed, it can be interpreted that management of Thai IPO firms engage in more earnings management through discretionary accruals during pre-IPO than post-IPO years and the firms still experience the favorable upward trend of positive earnings from the year prior to IPO until two years after IPO. As shown in figures 4 and 5 the upward trends of sales and sales-AR and the decline of EBIT and earnings one year after going public, this suggests that management of Thai IPO firms manipulate their earnings by utilizing higher level of discretionary accruals in pre-IPO than post-IPO periods. If there are actual sales, EBIT and earnings should be consistent as sales. However, the figures show that EBIT and earnings decline one year after going public that are not consistent with sales. It might be the effect of pre-IPO manipulation. The managers might have incentives to smooth income because they would like to meet the investors and analyst's expectations after the IPO, and they also have the incentive to gain more profit by selling their shares in secondary market or increasing their stock value after the 1-year lock-up period.
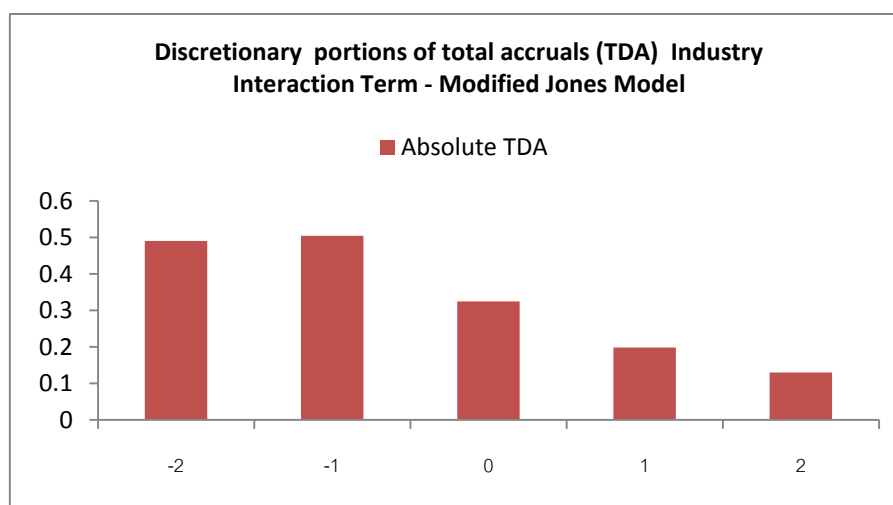
Figure 3 : Absolute value of discretionary portions of total accruals trend (TDA)

Table 3							
Descriptive statistics of absolute discretionary accruals in pre- and post-IPO years							
Table 3 reports descriptive statistics of asset-scaled absolute discretionary accruals during pre-IPO and post-IPO periods (period -2 to 2). Average Pre-IPO represents the average value of the asset-scaled absolute discretionary accruals in pre-IPO periods (period -2 and -1). Average Post-IPO represents the average value of the asset-scaled absolute discretionary accruals in post-IPO periods (period 1 and 2).							
Year	-2	-1	0	1	2	Avg Pre-IPO	Avg Post-IPO
Absolute Discretionary Portions of Total Accruals (TDA)							
Mean	0.49	0.50	0.32	0.20	0.13	0.50	0.16
Median	0.14	0.16	0.16	0.12	0.08	0.20	0.10
Maximum	11.28	6.49	4.53	3.02	0.89	8.13	1.86
Minimum	0.00	0.00	0.00	0.00	0.00	0.01	0.01
Std. Dev.	1.37	1.07	0.57	0.33	0.16	1.03	0.21
Observations	108	108	108	108	108	108	108
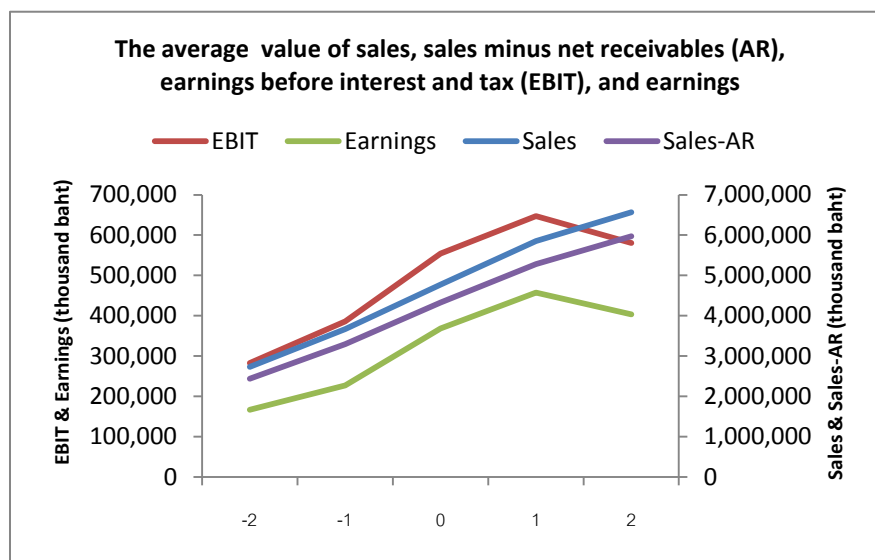
Figure 4: the average value of sales, sales-AR, EBIT, and earnings

Figure 5: the median sales, sales-AR, EBIT, and earnings

						Pre-IPO	Post-IPO	
Table 4								
Level of sales, sales subtract trade receivables, earnings before interest and tax, and earnings								
pre vs post fiscal year of IPO								
Table 4 reports the time series profile of sales, sales subtract trade receivables (sales-AR), earnings before interest and tax (EBIT), and earnings during pre-IPO and post-IPO periods. (period -2 to 2). Panel A, B, C, and D report descriptive statistics of sales, sales-AR, EBIT, and earnings respectively. Pre-IPO periods represent average value of each variable during year before IPO (period -2 and -1). Post IPO years represent average value of each variable after IPO periods (period 1 and 2) Post-Pre represents the difference of each variable value between pre-IPO years and post-IPO years.								
Year	-2	-1	0	1	2	Pre-IPO years	Post-IPO years	Post - Pre
Panel A : Sales (Million baht)								
Mean	2,727.38	3,666.59	4,774.19	5,850.98	6,567.70	3,196.99	6,209.34	3,012.35
Median	627.05	984.94	1,235.81	1,421.51	1,563.96	805.99	1,492.73	686.74
Panel B : Sales - AR (Million baht)								
Mean	2,434.58	3,291.73	4,328.24	5,278.85	5,972.17	2,863.16	5,625.51	2,762.35
Median	470.95	688.53	989.98	1,049.96	1,250.75	579.74	1,150.36	570.62
Panel C : EBIT (Million baht)								
Mean	282.46	385.71	554.57	647.23	580.61	334.08	613.92	279.84
Median	55.28	84.05	130.50	126.49	109.42	69.67	117.96	48.29
Panel D : Earnings (Million baht)								
Mean	166.99	227.00	368.43	457.38	403.10	197.00	430.24	233.24
Median	31.45	50.59	91.94	82.17	72.51	41.02	77.34	36.33
Obs.	108	108	108	108	108	108	108	108

Table 5 presents the level of discretionary accruals (TDA) before and after firms going public. I break down the average value of absolute discretionary accruals by the years before and after IPO from year -2 to year 2 to capture the magnitude of discretionary accruals. It shows that the mean and median discretionary accruals are significantly different from zero at a 1% level during pre- and post-IPO years (year -2 to year 2). The results also show the average value of absolute discretionary accruals in pre-IPO years (year -2 and year -1) and post-IPO years (year1 and year 2) for both the mean and median are significantly different from zero at a 1% significance level. When I applied Matched-Pairs testing to test whether there is the difference in absolute discretionary accruals between pre- and post-IPO years (Pre-Post), the results show that both mean and median differences are statistically significant at 1 % level. The results show that pre-IPO discretionary accruals are significantly higher than post-IPO discretionary accruals.

This result representing the level of absolute discretionary accruals in pre- and post-IPO years as shown in Table 5 supports Hypothesis 1, which states that IPO firms utilize higher discretionary accruals before going public than after IPO periods.

There appears to be no study that comprehensively explains how IPO firms manage their earnings before and after IPO years. My thesis investigates discretionary accruals as a proxy for earnings management of Thai IPO firms in both pre- and post-IPO years and the results show that IPO firms engage in more earnings management in pre-IPO years than post-IPO years. This result is surprising because the result is not similar to the existing evidence. The result is contrary to most of existing evidences report that IPO issuers make aggressive income-increasing discretionary accruals in the year of the IPO and also after the IPO years to gain high proceeds from selling their shares in primary market. Additionally, they also tend to further manipulate earnings upward after the IPO in order to meet the analysts and investor's expectations. In contrast, Teoh, Wong, and Rao (1998) and Teoh, Welch, and Wong (1998) find that IPO issuers, on average, have high positive earnings and discretionary accruals in IPO year and then followed by poor long-run performance and negative discretionary accruals.

Friedlan (1994) also reports evidence that IPO firms make income-increasing discretionary accruals in the interim report (IPO year).

However, there are a few prior studies that report discretionary accruals of IPO firms in the pre-IPO year as discussed in the literature review section. My result is contrary to the findings of Venkataraman, Weber, and Willenborg (2008), and Roosenboom, Goot, and Mertens (2003) who find lack of evidence that discretionary accruals in pre-IPO years (two years prior to IPO) are opportunistically high.

In sum, the results I have shown here are very surprising because it is not similar to most of the other existing evidence. It might be due to the difference in the institutional features between the markets Thailand and the US. Thailand is an emerging market that has limited information available to the public. In addition, most Thai public firms are classified as family controlled businesses that have a strong control in the firms. Moreover, the findings of La Porta, et al, 1997 and 1998 indicate that there is low legal enforcement quality in Thailand. These features allow managers of Thai IPO firms to easily engage in earnings management.

Table 5
Level of discretionary accruals pre vs post fiscal year of IPO
Table 5 reports the time series profile of asset-scaled discretionary accruals during pre-IPO and post-IPO periods (period -2 to 2). Time series profile of asset-scaled discretionary accruals is reported by absolute discretionary accruals. Pre-IPO years represent average discretionary accruals during year before IPO (period -2 and -1). Post IPO years represent average discretionary accruals after IPO periods (period 1 and 2). Pre-Post represents the difference of discretionary accruals between pre- and post-IPO years.

***, **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of absolute discretionary accruals between pre- and post-IPO years (Pre – Post) is tested by using Matched-Pairs Testing. |

Year	-2	-1	0	1	2	Pre-IPO years	Post-IPO years	Pre - Post
Absolute Discretionary Accruals (TDA)								
Mean	0.4907***	0.5041***	0.3248***	0.1983***	0.1296***	0.4974***	0.1640***	0.3334***
Median	0.1373***	0.1633***	0.1577***	0.1152***	0.0812***	0.1995***	0.1035***	0.0807***
Obs.	108	108	108	108	108	108	108	108

4.1.2 Discretionary Accruals between IPO Firms Audited by Big4 and Non-Big4
 Auditors

To test whether there is a difference in discretionary accruals among IPO firms audited by Big 4 and non-Big 4 auditors, I separate IPO firms based on the auditor reputation which are Big 4 and non-Big 4 auditors. Big 4 auditors are considered as high reputation of auditing while non-Big 4 auditors are considered as low auditor reputation. From a total of 108 IPO firms, there are 32 IPO firms which are audited by Big 4 auditors, while the remaining 76 IPO firms are audited by non-Big 4 auditors.

Table 6 reports the results of absolute discretionary accruals of 108 IPO firms which are audited by Big 4 and non-Big 4 auditors. The results are reported in both pre- and post-IPO periods. Panel A and B present the absolute discretionary accruals in pre-IPO periods (year -2 and year -1) and post-IPO periods (year 1 and year 2) respectively. Panel C presents the difference of absolute discretionary accruals between pre- and post-IPO years. The results of pre-IPO discretionary accruals as presented in Panel A show that both mean and median discretionary accruals of 32 IPO firms which are audited by Big 4 auditors and 76 IPO firms audited by non-Big 4 auditors are significantly different from zero. The mean (median) of discretionary accruals in pre-IPO years of IPO firms audited by Big 4 and non-Big 4 auditors are 0.6346 (0.2156) and 0.4396 (0.1977) respectively. When accessing the test of equality in mean and median discretionary accruals among IPO firms which are audited by Big 4 and non-Big 4 auditors, the results reveal that there is no difference in pre-IPO discretionary accruals between IPO firms audited by Big 4 and non-Big 4 auditors.

In Panel B, the results show that both mean and median post-IPO discretionary accruals of 32 IPO firms which are audited by Big 4 auditors and 76 IPO firms audited by non-Big 4 auditors are significantly different from zero at the 1% significance level. The mean (median) of post-IPO discretionary accruals of IPO firms audited by Big 4 and non-Big 4 auditors are 0.1462 (0.1001) and 0.1714 (0.1059) respectively. For the test of equality in mean and median of discretionary accruals in post-IPO years, the results show that there is no difference in post-IPO discretionary accruals between IPO firms

audited by Big 4 and non-Big 4 auditors. Panel C reports the results in the first and the second column that both mean and median absolute discretionary accruals of IPO firms audited by Big 4 and non-Big 4 auditors itself are significantly higher during pre-IPO than post-IPO years. In the third column, I access the test of pairwise comparisons both mean and median difference of absolute discretionary accruals of IPO firms audited by Big 4 and non-Big 4 auditors between pre-IPO and post-IPO years, the results present that there is no significant difference in discretionary accruals during pre- and post-IPO years among IPO firms audited by Big 4 and non-Big 4 auditors.

The results suggest that discretionary accruals are greater during pre- than post-IPO years for not only IPO firms audited by non-Big 4 auditors, but also for firms audited by Big 4 auditors. It suggests that both Big 4 and non-Big 4 auditors agree to the discretionary accruals utilized by their clients. The results contrast with the evidence by Becker, DeFond, Jiambalvo, and Subramanyam (1998) who find that firms audited by non-big 6 auditors report higher discretionary accruals than those audited by big 6 auditors. However, their sample firms do not focus on IPO firms as in my thesis. They obtain the large sample firms from the 1993 Compustat database and separate them into firms audited by big 6 and non-big 6 auditors in order to test the effect of audit quality on earnings management. In addition, my results are contrast with the findings of Gore et al. (2001) who find that non-big 5 auditors allow more earnings management than big 5 auditors. Their empirical tests are based on a large sample of UK firms which are different from my thesis that focuses only going public firms. However, my thesis is the first to address the difference in the degree of earnings management among IPO firms audited by the Big 4 and non-Big 4 in pre- and post-IPO periods.

In sum, the results suggest that discretionary accruals are greater during pre- than post-IPO years for not only IPO firms audited by non-Big 4 auditors, but also for firms audited by Big 4 auditors. It can be interpreted that there is no difference in detecting earnings management of Thai IPO firms between Big 4 and non-Big 4 auditors. Regardless of their reputations, auditors allow earnings management in going public firms.

Table 6
Big-4 versus Non-big-4 Auditors
Table 6 reports the statistics of absolute discretionary accruals (TDA) of 108 Thai IPO firms audited by Big-4 and Non-big-4 auditors between pre- and post-IPO years. Discretionary accruals in pre-IPO years are reported in Panel A, and post-IPO years in Panel B. Panel C reports the difference of absolute discretionary accruals between pre- and post-IPO years (Pre-Post IPO years). Big4 is a group of Thai IPO firms that audited by Big-4 auditors which are considered as high audit reputation and Non Big4 is a group of Thai IPO firms that audited by Non-big-4 auditors which are considered as low audit reputation. Big4 - Non Big4 is the difference of absolute discretionary accruals of Thai IPO firms audited by Big-4 and Non-big-4 auditors.
***, **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of discretionary accruals between two groups (Big4 - Non Big4) is tested using independent t-test for means, and Wilcoxon rank-sum test for median. In the first and the second column of Panel C, Matched-Pairs t-test and Wilcoxon Matched-Pairs test are used for mean and median, while the last column in Panel C is tested by using pairwise test for mean and median difference.

Absolute Discretionary Accruals (TDA)			
Panel A : Pre-IPO years			
	Big 4	Non Big 4	Big 4 - Non Big 4
Mean	0.6346	0.4396	0.1949
Median	0.2156	0.1977	0.0178
Obs	32	76	108
T-test p-value	0.0211**	0.0000***	0.3698
Wilcoxon p-value	0.0000***	0.0000***	0.6068
Panel B : Post-IPO years			
	Big 4	Non Big 4	Big 4 - Non Big 4
Mean	0.1462	0.1714	-0.0252
Median	0.1001	0.1059	-0.0058
Obs	32	76	108
T-test p-value	0.0000***	0.0000***	0.5734
Wilcoxon p-value	0.0000***	0.0000***	0.7956
Panel C : Pre - Post IPO years			
	Big 4	Non Big 4	Big 4 - Non Big 4
Mean	0.4883	0.2682	0.2201
Median	0.1298	0.0498	0.0800
Obs	32	76	108
Matched-Pairs t-Test p-value	0.0670*	0.0008***	0.2825
Wilcoxon Matched-Pairs p-value	0.0013***	0.0001***	0.4572

4.1.3 Discretionary Accruals between IPO Firms with Difficulty and Non-Difficulty in Valuation of Work in Process

In order to test whether there is the difference in discretionary accruals between IPO firms with difficulty and non-difficulty in valuation of work in process, firstly I separate IPO firms' industries based on the level of difficulty in valuation of work in process or level of accounting estimation and judgment. I separate industry group into 2 groups; industry group 1 (IND1) and industry group 2 (IND2). IPO firms that are grouped in IND1 which are manufacturing and retail firms that represent as the firms with the lowest possibility in accounting estimation and judgment, while firms in IND2, such as construction, real estate, natural resources and farming firms are represented as the firms with the highest possibility in accounting estimation and judgment due to the most difficulty in valuation of work in process.

Table 7 reports the industry groups' distribution of 108 Thai IPO firms that are grouped into 2 groups based on the level of accounting estimation and management judgment. Most of IPO firms are grouped into IND2 which consist of 63 firms in IND2. The remaining 45 IPO firms are grouped in IND1 that represents the lowest possibility in accounting estimation and management judgment due to non-difficulty in valuation of work in process.

Table 7			
Industry Groups			
Table 7 reports the distribution of each industry group of 108 Thai IPO firms. Thai IPO firms are grouped based on the level of accounting estimation and management judgment. IND1 possesses the lowest possibility to involve with earnings management and IND2 possess the highest possibility of earnings management. Bank, financial service, insurance, and utility are excluded from the samples.			
Industry Groups	Industry Types	Freq.	%
Industry group 1 (IND1)	- auto parts, tires, automobiles and commodity chemicals - durable/non durable household product - electrical, medical supplies, healthcare providers equipment - industrial machinery, containers and package - food retail, wholesale, specialty retailers	45	41.67%
Industry group 2 (IND2)	- construction, building materials, real estate hold - computer services, computer hardware, telecom equipment, software, internet, telecom - media agencies, broadcast and entertainment - travel and tourism, hotels, recreational services - agriculture - oil, gas and mining - farming , fishing and food products	63	58.33%
Total		108	100%

Table 8 presents the statistics of absolute discretionary accruals (TDA) of Thai IPO firms between two different industry groups. The results are reported in both pre- and post-IPO periods. Panel A and B present the absolute discretionary accruals in pre-IPO periods (year -2 and year -1) and post-IPO periods (year 1 and year 2) respectively. Panel C presents the difference of absolute discretionary accruals between pre- and post-IPO years. The results show that both mean and median discretionary accruals of IPO firms in each industry group in pre-IPO and post-IPO years as reported in Panel A and B respectively are significantly different from zero at the 1% level. When accessing mean and median difference of discretionary accruals between IPO firms which are grouped in IND1 and IND2, the results present that there is significant difference in discretionary accruals, for both mean and median, between IPO firms which are

grouped in IND1 and IND2 in pre-IPO years, while the difference is not found in post-IPO years.

Additionally, the results presented in Panel C show that both mean and median discretionary accruals of all IPO firms regardless of level of difficulty in valuation of work in process are significantly greater during pre- than post-IPO years. However, the third column in Panel C shows that the pre- versus post-IPO differences in discretionary accruals for firms which are grouped in IND1 and the pre- versus post-IPO differences in discretionary accruals for firms which are grouped in IND2 do significantly vary from each other.

Overall, the results presented in Table 8 suggest there is the difference in pre-IPO discretionary accruals between IPO firms which are grouped in IND1 and IND2. In addition, discretionary accruals are greater during pre- than post-IPO years for not only IPO firms that are grouped in IND2 that have the highest possibility of earnings management, and also for firms that are grouped in IND1 that have the lowest possibility of earnings management. The results suggest that regardless of the valuation difficulty, managers still manipulate their earnings in both pre- and post-IPO years. There are few prior studies researching earnings management in specific industries. Therefore, my results are new because I examine earnings management of IPO firms in each industry group by taking into account the difficulty in valuation of work in process which is known among practitioners to vary across industry groups.

Table 8
Statistics of Industry Groups
Table 8 reports the statistics of absolute discretionary accruals (TDA) of 108 Thai IPO firms separated into 2 industry groups between pre- and post-IPO years. Discretionary accruals in pre-IPO years are reported in Panel A, and post-IPO years in Panel B. Panel C reports the difference of absolute discretionary accruals between pre- and post-IPO years (Pre-Post IPO years). IND1 is a group of Thai IPO firms that have the lowest possibility of earnings management due to non-difficulty in valuation of work in process. IND2 is a group of Thai IPO firms that have the highest possibility of earnings management due to the difficulty in valuation of work in process. IND2 - IND1 is the difference of absolute discretionary accruals between firms which are grouped in IND2 and IND1.   ***, **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of discretionary accruals between two groups (IND2 – IND1) is tested using independent t-test for means, and Wilcoxon rank-sum test for median. In the first and the second column of Panel C, Matched-Pairs t-test and Wilcoxon Matched-Pairs test are used for mean and median, while the last column in Panel C is tested by using pairwise test for mean and median difference.

Absolute Discretionary Accruals (TDA)			
Panel A : Pre-IPO years			
	IND1	IND2	IND2 - IND1
Mean	0.1929	0.7149	0.5220
Median	0.1348	0.2723	0.1375
Obs	45	63	108
T-test p-value	0.0000***	0.0000***	0.0085***
Wilcoxon p-value	0.0000***	0.0000***	0.0014***
Panel B : Post-IPO years			
	IND1	IND2	IND2 - IND1
Mean	0.1310	0.1875	0.0565
Median	0.0906	0.1179	0.0273
Obs	45	63	108
T-test p-value	0.0000***	0.0000***	0.1708
Wilcoxon p-value	0.0000***	0.0000***	0.1763
Panel C : Pre - Post IPO years			
	IND1	IND2	IND2 - IND1
Mean	0.0619	0.5274	0.4655
Median	0.0260	0.1399	0.1139
Obs	45	63	108
Matched-Pairs t-Test p-value	0.0299**	0.0011***	0.0130**
Wilcoxon Matched-Pairs p-value	0.0422**	0.0000***	0.0092***

4.1.4 Discretionary Accruals between IPO Firms with High and Low Ownership Retention

Sub testing is also conducted on the ownership retention in which management of IPO firms can exercise accounting manipulation. I classified IPO firms into 2 categories which are high and low ownership retention. IPO firms are classified as high ownership retention when at least 75% of the paid-up capital is retained at IPO by the pre-issued owners or insiders. The management of IPO firms with high ownership retention will have the supermajority voting power over any minority shareholders. While IPO firms that are classified as low ownership retention retains less than 75% of the paid-up capital.

Table 9 reports the statistics of absolute discretionary accruals of IPO firms that have high and low ownership retention between pre-IPO and post-IPO years. Ownership retention is calculated as the ratio of the fully paid-up ordinary shares which are not sold at initial public offerings (IPO) to the total number of fully paid-up ordinary shares listed. Of the 108 IPO firms, there are 70 IPO firms having high ownership retention while the remaining 38 IPO firms having low ownership retention. This indicates that most of Thai IPO firms retain high ownership after they went public as we know that listed companies in Thailand are typically family businesses.[8] Discretionary accruals in pre-IPO years, post-IPO years, and the difference between pre- and post-IPO years are reported in Panel A, B, and C respectively. The results show the level of discretionary accruals among high and low ownership retention itself is significantly different from zero in every period around IPO, both pre-IPO, post-IPO and also pre-IPO versus post IPO years. It indicates that management of either IPO firm with high or low ownership retention exercise accounting manipulation to manipulate their earnings around IPOs. However, the mean and median differences between firms having high and low ownership retention are not statistically significant either in pre-IPO years, post-IPO years, or even

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[8] Wiwattanakantang (2000) examines the ownership structure of Thai listed firms and they find that the degree of ownership concentration is high and the controlling shareholders are mainly families businesses.

in the pre-IPO versus post-IPO years as shown in the last column of Panel A, B, and C respectively.

In sum, the results suggest that discretionary accruals exist for IPO firms having high and low ownership retention in pre- and post-IPO years. For IPO firms with high ownership retention, there is a significant difference in discretionary accruals in pre- versus post-IPO years, and the difference in the same direction is also observed for firms having low ownership retention. The results suggest that discretionary accruals are greater during pre- than post-IPO years for not only firms with low ownership retention, but also for firms with high ownership retention. In addition, the third column of Panel C shows that pre- versus post-IPO differences in discretionary accruals for high ownership retention and the pre- versus post-IPO differences in discretionary accruals for low ownership retention do not significantly vary from each other. The results are in line with the evidence from Fan and Wong (2002) who indicate that high ownership retention and large separation of ownership and control which are common in East Asia is associated with low earnings informativeness to investors because of limited information. However, the results from Table 9 suggest that IPO firms with either high or low ownership retention after going public might have their incentives to boost up their offer price by aggressively manipulating their earnings during pre-IPO years.

Table 9
Ownership Retention

Table 9 reports the statistics of absolute discretionary accruals (TDA) of 108 Thai IPO firms that have high and low ownership retention between pre- and post-IPO years. Discretionary accruals in pre-IPO years are reported in Panel A, and post-IPO years in Panel B. Panel C reports the difference of absolute discretionary accruals between pre- and post-IPO years (Pre-Post IPO years). High ownership retention is a group of Thai IPO firms that issued stocks less than or equal 25% or retain at least 75%. Low ownership retention is a group of Thai IPO firms that issued stocks more than 25%. High - Low ownership retention is the difference of absolute discretionary accruals of Thai IPO firms that have high and low ownership retention.

***, **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of discretionary accruals between two groups (High-Low Ownership Retention) is tested using independent t-test for means, and Wilcoxon rank-sum test for median. In the first and the second column of Panel C, Matched-Pairs t-test and Wilcoxon Matched-Pairs test are used for mean and median, while the last column in Panel C is tested by using pairwise test for mean and median difference.

Absolute Discretionary Accruals (TDA)			
Panel A : Pre-IPO years			
	High Retention	Low Retention	High - Low Retention
Mean	0.4643	0.5584	-0.0941
Median	0.2107	0.1883	0.0224
Obs	70	38	108
T-test p-value	0.0000***	0.0207**	0.651
Wilcoxon p-value	0.0000***	0.0000***	0.314
Panel B : Post-IPO years			
	High Retention	Low Retention	High - Low Retention
Mean	0.1662	0.1598	0.0064
Median	0.1083	0.0839	0.0244
Obs	70	38	108
T-test p-value	0.0000***	0.0021***	0.8804
Wilcoxon p-value	0.0000***	0.0000***	0.1187
Panel C : Pre - Post IPO years			
	High Retention	Low Retention	High - Low Retention
Mean	0.2980	0.3986	-0.1006
Median	0.0830	0.0359	0.0471
Obs	70	38	108
Matched-Pairs t-Test p-value	0.0007***	0.0742*	0.6083
Wilcoxon Matched-Pairs p-value	0.0000***	0.0032***	0.8495

4.1.5 Discretionary Accruals between Small and Large-Sized IPO Firms

Firm size is usually used as a proxy for information available to the public. Information for large-sized firms should be more available to the market than for small-sized firms. Due to information asymmetry between managers and investors, managers of small firms are able to conceal information from investors more successfully than managers of large-sized firms. Therefore this sub analysis is accessed to study the discretionary accruals among small and large-sized IPO firms. It is anticipated that discretionary accruals are greater during pre- than post-IPO years only for small-sized IPO firms.

There is no theoretical guidance on how many observations should be grouped into the top, middle, and bottom level. I separate the 108 IPO firm sizes into 3 groups equally which are small, medium, and large firms (36 IPO firms each). I separate firm size based on (1) total assets and (2) sales. Both total assets and sales that I used to group firm size are measured in the year prior to IPO (year -1) in order to avoid any affects to firm size before firms going public.

Table 10 reports the statistics of absolute discretionary accruals of Thai IPO firms that separate into 3 groups of firm size based on (1) total assets and (2) sales between pre-IPO and post-IPO years. Both pre-IPO, post-IPO, and pre- versus post-IPO periods as presented in Panel A, B, and C shows that mean discretionary accruals of small firms is higher than those of large firm size as expected. When considering small, medium, and large firm size itself based on both total assets and sales in pre-IPO, and post-IPO years as reported in Panel A and B respectively, the discretionary accruals are significantly different from zero either using t-test for mean or Wilcoxon signed rank for median. The results suggest that discretionary accruals still exist regardless of firm size in both pre- and post-IPO years. Moreover, the results reveal that there is not a significant difference between small and large firms in post-IPO years presented in Panel B either using total assets or sales in grouping firm size, while the difference is observed in pre-IPO years as presented in Panel A, except only firm size based on sales. However, the results for small and large firms as reported in Panel C show that

there is a difference in discretionary accruals between pre- and post-IPO years. The difference in the same direction is also observed for medium firms, except only mean difference of medium firms based on total assets that are not significantly different between pre- and post-IPO years. In addition, the last column of Panel C show that the pre- versus post-IPO differences in discretionary accruals for small firms and the pre- versus post-IPO differences in discretionary accruals for large firms do significantly varies from each other, except only the median differs when using sales to group by firm size.

From the results, I conclude according to the hypothesis that discretionary accruals are greater during pre- than post-IPO years for not only small firms, but also for large firms. However, there is a difference in discretionary accruals between small and large-sized IPO firms in pre-IPO and pre- versus post-IPO issues. Smaller IPO firms utilize higher discretionary accruals or are highly involved in earnings management when compared to large-sized firms. The results are consistent with the evidence of Aharony, Lin, and Loeb (1993) who find the results that earnings management is more pronounced among small firms. Lee and Choi (2002) find that small firms tend to engage more earnings management to avoid losses than do large firms. They indicate that managers of small-sized firms are able to retain their private information more successfully than those of large-sized firms.

Table 10
Firm Size

Table 10 reports the statistics of absolute discretionary accruals (TDA) of 108 Thai IPO firms separated into 3 groups of firm size based on total assets and sales. Discretionary accruals in pre-IPO years are reported in Panel A, and post-IPO years in Panel B. Panel C reports the difference of absolute discretionary accruals between pre- and post-IPO years (Pre-Post IPO years). Small size is a group of small-sized IPO firms that have highest possibility to earnings management. Medium size is a group of medium-sized Thai IPO firms with medium possibility to earnings management, and large size is a group of large-sized Thai IPO firms that have lowest possibility to earnings management. Low - High size is the difference of absolute discretionary accruals of small-sized and large-sized Thai IPO firms in pre- and post-IPO years. IPO firm size is grouped by total assets and sales. Both total assets and sales are measured in year before firms going public (year -1).

*** , **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of discretionary accruals between two groups (Small-Large Size) is tested using independent t-test for means, and Wilcoxon rank-sum test for median. In the first and the second column of Panel C, Matched-Pairs t-test and Wilcoxon Matched-Pairs test are used for mean and median, while the last column in Panel C is tested by using pairwise test for mean and median difference.

Absolute Discretionary Accruals (TDA)				
Panel A : Pre-IPO years				
	Small Size	Medium Size	Large Size	Small - Large Size
1. Firm size by total assets				
Mean	0.7326	0.4911	0.2685	0.4641
Median	0.2346	0.2053	0.1838	0.0508
Obs	36	36	36	72
T-test p-value	0.0003***	0.0353**	0.0000***	0.0170**
Wilcoxon p-value	0.0000***	0.0000***	0.0000***	0.0219**
2. Firm size by sales				
Mean	0.6744	0.5169	0.3008	0.3736
Median	0.2214	0.1995	0.1955	0.0259
Obs	36	36	36	72
T-test p-value	0.0007***	0.0280**	0.0000***	0.0547*
Wilcoxon p-value	0.0000***	0.0000***	0.0000***	0.4676

Panel B : Post-IPO years				
	Small Size	Medium Size	Large Size	Small - Large Size
1. Firm size by total assets				
Mean	0.2152	0.1282	0.1484	0.0668
Median	0.1031	0.0903	0.1201	-0.0169
Obs	36	36	36	72
T-test p-value	0.0003***	0.0000***	0.0000***	0.2460
Wilcoxon p-value	0.0000***	0.0000***	0.0000***	0.8262
	Small Size	Medium Size	Large Size	Small - Large Size
2. Firm size by sales				
Mean	0.1995	0.1270	0.1654	0.0341
Median	0.1076	0.0903	0.1068	0.0008
Obs	36	36	36	72
T-test p-value	0.0006***	0.0000***	0.0000***	0.5584
Wilcoxon p-value	0.0000***	0.0000***	0.0000***	0.7826
Panel C : Pre - Post IPO years				
	Small Size	Medium Size	Large Size	Small - Large Size
1. Firm size by total assets				
Mean	0.5174	0.3629	0.1201	0.3973
Median	0.1386	0.0375	0.0161	0.1225
Obs	36	36	36	72
Matched-Pairs t-Test p-value	0.0019***	0.1155	0.0367**	0.0176**
Wilcoxon Matched-Pairs p-value	0.0001***	0.0039***	0.0772*	0.0219**
2. Firm size by sales				
Mean	0.4749	0.3899	0.1354	0.3395
Median	0.1264	0.0376	0.0264	0.1000
Obs	36	36	36	72
Matched-Pairs t-Test p-value	0.0037***	0.0933*	0.0259**	0.0413**
Wilcoxon Matched-Pairs p-value	0.0002***	0.0102**	0.0242**	0.1609

4.1.6 Discretionary Accruals between IPO Firms with Book-Building and Fixed Price Offerings

There are two mechanisms for pricing IPOs in Thailand which are fixed price offerings and book-building offerings. Fixed price offerings are pricing technique without first soliciting investors demand, while book-building offerings are pricing technique used by underwriters to build a book by solicitings potential investors' demand during a road show that provides sufficient information to set the offer price. I separate the 108 IPO firms into 2 groups of pricing techniques which are 75 IPO firms using fixed price offerings and 33 IPO firms using book-building offerings. Most of IPO firms in Thai capital market use fixed price offerings to set the offer price when compared to the US market having only book-built issues.

Table 11 reports the statistics of absolute discretionary accruals of Thai IPO firms using two different pricing techniques; book-building and fixed price offerings in pre-IPO, post-IPO, and pre-IPO versus post-IPO years as presented in Panel A, B, and C respectively. Both pre-IPO and post-IPO periods as presented in Panel A and B shows that discretionary accruals utilized by IPO firms using fixed price offerings are higher than discretionary accruals utilized by IPO firms using book-building offerings as expected. When considering each pricing technique itself in pre- and post-IPO years, the results reveal that the discretionary accruals of IPO firms using each pricing technique are significantly different from zero. Moreover, I also assess the mean and median difference of discretionary accruals between fixed price and book-building offerings in pre- and post-IPO years, and the results show that only the median differs in pre-IPO years as shown in Panel A is statistically significant at the 10% level. The results suggest that discretionary accruals exist for IPO firms using two different pricing techniques in pre- and post-IPO years. The results also suggest that there is no

difference in discretionary accruals between firms using fixed price and book-building offerings either in pre-IPO or post-IPO years.

However, for the firms using fixed price offerings, there is a difference in discretionary accruals in pre- versus post-IPO years, while the discretionary accruals utilized by firms using book-building offerings in pre- versus post-IPO years are different when considering only the median. In addition, the last column in Panel C shows that the pre- versus post-IPO differences in discretionary accruals for firms using fixed price offerings and the pre- versus post-IPO differences in discretionary accruals for firms using book-building offerings do not significantly vary from each other.

In sum, I find that discretionary accruals are greater during pre- than post-IPO years for IPO firms using fixed price offerings. Moreover, I find no difference in discretionary accruals between IPO firms using fixed price and book-building offerings in the periods of pre-IPO versus post-IPO. Therefore, the behavior of earnings manipulation before and after IPO is similar between the two pricing techniques. This similarity indicates that issuers manipulate earnings regardless of whether or not regular investors are involved in the price-setting process. These results are new to the research in finance because prior research does not study earnings management among firms using two different pricing techniques.

Table 11

Pricing Techniques

Table 11 reports the statistics of absolute discretionary accruals (TDA) of 108 Thai IPO firms with two pricing techniques; book-building and fixed price offering, between pre- and post-IPO years. Discretionary accruals in pre-IPO years are reported in Panel A, and post-IPO years in Panel B. Panel C reports the difference of absolute discretionary accruals in pre- and post-IPO years (Pre-Post IPO years). Book-building offerings are pricing technique used by underwriters to build a book solicits potential investors' demand (pre-orders). Fixed price offerings are pricing technique without first soliciting investors demand. Fixed price - Book building is the difference of absolute discretionary accruals of Thai IPO firms that used fixed price and book-building pricing technique.

    ***, **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of discretionary accruals between two groups (Fixed price-Book building) is tested using independent t-test for means, and Wilcoxon rank-sum test for median. In the first and the second column of Panel C, Matched-Pairs t-test and Wilcoxon Matched-Pairs test are used for mean and median, while the last column in Panel C is tested by using pairwise test for mean and median difference.

Absolute Discretionary Accruals (TDA)			
Panel A : Pre-IPO years			
	Book-building offering	Fixed price offering	Fixed price - Book building
Mean	0.4518	0.5174	0.0656
Median	0.1422	0.2314	0.0892
Obs	33	75	108
T-test p-value	0.0724*	0.0000***	0.7612
Wilcoxon p-value	0.0000***	0.0000***	0.0817*
Panel B : Post-IPO years			
	Book-building offering	Fixed price offering	Fixed price - Book building
Mean	0.1231	0.1819	0.0588
Median	0.0837	0.1079	0.0242
Obs	33	75	108
T-test p-value	0.0000***	0.0000***	0.1826
Wilcoxon p-value	0.0000***	0.0000***	0.1844
Panel C : Pre - Post IPO years			
	Book-building offering	Fixed price offering	Fixed price - Book building
Mean	0.3287	0.3355	0.0068
Median	0.0294	0.0862	0.0568
Obs	33	75	108
Matched-Pairs t-Test p-value	0.1873	0.0001***	0.9735
Wilcoxon Matched-Pairs p-value	0.0382**	0.0000***	0.2123

4.1.7 Discretionary Accruals between IPO Firms with High and Low Institutional

Investor Involvement

Chiang et al. (2010) indicate that institutional investors are better informed than individual investors because there is information asymmetry. Therefore, it may be more difficult for the issuers to manipulate earnings when the issue is a large offering relative to a small offering. As a result, I expect that discretionary accruals are lower for IPO firms that marketed their shares to institutional investors than for IPO firms marketed primarily to retail investors. In this research, sales reports are used as a proxy for target investors. I separate IPO firms into three groups based on share distribution as a percentage of institutional investor involvement which are low, medium, and high institutional investor involvement. From the 108 IPO firms, 2 firms are out of the sample because there were no sales reports. Therefore, the final sample in this sub testing is 106 IPO firms.[9] Note that there is no theoretical guidance how many observations should be grouped into top, middle and bottom level. I separate the 106 IPO firms into three groups (30%, 40%, and 30% for top, middle, and bottom level) which are 32 IPO firms that have low institution involvement, 42 IPO firms that have medium institution involvement, and the remaining 32 IPO firms that have high institution involvement. The data that I collected includes share distribution to both Thai and foreign investors and I combine shares marketed to corporations with shares marketed to individuals as both are not sophisticated investors.

Table 12 reports the statistics of absolute discretionary accruals of Thai IPO firms that have low, medium, and high institutional investor involvement between pre- and post-IPO years. When considering mean and median discretionary accruals of each group of IPO firms in pre-IPO and post-IPO years as presented in Panel A and B

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[9] There are two IPO firms that have no sales results reports which are IRCP and GRAMMY.

respectively, the results show that discretionary accruals are significantly different from zero. The results indicate that discretionary accruals exist for IPO firms regardless of the percentage of share distribution to any investors. In addition, the results reveal that there is no difference in earnings management between IPO firms that have high and low institutional investor involvement in pre- and post-IPO years as shown in Panel A and B.

However, the discretionary accruals are significantly different from zero in pre-IPO versus post-IPO periods for all IPO firms regardless of percentage of share distribution. In addition, the last column of Panel C suggests that the pre- versus post-IPO differences in discretionary accruals for IPO firms that have high institutional investor involvement and the pre- versus post-IPO differences in discretionary accruals for IPO firms that have low institutional investor involvement do not significantly vary from each other.

In sum I conclude that discretionary accruals are greater during pre- than post-IPO years for not only IPO firms that have low institutional investor involvement, but also for firms that have high institutional investor involvement. Moreover, I find no difference in discretionary accruals between IPO firms having high and low institution involvement in the periods of pre- versus post-IPO. Several prior empirical papers find that institutional investors are favored in IPO allocations when using US and UK data. Brennan and Frank (1997) indicate that underpricing creates cascading demand that allow issuers and underwriters to decide to whom shares allocated. To my knowledge, there is no prior research in finance examine earnings management among IPO firms with different share allocations. Thus, my study provides new evidence on earnings management among IPO firms with different share allocations to see how IPO firms with different share allocations manipulate their earnings before and after IPO years.

Table 12
Share Distribution

Table 12 reports the statistics of absolute discretionary accruals (TDA) of 106 Thai IPO firms separated into 3 groups which are low, medium, and high percentage of share distribution to institutional investor involvement between pre- and post-IPO years. Discretionary accruals in pre-IPO years are reported in Panel A, and post-IPO years in Panel B. Panel C reports the difference of absolute discretionary accruals in pre- and post-IPO years (Pre-Post IPO years). High-Low Institution Involved is the difference of absolute discretionary accruals of Thai IPO firms between high and low percentage of share distribution to institutional investor involvement.

***, **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of discretionary accruals between two groups (High-Low Institution Involved) is tested using independent t-test for means, and Wilcoxon rank-sum test for median. In the first and the second column of Panel C, Matched-Pairs t-test and Wilcoxon Matched-Pairs test are used for mean and median, while the last column in Panel C is tested by using pairwise test for mean and median difference.

Absolute Discretionary Accruals (TDA)				
Panel A : Pre-IPO years				
	Low Institution Involved	Medium Institution Involved	High Institution Involved	High-Low Institution Involved
Mean	0.4296	0.3790	0.7104	0.2809
Median	0.2054	0.2157	0.1906	-0.0148
Obs	32	42	32	64
T-test p-value	0.0050***	0.0000***	0.0166**	0.3751
Wilcoxon p-value	0.0000***	0.0000***	0.0000***	0.9625
Panel B : Post-IPO years				
	Low Institution Involved	Medium Institution Involved	High Institution Involved	High-Low Institution Involved
Mean	0.1306	0.1772	0.1885	0.0579
Median	0.0972	0.1246	0.0990	0.0018
Obs	32	42	32	64
T-test p-value	0.0000***	0.0000***	0.0031***	0.3502
Wilcoxon p-value	0.0000***	0.0000***	0.0000***	0.8038
Panel C : Pre - Post IPO years				
	Low Institution Involved	Medium Institution Involved	High Institution Involved	High-Low Institution Involved
Mean	0.2989	0.2018	0.5219	0.2230
Median	0.0843	0.0847	0.0362	-0.0481
Obs	32	42	32	64
Matched-Pairs t-Test p-value	0.0388**	0.0129**	0.0550*	0.4542
Wilcoxon Matched-Pairs p-value	0.0058***	0.0027***	0.0086***	0.8142

4.1.8 Discretionary Accruals between IPO Firms with High and Low Sales Growth in Pre- and Post-IPO Years.

As discussed in the literature review section, sales growth is used as the proxy of investment opportunity. Thus, I examine absolute discretionary accruals among IPO firms with low, medium, and high sales growth in pre- and post-IPO years. Sales growth in pre-IPO years is calculated from the year prior to IPO (year -2 and year-1) and sales growth in post-IPO years is calculated from the year after IPO (year 1 and year 2). I separate the 108 IPO firms equally into three groups of 36 as low, medium, and high sales growth.

Table 13 reports the statistics of absolute discretionary accruals among IPO firms with low, medium, and high sales growth in pre-IPO and post-IPO years as shown in Panel A and B respectively. The results show that both mean and median discretionary accruals of IPO firms that have low, medium, and high growth in sales in either pre- or post-IPO years are significantly different from zero at 1% level. The results indicate that discretionary accruals exist for IPO firms regardless of growth in sales in both pre- and post-IPO years. The results contradict my expectation that firms with high sales growth utilize higher pre-IPO discretionary accruals than firms with low sales growth. The results show that only median difference in pre-IPO years as shown in the last column of Panel A is statistically significant with median difference of 0.1613, while the mean is insignificant.

In sum, I conclude that IPO firms manipulate their earnings by utilizing discretionary accruals regardless of sales growth in both pre- and post-IPO years. In addition, mean discretionary accruals of IPO firms that have low and high growth in sales are not different in both pre- and post-IPO years. The results contrast with the evidence of Zach (2004) who finds that high accrual firms exhibit higher sales growth than low accrual firms. He provides evidence on the characteristics of sticky firms that

sticky high accruals firms are associated with extreme past and future sales growth. Madhogarihia, Sutton, and Kohers (2009) study the earnings management of growth versus value firms and they find that growth firms tend to manage their earnings upward and downward more aggressively than value firms. However, prior research does not study earnings management of IPO firms among high and low sales growth. My thesis provides new empirical results on earnings management of IPO firms among high and low sales growth in both pre- and post-IPO years.

Table 13			
Sales Growth			
Table 13 reports the statistics of absolute discretionary accruals (TDA) of 108 Thai IPO firms with low, medium, and high sales growth in pre- and post-IPO years. Panel A reports absolute value of discretionary accruals (TDA) of low, medium, and high sales growth in pre-IPO years (year-2 and year-1). Panel B reports absolute value of discretionary accruals (TDA) of low, medium, and high sales growth in post-IPO years (year 1 and year2). Sales growth is grouped into 3 groups which are low, medium, and high sales growth. High - low sales growth is the difference of discretionary accruals of Thai IPO firms between 2 groups; high and low sales growth in pre-IPO and post-IPO periods as presented in Panel A and B respectively.			
***, **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of discretionary accruals between two groups (High-Low Sales Growth) is tested using independent t-test for means, and Wilcoxon rank-sum test for median.			
Absolute Discretionary Accruals (TDA)			
Panel A : Pre-IPO years (year-2 and -1)			
	Low Sales Growth	Medium Sales Growth	High Sales Growth	High - Low Sales Growth
Mean	0.3812	0.3093	0.8017	0.4205
Median	0.1656	0.1351	0.3269	0.1613
Obs	36	36	36	72
T-test p-value	0.0016***	0.0075***	0.0026***	0.1254
Wilcoxon p-value	0.0000***	0.0000***	0.0000***	0.0134**
Panel B : Post-IPO years (year1 and 2)			
	Low Sales Growth	Medium Sales Growth	High Sales Growth	High - Low Sales Growth
Mean	0.2050	0.1172	0.1697	-0.0354
Median	0.1369	0.0862	0.1336	-0.0033
Obs	36	36	36	72
T-test p-value	0.0003***	0.0000***	0.0000***	0.532
Wilcoxon p-value	0.0000***	0.0000***	0.0000***	0.9327

4.2 Underpricing among IPO Firms with Different Degree of Discretionary Accruals

As discussed in the literature review section that if discretionary accruals utilized by IPO firms successfully fool investors, I expect that there is a negative relationship between discretionary accruals in pre-IPO years and issue discount. From the 108 IPO firms, one firm which is GRAMMY is removed from the sample because of the trading date is out of the sample period. Thus, the final sample consists of 107 IPO firms. To test underpricing among various degree of discretionary accruals, first I separate the degree of discretionary accruals into three groups which are 32 IPO firms in low, 43 IPO firms in medium, and 32 IPO firms in high degree of discretionary accruals. Next, I calculate underpricing as the percentage difference between first-day market closing price and offer price.

Table 14 reports the statistics of underpricing of 107 Thai IPO firms with high, medium, and low degree of absolute discretionary accruals (TDA) in pre-IPO years. The results reveal underpricing exists when IPO firms having high and medium degree of pre-IPO discretionary accruals. However, underpricing is not found in the IPO firms having low degree of discretionary accruals. In addition, the results show that underpricing in IPO firms with high degree of discretionary accruals is greater than IPO firms with low degree of discretionary accruals.

To my knowledge, there is not any prior research in finance studying underpricing among IPO firms with various degrees of discretionary accruals, and my thesis is the first to address this issue. The results are surprising because I hypothesized that discretionary accruals in pre-IPO years are negatively related to an issue discount. From my understanding, when IPO firms aggressively manipulate their earnings, they expect to fool their investors successfully to gain high proceeds. Therefore, I expect less or no underpricing to be found in IPO firms with high degree of discretionary accruals. However, the results show that underpricing is positively related to pre-IPO discretionary accruals. The higher the discretionary accruals, the more underpricing occurs. The

possible explanation is that managers of IPO firms might have other incentives not only to gain high proceeds from their initial offerings but also for the future. They might have incentives to smooth their incomes in order to increase the stocks' value so that they can make profit by selling their shares later in the secondary market.

Table 14			
Underpricing			
Table 14 reports the statistics of underpricing or initial return of 107 Thai IPO firms with high, medium, and low degree of absolute discretionary accruals (TDA) in pre-IPO years. Absolute value of discretionary accruals in pre-IPO years is grouped as high, medium, and low degree of discretionary accruals. Underpricing is the percentage difference between first-day market closing price and offer price. High - low TDA is the difference of underpricing or issue discount of Thai IPO firms between 2 groups; high and low degree of discretionary accruals in pre-IPO periods. ***, **, and * represent significance at 1%, 5%, and 10% level respectively, two-tailed, based on T distribution for means, and Wilcoxon signed rank for median. The difference of issue discount between two groups (High-Low TDA) is tested using independent t-test for means, and Wilcoxon rank-sum test for median.			
Underpricing or Initial Return			
	High TDA	Medium TDA	Low TDA	High - Low TDA
Mean	23.18%	11.31%	6.61%	16.57%
Median	11.55%	2.11%	-0.41%	11.96%
Obs	32	43	32	64
T-test p-value	0.0007***	0.0356**	0.1927	0.0409**
Wilcoxon p-value	0.0041***	0.0658*	0.6959	0.0281**

4.3 Multivariate Analysis

Next, I turn to the regression analysis to examine whether or not the univariate results hold in the multivariate setting.

Table 15 reports the estimated coefficients when the dependent variable is the difference of absolute discretionary accruals between pre- and post-IPO years. Equation (10) as discussed in the methodology section is run as the full model consisting of eight dummy variables (Big4, IND1, High Ownership Retention, Small Firm Size, Medium Firm Size, Fixed Price, Low Institution Dist, and Medium Institution Dist) and one control variable which is pre-IPO sales growth (PreSG). The coefficient of the Big4 dummy

variable is small and insignificant. This finding is consistent with the univariate results reported in Panel C of Table 6 in that there is no difference in discretionary accruals during pre-IPO versus post-IPO years between IPO firms audited by Big 4 auditors and Non-Big 4 auditors. The results in equation (10) also show that the IND1 dummy variable has an insignificant negative coefficient. This finding confirms the results in Panel C of Table 8 that IPO firms that are grouped in IND2 utilize greater discretionary accruals than firms grouped in IND1 in pre-IPO versus post-IPO periods. For the ownership variable, the coefficient is small and insignificant, which is in line with the univariate results reported in Panel C of Table 9 in the pre-IPO versus post-IPO differences in discretionary accruals of firms with high ownership retention and the pre-IPO versus post-IPO differences in discretionary accruals of firms with low ownership retention do not significantly vary from each other. Moreover, the results show that the coefficients of the small and medium firm size dummy variables are significantly negative, confirming the results in Panel C of Table 10 that smaller IPO firms utilize higher discretionary accruals during pre-IPO versus post-IPO years than large-sized IPO firms. In addition, fixed price, low institution dist, and high institution dist variables have insignificant coefficients that are in line with the univariate results reported in Panel C of Table 11 and 12 respectively. The results confirm that the discretionary accruals between IPO firms using fixed price and book-building techniques, and also between IPO firms with low and high institutional investor involvement are not significantly different during pre-IPO versus post-IPO years. Last, the coefficient of sales growth in pre-IPO years (PreSG) control variable is very small and insignificant.

In sum, all estimated coefficients obtained from equation (10) reported in Table 15 are in line with the uinvariate results as discussed above. In the presence of other factors, there is reliable evidence that larger size of IPO firms utilize lower discretionary accruals than small-sized IPO firms and also IPO firms which are grouped in IND1 have discretionary accruals lower than IPO firms grouped in IND2 as discussed that IND2 is represented as the firms with the highest possibility in earnings management due to the most difficulty in valuation of work in process, such as construction and services firms.

To address the problem of multicollinearity that might affect the regression analysis, six independent variables which are Small and Medium Firm Size, Big4, Fixed Price, and Low and Medium Institution Dist are discussed. I rerun this regression without these variables as shown in equation (11) to equation (14) of Table 15. The similar results as full model are obtained. All explanatory variables in equation (11) to equation (14) remain unchanged from the full model (equation (10)).

These results together are in line with the univariate tests. The results reveal that these explanatory variables are unlikely to cause a serious multicollinearity problem.

Table15 Estimated Coefficients (Pre-Post IPO Years)					
Regression analysis of the absolute discretionary accruals. The dependent variable is the difference of absolute discretionary accruals between pre- and post-IPO years. All explanatory variables are defined as in the methodology section.					
***, **, and * represent significance at 1%, 5%, and 10% level respectively.					
Explanatory variables	Eq. (10)	Eq. (11)	Eq. (12)	Eq. (13)	Eq. (14)
Constant	0.3130	0.5509**	0.4713*	0.3043	0.2205
1 if audited by Big4	0.2711	0.1804		0.2711	0.2651
1 if grouped in IND1	-0.5011**	-0.4673**	-0.5102***	-0.5009***	-0.4925***
1 if High Ownership Retention	-0.0047	-0.0507	-0.0210	-0.0058	-0.0464
1 if grouped in Small Size	0.5059**		0.4609*	0.5006**	0.4821**
1 if grouped in Medium Size	0.4513*		0.3933*	0.4484*	0.3915*
1 if using Fixed Price	-0.0251	0.0641	-0.0252		-0.0620
1 if having Low Institution Dist	-0.1515	-0.0630	-0.1949	-0.1621	
1 if having Medium Institution Dist	-0.2995	-0.2350	-0.3410	-0.3041	
Pre-IPO Sales Growth	0.0179	0.0237	0.0169	0.0177	0.0224
R-Square	0.1385	0.0916	0.1237	0.1384	0.1204
Adjusted R-Square	0.0577	0.0267	0.0514	0.0673	0.0588
F-statistics	1.7144*	1.4116	1.7118	1.9469*	1.9549*
Number of obs.	106	106	106	106	108

CHAPTER V

CONCLUSIONS AND AREA FOR FUTURE RESEARCH

In this study, I examine the level of discretionary accruals which is the proxy of earnings management provided by going public firms in both pre- and post-IPO years. If IPO firms have incentives to manipulate their earnings to receive high proceeds from their initial public offerings, the extent to which discretionary accruals utilized by IPO firms should be greater during pre- than post-IPO years. I derive discretionary accruals by using Modified Jones Model with industry interaction term estimated cross-sectionally. I document significantly greater discretionary accruals utilized by IPO firms during pre- than post-IPO years, indicating that IPO firms manipulate their earnings by utilizing higher discretionary accruals in pre-IPO than post-IPO years. The results are robust with respect to the other methods used to estimate normal accruals.

This thesis also examines discretionary accruals during pre- and post-IPO years among IPO firms audited by Big 4 and non-Big 4 auditors. I find that discretionary accruals are significantly greater during pre- than post-IPO years for not only IPO firms audited by Big 4 auditors, but also for IPO firms audited by non-Big 4 auditors. This finding suggests that auditors agree to the discretionary accruals utilized by their clients regardless of the auditor reputation. In addition, I examine earnings management among IPO firms grouped in IND1 and IND2 that are subject to a different degree of accounting estimation and judgment. I find evidence that IPO firms that are grouped in IND1 and IND2 engage in more earnings management during pre- than post-IPO years. It suggests that IPO firms utilize greater discretionary accruals during pre- than post-IPO years regardless of the level of difficulty in valuation of work in process. I also study on earnings management in IPO firms with different IPO ownership structures. I find that discretionary accruals are significantly greater during pre- than post-IPO years not only for firms with high ownership retention, but also for firms with low ownership retention. Additionally, I investigate earnings management among small and large-sized IPO firms and provide evidence that pre-IPO discretionary accruals are significantly greater than

post-IPO discretionary accruals for both small and large firms using either total assets or sales in year prior to IPOs (year -1) to group by firm size. I also document that IPO firms that use fixed price offerings to set their offer prices utilize significantly greater discretionary accruals during pre- than post-IPO years. To further test on earnings management among IPO firms with high and low institutional investor involvement in their share distribution, I find that pre-IPO discretionary accruals are significantly greater than post-IPO discretionary accruals for both IPO firms with high and low institutional investor involvement. It suggests that IPO firms engage in more earnings management during pre-IPO than post-IPO years regardless of whom shares are distributed. This thesis also examines earnings management among IPO firms having low and high sales growth before and after IPO years. I find that there is no mean difference in discretionary accruals between IPO firms having high and low sales growth in both pre- and post-IPO years. This finding suggests that IPO firms manipulate their earnings by utilizing discretionary accruals regardless of their growth prospects in pre- and post-IPO years. Moreover, I find one interesting pattern that there is no difference of discretionary accruals between IPO firms with different characteristics, especially in IPO years. This can be viewed as extensive evidence of accounting manipulation.

I also study underpricing among different level of discretionary accruals in pre-IPO years. Interestingly, I find a positive relation between underpricing and pre-IPO discretionary accruals. The possible explanation is that managers might have incentives to smooth their incomes to gain more profit from the secondary market rather than to gain high proceeds from their initial offerings. Additionally, I perform the regression and find that the univariate results hold in the multivariate setting.

This thesis provides comprehensive new insights into how going-public firms manage their earnings through discretionary portions of total accruals both pre- and post-IPO years by using Thai data. The suitability of Thai data for the research objective of this thesis would be fruitful to replicate this thesis using data from other emerging markets. This will help in confirming the evidence documented in this thesis.

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APPENDICES

APPENDIX A
ROBUSTNESS TESTS

This thesis examines discretionary accruals which are under control of management and act as a proxy for earnings management. All reported findings are derived from the Modified Jones Model with industry interaction terms as discussed in methodology section. It is valuable to perform robustness tests to see how robust the empirical findings are when using alternative measures of discretionary accruals for detecting earnings management. To check on the robustness of the findings, I use four alternative accruals-based models to measure discretionary accruals which are Jones (1991) Model, Modified Jones Model, Jones Model with industry interaction term, and Modified Jones Model with industry interaction term. For each alternative accrual-based model, I measure discretionary accruals as a proxy for earnings management based on three alternative accounts which are (1) total discretionary accruals, (2) only discretionary current accruals and (3) three variables from the separation of discretionary accruals which are total discretionary accruals (TDA), discretionary current accruals (DCA), and discretionary non-current or long-term accruals (DLA). The discretionary accruals trends reported in this thesis are robust with alternative measures of earnings management.

1. Jones (1991) Model

The standard Jones (1991) Model is the most popular discretionary model that attempts to control for the effects of change in the company's economic conditions on nondiscretionary accruals. This model is able to decompose accruals into discretionary and nondiscretionary accruals.

1.1 Total Discretionary Accruals (TDA)

The Jones model is applied to derive discretionary portions of total accruals (TDA) with the sample size of 111 IPO firms. Cross-sectional regression by industry during years 1999 to 2009 is accessed as equation (2) shown in methodology section. I keep all estimated parameters and add them into equation (3) to derive nondiscretionary portions of total accruals for each IPO firms that are used to plug into equation (5) to

derive discretionary portions of total accruals (TDA) for each sample firms as a proxy for earnings management. The time series of discretionary accruals patterns, mean and median sales, earnings before interest and tax (EBIT), and net income or earnings are shown below;
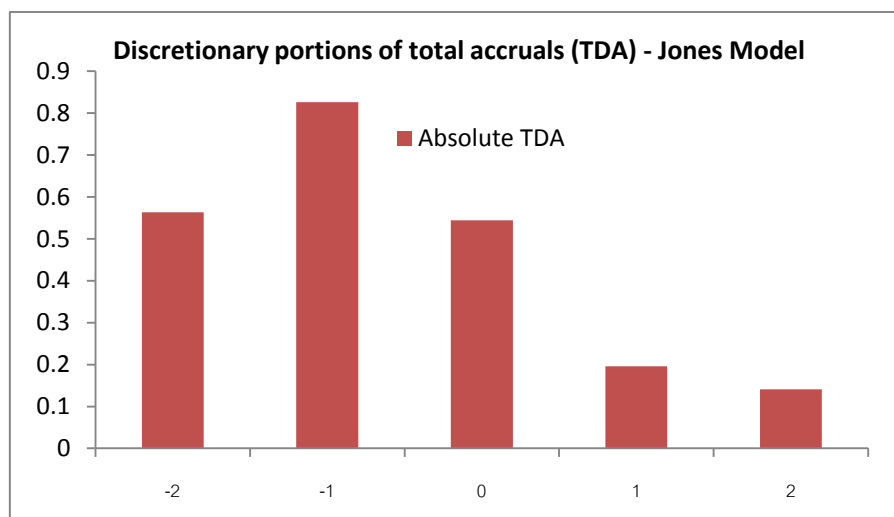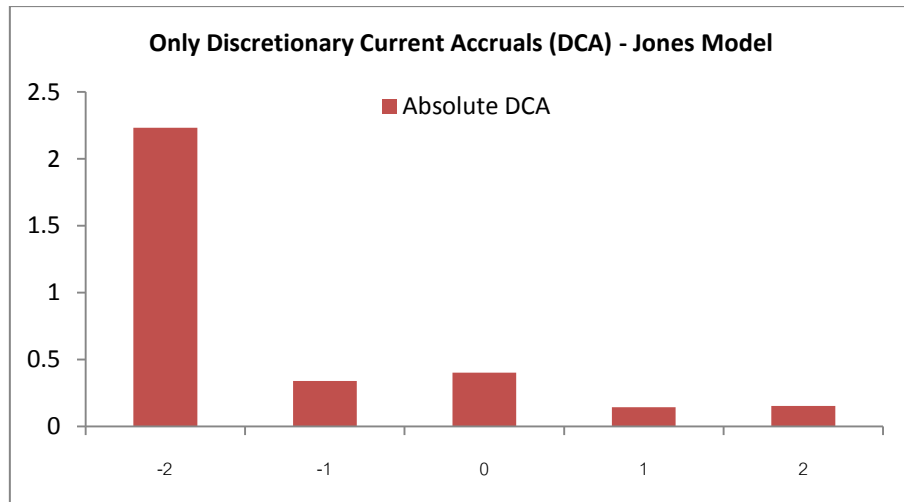

Figure 6: Time series pattern of discretionary portions of total accruals (TDA) under Jones model
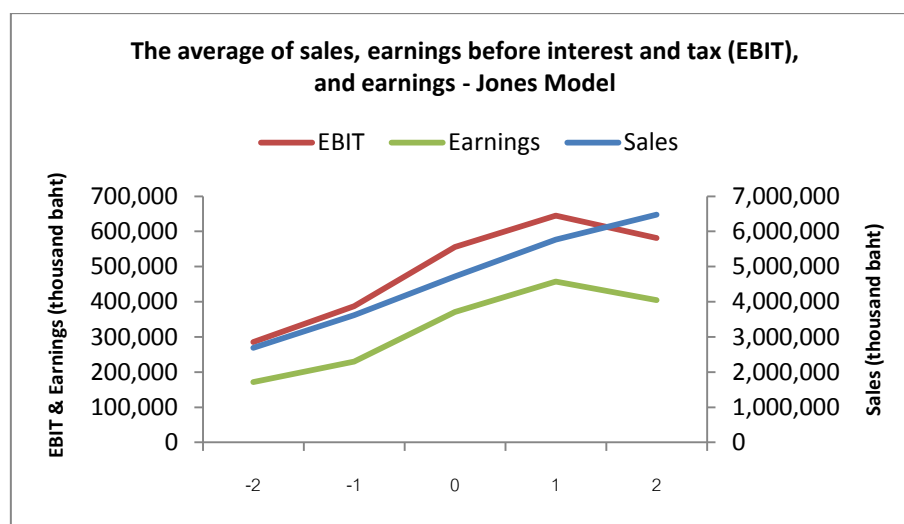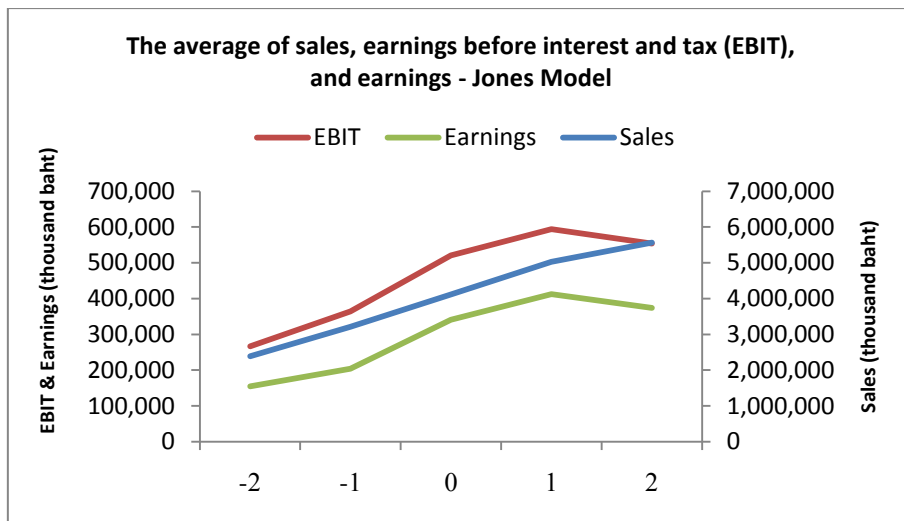

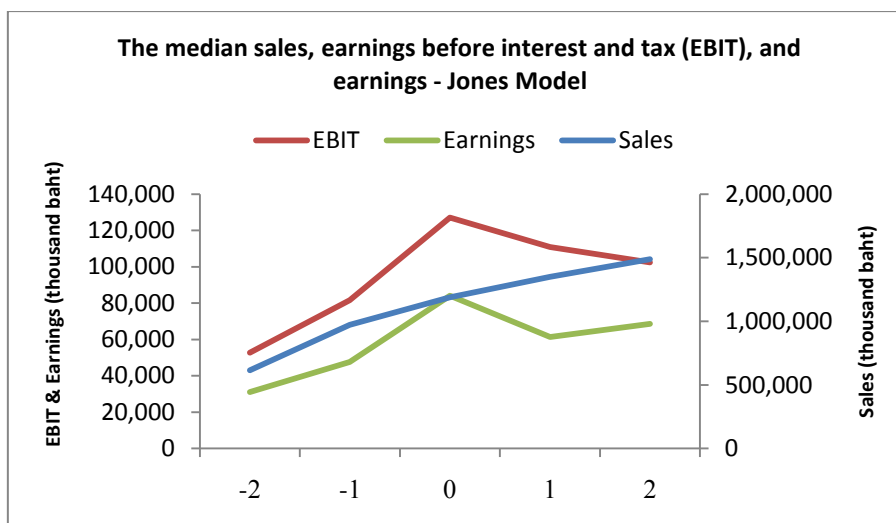Figure 7: The mean sales, EBIT, and earnings of 111 sample firms under Jones model
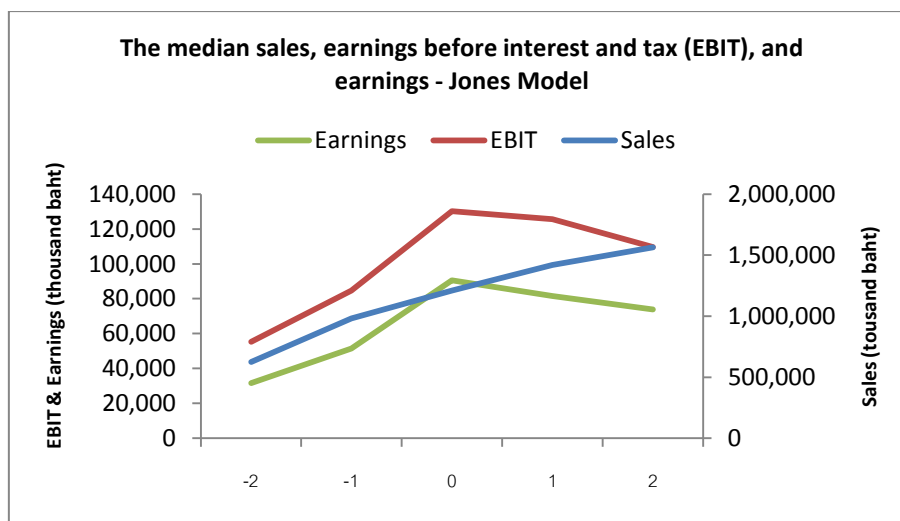
Figure 8: the median sales, EBIT, and earnings of 111 sample firms under Jones model

1.2 Only Discretionary Current Accruals (DCA)

Current accruals (CA) are calculated as equation shown below;

$$Current\ Accruals\ (CA) = \\ \Delta(current\ assets - cash) - \\ \Delta(current\ liabilities - current\ portion\ of\ longterm\ debt) \qquad (15)$$

To derive discretionary current accruals (DCA), 112 sample IPO firms under cross-sectional Jones model are accessed as equation shown below;

$$\frac{CA_{j,t}}{TA_{j,t-1}} = \alpha_0 \left(\frac{1}{TA_{j,t-1}}\right) + \alpha_1 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) + \epsilon_{j,t} \qquad (16)$$

Then, I obtain these estimated parameters and add them into below equation;

$$NDCA_{i,t} \equiv \hat{\alpha}_0 \left(\frac{1}{TA_{i,t-1}}\right) + \hat{\alpha}_1 \left(\frac{\Delta Sales_{i,t}}{TA_{i,t-1}}\right) \qquad (17)$$

The nondiscretionary current accruals (NDCA) derived from equation (17) are used to plug in to equation (18) to get discretionary current accruals (DCA) for each IPO firms as a proxy for earnings management.

$$DCA_{i,t} = \frac{CA_{i,t}}{TA_{i,t-1}} - NDCA_{i,t} \qquad (18)$$

The time series of discretionary current accruals patterns, mean and median sales, earnings before interest and tax (EBIT), and net income or earnings are shown below;
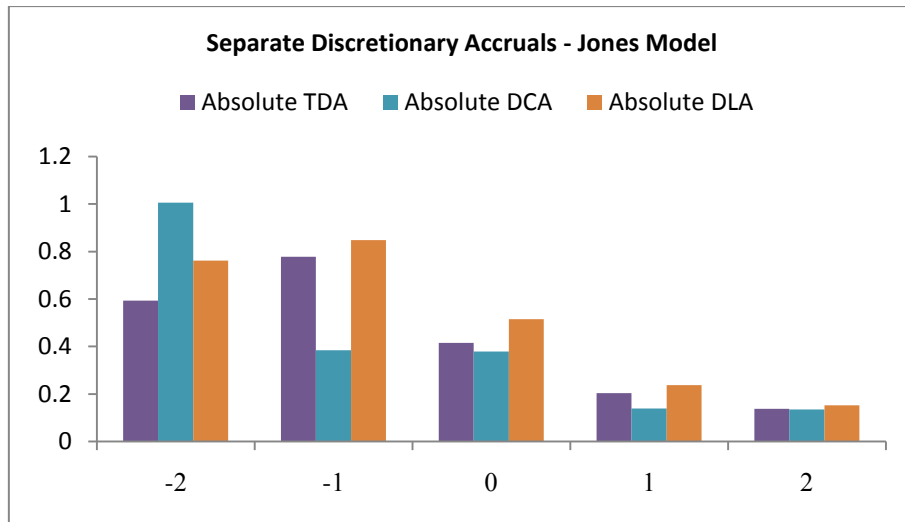
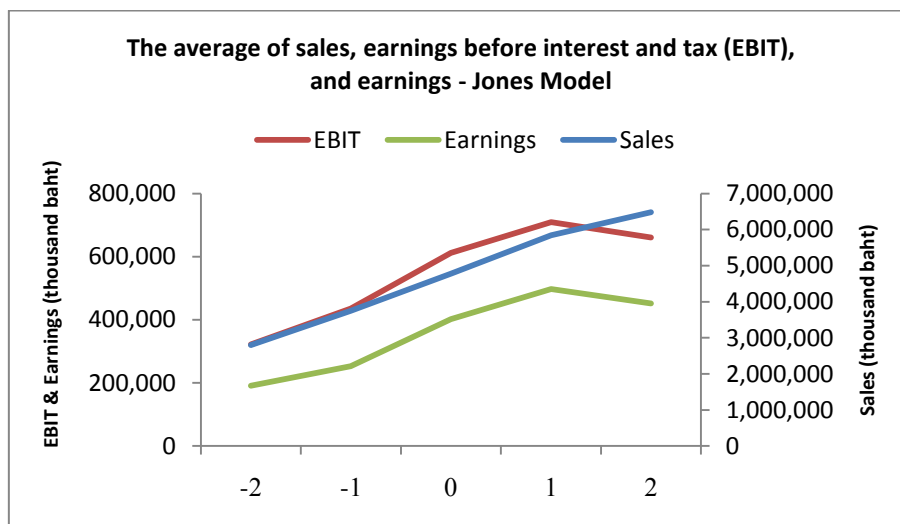Figure 9: Time series pattern of discretionary current accruals (DCA) under Jones model

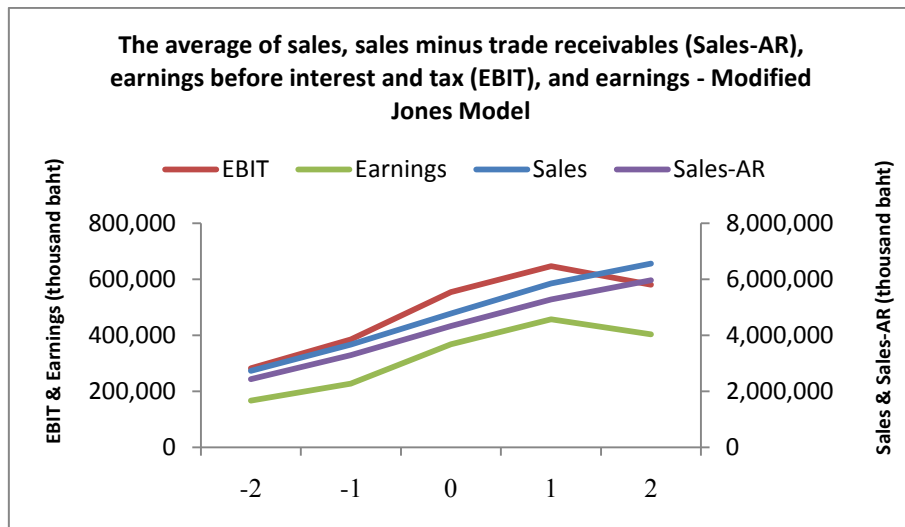Figure 10: The mean sales, EBIT, and earnings of 112 sample firms under Jones model

Figure 11: the median sales, EBIT, and earnings of 112 sample firms under Jones model

1.3 The Separation of Total Discretionary Accruals into 3 Variables; Total Discretionary Accruals (TDA), Discretionary Current Accruals (DCA), and Discretionary Long-Term Accruals (DLA)

The final sample of this method is 89 IPO firms. I access cross-sectional Jones model on total accruals and current accruals as equation (2) and equation (16) respectively, then I derive nondiscretionary portions of total accruals and current accruals as equation (3) and (17) respectively. The discretionary portion of total accruals (TDA) and discretionary current accruals (DCA) are represented as the residuals shown in equation (5) for TDA and equation (18) for DCA. Nondiscretionary long-term accruals (NDLA) can be calculated as below;

$$\text{NDLA}_{i,t} = \text{NDA}_{i,t} - \text{NDCA}_{i,t} \tag{19}$$

After that, I plug NDLA into below equation to derive discretionary long-term accruals (DLA) for each IPO firms.

$$\text{DLA}_{i,t} = \frac{\text{TAC}_{i,t} - \text{CA}_{i,t}}{\text{TA}_{i,t-1}} - \text{NDLA}_{i,t} \tag{20}$$

The time series patterns of 3 variables separated from total discretionary accruals, mean and median sales, earnings before interest and tax (EBIT), and net income or earnings are shown below;

Figure 12: Time series pattern of TDA, DCA, and DLA under Jones model

Figure 13: The mean sales, EBIT, and earnings of 89 sample firms under Jones model
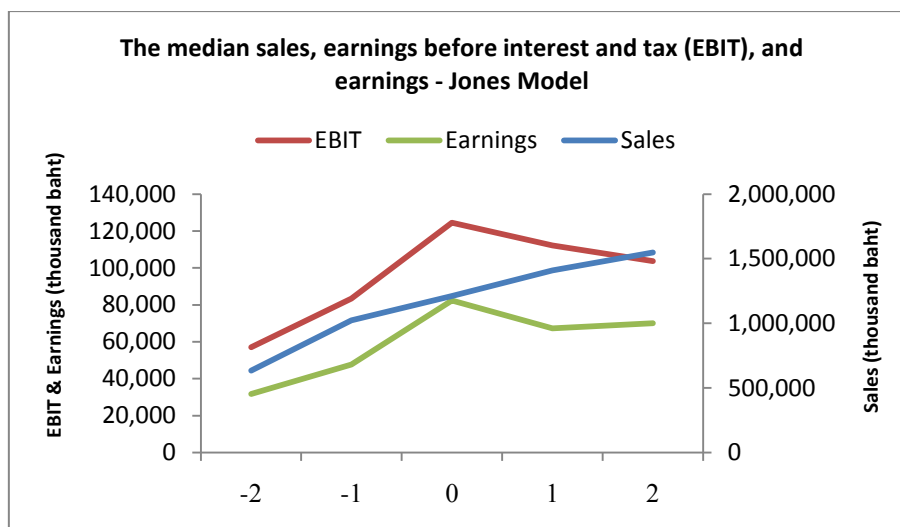
Figure 14: the median sales, EBIT, and earnings of 89 sample firms under Jones model

2. Modified Jones Model

The modified version of Jones Model designed to eliminate the conjectured tendency of Jones Model to measure discretionary accruals with misspecification because discretion can be exercised over sales. When changes in sales are adjusted for the change in trade receivables, the original Jones model becomes a Modified Jones model, which is proposed by Dechow, Sloan, and Sweeney (1995). This model assumes that all changes in credit sales in the event period results from earnings management.

2.1 Total Discretionary Accruals (TDA)

Cross-sectional regression by industry is accessed with 108 sample IPO firms as equation (2) I add estimated parameters generated from equation (2) into equation (4) to get nondiscretionary accruals (NDA). In this model, changes in sales are adjusted for the changes in receivables to eliminate the misspecification in which discretion could be exercised over sales. Discretionary portions of total accruals (TDA) are derived as the residual presented in equation (5). The time series of discretionary accruals patterns, mean and median sales, sales minus trade receivables (Sales-AR), earnings before interest and tax (EBIT), and net income or earnings are shown below;
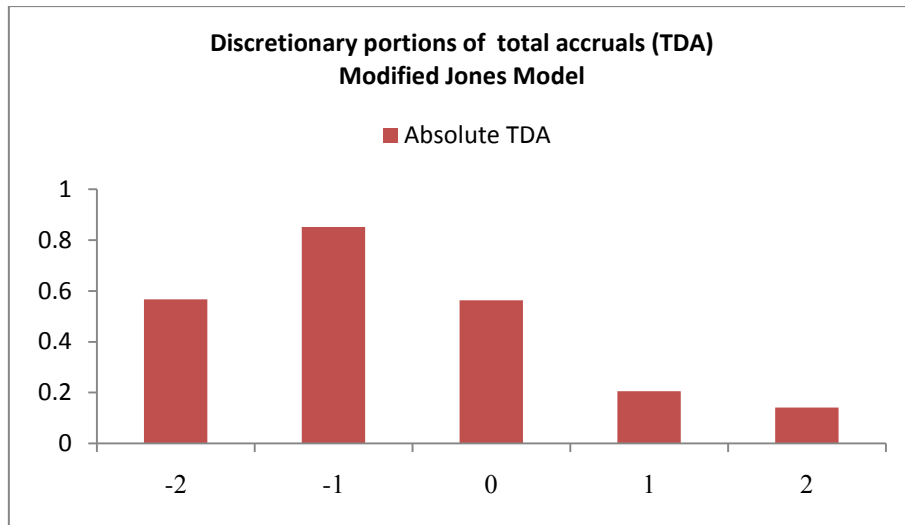
Figure 15: Time series pattern of discretionary portions of total accruals (TDA) under Modified Jones model

Figure 16: The mean sales, sales-AR, EBIT, and earnings of 108 sample firms under Modified Jones model
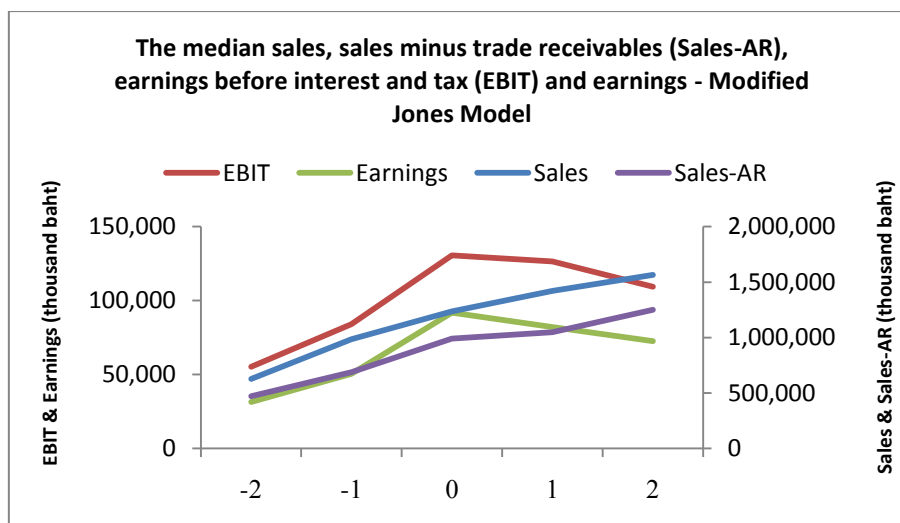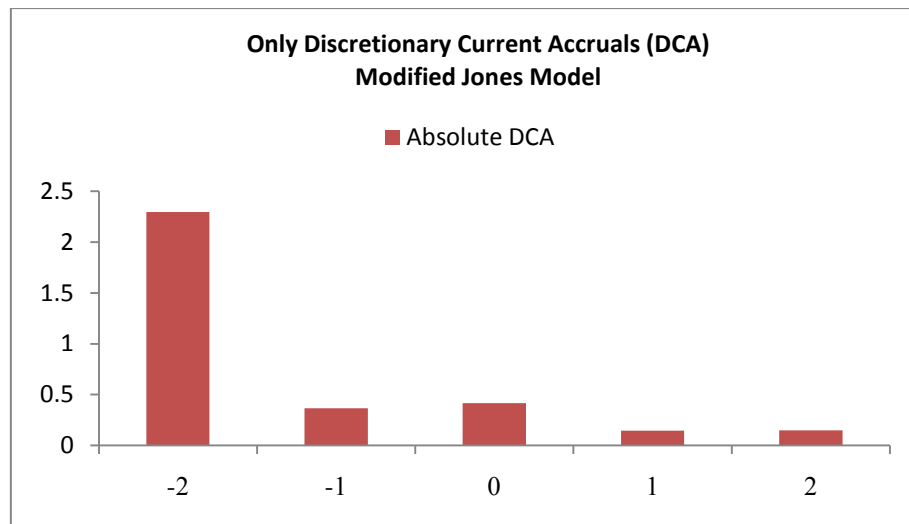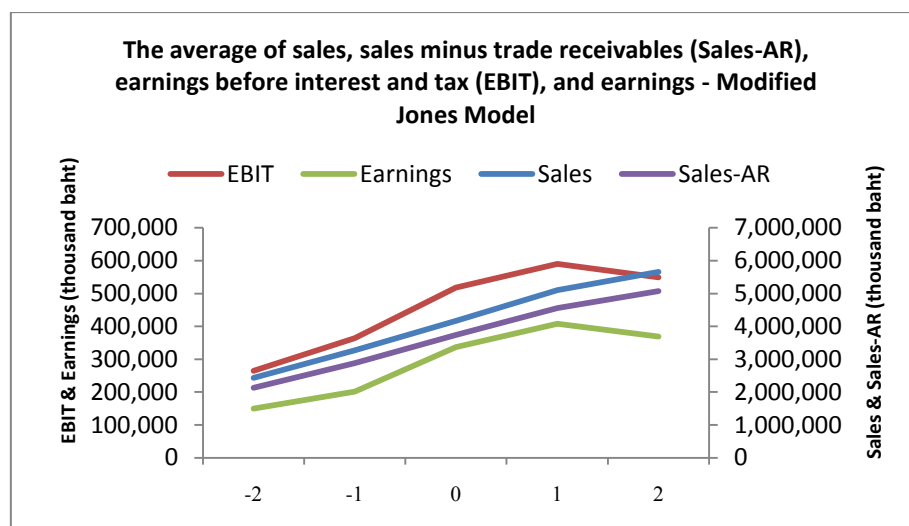
The median sales, sales minus trade receivables (Sales-AR), earnings before interest and tax (EBIT) and earnings - Modified Jones Model

Figure 17: the median sales, sales-AR, EBIT, and earnings of 108 sample firms under Modified Jones model

2.2 Only Discretionary Current Accruals (DCA)

This model is applied with 108 sample Thai IPO firms. Cross-sectional Modified Jones model is accessed as the same as equation (16). I keep these estimated parameters and plug them into the following equation to get nondiscretionary current accruals (NDCA) that better reflects the firms' economic conditions because it is adjusted the tendency that earnings management can exercise over credit sales.

$$NDCA_{i,t} \equiv \hat{\alpha}_0 \left(\frac{1}{TA_{i,t-1}} \right) + \hat{\alpha}_1 \left(\frac{\Delta Sales_{i,t} - \Delta TR_{i,t}}{TA_{i,t-1}} \right) \tag{21}$$

Last, discretionary current accruals (DCA) is represented as the residual as shown in equation (18). The time series of discretionary current accruals patterns, mean and median sales, sales minus trade receivables (Sales-AR), earnings before interest and tax (EBIT), and net income or earnings are shown below;

Figure 18: Time series pattern of discretionary current accruals (DCA) under Modified Jones model

Figure 19: The mean sales, sales-AR, EBIT, and earnings of 108 sample firms under Modified Jones model
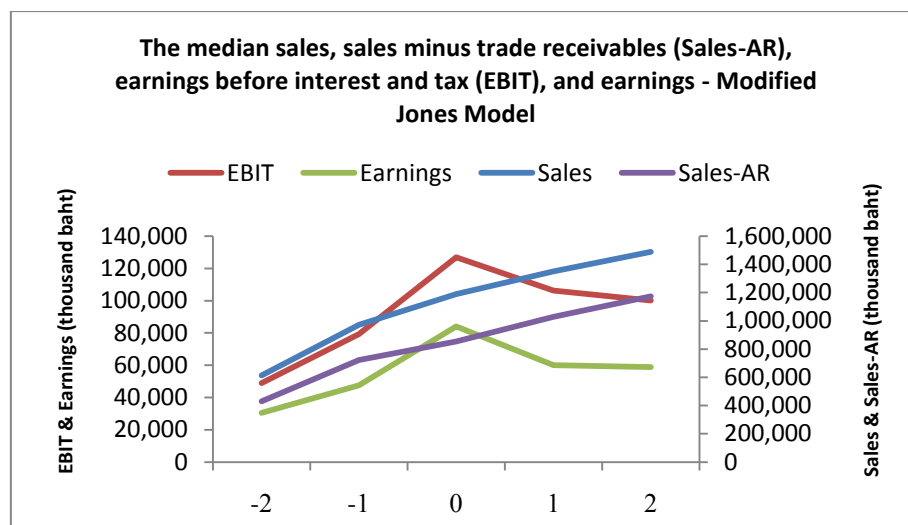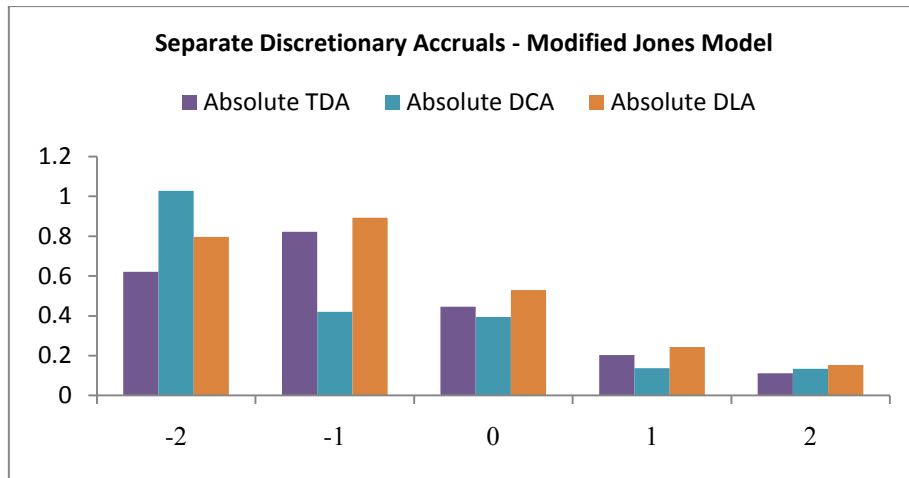
Figure 20: the median sales, sales-AR, EBIT, and earnings of 108 sample firms under Modified Jones model

2.3 The Separation of Total Discretionary Accruals into 3 Variables; Total Discretionary Accruals (TDA), Discretionary Current Accruals (DCA), and Discretionary Long-Term Accruals (DLA)

The final sample of this method is 86 IPO firms. Total discretionary accruals (TDA) and discretionary current accruals (DCA) are derived from the same method as discussed in topic 2.1 and 2.2 under the Modified Jones Model part. I calculate nondiscretionary long-term accruals (NDLA) and discretionary long-term accruals (DLA) by using the formula presented in equations (19) and (20) respectively. All 3 variables separated from total discretionary accruals are represented as a proxy for earnings management.

The time series patterns of the 3 variables separated from total discretionary accruals, mean and median sales, sales minus trade receivables (Sales-AR), earnings before interest and tax (EBIT), and net income or earnings are shown below;

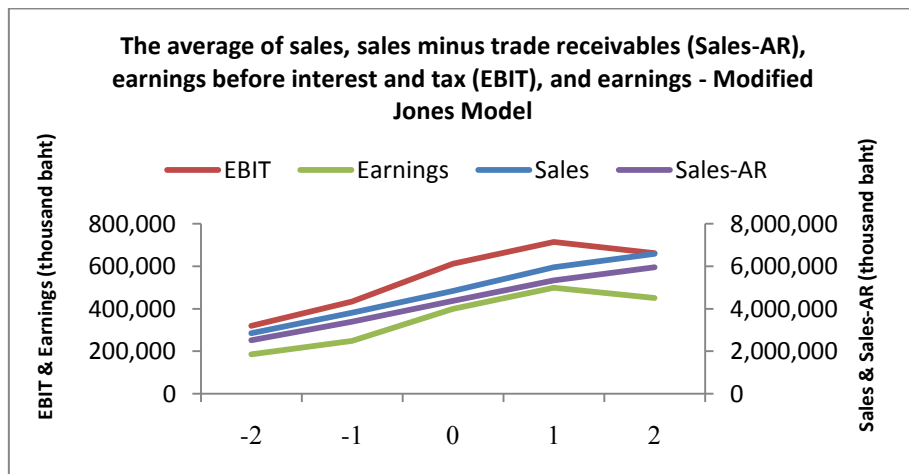Figure 21: Time series pattern of TDA, DCA, and DLA under Modified Jones model

Figure 22: The mean sales, sales-AR, EBIT, and earnings of 86 sample firms under
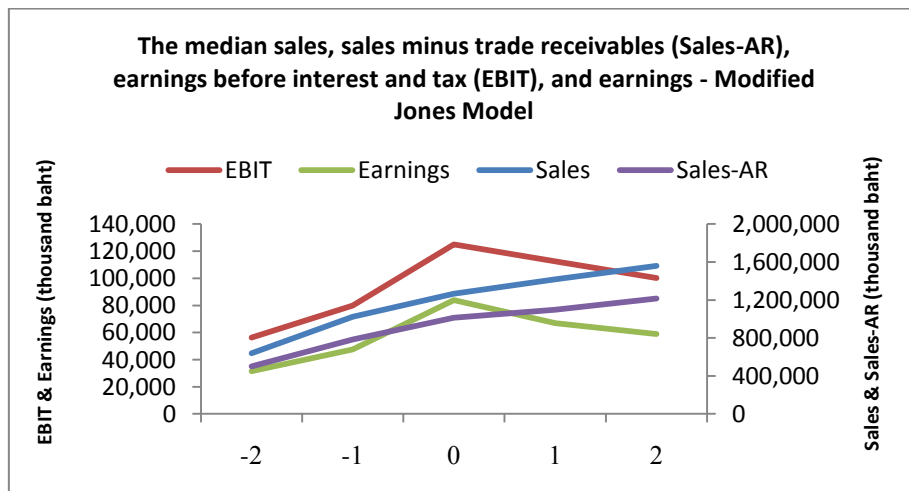
Modified Jones model

Figure 23: the median sales, sales-AR, EBIT, and earnings of 86 sample firms under

Modified Jones model

3. Jones Model with Industry Interaction Term

This model is applied because of insufficient samples which are less than 30 observations in many industries, therefore adding industry interaction terms could reduce the errors in the results because it allows for the industry variation.

3.1 Total Discretionary Accruals (TDA)

111 sample IPO firms within 15 industries are used to measure discretionary accruals. I run cross-sectional regression of Jones model and adding industry interaction terms to allow for industry variation during 1999 to 2009, by using automobile as a base group. The equation is shown below;

$$
\begin{aligned}
\frac{TAC_{j,t}}{TA_{j,t-1}} =\ & \beta_1 \left(\frac{1}{TA_{j,t-1}}\right) + \beta_2 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) + \beta_3 \frac{PPE_{j,t}}{TA_{j,t-1}} + \beta_4 \left(\frac{1}{TA_{j,t-1}}\right) BRESR + \\
& \beta_5 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) BRESR + \beta_6 \frac{PPE_{j,t}}{TA_{j,t-1}} BRESR + \beta_7 \left(\frac{1}{TA_{j,t-1}}\right) CHMCL + \\
& \beta_8 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) CHMCL + \beta_9 \frac{PPE_{j,t}}{TA_{j,t-1}} CHMCL + \beta_{10} \left(\frac{1}{TA_{j,t-1}}\right) CNSTM + \\
& \beta_{11} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) CNSTM + \beta_{12} \frac{PPE_{j,t}}{TA_{j,t-1}} CNSTM + \beta_{13} \left(\frac{1}{TA_{j,t-1}}\right) FDBEV + \\
& \beta_{14} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) FDBEV + \beta_{15} \frac{PPE_{j,t}}{TA_{j,t-1}} FDBEV + \beta_{16} \left(\frac{1}{TA_{j,t-1}}\right) HLTHC + \\
& \beta_{17} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) HLTHC + \beta_{18} \frac{PPE_{j,t}}{TA_{j,t-1}} HLTHC + \beta_{19} \left(\frac{1}{TA_{j,t-1}}\right) INDGS + \\
& \beta_{20} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) INDGS + \beta_{21} \frac{PPE_{j,t}}{TA_{j,t-1}} INDGS + \beta_{22} \left(\frac{1}{TA_{j,t-1}}\right) MEDIA + \\
& \beta_{23} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) MEDIA + \beta_{24} \frac{PPE_{j,t}}{TA_{j,t-1}} MEDIA + \beta_{25} \left(\frac{1}{TA_{j,t-1}}\right) OILGS + \\
& \beta_{26} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) OILGS + \beta_{27} \frac{PPE_{j,t}}{TA_{j,t-1}} OILGS + \beta_{28} \left(\frac{1}{TA_{j,t-1}}\right) PERHH + \\
& \beta_{29} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) PERHH + \beta_{30} \frac{PPE_{j,t}}{TA_{j,t-1}} PERHH + \beta_{31} \left(\frac{1}{TA_{j,t-1}}\right) RLEST + \\
& \beta_{32} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) RLEST + \beta_{33} \frac{PPE_{j,t}}{TA_{j,t-1}} RLEST + \beta_{34} \left(\frac{1}{TA_{j,t-1}}\right) RTAIL + \\
& \beta_{35} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) RTAIL + \beta_{36} \frac{PPE_{j,t}}{TA_{j,t-1}} RTAIL + \beta_{37} \left(\frac{1}{TA_{j,t-1}}\right) TECNO + \\
& \beta_{38} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) TECNO + \beta_{39} \frac{PPE_{j,t}}{TA_{j,t-1}} TECNO + \beta_{40} \left(\frac{1}{TA_{j,t-1}}\right) TELCM + \\
& \beta_{41} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) TELCM + \beta_{42} \frac{PPE_{j,t}}{TA_{j,t-1}} TELCM + \beta_{43} \left(\frac{1}{TA_{j,t-1}}\right) TRLES + \\
& \beta_{44} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) TRLES + \beta_{45} \frac{PPE_{j,t}}{TA_{j,t-1}} TRLES + \varepsilon_{j,t}
\end{aligned}
\tag{22}
$$

Nondiscretionary accruals (NDA) and total discretionary accruals (TDA) are derived from equation (3) and equation (5) respectively in the same way as the original Jones model. The time series of discretionary accruals patterns, mean and median sales, earnings before interest and tax (EBIT), and net income or earnings are shown below;
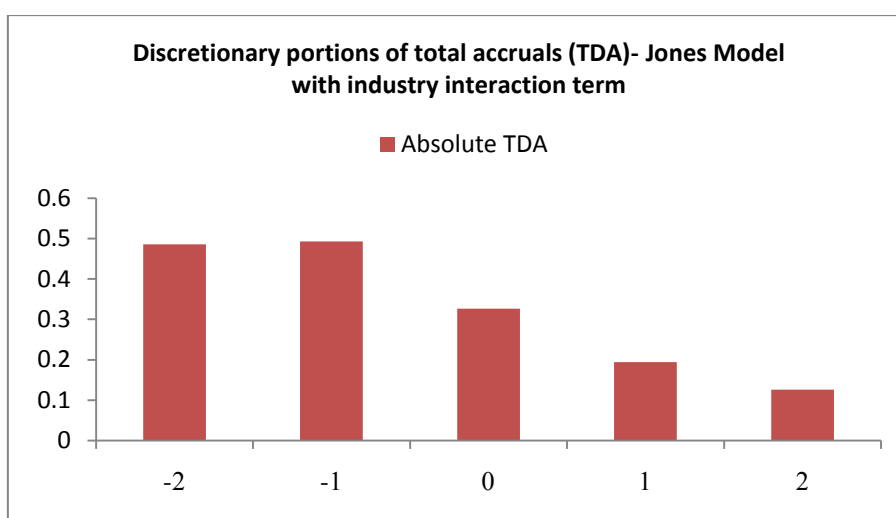

Figure 24: Time series pattern of discretionary portions of total accruals (TDA) under Jones model   with industry interaction term
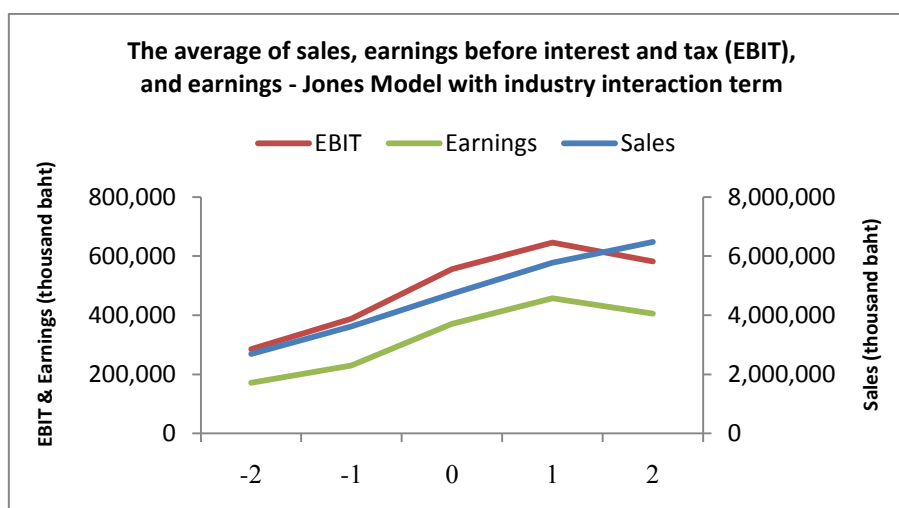

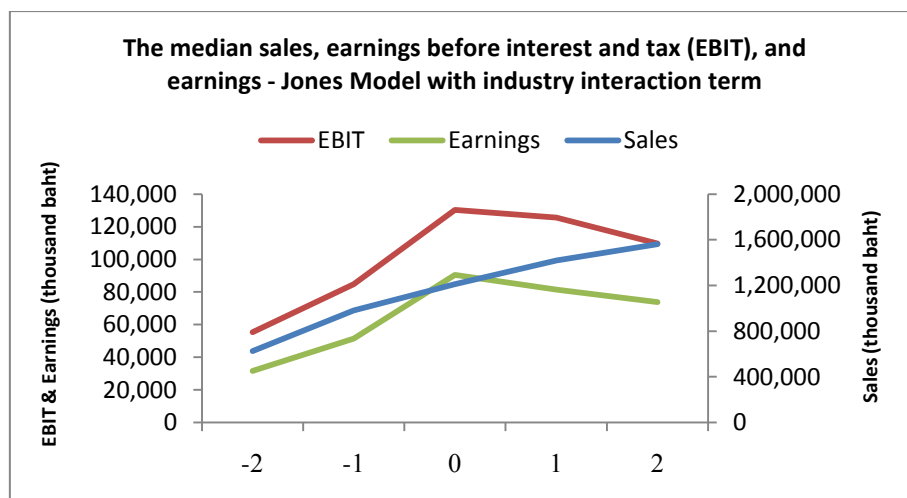Figure 25: The mean sales, EBIT, and earnings of 111 sample firms under Jones model with industry interaction term

Figure 26: the median sales, EBIT, and earnings of 111 sample firms under Jones model with industry interaction term

3.2 Only Discretionary Current Accruals (DCA)

112 sample IPO firms within 15 industries are used to measure discretionary accruals. I run cross-sectional regression of Jones model and add industry interaction terms to allow for industry variation during 1999-2009, by using automobile as a base group in the equation shown below;

$$\frac{CA_{j,t}}{TA_{j,t-1}} = \beta_1 \left(\frac{1}{TA_{j,t-1}}\right) + \beta_2 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) + \beta_3 \left(\frac{1}{TA_{j,t-1}}\right) BRESR +$$

$$\beta_4 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) BRESR + \beta_5 \left(\frac{1}{TA_{j,t-1}}\right) CHMCL + \beta_6 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) CHMCL +$$

$$\beta_7 \left(\frac{1}{TA_{j,t-1}}\right) CNSTM + \beta_8 \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) CNSTM + \beta_9 \left(\frac{1}{TA_{j,t-1}}\right) FDBEV +$$

$$\beta_{10} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) FDBEV + \beta_{11} \left(\frac{1}{TA_{j,t-1}}\right) HLTHC +$$

$$\beta_{12} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) HLTHC + \beta_{13} \left(\frac{1}{TA_{j,t-1}}\right) INDGS + \beta_{14} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) INDGS +$$

$$\beta_{15} \left(\frac{1}{TA_{j,t-1}}\right) MEDIA + \beta_{16} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) MEDIA + \beta_{17} \left(\frac{1}{TA_{j,t-1}}\right) OILGS +$$

$$\beta_{18} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) OILGS + \beta_{19} \left(\frac{1}{TA_{j,t-1}}\right) PERHH + \beta_{20} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) PERHH +$$

$$\beta_{21} \left(\frac{1}{TA_{j,t-1}}\right) RLEST + \beta_{22} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) RLEST + \beta_{23} \left(\frac{1}{TA_{j,t-1}}\right) RTAIL +$$

$$\beta_{24} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) RTAIL + \beta_{25} \left(\frac{1}{TA_{j,t-1}}\right) TECNO + \beta_{26} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) TECNO +$$

$$\beta_{27} \left(\frac{1}{TA_{j,t-1}}\right) TELCM + \beta_{28} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) TELCM + \beta_{29} \left(\frac{1}{TA_{j,t-1}}\right) TRLES +$$

$$\beta_{30} \left(\frac{\Delta Sales_{j,t}}{TA_{j,t-1}}\right) TRLES + \varepsilon_{j,t} \tag{23}$$

Nondiscretionary current accruals (NDCA) and discretionary current accruals (DCA) are derived from equations (17) and (18) respectively, the same way as the Modified Jones model without industry interaction terms. The time series of discretionary current accruals patterns, mean and median sales, earnings before interest and tax (EBIT), and net income or earnings are shown below;
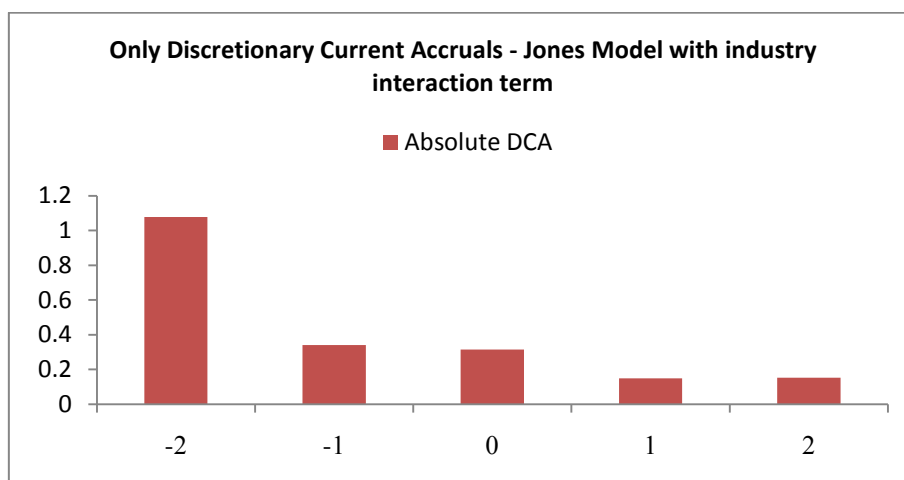

Figure 27: Time series pattern of discretionary current accruals (DCA) under Jones model with industry interaction term
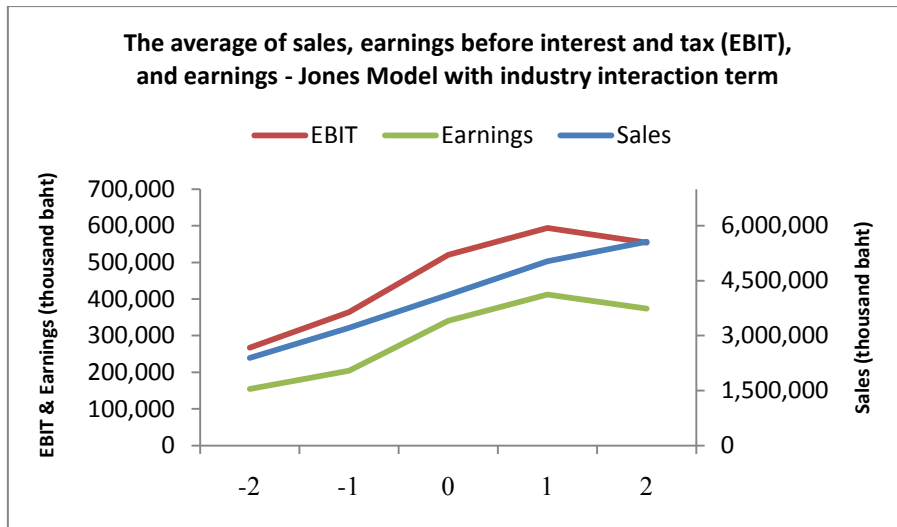
Figure 28: The mean sales, EBIT, and earnings of 112 sample firms under Jones model with industry interaction term
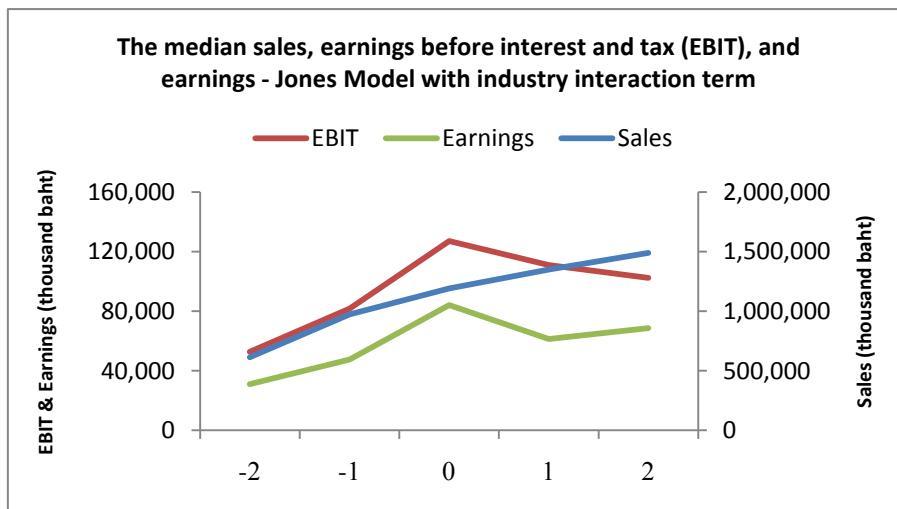

Figure 29: the median sales, EBIT, and earnings of 112 sample firms under Jones model with industry interaction term

3.3 The Separation of Total Discretionary Accruals into 3 Variables; Total Discretionary Accruals (TDA), Discretionary Current Accruals (DCA), and Discretionary Long-Term Accruals (DLA)

This model is accessed with 89 sample IPO firms. Total discretionary accruals (TDA) and discretionary current accruals (DCA) are derived from the same method as discussed in topic 3.1 and 3.2 respectively under the Modified Jones Model with industry interaction term part. Nondiscretionary long-term accruals (NDLA) and discretionary long-term accruals (DLA) are calculated as the formula shown in equations (19) and (20) respectively. All 3 variables separated from total discretionary accruals are represented as a proxy for earnings management.

The time series patterns of 3 variables separated from total discretionary accruals, mean and median sales, earnings before interest and tax (EBIT), and net income or earnings are shown below;
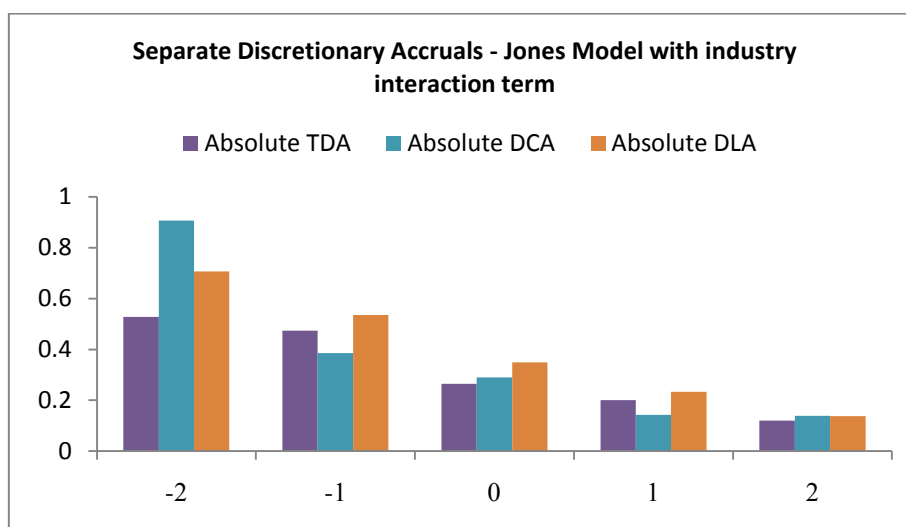

Figure 30: Time series pattern of TDA, DCA, and DLA under Jones model with industry interaction term
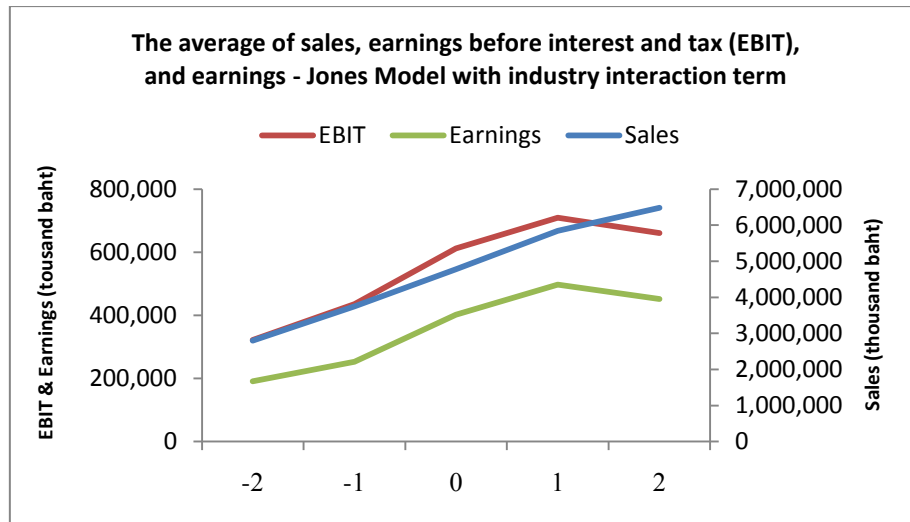
Figure 31: The mean sales, EBIT, and earnings of 89 sample firms under Jones model   with
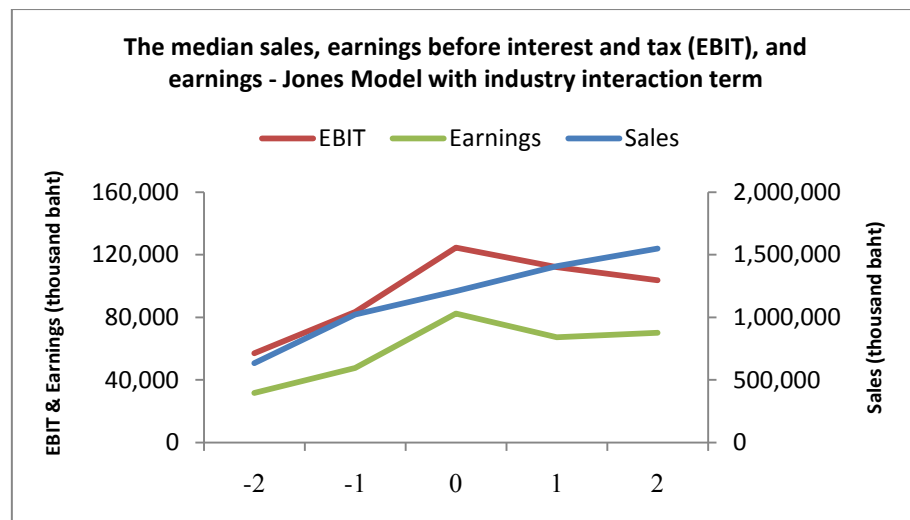
industry interaction term

Figure 32: the median sales, EBIT, and earnings of 89 sample firms under Jones model with

industry interaction term

4. Modified Jones Model with Industry Interaction Term

This model is applied due to the insufficient samples. Therefore, industry interaction terms are added to allow for the industry variation.

4.1 Total Discretionary Accruals (TDA)

This thesis reports the empirical findings based on this model. More details are discussed within this thesis.

4.2 Only Discretionary Current Accruals (DCA)

108 sample IPO firms within 15 industries are used to measure earnings management. First, I run cross-sectional regression in the same way as the Jones Model with industry interaction term as shown in equation (23) for current accruals. Nondiscretionary current accruals (NDCA) and discretionary current accruals (DCA) are derived from equation (21) and (18) respectively.

The time series of discretionary current accruals patterns, mean and median sales, sales minus trade receivables (Sales-AR), earnings before interest and tax (EBIT), and net income or earnings are shown below;

Figure 33: Time series pattern of discretionary current accruals (DCA) under Modified Jones model with industry interaction term

Figure 34: The mean sales, sales-AR, EBIT, and earnings of 108 sample firms under Modified Jones model with industry interaction term

Figure 35: the median sales, sales-AR, EBIT, and earnings of 108 sample firms under Modified Jones model with industry interaction term

4.3 The Separation of Total Discretionary Accruals into 3 Variables; Total Discretionary Accruals (TDA), Discretionary Current Accruals (DCA), and Discretionary Long-Term Accruals (DLA)

This method is assessed with 86 sample IPO firms. Total discretionary accruals (TDA) and discretionary current accruals (DCA) are derived from the same method as discussed in topic 4.1 and 4.2 respectively, by using Modified Jones Model with industry interaction terms. Nondiscretionary long-term accruals (NDLA) and discretionary long-term accruals (DLA) are calculated as equation (19) and (20) respectively. All 3 variables separated from total discretionary accruals are represented as a proxy for earnings management.

The time series patterns of 3 variables separated from total discretionary accruals, mean and median sales, sales minus trade receivables (Sales-AR), earnings before interest and tax (EBIT), and net income or earnings are shown below;
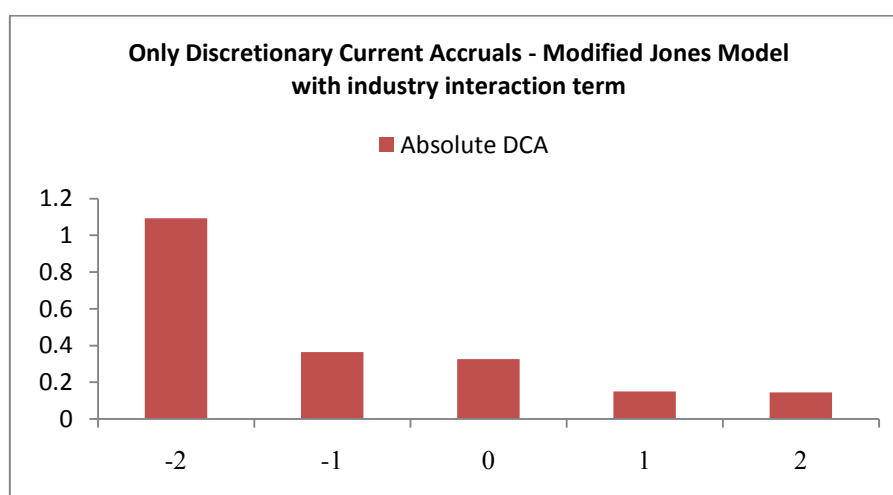

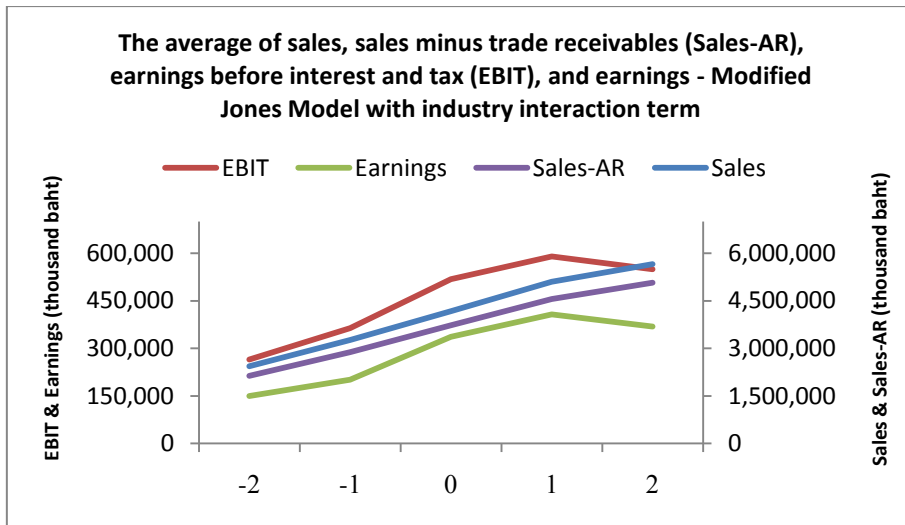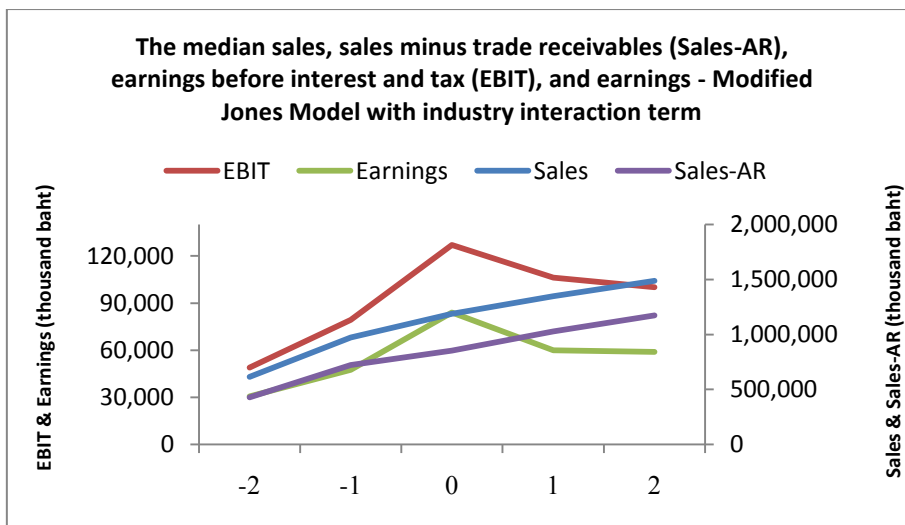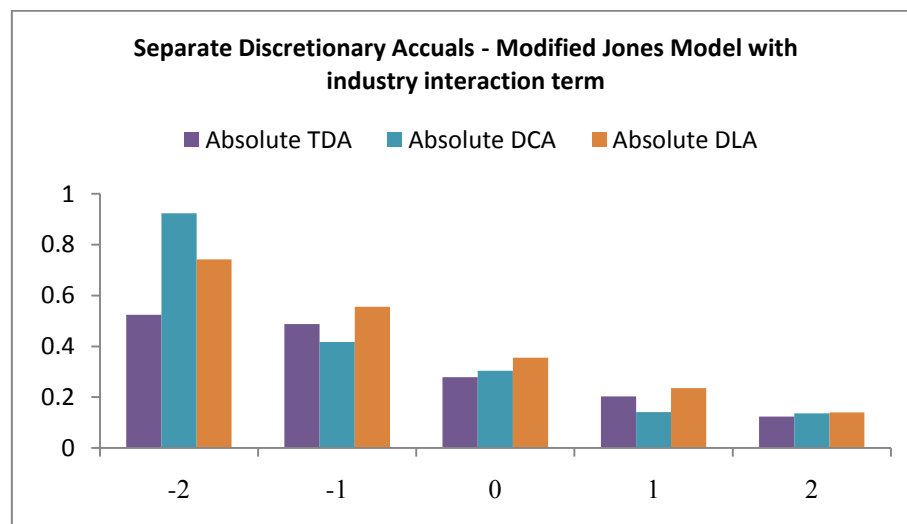Figure 36: Time series pattern of TDA, DCA, and DLA under Modified Jones model with industry interaction term
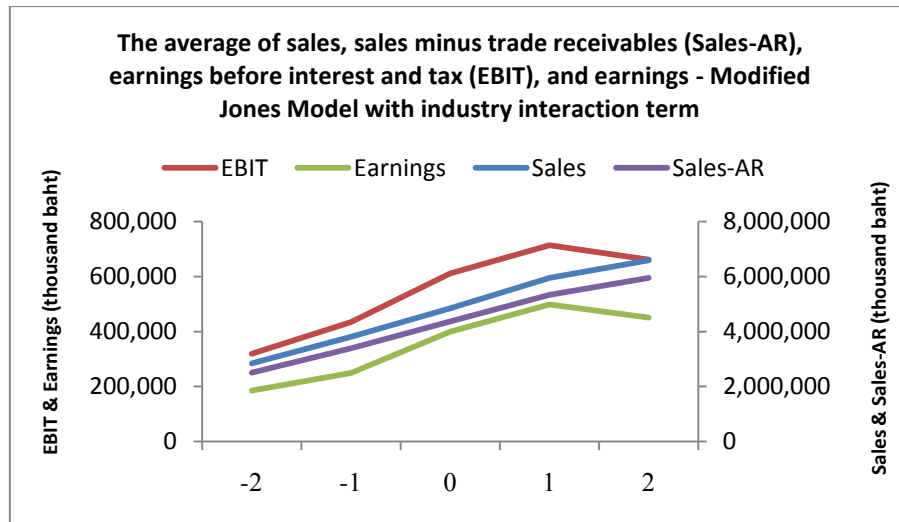
Figure 37: The mean sales, sales-AR, EBIT, and earnings of 86 sample firms under Modified Jones model with industry interaction term
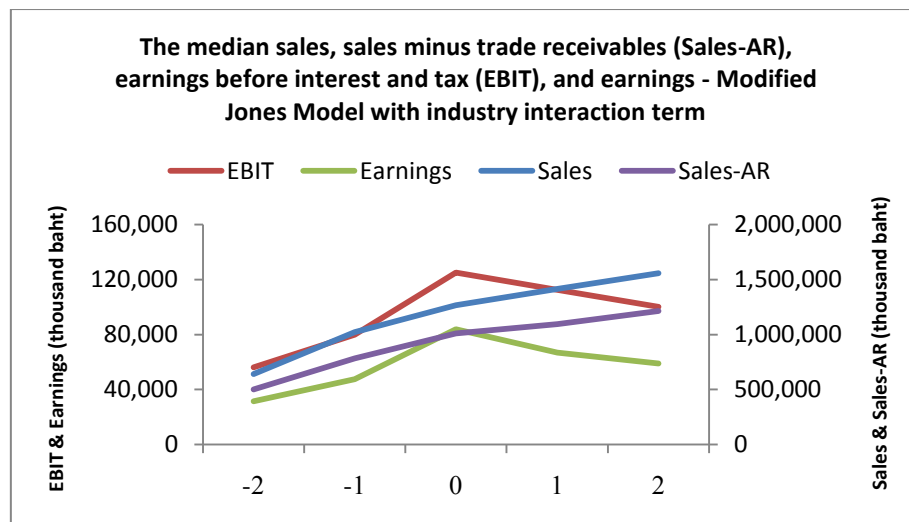
Figure 38: the median sales, sales-AR, EBIT, and earnings of 86 sample firms under Modified Jones model with industry interaction term

According to the robustness tests by using alternative accruals-based models to measure discretionary accruals just discussed, the results suggest that the general findings of this thesis as the time series of discretionary accruals patterns are robust with respect to these alternative measures.

APPENDIX B

Correlation Analysis

Dummy Variables

Table 16: Auditors x Industry Contingency Table

Auditors x Industry Contingency Table Analysis				
		Industry		
		IND1	IND2	Total
Auditors	Non-Big 4	34	42	76
	Big 4	11	21	32
Total		45	63	108
Pearson Chi-Square p-value		0.3186		

Table 17: Auditors x Ownership Retention Contingency Table

Auditors x Ownership Retention Contingency Table Analysis				
		Ownership Retention		
		High	Low	Total
Auditors	Non-Big 4	51	25	76
	Big 4	19	13	32
Total		70	38	108
Pearson Chi-Square p-value		0.4424		

Table 18: Auditors x Firm Size Contingency Table

Auditors x Firm Size Contingency Table Analysis					
		Firm Size			
		Small	Medium	High	Total
Auditors	Non-Big 4	27	29	20	76
	Big 4	9	7	16	32
Total		36	36	36	108
Pearson Chi-Square p-value		0.0510*			

Table 19: Auditors x Pricing Techniques Contingency Table

Auditors x Pricing Techniques Contingency Table Analysis				
		Pricing Techniques		
		Book Building	Fixed Price	Total
Auditors	Non-Big 4	21	55	76
	Big 4	12	20	32
Total		33	75	108
Pearson Chi-Square p-value		0.3093		

Table 20: Auditors x Share Distribution Contingency Table

Auditors x Share Distribution to Institutional Investors Table Analysis					
		% of Shares distributed to Institutional Investors			
		High	Medium	Low	Total
Auditors	Non-Big 4	18	32	25	75
	Big 4	14	10	7	31
Total		32	42	32	106
Pearson Chi-Square p-value		0.0957*			

Table 21: Industry x Ownership Retention Contingency Table

Industry x Ownership Retention Contingency Table Analysis				
		Ownership Retention		
		High	Low	Total
Industry	IND1	31	14	45
	IND2	39	24	63
Total		70	38	108
Pearson Chi-Square p-value		0.4537		

Table 22: Industry x Firm Size Contingency Table

Auditors x Firm Size Contingency Table Analysis					
		Firm Size			
		Small	Medium	High	Total
Industry	IND1	15	18	12	45
	IND2	21	18	24	63
Total		36	36	36	108
Pearson Chi-Square p-value		0.3575			

Table 23: Industry x Pricing Techniques Contingency Table

Industry x Pricing Techniques Contingency Table Analysis				
		Pricing Techniques		
		Book Building	Fixed Price	Total
Industry	IND1	12	33	45
	IND2	21	42	63
Total		33	75	108
Pearson Chi-Square p-value		0.4584		

Table 24: Industry x Share Distribution Contingency Table

Industry x Share Distribution to Institutional Investors Table Analysis					
		% of Shares distributed to Institutional Investors			
		High	Medium	Low	Total
Industry	IND1	11	16	18	45
	IND2	21	26	14	61
Total		32	42	32	106
Pearson Chi-Square p-value		0.1592			

Table 25: Ownership Retention x Firm Size Contingency Table

Ownership Retention x Firm Size Contingency Table Analysis					
		Firm Size			
		Small	Medium	High	Total
Ownership Retention	Low	11	15	12	38
	High	25	21	24	70
Total		36	36	36	108
Pearson Chi-Square p-value		0.5899			

Table 26: Ownership Retention x Pricing Techniques Contingency Table

Ownership Retention x Pricing Techniques Contingency Table Analysis				
		Pricing Techniques		
		Book Building	Fixed Price	Total
Ownership Retention	Low	14	24	38
	High	19	51	70
Total		33	75	108
Pearson Chi-Square p-value		0.2960		

Table 27: Ownership Retention x Share Distribution Contingency Table

Ownership Retention x Share Distribution to Institutional Investors Table Analysis					
		% of Shares distributed to Institutional Investors			
		High	Medium	Low	Total
Ownership Retention	Low	15	13	10	38
	High	17	29	22	68
Total		32	42	32	106
Pearson Chi-Square p-value		0.2976			

Table 28: Pricing Techniques x Firm Size Contingency Table

Pricing Techniques x Firm Size Contingency Table Analysis					
		Firm Size			
		Small	Medium	High	Total
Pricing Techniques	Book Building	5	11	17	33
	Fixed Price	31	25	19	75
Total		36	36	36	108
Pearson Chi-Square p-value		0.0090***			

Table 29: Pricing Techniques x Share Distribution Contingency Table

Pricing Techniques x Share Distribution to Institutional Investors Table Analysis					
		% of Shares distributed to Institutional Investors			
		High	Medium	Low	Total
Pricing Techniques	Book Building	17	14	2	33
	Fixed Price	15	28	30	73
Total		32	42	32	106
Pearson Chi-Square p-value		0.0000***			

Table 30: Firm Size x Share Distribution Contingency Table

Firm Size x Share Distribution to Institutional Investors Table Analysis					
		% of Shares distributed to Institutional Investors			
		High	Medium	Low	Total
Firm Size	Small Size	8	10	16	34
	Medium Size	8	19	9	36
	Large Size	16	13	7	36
Total		32	42	32	106
Pearson Chi-Square p-value		0.0248**			

BIOGRAPHY

I was born on July 14, 1986 in Chanthaburi, Thailand. At the secondary school, I graduated from Benchamarachutis School in Chanthaburi. At the undergraduate level, I graduated from Assumption University with a gold medal in a bachelor of business administration, majoring in accounting in 2009. During my bachelor degree, I received the Rector's certificate of honours of Assumption University for obtaining a high grade point every year from 2005 to 2008. After that, I spent about 9 months working in the accounting field as the auditor assistant at PricewaterhouseCoopers ABAS Limited in Bangkok, Thailand. I then decided to join the Master of Science in Finance Program at Chulalongkorn University as a full-time student in June 2010. During my studies, I represented Chulalongkorn University in the CFA Institute Research Challenge in Thailand.