A COMPREHENSIVE ANALYSIS OF SEASONED EQUITY OFFERINGS IN THAILAND

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ABSTRACT

This paper examines the comprehensive perspectives of Seasoned Equity Offerings (SEOs) in the Stock Exchange of Thailand during 1999–2014. Event study methodology is applied with this research to analyse the buy-and-hold abnormal return against the market. SEO in Thailand is perceived as a negative signal and lessens the stock performance vs. market average by -0.6% one day after the announcement, and drops down to -20.7% within the first year with the significant level of 1%. The magnitude of lower return keeps on increasing over five years. Investors react more proactively to the announcement rather than the actual issuance date. Right offering with common stocks gives the least negative abnormal return, follows by private placements, warrant offering and public offering, respectively. The firm that issues higher number of additional securities to the current ones has more negative abnormal return. Moreover, the higher the liquidity the firm is, the higher the return will be. The smaller firm, by means of market capitalization, tends to have better SEO performance. Most of the time during SEOs, individual investors are the net buyers, while foreign and institutional investors are the net sellers.

KEY WORDS: Seasoned Equity Offering (SEO)/ Event Study/ Buy-and-hold Abnormal Return (BHAR)/ Offering Type

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LIST OF ABBREVIATIONS

AEC	ASEAN Economic Community
AR	Abnormal Return
BHAR	Buy-and-Hold Abnormal Return
BHR	Buy-and-Hold Return
CAPM	Capital Asset Pricing Model
CAR	Cumulative Abnormal Return
CPI	Consumer Price Index
EJIP	Employee Joint Investment Program
ESOP	Employee Stock Option Plan
FSEO	First Seasoned Equity Offering/Primary Seasoned Equity Offering
GDP	Gross Domestic Product
IOSCO	International Organization of Securities Commissions
IPO	Initial Public Offering
MAI	Market for Alternative Investment
NASDAQ	National Association of Securities Dealers Automated Quotations
NPV	Net Present Value
NYSE	New York Stock Exchange
PO	Public Offering
PP	Private Placement
RO	Rights Offering
ROA	Return on Asset
SEC	Securities and Exchange Commission
SEO	Seasoned Equity Offering
SET	Stock Exchange of Thailand
SSEO	Subsequent Seasoned Equity Offering/Secondary Seasoned Equity Offering
TSR	Transferrable Subscription Rights
USEO	Unit Seasoned Equity Offering

LIST OF ABBREVIATIONS (cont.)

XR	Exclude Rights
XRS	Rights Offering with Common Stocks/Common Stocks Offering
XRW	Rights Offering with Warrant/Warrant Offering

CHAPTER I
INTRODUCTION

Even though the economy worldwide is stagnant to decline, many are demanding for more resources in order to be ready for growth and expansion. This is especially true for Asian and other developing countries, for example, China and India. Economic Communities are established widely in order to unite the economy and the free flow of resources, including financial resources, of the member countries within the region.

Similarly, Thailand is now transitioning in AEC, ASEAN Economic Community, and the scale of the business and industry may have to be expanded so as to compete with other nations. Office of the National Economic and Social Development Board (2014) summarizes that Thai economy is highly dependent on international trade, and the immense portion of Thai's Gross Domestic Product, or GDP, comes from export. Consequently, fund is necessary for such competition as well as exportation.

1.1 Sources of Fund

Not only a country needs more resources to serve her economic expansion, firms operating in the country also need more resources, and the financial resource is one of the most critical ones. All of industries require funds to support growth. Money serves as a medium of exchange. Bartering system has been outdated, and not standard to be used in the economy. In corporate finance, the sources of funds or capitals the firm can acquire are classified into 3 pools:

1. Internal funds which come from net income portion that are kept as retained earnings,
2. Debt or obligation that is borrowed from financial institutions, and the firm needs to pay regular interest back depended on the contract and type of debts, and

3. Issue new equities.

Normally, firms acquire fund in accordance with the mentioned order. This can be explained by Pecking Order Theory, which states that internally generated resources would have first priority over others in capital structure. Next priority is followed by debt issuance, whereas equity is used as the last resource. This order is logically based on the cost of capital for each source of funds. The question would be why many firms do issue more stocks given that the cost is, on average, the highest among other sources of fund.

1.2 Equity Offerings and Priority

The first time a firm issues stocks and sells to public is called Initial Public Offering, shortly IPO. However, to raise more funds, if the firm has already been listed in the stock exchange market, it can issue additional stocks, called Seasoned Equity Offering or SEO.

There are three types of seasoned equity offerings: private placements, public offerings and right offerings. Private placement (PP) refers to the sales of securities to a relatively small number of selected investors as a way to raise capital. More often than not, they are usually institutional buyers, e.g. large banks, mutual funds, insurance companies and pension funds, and the announcement is not done publicly. Therefore, detailed financial information is not required to be disclosed and the need for a prospectus can be waived. This type of SEO does not need to be registered with the Securities and Exchange Commission.

Unlike private placements, public offerings (PO) are the sales of equities or other financial instruments by an organization to the public i.e. there is no limitation to the group of people to buy stocks for fund raising. Public offerings of corporate securities must be registered with and approved by the Securities and Exchange Commission (SEC) and are normally conducted by an investment underwriter. Generally, a public offering requires registration with the appropriate regulatory authorities, in which the offering price is determined by the issuing company and the investment bankers handling the transaction.

Right offering or right issues, conversely, is an issue of rights to a company's existing shareholders who are entitled to buy additional shares directly from the company within a fixed time period. This SEO right offering can be bid at discounted subscription price, and the rights are usually transferable, allowing the shareholders to sell them publicly on the open market.

In contrast to Pecking Order Theory, firms issue new stocks with the following reasons. First, the firms grab the opportunity when the equity prices are too high, so that the firms can get benefits from issuing overvalued equity so as to maximize the funds. Second, it might relate with risk given that the firms cannot be sued by their owners. In other words, the additional stocks issued are used to adjust the capital structure of the firms. As a result, the firms gain advantage from leverage rebalancing to reduce financial distress. This fund can be used to plug cash flow shortfalls, payoff high-interest loans, repair facilities and invest in new equipment, machines, or projects.

The aforementioned two reasons were also statistically proved by Modigliani and Miller (1958) and Baker and Wurgler (2000), and on top of these, Baker and Wurgler also proposed that equity share is related to future returns through investment. There is a certain time where it is right to issue more stocks in order to invest in projects to get higher expected return since the credit line might reach the full limit. Modigliani and Miller explained that issuing more equity than debt reduces required equity returns through a leverage effect.

Furthermore, Basu (2014) has summarized the implications of a company issuing additional common stocks. First, the cash from equity offerings is secure. The companies neither have to return the creditors nor pay regular principals and interest payments. Shareholders cannot force the company into bankruptcy; as a result, this fund gives management more operational flexibility. Second, new stocks will dilute the ownership of existing stockholders if they do not maintain the proportion. In this way, the company can acquire the majority vote in case that it has lost the ownership from buying and selling of current stocks. Vice versa, the current owners can lose control over the company ownership as well. Even though the publicly traded companies often face a drop in share prices when there is an announcement of SEO, management can invest the additional funds to generate higher profits. Thenceforth, the share prices could rise, benefiting all stockholders.

For a deeper understanding of the data, there can be various types of rights offering: common stocks, preferred stocks, warrant, debenture, transferable subscription rights or TSR, unit trust, and convertible debenture.

To recapitulate, common stock is a security that entrusts the holders with the ownership of the corporation. They exercise control by electing the board of directors and voting on corporate policies. However, they possess the last priority among other ownerships during liquidation i.e. common stock holders have the rights to the assets after bondholder, preferred stock holders, and other debt holders.

Anyway, preferred stock holders do not have voting rights, but they will earn fixed amount of dividends, just like an interest. This stock is more like a combination between equity and obligations. Of course, the price of stocks can be appreciated, and holders earn the margin.

On the other side, warrant is a derivative instrument that provides the holder the right to purchase stocks from the issuer at the desired specific price within an agreed time period. Many investors perceive warrants as 'sweeteners' once they are issued with new debt, this is because holders can decide whether to exercise the right.

Debenture is a debt that is not secured by assets or collaterals; usually it is backed by creditworthiness or reputation of big corporations and government to acquire additional capital.

Transferable Subscription Right (TSR) is a type of instruments issued to all shareholders when the company increases capital through right offering. Shareholders can either transfer the subscription rights of capital increase to others by trading them on Stock Exchange of Thailand, SET or subscribe to capital increase shares.

Unit trust is a type of mutual fund that allows funds to hold assets and pass profits through to individual owners, rather than reinvesting back into the fund.

Last, convertible debenture is a loan issued by the growing/maintaining company that can be optionally converted into stock by holders and issuers, under certain circumstances. This type of security generally gives lower interest rate than others. Most of the time, right offerings were done by common stock issuance, which is accounted for almost 80% of the time. However, warrant offering is becoming more and more popular recently, and this consumes the rest of the portion.

1.3 Motivation and Scope of Study

I, myself, held the stock called DCON, which was used to be at 1.80 THB/stock. Later, there was an SEO (Exclude Rights – Common Stocks Offering) at 0.5 THB/stock. The stock price dropped dramatically to 0.60 THB/stock, which was almost 50% loss in my portfolio. This is another reason why I am interested to explore and study in deep details.

In Thailand, there have been several times of seasoned offerings. In fact, since the Stock Exchange of Thailand, SET, was opened in 1975, there are more than 4,500 offerings in the market. Out of this, the two major types of offerings found are right offerings and private placements: 48% and 45%, respectively. While there have been only 308 public offerings (7%) in history. Even though most researches point out that SEO conveys an undesirable signal to investors, and most firms experience a negative abnormal stock return, the trend of SEO has been increasing dramatically over the past few years, with double-digit growth rates over the last 5 years on average (2010-2014).

The scope of this project, and thereby this point onwards, will focus the analysis and study from 1999 to 2014 so that comprehensive study can be done at the microstructure level. All SEO offering types are included in the study, except the incomplete or cancelled SEO – to make sure that the study is solely based on real security issuance. Please be noted that to increase confidence level, or reduce variation in the results, statistical outliers and incomplete information are excluded from the scope.

This thesis is organized in the following order. Chapter 2 will talk about the previous works that study about seasoned equity offerings in other countries and in different time period, as well as related theories. Some publications support my study, but some do not. This is based mostly from the regulations and each country specific SEO process and requirements. Some specific combinations will give out different performance of the firms.

Chapter 3 informs the methodologies applied for this empirical study. Reasons and limitation for this methodology are also highlighted. The development of hypotheses highlights the specific literatures in Chapter 4. Additionally, it elaborates the

data samples as well as descriptive statistics. The results are also elaborated in this section.

Discussions on the limitation and future study opportunities – exploration of ideas that have not yet been included in this study – are explained in Chapter 5. Last, Chapter 6 concludes every hypothesis together with the summary.

CHAPTER II
LITERATURE REVIEWS

In this section, Thai regulatory aspects of seasoned equity offering (SEO) will be covered first to let everyone understand the principles and processes that are standardized by law. The regulation is enacted to protect the investors and reduce the level of information asymmetry. Every listed firm will have to follow the same criteria and procedures. Then, SEO issuance methods and types will be elaborated in details. Theories and previous studies related to SEO are also recapped in this section.

2.1 Regulatory Aspects of SEO

In some countries, the Securities and Exchange Commission, or SEC, requires full disclosure from companies that wish to be publicly traded on the major exchanges. This is called Regulation Full Disclosure which is designed to solve asymmetric information – promoting full and fair disclosure. Baryeh (2013) mentioned that information shared privately can bring about the earnings manipulation of SEO firms. This is considered as selective disclosure which occurs when a company reveals certain information, usually important nonpublic, about itself to particular entities before informing the rest of the public. Consequently, selective disclosure can end up with the lawsuit case.

Jaffe's (1971) research concludes that insiders can predict the stock price movements up to six months subsequent to trading. Insider trading before regulation Full Disclosure was negatively related to the short term market returns, nevertheless. Thus, insider trading might be related with selective news disclosure. Outsider's realization on information, according to Jiao and Chemmanur (2011), can alter the expected stock price as well as the return. In fact, SEC enacted this regulation to increase investor confidence in the fairness of capital market, and negate the manager ability to use material information as a pawn for analysts and institutional investors. More often

than not, SEO causes a drop in abnormal returns and stock prices; however, information utilization and sharing can bring about either a positive or negative consequences.

In Thailand, there is a Securities and Exchange Act (1992) which mentions about information disclosure so that the people with superior information do not take advantage other people. Basically, no person should take advantage other people by using closed information material to change the listed securities prices, as well as use the information to purchase or sell, offer and/or invite any other person to purchase or sell, or trade in an over-the-counter center. There is also a Disclosure Manual (2007) developed by the Stock Exchange of Thailand to set forth the guidelines concerning disclosure in 6 clauses as followed:

1. Immediate Public Disclosure of Material Information,
2. Thorough Public Dissemination,
3. Certification or Confirmation of Rumors and Reports,
4. Response to Unusual Market Activity,
5. Unwarranted Promotional Disclosure, and
6. Insider Trading.

By enforcing this regulation, the SEC attempts to instill confidence in investors that the financial marketplace is efficient and transparent so that individual investors can take part in it for material profit. Nevertheless, Baryeh (2013) studied and analyzed the connection and found out that there is no significant relationship between insider trading after regulation Full Disclosure and CAR, cumulative abnormal return, even though there is a significant negative relationship prior to the regulation.

To formalize this information effect, Myers and Majluf (1984) proposed the overvaluation hypothesis explaining that managers who possess superior information about the value of the firm have incentive to issue new equity when their firm is overvalued in an asymmetric information world. Firms will choose equity over debt when asymmetric information about the firm value is more influential than the asymmetric information about risk. Subsequently, investors interpret the equity announcement as unfavorable information and, therefore, revise the issuing firm value downward upon the announcement.

Later, there is a research done by Lee (1997). He observed that if managers knowingly sell overvalued equity, they will be, after all, the net sellers to take advantage

of their knowledge. He summarized that this scenario happens only with the SEOs, not the IPOs. Myers and Majluf (1984) and Wang (2011) also stated that rational firms will not issue more stocks when prices are low relative to manager's private information about the firm value since doing so would dilute the fractional ownership of existing shareholders.

2.1.1 SEO Filing Process

According to Thailand's Securities and Exchange Commission, the process for Initial Public Offerings (IPOs) and Seasoned Equity Offerings (SEOs) are the same.

First, limited company has to be transformed into public limited company. A person established the public limited company then needs to register for the Memorandum of Association with respect to the public limited company law.

Second, he will have to appoint financial advisor to undertake the application for an offer for sale of securities and registration statement.

Third, the company files the application for an offer for sale of shares using form 53-1 in notification number Sor-Jor 35/2009 and form 69-1 in notification number Tor-Jor 30/2008 (Manual for Preparation and Draft Prospectus). The Securities and Exchange Commission (SEC) will consider the request within 45 days.

Fourth, after SEC announces the consideration, the company can appoint an underwriter (for IPO only) and specify the selling price and subscription date in registration statement. Then, SEC will approve the statement, and make it effective within 14 days.

Fifth, the company can now offer shares publicly. The company is required to offer for sale of shares within 6 months from the date SEC provided approval. If the company is unable to sell shares within the specific period, the period of offering for sale of shares can be extended for 6 months. Beyond that, the statement will be considered invalid. To offer for sale of shares, the company must apply or register for trading of shares to either the Stock Exchange of Thailand (SET) or Market of Alternative Investment (MAI). This is the complete process for IPO or SEO.

In addition, there are also after-sale responsibilities. Aside from distribution of securities or shares, the company is responsible to report sales and update information according to Section 56 of the Securities and Exchange Act 1992.

Likewise, the processes or general steps for filing a prospectus in a public offering (both fully marketed and best efforts) in other countries are also similar e.g. US and Canada. The issuer and the lead underwriter/agent enter into a binding engagement agreement, where the issuer files the preliminary prospectus and related materials regarding information disclosure. The principal regulator then takes 3 days to review and provide its first comment letter to the issuer, who will respond with the revised prospectus. If all of the concerns from principal regulator are addressed, the issuer will be granted with the clearance to file the final prospectus.

Vice versa, the same process will be repeated between principal regulator and issuer for prospectus revision. During the review, the underwriters/agents will pre-market the offered securities and build the book, and will negotiate an underwriting with issuer. After filing, the issuer can issue a press release regarding the entering into of an underwriter or agency agreement and the filing of the final prospectus. Lastly, the issuer and the underwriter/agent proceed to the closing of the public offering.

2.1.1.1 Requirements for SEO of Listed Companies

The companies (Public Limited Company under Section 33 of the Securities and Exchange Act 1992) that would like to issue SEO will have to be listed in the SET or MAI market, and have never violated and/or are free of indictment related to information disclosure Section 56, 57, 58 or 199, unless excepted (or granted a waiver) by the SET. The companies must have good corporate governance by:

- Protecting investor's rights and treating them fairly: 1) having clear and fair shareholder structure e.g. showing power of control and shareholder's interest transparently, having less than 10% of shareholders with conflicts of interest in subsidiaries and associated companies unless it can be proven that such shareholder structure is for the best interest of the company, not having a cross-shareholder structure among the applicants, major shareholders and associated companies unless allowed by SEC, 2) ensuring that the board of directors, executives and major shareholders do not have conflicts of interest unless there is a reliable management mechanism in place for the best interest of the company and shareholders, and 3) not having reasonable grounds to

suspect management ability to protect shareholders' rights and treat them with fairness

- Understanding roles and responsibilities of directors, executives and shareholders, and that they are performing accordingly: having sufficient checks and balances of power by employing one-third of the board of directors, more than two people, who are independent. The qualified independent directors can join team as the Audit Committee to examine financial statements and other duties specified by the SET regulations. If the board of directors authorizes management to act on its behalf, the delegation of authority must be written and documented, and the scope of the power of attorney must be clearly specified. The board of directors and the management shall not have prohibited characteristics, and their names shall be on the SEC database of directors and executives of securities issuing companies in compliance with disclosure rules.
- Disclosing information: information must be sufficient, not misleading for investment decisions. The company's financial statements and consolidated ones must be accurate and reliable – they must be complying with accounting standards, and audited by approved auditors. The report of auditor must not express an opinion on financial statements or inaccurate opinion, but it should focus on transaction that is incompliance with accounting standards, and the auditing scope is not limited by the company.
- Other qualifications include but not limited to having a clear resolution to increase capital within one year prior to the date of filing the application, not involving in illegal business, and not having records of violation/not complying with offering rules.

2.1.1.2 Pre-Offering Information Disclosure

The disclosure must be complied with 69-1 Filing Form and Prospectus, which includes firm's information, type of securities to be issued, and the reservation and distribution of securities. This allows investors to have sufficient information to make the right decision. In fact, the information disclosed here would be a part of Annual Information Disclosure 56-1 Form and Annual Report 56-2 Form.

These 2 reports are aimed to let investors follow through the firms' performances after securities issuance. The information can be classified into 4 sections:

- Section 1: Summary
- Section 2: Information of the firms regarding to business model and characteristics, future strategies and master plan, stockholders and capital structure, organization structure, internal control, conflicts of interests, financial and firms' performance analysis, as well as risks and opportunities of the business
- Section 3: Securities selling details e.g. type of securities, price, reservation and purchasing method, offering and distribution, intermediate persons, etc.
- Section 4: Certification/Approval – Investors can study the information of each firm in the Filing Form on the SEC website.

The firm can sell the securities to market after the effectiveness and enforcement of the 69-1 Filing Form. This should be done, at least, 14 days after the final revision or within 3 working days if the previous filing was issued by the same company, under same security type, in the last 3 months. The duration required here enables investors to have enough time to make decision.

2.1.1.3 Post-offering Information Disclosure for Public Offerings

- Post-offering report

SEC requires the security offering firms to report the results after securities offering so that investors understand the current situation after the firms complete SEO. The report covers the amount of stocks offered, stocks values, investor types and so forth. If this offering is the IPO or PO, firms must report with respect to 81-1-IPO or 81-1 Form, respectively, to SEC within 45 days after the offering ends. If the offering is the Employee Stock Option Plan (ESOP), the same form as PO should be used, but this must be reported within 15 days. On the other hand, firms offering PP have to report SEC within 15 days according to what was declared in the articulation, for example, offering date, issuance amounts, and number of securities sold.

- Insider Trading (Stocks owned by Board of Directors, Executives and Auditors)

For transparency, SEC requires Board of Directors, executives and auditors to report stock ownership they hold. The person who is responsible to prepare and submit the report must include ownership shares of spouse and legally incompetent/underage/ immature kids of Board of Directors, executives and auditors, type of securities, 59-1 Form and due date. This form must be filed within 30 days after IPO closing date or appointment date of Board of Directors, executives and auditors after IPO closing date. The end of responsibility (report submission) is considered when the company has followed through all steps announced by SEC, or if the company has been withdrawn from the SET.

Nevertheless, there are some certain exceptions. Rights offerings, convertible securities, transferring securities, Employee Joint Investment Program (EJIP) and inheritance do not have to file for the report.

The disclosure responsibilities of issuing companies, Board of Directors, executives and auditors under the Securities and Exchange Act of 1992 are summarized in Table 2.1.

Table 2.1 The Disclosure Responsibilities of the SEO Issuing Firms

Type of Reports	Section	Due Date	Remark
Post-offering Report	81	Within 45 days after offering closing date	Use 81-1 Form attached in the SEC Announcement Sor-Jor 21/1998: Post-offering Report to Public)
Convertibles Exercising Report	81	Within 45 days after each exercising due date, or 15 days after the last date of the exercising month if the convertibles can be exercised continuously	Use 81-2 Form attached in the SEC Announcement Sor-Jor 21/1998: Post-offering Report to Public)
Insider Trading Report (Board of Directors, Executives and Auditors)	59	Form 59-1, 1) Within 30 days after SEO closing date (First report to SEC), or 2) Within 30 days after appointing to Board of Directors, Executives and Auditors positions. (The appointment is done after the SEO closing date.)	Use 59-1 Form attached in the SEC Announcement Sor-Jor 12/2009: The Insiders Compilation and Report Disclosure

Table 2.1 The Disclosure Responsibilities of the SEO Issuing Firms (cont.)

Type of Reports	Section	Due Date	Remark
Insider Trading Report (Board of Directors, Executives and Auditors)	59	Form 59-2, the report must be submitted within 3 working days since the securities have been bought/sold and/or transferred, if the stockownership proportion changes.	Use 59-2 Form attached in the SEC Announcement Sor-Jor 12/2009: The Insiders Compilation and Report Disclosure
Event Report Impacting to Rights of Security Holders, Investment Decision, and Security Prices Change	57	Report to SEC as soon as possible	
Table 2.1 summarizes the reports that the SEO issuing firms need to file with respect to Securities and Exchange Act of 1992. It clearly elaborates the section in the regulation stating the requirements, as well as the due date for each document.			

2.1.1.4 Private Placements (PPs) Process

Private Placements (PP), neither prospectus nor filing needed, are defined with respect to one of the following characteristics.

1) Offering Capital – This is calculated from the selling price, and it should not exceed 20 million Bath within any 12 months (excluding the amount offered to institutional investor).
2) Investors – The amount should be less than 50 investors within any 12 months, counted from the date investors own securities (excluding institutional investor).

3) Investor Type – PP can be offered to institutional investors, unlimited in financial amount and numbers of investors.

4) Offering Feature – First, both sellers and buyers are shareholders, and the offering is not an ordinary offering. Second, the company decides to liquidate their debts by offering equities to creditors, under the alignment from Court, in order to rehabilitate business. Third, juristic person or legal entity sells all newly issued stocks to shareholders in proportion to their current holdings.

There are two conditions for Private Placements to be granted. First, the company can neither publicly offer securities nor advertise in media. Second, if the company would like to give out the information documents before or during the offering, it would have to give the documents specifically to the investors only.

From Thai's regulation, the new requirement states that PP should not be sold to more than 50 investors, with the trading volume not exceeding 20 million Baht within 12 months, or the securities are sold to institutional investors. In addition, the discount should be limited to 10%. The price set for PP can be the market price, the weighted average of 7 to 15 days before the issuance, the book building method as estimated by SET-approved financial consultant, or the fully diluted price.

2.1.1.5 Post-offering Information Disclosure for Private Placements

The Company is responsible to report the results of offering to SEC within 15 days after the PP closing date. The information covers offering date, types, characteristics and special name of securities (if any), offering amount and the amount sold, offering price, names, addresses and shares allocation of each investor, names, contact addresses and telephone numbers of the company.

2.1.2 Regulatory and Principles Associated with SEO Process

The supervision of equity and debt securities issuance aims at investor protection by means of reviewing on the issuing company's qualifications, securities features and disclosure requirements for investment decision. The SEC regulations are enacted to fit with the securities features, investor types and offering manners.

2.1.2.1 Control Principles

To offer securities, the company must be authorized by the SEC. The registration statement and draft prospectus must be effective before securities can be offered for sale to public. This includes information disclosure, which complies with the Methodology for Assessing Implementation of the IOSCO (International Organization of Securities Commissions) Objectives and Principles of Securities Commission – an international standard defined by IOSCO. In summary, the principles are intended to ensure that information disclosure is meaningful for investors, and the security offerings are complete, on time and valid, Financial Statements must follow the accounting standards accepted internationally, and security holders are treated equally and fairly. The offering must be subject to the following regulatory principles.

1. Review on the qualifications of issuing company and securities features

For public offerings, the merit-based regulations under the Securities and Exchange Act 1992 require SEC approval depending on the security types.

1.1 For Public Offering, corporate governance of the issuing company is the criterion for SEC approval since people investing in shares will become the company's owners who are entitled for profit distribution. Corporate governance is the index accounted for clear, transparent and opened shareholder structure, trustworthy directors and executives, credible and transparent information disclosure. Nevertheless, Rights Offering to existing shareholders is exempted from SEC approval and disclosure requirements.

1.2 For Debentures Offering, approval criteria are aimed to protect investors as the issuer creditors. The issuer must have the debentures rated by an acceptable credit rating agency to assess financial condition and liquidity of the company. Credit rating, information on financial condition and operational results disclosed in the prospectus will be useful for making investment decision.

Approval from SEC, though considering qualifications and securities features, does not mean that securities are risk-free. Investors should study related information and make their own investment decisions based on individual preference and risk level.

2. Information Disclosure for Securities Offering

SEC sets minimum requirements on pre-offering information disclosure to cover company business, financial conditions and operational results as well as risk factors. More often than not, the most stringent requirements are applied to security Public Offering (PO) to ensure that investors have accurate and complete information for making decisions.

Information disclosure requirement for Private Placements (PP), however, is more relax. This is because the offering is for a small number of investors, who have their own access to information, or institutional investors; for example, PP of debenture needs a lighter version of disclosure document whereas that of shares is exempted from disclosure requirements.

Since the registration statements and prospectus are detail and elaborate, SEC requests firms to provide executive summary under the specified format to highlight key points. However, investors should review a full version of information in the registration statements and prospectus, which can be requested from the firm, underwriter or download them from SEC website. The regulatory principles on information disclosure take the sweet spot between compliance costs and firm competitiveness into considerations to ensure information sufficiency.

3. Securities Holder Protection

Depending on the types of securities, there are different protection mechanisms in place for each security holders if the corporate actions have adverse effects on them. For instance, shareholders own the equity of the issuing company, while debenture holders, creditors, have claim against the issuing company's assets.

Corporate actions that have adverse effects on shareholders include the issuance of new shares to investors other than existing ones (control and price dilution effects), insider trading (execution of related party transaction which maybe a channel

for fraud or other illegal benefits), and acquisition or disposition of assets that affects its business operation (e.g. expansion of manufacturing sites in notably large scale, change of business or entering into high valued related party transaction, purchasing of land, buy or sell a business, etc.)

On the other hand, corporate actions that may affect right of share warrant holders include the determination of exercise price and ratio on the specified date. The issuing company is obliged to proceed with adjustment to exercise price or ratio in the event of corporate action causing change in amount of shares, share price or predetermined exercise price or ratio.

The terms and conditions should be stated clearly in the share warrant and prospectus. For example, if the issuing company changes the par value of share from 10 to 2 baht, the holders of share warrants with predetermined exercise ratio of 1:1 at 10 baht per share must be protected in that the issuing company must either (1) adjust the exercise price from 10 to 2 baht per share or (2) adjust the exercise ratio from 1:1 to 1:5.

3.1 Shareholder Protection – The Board of Directors is appointed as the representative of shareholders indirectly participated in the company business operation. The board comprises of directors nominated by major shareholders, independent directors and audit committee members. Else, prior to entering into significant matters, the board of directors must propose the matter to the shareholders' meeting for approval. The SEC regulations allows shareholders to have sufficient information and time to study the company before the date of shareholders' meeting:

3.1.1 Notice of shareholders' meeting is required to be submitted 14 days in advance.

3.1.2 Details of significant information must be evidently stated in the Notice of shareholders' meeting.

3.1.3 Opinions of independent third party must be provided for shareholder decision.

3.1.4 Veto right is put in place for minority protection; as a result, only 5-10% (as the case may be) of total voting right can overthrow the proposal approved by 75%.

3.2 Debenture Holder Protection – Debenture holders, just like creditors, are entitled to the repayment of principles and interest promised by the issuing company. This is especially needed when the issuing company gets into financial hardship. Therefore, terms and conditions must be clear on duty and liability, framework governing right, role of debenture holder representative to monitor the compliance for the best interest of debenture holders.

2.1.2.2 Subsequent Duties of Security Offering

After security offering, the issuing company has to submit following reports: Results of Sales of Securities/Exercising of Convertibles, Financial Statements (annual and quarterly) and Reports under Section 56, Report on Security Holding of Board of Directors, Executives and Auditors. The due date for each submission will be specified in the relevant notifications.

The company approved for security offering and that whose shares are listed on the Stock Exchange of Thailand are required to maintain its qualifications, while the company's directors and executives must perform their duty with care and loyalty as specified in the Securities and Exchange Act 1992.

2.1.2.3 Objectives and Supervisory Principles

Not all companies can offer securities for sales; otherwise, there will be no control over the SET structure and company stability. There are rules governing the issuance and offer for sales of such securities to protect investors by screening qualifications of the company to meet some certain standards. However, after the issuance of securities, company still has duty to disclose information continuously. Therefore, the main objective of supervising company, besides protecting investors, is to help developing and promoting the company to disclose correct, complete and sufficient information which will make securities more attractive to investors and capable of raising funds in order to expand business to support competition and create sustainable growth.

The supervisory principles are divided into 2 types: disclosure (supervising company that issues shares to disclose sufficient, correct and complete information) and good corporate governance.

1) Information Disclosure of Securities Issuance Company

After registration statement and prospectus are effective, securities issuance companies are responsible to continuously disclose information under Section 56, 57 and 59 of Securities and Exchange Act 1992 (B.E. 2535) within specified periods as well as comply with Chapter 3/1 of the Securities and Exchange Act 1992, which prescribes responsibility on managing business.

Financial Statements and Reports (Section 56) – This is an opened channel that facilitates shareholders who do not take part in management of the company as well as investors to keep track of performance. They can understand the results by comparing the statements before and after the issuance. Securities Issuance Company needs to submit a report to the SEC according to specified periods under Section 56, e.g., quarterly financial statements, annual financial statement, annual registration statement (Form 56-1) and annual report (Form 56-2).

1.1 Execution of Important Transaction under Chapter 3/1 of the Securities and Exchange Act 1992 – The supervision of important transaction is aimed to see the impact to the company; thus, disclosing information allows shareholders to make business decision and helps investors receive sufficient information for making investment decision. Complying with law is every citizen's responsibility. Issuing company must seek a resolution from the shareholders' meeting and disclose information if listed company or its subsidiaries execute the transactions with adverse effects on shareholders.

1.2 Report on Management Securities Holding (Section 59) – Director, manager and auditor of securities issuance company has a duty to report each person's securities holding and his spouse and minor children in order for investors to monitor securities holding movement of insiders whose status and position may possess secret inside

information of the company and may seek benefits from such information prior to the public disclosure of the information.

1.3 Important Circumstance that need to be reported to the SEC (Section 57) – The event includes serious damage incurred, stop the whole part of its business, changes in business objectives or nature of business, Section 247 (taking over), and transaction related with shareholders' rights or a decision to make investment.

The deadline for submitting each type of report will be different as specified in the Notification.

2) Good Corporate Governance

Good corporate governance means managing the firm effectively, transparently, verifiably, and considers all stakeholders. It requires all related parties to lend their hands to help and reinforce good corporate governance. The framework for good corporate governance is illustrated in Figure 2.1.

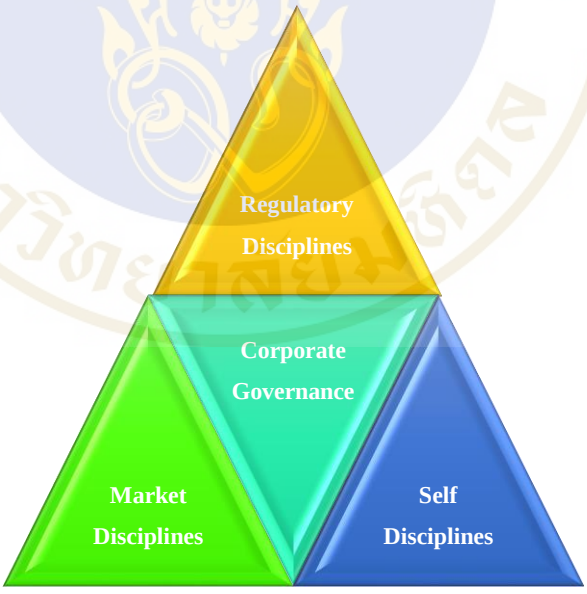

Figure 2.1 Framework for Good Corporate Governance

Regulatory discipline is driven by government through implementation of laws and regulations in order to have related parties comply with minimum standards. Market discipline is the stimulation from society, meaning that the mechanism and

incentives were created to drive listed companies to practice good corporate governance. A sense of determination from private sector, or self-discipline, promotes private sectors to recognize the importance of having good corporate governance and seriously adopting guidelines into practice. With these three disciplines, they play roles in forming good corporate governance.

2.2 Understanding Seasoned Equity Offerings (SEOs)

Raising external capital via seasoned equity offerings can be complex. The company has to consider many perspectives: 1) the amount of money to be raised, 2) types of instruments to be used and 3) the method of offer and whether to use an underwriter.

2.2.1 Different Issue Methods

There are several evidences of seasoned equity offerings in many countries. Each country has unique style of offering depending on the regulations and market conditions. In Japan, for example, Kang and Stulz (1996) summarized public common stock offering was accounted for almost 70% during late 1980s. In US, Gajewski and Ginglinger (2002) found out that the majority of firms choose underwriting method. On the other hand, Australia and most European countries issue right under flotation method. In France alone, approximately 80% of the firms issue rights.

Shahid et al. (2010) briefly described right issues as offering new shares to the current shareholder at a specified subscription price that is normally less than what the offering price to the public will be. This will enable shareholders to maintain their proportional ownership, preemptive right. Normally, insured rights offering is the rights offering underwritten by an underwriter who has a standby commitment to purchase any unsubscribed shares. However, a study in the European countries by Jeanneret (2003) shows that flotation method is predominant. Overall, the stock price reaction to rights offerings announcements is non-negative, but it may depend on the contractual placement agreement, whether the issue is underwritten or uninsured.

In summary, from many papers and researches, the offering methods used widely can be categorized into 7 types.

2.2.1.1 Fully Marketed Offerings

As recapitulated by Greene (2011), the fully marketed offering involves an underwriter or a syndicate of underwriters committing to purchase the offered securities at a fixed price subject to certain conditions and termination rights after marketing the public offering at various 'road shows' and obtaining expressions of interest by subscribers to minimize the risk of the underwriters having to purchase any unsold securities. Underwriter will buy all of the securities offered by the issuer for resale to its own investors. In this case, the transaction is firm, subject to any market out clauses contained in the underwriting agreement. Lead underwriters are selected and a syndicate of underwriters is assembled to support the offering. These transactions are common in the case of an initial public offering. Such offering enables an issuer to go to the market in a shortened time frame, thereby reducing the market risk to the underwriter.

2.2.1.2 Accelerated Book-Built Offerings

When applying for accelerated book-built offering, the investment bank does not have enough time to collect the same level of information, as when making a full market offering. Thus, underwriter must quickly evaluate the market demand before committing to an offer price. The accelerated book-built offerings, in general, take around 48 hours to complete according to Gao and Ritter (2010). Bortolotti et al. (2008) found out that underwriter may use *"backstop clause"*, which includes the minimum price guaranteed the issuer, the underwriting spread, and other profit sharing agreements.

2.2.1.3 Bought Deal

Investment bank buys issued shares, and then sells the shares as quickly as possible to institutional investors. To begin with, various investment banks bid on the issued shares, and the winning investment bank will be responsible for reselling the shares. This is summarized by Bortolotti et al. (2008). The auction-based setting, where banks bid for shares, is made to increase the competition among investment banks and eventually increase the proceeds to the issuer. Greene (2011) described bought deal offering as a commitment by the underwriter or a syndicate of underwriters to buy the offered securities before the prospectus being filed without marketing the securities. Ursel (2006) noted that the bought deal method was suited to

the market turbulence, when markets could move substantially in the weeks necessary to complete fully marketed deals. Gao and Ritter (2010) call this as overnight deal since the process of a bought deal is completed within 24 hours. The investment bank buys the shares without knowing how the market will react to the offering; it bears the risks more than fully marketed offering and accelerated book-built offerings. This is the same with what Ianotta (2010) summarized: investment banks carry a greater risk in a bought deal than in a fully marketed offering.

2.2.1.4 Block trades

This method is like the combination of accelerated book-built and bought deal. The block trade, nonetheless, consists exclusively of existing shares. Thence, firms do not raise new equity through this channel. Block trade can be compared as pure secondary offerings.

2.2.1.5 Public issues

If a company raises capital by issuing stock, it has to file a formal registration statement with the Securities and Exchange Commission (SEC) that details the business's financial history, current financial situation, the proposed public issue and future projections. The company must prepare a preliminary prospectus that contains information similar to that of the registration statement for potential investors. As per Ginglinger et al. (2010), public offerings are cheaper and improve liquidity more than standby rights whereas uninsured rights are still the best choice for low liquidity, closely held firms. Ginglinger et al. (2010) also suggested a bias in terms of which companies undertake a public offering, namely that stock liquidity seems to be an important determinant in the choice of issuance method.

2.2.1.6 Right offers

New shares are initially offered to existing shareholders, and the offering is arranged in a different way than seasoned public offering. Most of the time, Bohren et al. (1997) noticed that existing shareholders are offered a right to buy new shares on a pro rata basis at a discount, relative to the current market price. This implies that existing shareholders are offered an in the money call option on new shares. The shareholders are typically allowed to sell the option, should they not wish to participate in the offering. Bundgaard (2012) explained the idea behind the rights offer is that the value of the right should financially offset the non-subscribing shareholders for the fall

in the share price ex-post issuance, which is also known as the Theoretical Ex-Rights Price (TERP). TERP is calculated as the weighted average of the price of new and existing shares.

2.2.1.7 Best efforts offering

This involves a dealer using commercially reasonable efforts to market the securities as an agent of the issuer and the dealer not making any commitment to buy the offered securities themselves. In this offering, a dealer does not buy the securities offered as principal, but instead agrees to use its best efforts to sell the securities as agent for the issuer. Hence, the dealer incurs no financial loss in the case of an unsuccessful offering, other than the failure to receive a commission that is contingent on the success of the offering.

2.2.2 Different Issue Types

Public offering (PO) is a firm-commitment underwritten in which an underwriter agrees to purchase all of the new shares for resale to the public. The sale of equity shares or other financial instruments by an organization to the public in order to raise funds is also considered as public offering. In private placement (PP), new shares are sold to institutional or high net worth individuals. This type of offering is disclosed to only a limited number of investors or legal entities of investors. Right offerings (RO), or right issues, are the shares that are sold to those current shareholders. This offering enables current shareholders to maintain the ownership and control of the company, while the firm can get more money through the selling of additional securities.

2.2.2.1 Characteristics of each Issue Type

In all, a firm can go for right offerings, public offerings or private placements. There is a research by Cronqvist and Nilsson (2005) comparing the choices between rights offerings and private placements. It can be summarized into 3 points:

1. Firms which major shares are owned by large family members opt uninsured rights offerings in order to maintain the full control/major votes of the firms.

2. Private placements and, to a lesser degree, underwritten rights offerings are chosen by potentially undervalued firms to reduce the adverse selection costs.
3. Private placements can also be used to diminish contracting costs in newly established product market relationships.

2.2.2.2 Choosing the Appropriate Issue Type

Equity offerings have an impact on a firm's control structure. It is common for family-controlled firms to choose the SEO-type that has the negligible impact on the families' control. ROs are expected to dominate PPs since PPs can dilute the family ownership. There is an exception to this if PPs are sold to the controlling family itself (which may be difficult due to capital and diversification constraints, as well as selling to insiders are regulated in some countries). Cronqvist and Nilsson (2005) developed three alternative hypotheses, with economic explanations, related to control considerations, adverse selection costs and monitoring considerations aside from the floatation costs. These hypotheses are used to solve rights offer paradox.

Firstly, there is a strong evidence in history on corporate control considerations being a key determinant of the choices between ROs and PPs. Of course, large family shareholders who have an absolute power will be happy with noteworthy private benefits of control; thus, they are control-dilution averse and will be less likely to choose PPs and underwritten ROs. The chances of choosing an RO over a PP, and an uninsured over an underwritten RO, are both almost 3 times higher if the firm is family controlled. Cronqvist and Nilsson (2005) found that the smaller the control margin, the greater the fear of family's control dilution, and the higher the probability of firms choosing a PP over an RO. Empirical evidence indicated that increasing the family's vote margin from 25^{th} to 75^{th} percentile increases the chance of choosing a PP over an RO by 25 percentage points.

Secondly, adverse selection costs evidently affect the choice of flotation method. Firms that are the most likely to be undervalued tend to choose a PP than an RO. This is particularly true for firms at critical stage – with uncertainty whether the firm will survive or not. Since a PP-investor will have incentive to gather information about the issuing firm, Hertzel and Smith (1993) stated likewise that undervalued firms can overcome underinvestment problems due to adverse selection by

turning to private equity market. Furthermore, Cronqvist and Nilsson (2005) found that firms which few existing shareholders are expected to participate in the SEO are significantly more likely to choose a PP than an RO. With respect to cost, under information asymmetry, firms with lower expected current shareholder ownership choose PPs rather than ROs, and underwritten ROs rather than uninsured. Eckbo and Masulis (1992) and Bohren, Eckbo, and Michalsen (1997) showed that an underwritten RO can substitute expected current shareholder take-up, thus reducing wealth transfers to new shareholders. Cronqvist and Nilsson (2005) confirmed these findings. Additionally, PP can better substitute the expected current shareholder take-up than RO since rational PP investors spend their money in firms with inside information about firm value. PP seems to resolve the adverse selection and be a good signal about firm's true value. In summary, the higher the degree of information asymmetry, the higher the chance firm will choose PPs. At moderate degree of information asymmetry, firms find it more optimal to engage underwriters to certify rights offering. While at lower degree, uninsured ROs is the cheapest SEO-method firms usually choose. This is one the reasons to debate against the rights offer paradox; some firms choose more expensive SEO method.

Thirdly, PPs are chosen when equity is raised along with the development of a new product-market relationship. Consistent with the industrial organization theory, and in line with the evidence by Pisano (1989) and Allen and Phillips (2000), they claimed that strategic partners employ partial equity ownership to reduce contracting and monitoring costs.

2.2.3 Costs of SEO and Rights Offer Paradox

The costs of SEO may include fees for legal services, listing fees, merchandising expenses, underwriter compensation, and so on. They may impact the SEO method consideration. If firms look at the direct flotation cost, very few firms will choose an SEO method except an uninsured rights offering since the average cost are about 1-2% of the proceeds only (Smith (1977) and Eckbo and Masulis (1992)). However, many firms choose more expensive SEO-methods: an underwritten/ insured rights offerings or public offerings. This contradiction is known as rights offer paradox as studied by Smith (1977) and Hansen and Pinkerton (1982). Furthermore, while the

importance of PPs among non-listed firms has been recognized (Fenn, Liang, and Prowse (1997)), the question remains why the more expensive private equity market is used by so many public firms.

Many studies of rights offerings attempt to resolve the "rights offer paradox." Specifically, why are rights offerings rarely used in US when they have lower direct flotation costs than other equity offerings? Smith (1977) attributed the paradox to agency problems between managers and shareholders that arise because managers get personal benefits from using underwriters.

On another perspective, due to high merchandising costs, rights offerings are cheaper only for firms with concentrated ownership. This is contended by Hansen and Pinkerton (1982). Afterwards, Hansen (1989) argued that there are transaction costs of selling rights in the secondary markets that are not accounted for in direct flotation costs. However, as noted by Eckbo and Masulis (1992), they later discovered that this paradox is not seen across all markets. The infrequency of rights issues in the US contrasts with the situation in Canada, Europe and the Pacific, where the majority of equity issues are sold through rights, though a trend toward underwritten offers is evident in a number of countries.

Allen and Soucik (2008) reported that the greater is the SEO cost specifically associated with under-pricing of the new equity, the greater will be the underperformance that follows the issue. Empirical evidence shows that the direct costs associated with right offerings are lower than those of a seasoned public offering. Again, Smith (1977) documented that the subscription price for rights offering can be set low enough so that the probability of failure of the offering becomes close to zero. Consequently, the underwriting insurance policy must be small.

The lower direct cost should let the company choose rights offering when issuing seasoned equity. However, the empirical evidence shows that issuers, especially in US as observed by Bundgaard (2012), favor underwritten seasoned public offering over rights offering. This is in-line with rights offer paradox. Ursel (2006) had previously found also that US firms raise seasoned equity via underwritten public offerings despite the lower cost alternatives: non-underwritten or underwritten rights offerings.

This is probably because Hansen (1989) discovered that firms making underwritten rights offerings paid lower fees, but incurred dramatically price drops just before the offering than did firms making underwritten public offerings. If shareholders resell their new shares, after subscribing to the proposed rights offer, a seasoned public offering may be a preferred flotation method, even if it entails larger underwriting fees.

The indirect costs of SEO are largely derived from the discount, which has been explained with adverse selection resulted from information asymmetry, stated Bundgaard (2012). SEO discount has an empirically positive relationship with firm risk and relative size of offering. In other words, SEO discount is consistently and significantly negatively related to the secondary market liquidity. Amihud and Mendelson (1986) had previously concluded that illiquid assets are traded at a discount.

In summary, SEO incurs two types of costs: direct and indirect. Normally, the underwriting fee, also known as the gross fee, occurs before the offering, and is paid to the investment bank. The investment bank will then take the new shares on its balance sheet, exposing bank to certain risk. Hence, the underwriting fee has a positive relationship with firms' risk. Alternatively, out of the pocket expenses are fees supporting and handling the equity offerings, including fees for accountants, law firms, listing, registration, printing, advertising, road show expenses as well as the cost of management time. These two costs are direct costs. Simply put, direct costs associate with an SEO are usually fees paid to process and precede SEO.

On the other hand, SEO discount, i.e. the indirect wealth transfer from old to new shareholders as a consequence of the typical discount seen on seasoned offerings, stock price reaction to the offering announcement, and the follow up announcement about the issue, and costs incurred if the offer is delayed or cancelled are all indirect costs.

2.2.4 Return on SEO

Normally, seasoned equity offering usually has a negative return. This is observed in many countries as well as by many researchers. For example, in US market, Loughran and Ritter (1997) showed that SEO-issuers have much lower subsequent stock returns than non-issuers with the same growth rate.

Stehle, Ehrhardt, and Przyborowsky (2000) concluded that German stocks involved in an SEO, on the average, underperform a portfolio consisting of stocks with a similar market capitalization by 6 % in three years.

Masulis and Korwar (1986) suggested common stock offerings have two major implications on a firm: lowering firm's leverage and financing capital expenditures. This is in line with the second signaling model by Miller and Rock (1985). Normally, if the investment decisions are the same, a firm shall not change outside financing. Otherwise, it signals to investors for opposite changes in current earning since the firm may have constraint on sources and uses of funds. Therefore, this model predicts a negative stock price reaction relative to the dollar size of announced equity offerings.

However, there are some researches stated otherwise. Some countries have a positive return for the listed firms to issue more equities after IPOs, or some specific types or methods of issuance may result in a positive return. Another key contributor is the availability of information and how thoroughly the information is known or spread publicly. Mikkelson and Partch (1986) found a less negative announcement effect when the equities are claimed to use for capital expenditures rather than financial restructuring. Asquith and Mullins (1986) examined the pre-issue performance of the firm. The announcement-period return is positively related to the cumulative excess return of the past 11 months. That is to say, the firm's actual performance that was well-known in public could help to convey good news for the firm. Both papers were also tested for statistical significance.

2.2.5 Theories Related to SEO

Generally negative, SEO firms exhibit typically better operating performance than non-issuers in the pre-issue years. Later, the operating performance of SEO firms declines much more quickly than that of non-issuers, as measured by accounting numbers. Insiders appear to make use of the information by issuing equity when it is overvalued. The empirical evidence also supports the notion that insiders time the market by issuing equity when it is overvalued. Furthermore, in the years following the SEO, the changes in operating performance measures offer strong evidence of significant post-issue operating performance declines among SEO firms. Limpaphayom

and Ngamwutikul (2004) proved that the same scenario happened in Thai market. There are several theories to explain this scenario.

2.2.5.1 Information Asymmetry

Information asymmetry is one of the major causes of external financing decision valuation effect. In the world of information asymmetry, managers will not issue new stocks when prices are low relative to managers' private information about firm value. Knowing this, investors view an SEO announcement as a negative signal that reveals managers' perceptions on a firm's current stock price. Investors respond to this negative signal by reducing the stock price significantly.

In an information asymmetry model presented by Myers and Majluf (1984) and Diekerns (1991), potential buyers of securities have less information about the firms' prospects than managers, who are likely to issue securities when the market price is higher than their values. Sophisticated investors will then reduce their estimate of the firm's value when there is an SEO announcement. The model also implied that the greater the level of information asymmetry between insiders and investors, the greater the negative price reaction. According to this model, increasing the net present value of the investment opportunity reduces the adverse selection problem of a new equity offering, thereby reducing the announcement day price drop. If new investment opportunities are profitable enough, there is no adverse selection problem and, hence, no negative stock price reaction. Thus, Myers and Majluf predict that the stock price response to securities offerings does indeed vary with investment or growth opportunities. Smaller announcement effects should be observed for straight debt offerings. The model implies that dual debt-common stock offerings should also have smaller announcement effects than a stock offering of equal dollar value.

Leland and Pyle (1977) studied the latter tool. Under their model of one-shot equity offering, risk-averse firm insiders have private information about the future cash flow distribution. They signal true firm value to the equity market by retaining a larger fraction of their firm's equity than the low-performance firm. Such a signaling equilibrium exists, since the cost of retaining a larger fraction of the firm's equity is lower for the high-performance firm.

Aside from dividend, there are other possible signaling tools firms can use to shout out the health condition or riskiness of the firms: underpricing,

warrant issuance, frequent information disclosure, earnings announcement and the fraction of equity retained. Similar to warrant issuance, there are several evidences related with using warrant, in any form, to reduce information asymmetry.

To conclude, the level of information asymmetry can be reduced with the firm's actions. John and Williams (1985) and Ambarish, John, and Williams (1987) both suggest that firms simultaneously declare dividends and announce SEO to reduce information asymmetry. Rational firms with more value, in equilibrium, must pay a level of dividends that is unattractive or impossible for firms with less value to mimic so that investors can distinguish between them. That is, they assert that a dividend payment reduces a firm's information asymmetry. Allen and Michaely (2003) had also conducted the empirical research to prove these rational actions.

The magnitude of negative announcement effect will be less, if the time difference between the offering announcement and the preceding earnings announcement gets closer. Korajczyk, Lucas, and McDonald (1991) argued that a decrease in information asymmetry, via earnings announcement, will reduce the magnitude of price drop at offering announcement. Lang and Lundholm (2000) studied behavioral finance, and found a pattern of firms making more frequent optimistic disclosures, starting six months before the registration date, to reduce information asymmetry. It is observed that the announcement-period return increases from this behavior. Jeanneret (2003) identified two elements in the multivariate analysis framework of the announcement effects that mitigate the role of information asymmetry. First, competitive theories, e.g. agency costs, have a significant explanatory power. Second, the size of issues could indicate a price pressure reaction.

In contrary, Marsh (1979) and Hess and Frost (1982) tested and rejected the hypothesis that the price decline is associated with the size of the issue. However, these two studies focus on the issue date rather than the date that the offering is announced since they are testing for a price-pressure effect on the issue date.

2.2.5.2 Adverse Selection

In the world of asymmetric information, Myers and Majluf (1984) were the first to recognize that equity issues to outside investors are associated with an adverse selection problem. Eckbo and Masulis (1992) built on that a rights offering with anticipated current shareholder participation (take-up) of less than 100%

is subject to an adverse selection problem. The greater the undervaluation of the shares, the less the chance firm will issue SEO, if the participation of current shareholders take-up is below 100%. Correspondingly, for a given level of undervaluation, the smaller the current shareholder take-up, the worse the underinvestment problem becomes, since expected wealth transfers to outsides investors will be larger. Eckbo and Masulis (1992) also argued that the adverse selection problem can be mitigated by underwriter certification.

2.2.5.3 Capital Structure

Without information asymmetries and taxes, the markets can be assumed efficient. Modigliani and Miller (1958) showed that firm's financing behavior is independent – meaning that the way firms finance their investments is irrelevant. However, the firm's equity is undervalued in capital market, risk-free debt and pre-emptive stock issue can be optimal financing choices. The trade-off theory said that firms finance with debt in order to balance the tax advantages of additional debt, or marginal tax exceptions, against the costs of possible financial distress. Theoretically, analyses predict that stock price reductions are associated with the source and magnitude of financing, i.e. cost of capital, rather than changes in corporate capital structure.

Myers and Majluf (1984) expanded the study to see the impact of information asymmetries. They develop the adverse selection model assuming that managers are more informed than investors about the firm's prospects. Investors, by knowing that they have inferior information, interpret equity issue as a signal of overvalued stocks. As a result, when running out of money and sources of debt, firms issue stocks only when managers indeed believe that the firm is overvalued. Therefore, the information effects cause price reductions, see also Miller and Rock (1985).

This is later confirmed by Asquith and Mullins (1986), using regression analyses of leverage variables, who suggested a day price reduction and a significant size effect for both primary and secondary issues are also impacted by information. Most of theories related with capital structure consistently predict that stock offering announcements lower stock price, and the decline is relative to change in shares outstanding.

The trade-off theory says that firms seek the levels of debt that balance the tax advantages of additional debt against the costs of financial distress risk. Central to the theory is the role played by the potential costs of financial distress, which introduces the concept that the debt a company takes on its balance sheet also demands a risk premium. This risk premium reflects the probability-weighted amount an investor expects to lose in case of the firm failing.

In conjunction with the tax shield theory, the firm tries to achieve a static point where the capital structure is at a theoretical cost optimum. At this point, the marginal advantage of obtaining one additional unit of debt is exactly offset by the marginal effect of the potential costs of financial distress.

There are many famous models pointing out a negative share price response to equity issues. Both Ross (1977) and Downs and Heinkel (1982) suggested that changes in leverage convey a message of insider information about expected changes in future firm performance, as executed by management team. In details, Ross stated that a firm's choice of capital structure conveys management's expectations about the firm's prospects. That is, a higher debt ratio is a binding constraint on the firm, and thus signals positive expectations for future cash flows.

On the other hand, issuing new equity is a negative signal and may reduce a firm's stock price. DeAngelo and Masulis (1980) proposed an optimal capital structure model where changes in expected cash flows are positively correlated with changes in optimal leverage levels. Therefore, a decrease in leverage is a negative signal to firm value. This is in-line with the previous studies from Modigliani and Miller (1963).

Masulis (1983) also extended the study further and found out that if managers adjust financial leverage to maximize firm value, the expected improvement in cash flows will be signaled to investors – given that tax rates, expected bankruptcy costs and non-debt tax shields are stable.

Myers and Majluf (1984) predicted that new equity issues are viewed as negative information. With tax advantages from debt financing, an SEO may reduce a firm's stock price if it reduces the firm's debt ratio, concluded Asquith and Mullins (1986). This is because the firm loses opportunity in tax advantage, and the

overall cost of capital increases. Agency models developed by Stulz (1990) and Harris and Raviv (1991) showed that leverage is positively associated with value of the firm.

Dierkens (1991) and Raymar (1993) indicated that a firm's capital structure is one of the factors determining the stock price reaction to external financing. Leverage can improve a firm's investment behavior by reducing mispricing of new securities such that positive market reactions to equity issuance are possible if there is a certain degree of leverage and default risk. They predict that the higher the leverage, the more positive the new security price.

Later, the study by Cronqvist and Nilsson (2005) demonstrated statistically that the debt level or risk impacts to SEO choices. They found that the strongest effect is associated with the financial distress; specifically, a debt restructuring or refinancing increases the probability of an underwritten rights offering by 42% and decreases the likelihood of private placement to a new investor by 76.8%. In addition, a firm with a speculative stock is 28.1% more chances to choose private placement.

Quynh-Nhu's (2009) study in Helsinki Stock Exchange showed similar perspective. The empirical results revealed that there is a negative relationship between leverage and stock price drop after the seasoned equity offerings. High-levered and low-growth firms turned out to have the worst performance at the announcement and issuance of SEO. She reasoned that SEO does not only show that firm is raising money for profitable new investment opportunities, but also, on the other hand, indicate that the issuing firm is trying to decrease the leverage ratio.

Since leverage has a negative relationship with information asymmetry, according to Dierkens (1991) and Raymar (1993), an equity issuance will lead to an increase in the information asymmetry level. Therefore, the marginal increase in the level of information asymmetry will be greater for the high-levered firm than the low-levered firm. Dierkens (1991) and Raymar (1993) also mentioned that the reaction to equity issuance of a high-levered firm will be more positive than that of a low-levered firm.

2.2.5.4 Signaling Theory

Normally, on the announcement date, investors perceive the issuing of equity as a sign of declining operating performance. The negative reaction by the market to seasoned equity issuers can be explained by the signaling hypothesis, which assumed that information asymmetry exists between managers/insiders and outside investors.

This also had been proposed by Myers and Majluf (1984) and Ambarish, John and Williams (1987). There is asymmetric information between corporate insiders and the market for both assets-in-place and growth opportunities. As a result, firms issue new equities only when their stocks are overpriced, causing market to react negatively to SEO.

In addition, agency conflicts also play an important role in the process. Managers, having more information than outsiders, act in the best interest of existing shareholders at the expense of the new shareholders by issuing equity when it is overvalued. This is to maximize the shareholder's return. Consequently, it is hypothesized that seasoned equity offerings convey negative signals and information about the firm's future prospects, as in Myers and Majluf (1984), Miller and Rock (1985), and Jensen (1986).

2.2.5.5 Downward Sloping Demand Curve and Price Pressure Effect

Asquith and Mullins (1986) tested hypothesis using regression analysis. The result indicated that announcement day price reduction is significantly and negatively related to the size of the equity offering. The evidence also showed that SEO announcement reduces stock price notably. The findings are consistent with hypotheses stating SEO is viewed as negative signal by investors and there is a downward sloping demand for a firm's shares.

The results from Asquith and Mullins (1986) are consistent with semi-strong capital market efficiency. The announcement effect has been reflected in the market price at the issue date, without significant temporary price-pressure effects. The price-pressure hypothesis was first introduced by Scholes (1972), he contended that an increase in the supply of shares causes a drop in stock price of the firms because the demand curve for shares is downward sloping.

According to Asquith and Mullins, the announcement day price effect predicted by various theories can be categorized into 3 groups:

1. No price effect: This is consistent with the close substitutes from the classical and ideal efficient markets hypothesis.
2. Negative price effect: This is consistent with (1) information asymmetry effects associated with the sale of securities from information-enriched sellers to uninformed investors, (2) a downward sloping demand for firms' shares leading to a permanent price reduction, (3) capital structure hypothesis based on re-allocation of firms' value among classes of security holders, tax effects, and/or leverage-related information effects, and (4) large transaction costs of equity offerings.
3. Positive price effect: This is consistent with (1) favorable information effect associated with investment, and (2) value-enhancing financial leverage reduction e.g. a reduction in the expected costs of financial distress and/or agency costs.

Fully marketed offering method is proposed by Gao and Ritter (2010) to increase the short-run demand elasticity, which will raise the offer price and post-issue market price. They found that firms facing inelastic demand curve prior to the offer, raise huge capital and offer a large number of shares compared to outstanding shares are more likely to conduct fully marketed SEO. Furthermore, firms with smaller market capitalization and less analyst coverage tend to use fully marketed offers.

2.2.5.6 Window of Opportunities and Market Timing

Timing of SEO announcement is an important factor to reduce the information asymmetry, and thereby, reduce the negative figure of the SEO abnormal return. The hypothesis of timing security issue decisions finds its justification in both information asymmetry and agency costs theories i.e. equity issues are clustering in periods of low information asymmetry.

Dierkens (1991) documented a significantly positive relation between the announcement period return and the firm's growth opportunities, the ratio of the market value of the equity to the book value of the equity for one fiscal year before the announcement. Thus, making an announcement after the good year of firm's

growth opportunities will help with the SEO return. Korajczyk, Lucas, and McDonald (1992) modeled the proposition stating that with time-varying information asymmetries, a firm prefers to issue equity when the market is most informed since the information asymmetry between the firm and the market increases with time. Furthermore, Choe, Masulis, and Nanda (1993) documented a less negative SEO announcement effect when the economy is in an expansionary period of the business cycle, which implies less adverse selection risk.

In reality, equity issues are clustered in selected periods by the presence of windows of opportunity, explained Bayless and Chaplinsky (1996). They termed the period as "hot issue periods", which are the periods with large amount SEOs aggregation. Their argument stated that when the total amount raised by equity issues is important, adverse selection costs for the marginal equity issuer are expected to be low, encouraging firms to select this financing source. Thus, timing the offering to be within the hot issue period seems to be saver for firms.

Loughran and Ritter (1997) suggested that when a firm is substantially overvalued it is likely to issue equity, extending from what Myers and Majluf (1984) referred to as financial slack. This is consistent with the pecking order theory, which suggests that during the windows of opportunity, the preference ranking can be changed to external equity, external debt and then internal equity. This may be the reason why firms issue SEOs rather than debt.

Indeed, Baker and Wurgler (2002) observed that low-levered firms usually raise funds when their valuation is high, while high-levered firms do it when they are low-valued. In addition, this is not just a snapshot of the event, but a series of performance. They found that a 10-year-old weighted average market-to-book ratio often has more influence on the current capital structure than any other determinants. This is the same as Dittmar and Thakor (2007) who discovered that firms issue equity when their stock prices are high.

As stated earlier by Choe, Masulis and Nanda, Jeanneret (2003) also confirmed that business cycle may also influence the timing of security issues. Market-to-book ratio is used to measure the market timing opportunities since it can imply the valuation of stocks such that high market-to-book ratio induces equity

issue. In general, firms are expected to be financed with the security that has the lowest cost of capital but most valued.

Wang (2011) predicted that firms with greater earnings timeliness tend to have less information asymmetry, and therefore lower magnitude of SEO price drop. Earnings timeliness describes the ability of earnings numbers to capture current value-relevant information. Earnings are important measures investors used to assess the firm performance. With greater timeliness, or timely financial reporting, it can reduce the information asymmetry between managers and investors. They summed up that SEO negative announcement effect varies inversely with earnings timeliness.

2.2.5.7 Pecking Order Theory

Pecking order theory stated that firms tend to use internally generated funds, or retained earnings, as the first resource since the cost of fund is the cheapest. Next priority, firms will borrow money from creditors rather than issuing equity, when the first fund resource is not sufficient to invest in new projects and/or other uses. Thus, the amount of debt will reflect the firms' cumulative needs for external sources of funds. In reality, the capital structure of a firm cannot approach an optimal debt ratio as in the static trade-off theory. Usually, it will be the way managers finance the needed capital with respect to the order: 1) use internally generated cash, 2) issue debt, 3) issue hybrid securities and 4) issue equity.

The theoretical foundation of pecking order theory is that firm cannot issue equity at efficient price, that is to say, issuing equity is forced to do at discount. Myers and Majluf (1984) demonstrated this foundation by assuming perfect capital market and insufficient cash/fund for investment, except that managers know the true value of their firm. So, the company can decide whether it will borrow debt, issue equity or forego the investment.

In perfect efficient market, there is no concern whether to raise the capital through debt or equity since the cost of raising capital for both options would be zero – the cash raised is equal to the NPV of the project.

Nonetheless, this is not seen in the real world where companies issuing equity face with direct and indirect costs. The existence of certain indirect costs regarding to equity issuance makes the choice between debt and equity non-trivial. The semi-strong-form efficiency implies that firms issuing equity will face the adverse

selection problem. Since managers are more knowledgeable about true value of the firm and its opportunities, investors, feeling of being ignored, will reason that not issuing shares signals good news. According to Myers and Majluf (1984), this affects the price that investors are willing to pay, thus forcing the issuing firm to price the shares below the current market value, giving rise to the observed SEO discount. In summary, a stock issuance will be perceived by investors as unattractive, regardless whether the company is over or undervalued. Subsequently, pecking order theory predicts that managers will use new shares as last a resource, especially in time of financial distress.

Grossman (1976) demonstrated that if one group of investors has superior information about the asset real value, the information can then be collected by anyone at the equilibrium price. Then, no one will pay for information. And if there is no one paying for information, the price reveals nothing and there is an incentive to acquire information. Rock (1986) developed this further by conditioning the situation for information not to be observable especially the channel that communicates inside information to markets. He said that informed investors will profit from superior information by bidding for mispriced securities, which is compensated for cost of collecting/gathering information about the real asset value.

There are some contradictions to the model, however. A research from Viswanath (1993) recommended the first project to be financed with equity in order to preserve firms' internal financing capacity for the second project. This will ensure that both projects can be undertaken (where he assumed the best interest of existing shareholders is in the realization of these two projects – positive NPV adds value to the company); however, it contradicts with pecking order theory. Stein (1996) elaborated dynamic pecking order model where the choices are external equity, external debt and internal equity, respectively. Similarly, Jeanneret (2003) found that equity financing might have to be considered when investment opportunities are important relative to the value of assets.

2.2.5.8 Certification Hypothesis

Certification hypothesis describes that low discounts imply a high offer price, resulting in a high announcement return. It predicts a negative relationship between the announcement return and the offer price's discount below the market price. That is, the higher the discount, the lower the certification, and the lower

the announcement effect. This can be done by underwriters who certify the validity of the issuing firm's stock price, claimed Booth and Smith (1986), and Denis (1991) found that the announcement day effects of traditional underwriter equity issues are less negative, which is consistent with this hypothesis. This is because underwriter certification is not provided with a shelf registration issue, for which there is a lower or more negative stock price response. Cooney, Kato and Schallheim (1996) concluded that the underwriter does not provide the same level of certification for formula-price offering as in the traditional fixed-price offerings; consequently, the average abnormal return surrounding the announcement of a formula-price offering is significantly lower than that of a fixed-price offering because formula-price offering has a shorter time period between the offer-price determination day and the subscription period (underwriter certification will unlikely to be reassessed due to time insufficiency), and it can be cancelled up until the offer-price determination day. They summarized that investors react positively when the actual discount is less than the expected discount.

2.3 Announcement Effects of SEOs

Roll (1983), Conrad and Kaul (1993), Canina et al. (1998) and Byoun (2004) applied buy-and-hold return (BHR) in excess of the buy-and-hold return on a matching portfolio to study the performance of seasoned equity offerings. Byoun (2004) matched the return over the 5 years to measure long-run price performance. The BHR for a stock is obtained by compounding monthly returns over 5 years. He claimed that this approach better captures the potential returns to long-term investors because the differences are obtainable by an implementable investment strategy. However, there was a previous criticism of this approach. Fama (1998) and Mitchell and Stafford (2000) stated that BHRs can grow with the return horizon even when there is no abnormal return after the first period.

Shahid et al. (2010) used mean-adjusted return model to compute the abnormal return to ensure robustness. They found out that, in China, on the board of directors meeting date for 3-day event window period, [-1, +1], cumulative abnormal return of -1.36% is obtained, significant level of 1% (-1.07% on announcement date at 5% significant level). For shareholders meeting date, these CARs are insignificantly -

0.8%. To sum up, board of directors meeting date is the most important date in China to have strong market reactions in SEO announcements, follow by announcement date and shareholders' meeting date, respectively.

There are several empirical researches: Asquith and Mullins (1986), Masulis and Korwar (1986), Mikkelson and Partch (1986), Brous and Kini (1994) and Limpaphayom and Ngamwutikul (2004) showing that investors react negatively to the announcement of seasoned equity offerings.

Taggart (1977) and Marsh (1979) found that primary stock issues are more likely to occur after a rise in stock prices. However, the equity offering decision is related more to the performance of a firm's stock price relative to market than to the market's performance as a whole. Regression results indicate that the announcement day price reduction is inversely related to stock price performance in the past year – for industrial issues. This finding proves why firms issue equity after a rise in stock prices. Asquith and Mullins (1986) summarized that firms tend to issue equity following an increase in stock prices. After pre-announcement, stock price increases, and the announcement day price reduction tends to be smaller, which is consistent with Myers and Majluf (1984) who stated that firms time equity offering to minimize adverse impact on stock prices. In other words, the price reduction from equity issues varies through time. Firms respond by issuing equity when the price reductions are small.

Masulis and Korwar (1986) documented a statistically significant decline in common stock value on the announcements of primary, combination and dual debt-common stock offerings. The effect, specifically, to industrials is larger than public utilities. Cross-sectional analysis of stock announcement returns shows a negative relationship to prior stock returns and, for industrials, to decreases in management shareholdings, and a positive relationship to firms' change in leverage. Mc Laughlin et al. (1988), Smith & Watt (1992) and Gombola et al. (1998) have documented that market reaction to seasoned equity offerings is more negative for high growth opportunity firms than for low growth opportunity firms. They argued that high growth opportunities are associated with high level of information asymmetry and are therefore more overvalued than low growth firms, leading to more negative market reaction.

A number of empirical studies documents subsequent decline in operating performance of companies that conducted SEOs in the U.S., e.g. Hansen and Crutchley

(1990), McLaughlin, Safieddine, and Vasudevan (1996), and Loughran and Ritter (1997). Teoh, Welch, and Wong (1998) found out that investors misinterpret pre-issue earnings since they do not adjust for potential manipulation by management. Rangan (1989) came across that investors temporarily overvalue issuing firms and concluded that earning management by firms around the offerings can explain poor performance. Cai and Loughran (1998) observed similarly poor post-issue performance among Japanese firms.

2.4 Empirical Results of SEO

Cooney, Kato and Schallheim (1996) studied SEO in Japan and found out that equity issues are usually done following a statistically noteworthy run-up in stock price, but there is a significant and positive effect of 0.5% for 3-day announcement period. In contrary, Gajewski and Ginglinger (2002) found negative abnormal returns to rights issues and no significant abnormal returns to public offerings. In France, public offerings are chosen more frequent than rights issues. Their research implied that public offerings in France are accompanied by a lower degree of symmetric information; furthermore, abnormal returns are not related to company specific risk in case of public offerings, but the market reacts less negatively when current shareholders decide not to subscribe. Empirically, there is a stock price change of -0.58% at the first announcement date of common stock rights issues. There is also a negative reaction at the issue date and during the subscription period for common stock issues, whether rights or public offerings.

There was a study by Altinkiliç and Hansen (2003) getting the mean cumulative abnormal return, CAR [1, +1], for PPs is 7.27%, which is significant at the 1% level. In contrast, stock market reaction for ROs is insignificant. The difference in CAR [1, +1] between PPs and ROs is statistically significant, with p-value < 0.001. The results are claimed to be robust to use with wide range of alternative event windows. Within the PPs, the mean CAR [-1, +1] is larger when the PP is directed to current rather than new investors (11.67% and 5.10%, respectively), which is 5%-level significant.

Quynh-Nhu (2009) conducted an event study of SEO in Finland. Likewise, the announcement of Finnish SEOs has a negative stock price reaction of -3.6% within

2 days of announcement period, which was significant at 1% level. The stock prices fall on the issuance dates because the proposed offerings are confirmed to be complete, and market participants assume that the shares are still overpriced. The research concludes that low-growth and high-leverage firms are the worst performers at the announcement and issuance of SEOs.

In addition, market reacts negatively to the SEO from the research of Shahid et al. (2010). Most of the researches in U.S. also confirm the negative abnormal returns on equity value when public offerings are announced: Hansen (1989) and Eckbo and Masulis (1992). Specifically, Elliott et al. (2009) pointed out the overwhelming evidence suggesting that SEOs are associated with significant negative common stock returns on the order of -3.00%.

Not only in the U.S., many countries worldwide experience negative returns e.g. Slovin et al. (2000) studied the market in U.K. and discovered an approximately -2% return from the announcement effect. Whereas Mola and Loughran (2004) studied Italy market; the average offering price of new shares is discounted by 3% from the previous day closing price. Other evidences include the researches in the Netherlands by Kabir and Roosenboom (2003) and in Hong Kong by Ching et al. (2006).

2.5 Evidence of Positive Returns of SEOs

Asymmetric information model of Myers and Majluf (1984), Ambarish et al. (1987) and Cooney and Kalay (1993) and the free cash flow theory of Jensen (1986) predict that the stock price depends on the growth opportunities of issuing firms. The firms with higher growth opportunities should experience less loss than firms with lower growth opportunities at the announcement of equity issue.

If the private placements are issued to a small group of investors, information is expected to be disclosed without fear of leakage to competitors. This reason is argued by Wruck (1989), who made a study in US market. Brealey and Myers (1991) presented also a positive relationship between firm valuation and the Net Present Value, or NPV, of growth opportunities. Later, Denis (1994) discovered that announcement period price changes vary directly with several ex ante measures of growth though it is not monotonic. This discovery is driven by a small subset of high

growth firms whose announcement effects were not significantly different from zero. However, there was no relation between alternative measures of ex post growth and announcement effects.

In Japan, a study from Cooney, Kato and Schallheim (1996) showed that equity offerings differ from US common stock offerings in two important ways. First, the offering price is determined several days (7 trading days on average) in advance before the subscription period, while the price in US is set less than 24 hours before the offering. Second, the offer prices are set at a considerably deep discount, below the stock's market value on the offer-price determination day. This puts Japanese underwriter in a position in which it certifies the discounted offer price as the minimum value for the issuing firm's common stock for the period between offer-price determination day and the day the stock is fully subscribed. Intuitively, underwriter certification at the offer price leads to an upward re-evaluation of the stock price.

The result of event study showed that there is a positive abnormal return for the day before and on the day of board meeting, but result for the day after the board meeting is insignificant. Meaning that, seasoned equity offering causes stock prices to increase. Leakage of information may be the reason to explain why there is a positive return on the day before the board meeting. Anyway, the result is also consistent with increased risk and return around information events, where the event date is known in advance.

There are two ways to determine the offering prices: the fixed price method and the formula price method. The underwriter certification hypothesis fits nicely under this institutional environment because fixed price issues offer more certification. Average announcement effect for firms using the fixed price method is positive, while the announcement effect is zero for the firms using the formula price method.

Recent study in US by Jiao and Chemmanur (2005) also pointed out that the announcement effect of equity issue will be negative, while the magnitude of the effects varies across firms depending on the extent of information asymmetry facing the firm about asset-in-place and about the NPV of its new projects, for example. However, they hypothesized a significant fraction of firms will have positive announcement effects. This hypothesis is supported by four main scenarios, all depending on soft information.

First, the announcement effect will be increasing (i.e. more positive or less negative) in the realization of the soft information signals available to outsiders. That is, the model predicts that firms with more favorable reviews in analysts' ratings or earnings forecasts around the equity issue will have larger announcement effects.

Second, the announcement effect will be increasing with higher precision of outsiders' soft information signals. Firms making more precise disclosures will have larger announcement effects. Third, the extent of a firm's underinvestment due to asymmetric information (i.e., cost of capital) will be decreasing in the precision of the soft information signals available to outsiders about the firm. Fourth, the debt to equity ratio of a firm will be decreasing in the precision of the soft information.

A research of Quynh-Nhu (2009) supported the theory proposed by Myers and Majluf (1984), Ambarish et al. (1987) and Cooney and Kalay (1993). They found a positive correlation between issuing firms' announcement returns and their growth opportunities, and positive market reactions to the announcement of SEO among high growth firms. Findings of Shahid et al. (2010) suggested that market reacts positively to the announcement of right offerings, while public offerings convey negative signals to market.

Elliott et al. (2009) observed that bondholders experience a significant positive return on the announcement of SEO, but this scenario is more articulated on for bonds with lower rating. In fact, bond returns are inversely and negatively related to the bond ratings. With respect to the SEO announcement, there is also a relationship of stock price and the positive excess return to bondholders, but stock price has a limited relationship with information signaling.

In conclusion, the key finding is that SEOs associated with larger changes in leverage are related to positive bond reactions. Just like SEOs, Caton et al. (2011) also shows that issuers tend to inflate earnings performance prior to seasoned bond offerings. When the expected value of new investment opportunities is important relative to the value of assets in place, the stock price reaction could become positive.

2.6 Underpriced SEO and Offer Price Discount

For Stock Exchange of Thailand, listed companies can underprice the offering if they have the following qualifications.

1. Meeting Invitation Letter

The invitation letter should be sent out 14 days in advance before the meeting. In addition, information should be disclosed covering the objectives, amounts of stocks, proposed stock prices, exercise prices, market prices that are used for comparison and calculation method, expected investors, price dilution and control dilution, veto right of shareholders, Board of directors' perspective and reasons for underpriced offering, and so forth.

2. Meeting's Resolution

Three-fourth or 75% of the attendees who have voting rights must agree with the proposal, and there should not be a veto from the minority – 10% of the shareholders. If these conditions are met, then the meeting can come up with the resolution.

However, there are some exceptions for listed company to sell underpriced stocks without meeting's resolution. First, it is done for business rehabilitation under the Bankruptcy Act B.E. 2483 (1940) with approval from court. Second, the proposal to SEC has been indulgent or aligned to be exempted from the meeting.

There are several evidences in many countries showing offer price discount or underpriced SEO. Rationally, the issuer should set the initial price to attract investors with a high valuation of the firm's new project. However, the price must be adequately low so as to encourage the high valuation investors to invest at this initial price, instead of waiting to buy at a discount price.

In economics, the underwriters should set the price at equilibrium, but it will be too difficult to set the price in reality – asymmetric information does exist. The underwriters have to maximize surplus from high valuation investors. Meanwhile, many investors are expected to purchase at the lowest price possible when the initial price equity issue is undersubscribed.

Classical study by Parsons and Raviv (1985) stated that the competitive price will be driven to a level higher than the initial offering price since old securities market takes place before the new issue arrives, and that investors can then buy a share

with certainty. Empirical studies from a theoretical approach by Myers and Majluf (1984), Parsons and Raviv (1985) and Rock (1986) observed the initial offering price to be lower than the market price prevailing prior to the arrival of new issue.

Smith (1977) discovered a statistically significant, but rather slight average of 0.54% offering price discount, from 328 offerings, during 1971-1975. When firms issue additional securities, Loderer et al. (1991) claimed that underpriced issuance could be necessary to attract uninformed investors to subscribe for new issues. They found the average NASDAQ SEO to be offered at a discount of 1.64% by industrial and utility firms during 1980-1984.

Corwin (2003) reported the SEO average discount of 1.15% for offers from 1980-1989, increased to 2.92% for offers from 1990-1998, and reached as high as 3.72% in 1996, while Altinkiliç and Hansen (2003) got 1.5% for NYSE/Amex and 2.5-3.0% for NASDAQ issues during 1990-1997, versus the previous studies average discount of 0.71%.

Altinkiliç and Hansen (2003). The mean CAR [1, +1] for PPs are 7.27%, which is significant at the 1%-level. In contrast ROs are met with an insignificant stock market reaction. The difference in CAR [1, +1] between PPs and ROs is statistically significant (p-value <0.001). These results are robust to the use of a wide range of alternative event windows. Within the PPs, it is seen that mean CAR [-1, +1] is much larger when the PP is directed to current investors rather than to new investors (11.67% and 5.10%, respectively). The difference is significant at the 5% level.

Later, Mola and Loughran (2004) found the average indirect cost of the discount during 1996 to 1999 of firms with no offering in prior year to be 3.9% compared to an average discount of 2.2% for firms with a recent history of SEO. Bundgaard (2012) found the average SEO discount across the small sample to be 5.55%, which is substantially higher than that found by Corwin (2003), Altinkiliç and Hansen (2003).

This could be interpreted as the tendency of SEO discounts increasing over time having continued since Corwin's analysis ended in 2000. Alternatively, it may reflect that the SEO discount is generally higher in Europe than in the US. These propensities are observed by Corwin (2003), and it seems to be confirmed with later studies.

In addition, Mola and Loughran (2004) concluded that the average offering is priced 3.0% lower than the closing market price of the day prior to stock issuance. They also found that there has been an upward trend of average SEO discount over time. In case of issuing new equity, Bowen, Chen and Cheng (2008) said that firms must offer at a discount to overcome the hesitant and uninformed investors, which leads to smaller proceeds to the firm, and therefore a higher cost of SEO. They empirically found out that under-pricing decreases with analyst coverage; 4.05% for firms covered by one analyst and 0.00% for firms covered by >30 analysts. The paper was supported by studies from Diamond and Verrecchia (1991), Glosten and Milgrom (1985), Kyle (1985) and O'Hara (2003). In summary, the cost of equity is adversely affected by information asymmetry among investors since uninformed investors will be reluctant to trade due to higher potential loss from transactions. As a result, they demand compensation for inequality of information – the risks they are bearing.

2.7 Long-run Underperformance Following the SEO

There are many studies to compare the announcement effect and long-term performance of SEO. From many studies, it is now, by and large, true that equity is sold following an increase in general level of stock price, or when stock price is overpriced. Asquith and Mullins (1986) found that the general level of stock prices continues to rise in the two years after SEO.

To begin with, Ritter (1991) found a negative long-run abnormal performance up to five years period after the initial public offering of a firm's stock had taken place, not only in the US but also in several other stock markets. Loughran and Ritter (1995) provided a closer look at both initial public offerings and seasoned equity issues. The average return after these events in the US market is -8% to -7% per year for five years. There is also a sub-par stock performance during 3-5 years after SEO studied by Spiess and Affleck-Graves (1995).

Loughran and Ritter (1997) noticed that critical performance occurs in 7^{th} to 24^{th} month after SEO, and the performance gap gets narrower, meaning that it is less negative. It is observed that the stock returns dramatically increase in the year prior to the offering, and decline inordinately five years after the offering. In addition, Stehle,

Ehrhardt and Przyborowsky (2000) obtained a very similar underperformance after 3 years, ranges from -6.02% to -4.57%, depending on the set of portfolio size. Li and Zhao (2006) noticed that firms participating in SEO show substantial long-run stock underperformance, which can be affected by size, book-to-market ration and past returns.

Byoun (2004) sub-categorized the security offerings as normal SEO and USEO (unit seasoned equity offerings, or SEO with warrant). From his finding, long-term performance of equity offerings is still negative. The mean stock price reaction to SEO and USEO announcements is -2.68% and -1.97%, respectively, while medians are -2.34% and -1.27%. The difference in mean is not statistically significant, but the difference in median is significant at 6% level.

Allen and Soucik (2008) separated time frames into 3 terms: short-term (3 years), medium term (5 years) and long term (12 years), setting offering date as the standard reference. They claimed that the SEO performance depends on the definition of long term. When 12 years is used as a long term instead of usual 5 years, SEO turns around its performance, especially during 6 and 7 years. Although the SEO underperforms during the first few years, the trend is significantly reversed and actually reporting significant over-performance by the sixth year, comparing with non-issuers. In fact, they just hypothesized that it takes more than five years for capital projects to really pay off. This is when issuers start to outperform non-issuers.

2.8 SEO Cancellation

Announced stock offerings are not always completed. This means that the proposed offerings are cancelled, and one of the reasons is a decline in stocks' market price in the period following the stock offering announcement. Masulis and Korwar (1986) found that 28 out of the total stock offering samples are cancelled. The result verified the offering announcements convey negative information concerning firms' stock prices. However, the cancellation announcement has a statistically significant positive price impact on the stocks, implying that not issuing the stock is positive information to the market.

2.9 SEOs and Ownership Structure

Ownership structure has an impact to the type of equity offering. Hansen and Pinkerton (1982) observed that firms with concentrated share ownership, on the average level of control more than 61%, will choose rights issues. Eckbo and Masulis (1992) asserted that when the degree of current-shareholder take-up in the issue is high, firms will prefer rights offerings; vice versa, firms are more likely to issue public offerings.

It was later confirmed by Gajewski and Ginglinger (2002) who found that at 39% shareholder take-up, firm chooses public offerings; while it takes around 55% for firm to go for right issues.

On another perspective, rational investors consider managers' fractional stock ownership to be a credible signal of firm value. Leland and Pyle (1977) discovered that a decrease in managers' fractional shareholding is a negative signal about firm value. Later, it was studied by Downs and Heinkel (1982), who empirically confirm this statement using initial public offerings, and by Jung, Kim and Stulz (1996) and McLaughlin, Safieddine, and Vasudevan (1996).

Institutional setting is one of the main reasons for positive valuation effects, claimed Jeanneret (2003). This can be shown through many factors e.g. specific ownership structure, larger shareholders' take-up, motivation to issue different form of financing/investing decisions, and different corporate governance practices or different managers' goals.

Likewise, Limpaphayom and Ngamwutikul (2004) found a negative relation between issue proceeds and operating performance decline is intensified among SEO firms with a high insider ownership concentration i.e. the signal from shareholders is negatively stronger. In summary, "firms with a high insider ownership concentration tend to perform better than firms with a low insider ownership concentration."

Based on the empirical data from Limpaphayom (2000), he concluded that most publicly traded companies in Thailand are under the control of founding families and management. With this highly concentrated ownership structure, the agency costs of external equity is quite significant. Limpaphayom and Polwitoon (2004) found a positive relation between insider ownership and market valuation of the companies

listed on the SET during 1990-1996. The relation, however, is less at high levels of insider ownership.

Specifically, in French, Gajewski and Ginglinger (2002) discovered that abnormal returns at the public offering announcement have a negative relationship with the expected current shareholder take-up. Public offering resulted in a less concentrated ownership, which is better news for investors than right issues. Thus, right issues perform worse; however, the market reaction is less negative when the firm's specific risk is low or when the fund is aimed for investment projects or acquisitions.

A firm's ownership or controlling structure can have an impact to SEO choices. This was studied by Cronqvist and Nilsson (2005). They found that a firm with controlling family of 47.9% will choose RO over PP; and at 44.1% will choose an uninsured over an underwritten RO – both have 3 times higher probabilities of choosing RO and uninsured RO, respectively.

CHAPTER III
RESEARCH METHODOLOGY

Market abnormal reaction to SEO announcement measures the valuation effect of a marginal change in the capital structure. Most empirical studies use the classical event-study methodology introduced by Fama et al. (1969). On the announcement date, the realized return is compared to a benchmark (market return or market model return).

According to the efficient market hypothesis, information should be incorporated into stock prices right away. Thus, the valuation effect is generally computed over a week (or usually less) around the announcement date. Daily abnormal returns are cumulated over this interval, called window, to form the total stock price reaction that could be imputed to the marginal financing decision. The common computation interval is a 2-day cumulative abnormal return (2-day CAR) starting at the announcement date.

When the sample average CAR is statistically significant from zero, the stock price is said to react abnormally to the event. In other words, the marginal change in capital structure has a statistically significant impact on the firm market value. The next step consists in explaining the valuation effect. For that, 2-day CAR is cross-sectionally regressed on a set of explanatory variables according to the theories to be tested.

3.1 Event Study

An event study is a methodology to investigate the effect of an event on a specific dependent variable, which is beyond expectation, over a study period. In other words, it is a statistical method to assess the impact of an event on the value of a firm. The model is adaptable to various types of events, for example, firm-specific event or economy-wide event, on both direction and magnitude.

The basic idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price variation of the entire market. In addition to the effect of an event on stock returns, event study can be applied to stock volatility, trading volume, accounting performance and types of securities.

This empirical analysis, event study, is based on assumptions that:

1. The market is efficient; thus, the impact of an event will be instantly reflected in stock prices. As a result, the market reaction to the event can be measured by stock returns over the study period.
2. The event is unanticipated. Abnormal return points out the market reaction to an unforeseen event.
3. There is no confounding effect during the event period. The study must be conducted on isolated case.

First of all, the event date must be defined as set as Day 0. From the excerpt of many researches, many people believe that SEO would have a negative impact on performance and return of the firms. They applied event study analysis to study whether there is an impact from the SEO issuance event. So, the SEO date – the date where firm actually issues additional stocks – would be the event for this research. Also, the announcement effect would be conducted separately.

Second, the time period of the event study must be framed. On the timeline in Figure 3.1, test period is identified as the interval before and after the SEO date, $t = T_0$. This is also known as the event window, from $t = T_{-1}$ to $t = T_1$. The impact of the event on dependent variable will be examined in this event window. The estimation period ranges from, assuming, from $t = T_{-2}$ to $t = T_{-1}$. The estimation period covers a period over which the expected return of samples will be estimated. Normally, it is reasonably long because the number of periods selected for the estimation period – days, weeks, months, quarters – is set up to reflect the expected frequency of data availability.

For example, Allen and Soucik (2008) used the initial (or opening) return calculated over the first trading day on which the seasoned equity was issued. Post-issue returns are computed during the period following the offer date, i.e. excluding the first day.

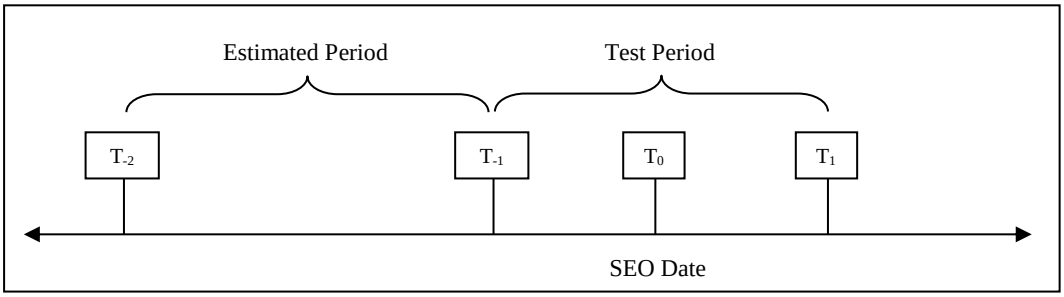

Figure 3.1 Timeline of an Event Study

Third, the expected return for each sample over the estimated period must be computed. This will be used as a benchmark return in the normal situation to compare with the actual return during the event window. The benchmark return is not related to the event of interest.

There are several ways to compute the expected return: mean-adjusted, market-adjusted, market-model-adjusted, CAPM-adjusted, reference portfolios, matched firm approach and Fama-French three factor model. For this study, market-adjusted expected return will be used for simplicity, based on the majority of previous researches.

Fourth, abnormal return can then be calculated. An abnormal return for an individual case is the difference between the actual return on time *t*, in the event window and the expected return of the individual stock, which is shown in Equation (1).

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (1)$$

The cumulative abnormal return, CAR, for an individual stock is summation of all abnormal returns over the event window. Equation (2) shows the formula for this calculation.

$$CAR_{(T_{-1},T_1)} = \sum_{t=T_{-1}}^{T_1} AR_{i,t} \quad (2)$$

Cumulative Abnormal Returns (CAR) method is used to measure the performance of firms issuing seasoned equity. The abnormal return is then calculated as

the raw return from the issuing firm minus the return on the corresponding non-issuer or the All Ordinaries Index. Next, the average abnormal return for the day *t* across all SEOs is calculated as the equally weighted arithmetic average of the individual abnormal returns. Finally, the CAR from the first day after the offering until day *t* is calculated as the sum of the daily average abnormal returns until *t*.

For buy-and-hold abnormal return, BHAR, for an individual stock is the difference between the buy-and-hold return of a sample and that of the benchmark expected return, as in Equation (3) below. This BHAR is based on the assumption that an investor buys a stock and holds it until the end of event period.

$$BHAR_{i,(T_{-1},T_1)} = \prod_{t=T_{-1}}^{T_1}(1 + R_{i,t}) - \prod_{t=T_{-1}}^{T_1}(1 + E(R_{i,t})) \quad (3)$$

Finally, the average abnormal return for all samples on time (*t*) is just the arithmetic mean of the abnormal return, denoted in Equation (4).

$$\overline{AR_t} = \frac{1}{N}\sum_{i=1}^{N} AR_{i,t} \quad (4)$$

Fifth, the last step of event study, the abnormal return result will be tested for the significance. Even though non-parametric tests, e.g. sign or rank test, can be applied to confirm the results, most researches use T-statistics to test significance under specific assumptions like normal distribution of return. For an individual sample (*i*), parametric Equation (5) is used to test whether the abnormal return is different from zero.

$$t_{AR} = \frac{AR_{i,t}}{Se_{i,t}} \quad (5)$$

With more samples i.e. more firms included in the study, Equation (6) and (7) can be applied to investigate if the average cumulative or buy-and-hold abnormal returns are equal to zero, respectively.

$$t_{CAR} = \frac{\overline{CAR_{i,t}}}{\sigma(CAR_{i,t})/\sqrt{n}} \quad (6)$$

$$t_{BHAR} = \frac{\overline{BHAR_{i,t}}}{\sigma(BHAR_{i,t})/\sqrt{n}} \quad (7)$$

These T-values are compared with test statistics to identify whether there is sufficient evidence to reject the null hypothesis.

3.2 Introducing Buy-and-Hold Abnormal Return (BHAR)

Buy-and-hold abnormal return (BHAR) is applied with this research because, first, it is the standard method for long-term abnormal returns as suggested by Barber and Lyon (1997), and Lyon, Barber and Tsai (1999). Second, this method measures the average multiple years return from a strategy of investing in the firms that complete an event and selling at the end of the predefined holding period/window. This is the most important reason as this precisely measures investor experience. Long-term investors buy assets and hold them until they would like to sell. Third, in corresponding with the second point, the method allows compounding return to take effect since BHAR employs geometric returns rather than the normal arithmetic returns.

Even though BHAR precisely measures investor experience from buying and holding securities for several years, this is not a particular reason to limit the attention only in this methodology if the objective is to assess a reliable stock return e.g. the standard error of BHAR grows at a faster pace, $T_2 - T_1$, unlike average cumulative abnormal return (CAR) which grows only at $\sqrt{T_2 - T_1}$,

Brooks (2014). In addition, because it is the nature of compounding, BHAR is increasing with the holding period. If the abnormal performance exists for only first six months after the event, long-term BHAR can be significant with relatively larger magnitude.

Another drawback is that this method has a problem with statistical inferences; the long-term return of an individual security is highly skewed, but the long-term return of a reference portfolio is not (due to diversification). As a result, the difference between these returns is also skewed, which can cause standard test to have

the wrong magnitude. This implies that the null hypothesis will be rejected more often and cause the power of test to be asymmetric, Kothari and Warner (1997). Last, there is a concern whether BHAR methodology well captures economic significance.

Barber and Lyon (1997) and Barber, Lyon, Tsai (1999) identified three problems from using BHAR over the long-run studies: new listing, rebalancing, and skewness biases. However, in this research, the event does not rely on only one individual asset but also the combination of securities newly issued by SEO firms as a reference. As a result, the skewness biases risk will be low.

There are some more arguments by Mitchell and Stafford (2000), and Knif and Pynnonen (2013), they mentioned that the Economic significance talks about the risk, which BHAR takes into account by mean of cross-sectional variance. This cross-sectional variance proportionally relates with the returns, but the variance (risk) will be diversified to zero by the law of large number. Thus, it is quite difficult to use BHAR. Moreover, it also ignores the cross-correlation which factually is ubiquitous. BHAR methodology, in its traditional form, should not be used for statistical inferences.

CHAPTER IV
RESULTS

The data collection is mainly derived from SETSMART database. First of all, it is important to understand that issuing the stock means providing rights to shareholders. The announcement day investigated is the day of the first public announcement in the press. To ensure that this was the first day that the information became public, the announcement was confirmed or corrected by reviewing the news in SETSMART.

4.1 Data and Samples

As aforementioned, there are several instruments for the firm to use: warrants, TSR, preferred stocks, convertible bonds, debenture bonds, unit trust or other short-term right. These transactions can be acquired from the database. For SEO, the data with PP (Private Placements), PO (Public Offerings) and XR (Exclude Rights) will be used for this research. XR indicates that the buyer of a stock carrying an XR sign will not be entitled to any recently offered rights. In other words, to get the ownership of the firm, investor needs to buy newly issued stocks any time before the sign is on. Prior to SEO, the firm may have a Board's meeting and the announcement.

The data acquire totally has more than 4,560 events since 1975 [the Stock Exchange of Thailand opened]. However, the scope of the study will be on common stocks only as well as the year will be covered from 1999 until 2014 where the investor types data are available. Initially, there are about 1,800 events from 1999 to 2014 for Stock Exchange of Thailand, which is enough to generate statistically significant level and confidence in the result. Out of this, the two major types of offerings found are right offerings and private placements: 48% and 45%, respectively, while public offering is accounted for 7% from the data set.

The data here comprises of the name of the security or stock, the date when decision was aligned in the Board to issue additional stocks, type of securities, numbers of stocks offered, ratio of ownership, exercise price, stock distribution date, reservation period, the price before SEO and the price on SEO date. The data is then categorized into different dimensions based on other researches to verify if the finding is applicable and true in Thai's stock market and purposes of the study, which can serve as guidelines for listed firm to make more decisive decision on different alternatives of fund raising.

Table 4.1 Examples of Translated Original Data Set

I_SECURITY	I_MARKET	I_INDUSTRY	I_SECTOR	D_NEWS	S_ANNOUNCE	N_CA_TYPE	Z_RIGHTS	D_BOARD	D_BEG_PAID	D_END_PAID	D_BOARD_ALLOT	D_SIGN	D_BOOK_CLOSED	Q_ALLOT	Q_OLD_RATIO	Q_NEW_RATIO	Z_CLOSED_SIGN	Z_CLOSED_BEFORE_SIGN	I_SEC_TYPE_RIGHTS
1	A	3	2	09/22/76	3	XR	100	09/22/76	11/17/76	12/09/76	09/22/76	11/1/1976	11/4/1976	791,250	14	1	235	243	S
1	A	3	2	09/29/77	3	XR	100	09/29/77	11/01/77	11/15/77	09/29/77	10/7/1977	10/12/1977	1,400,000	30	1	367	377	S
1	A	3	2	11/29/78	3	XR	250	11/29/78	01/08/79	01/22/79	11/29/78	12/22/1978	12/27/1978	1,490,000	9	1	406	410	S
1	A	3	2	08/06/80	4	XR	100	08/06/80	10/01/80	10/15/80	08/06/80	8/29/1980	9/3/1980	1,071,500	14	1	268	302	S
1	A	3	2	02/11/81	4	XR	100	02/11/81	04/16/81	04/30/81	02/11/81	3/5/1981	3/10/1981	1,100,000	15	1	266	296	S

From Table 4.1, I_SECURITY is the identification number of each security, or listed firm. This number is assigned uniquely by the SETSMART database to the company, and the market in which those securities are trading is denoted by I_MARKET. The security is classified in I_INDSUTRY and I_SECTOR. D_NEWS is the announcement date, while S_ANNOUNCE is the order of the announcement. N_CA_TYPE is the acronym for corporate action, comprising of PP, PO and XR. These SEOs are priced at Z_RIGHTS. D_BOARD is the date on which the meeting aligned on the resolution. The SEO purchasing period starts on D_BEG_PAID and ends on D_END_PAID, while the securities are physically distributed on D_BOARD_ALLOT. The sign (PP, PO and XR) will be visible to investors on D_SIGN. D_BOOK_CLOSED is when the information is entered into SETSMART, though not related much with this study. Q_ALLOT is the amount of securities distributed. When an investor holds the securities for the amount of Q_OLD_RATIO, he will have

the right to buy newly issued securities for Q_NEW_RATIO. The security prices end at Z_CLOSED_SIGN, which is the closing price of the date investors see the sign (D_SIGN). Z_CLOSED_BEFORE_SIGN is the closing price of security on day D_SIGN-1. I_SEC_TYPE_RIGHTS is the security types investors hold for the SEO: S for common stock, P for preferred stock, U for unit trusts, W for warrant, D for debenture, C for convertible debenture, and R for transferrable subscription rights.

4.2 Descriptive Statistics

The summary is shown in Table 4.2. From the historical data of SEO, evaluated by sectors, Property and Construction is the biggest industry in Thailand to issue additional stocks, accounted for 27.5% of the events. The next two biggest industries are Services and Industrials; each of them contributes 15.6% and 10.6%, respectively. Financials industry comes as the fourth place at 10.1%, followed by MAI industries and Technology industry.

Equity offerings come out as the most convenient operations to observe and analyze among other external financing decisions because:

1) SEO needs to be approved by the shareholder's meeting,
2) SEO can be issued over a several-year period, so managers can time the operation and decide exactly the time and conditions for the operation to be realized
3) SEO is defined by legal and/or supervision authorities (Securities and Exchange Commission, or SEC). Thus, all information required and other qualifications for SEO firms have to be disclosed to public. This implies that important dates such as the official announcement date or the realization date are easily identifiable relative to other financing decisions like bank loans or alternative private financings. This can also be guided by a Disclosure Manual (2007) developed by the Stock Exchange of Thailand.

Table 4.2 Characteristics of SEO Firms in Thailand

Industry	Frequency	%
Property & Construction	759	27.5%
Services	430	15.6%
Industrials	292	10.6%
Financials	280	10.1%
MAI Industry	243	8.8%
Technology	205	7.4%
Agro & Food Industry	109	3.9%
Resources	101	3.7%
Consumer Products	59	2.1%
Others	287	10.4%
Total	2,765	100.0%

Table 4.2 summarizes the SEO events based on the industry of the firms that issue additional securities. There is a total of 2,765 events originally from 1999 – 2014. SEO has been popular in Property & Construction, Services, Industrials and Financials Industries, accounted for more than half of the total events.

4) SEO are available to every investor types. This allows comparisons between a wide range of firms, and different capital structures, unlike straight or convertible bonds which are restricted to larger corporations.

5) SEO firms are usually required to announce the use of proceeds whether it will use the fund to finance a new project or balance capital structure operations.

Table 4.3, on the other hand, summarizes the distribution of SEO in Thailand with respect to time. Equity-leverage financing has been used by many firms in the history. As a result, this research is aimed to explain the details of each offering to see whether it is, someway, related to any perspectives elaborated in later section.

Table 4.3 SEO Distribution by Time

Year	Frequency	%
1999	204	7.4%
2000	144	5.2%
2001	124	4.5%
2002	175	6.3%
2003	185	6.7%
2004	193	7.0%
2005	156	5.6%
2006	145	5.2%
2007	140	5.1%
2008	133	4.8%
2009	89	3.2%
2010	136	4.9%
2011	143	5.2%
2012	213	7.7%
2013	279	10.1%
2014	306	11.1%
Total		100.0%

Table 4.3 summarizes the SEO events by calendar year. It can be observed that SEO is becoming more and more popular over the past few years.

From my empirical study, the result shows that, on average, there is a negative return to seasoned equity offerings in Thailand of -0.6% and -5.4% calculated from the past 1-day and 6-month average abnormal return, respectively at the 1% significant level. This is referred from the day when the new equities are distributed to the shareholders.

4.3 Hypothesis Development

From the previous section, there are many perspectives for SEO to be influenced. However, the number of SEO studies got less (some points have also been missing) especially after the Sub-prime or Hamburger Crisis since mid-2007. In addition, there is a limited SEO study in Thailand, in which the details might be insufficient for today's investment.

Although there are some evidences of SEO in Thailand, Pecking Order Theory says otherwise and suggests using internally generated funds as the first resource. There are many reasons holding up the use of SEO to acquire more financial resources. Yet, it is still unclear about the conditions and other parameters of SEO in order to maximize the funds available to firms. Thence, the following hypotheses are proposed:

H1A: There is a negative impact of SEO to firms' abnormal return after the issuance day.

H1B: There is a negative impact of SEO to firms' abnormal return after the date of announcement.

Even though there are some researches showing a positive result of SEO e.g. SEO in Japan and SEO with high growth opportunities, those conditions are quite unique and very specific. About 90% of the literatures reported a negative impact from SEO since investors perceive it as a bad signal. There are many evidences to support the negative return of SEO in many countries and time period e.g. Shahid et al. (2010), Slovin et al. (2010), Ching et al. (2006), Kabir and Roosenboom (2003), Eckbo and Masulis (1992) and Hansen (1989).

There are several event studies conducted over the time horizon. Inmoo (1997) analyzed similar study over the one-year period from U.S. data. It is worth trying the study over different time horizon since the condition of Thailand market might be different from U.S. That is to say, this research will incorporate the time factor into the study. Additionally, there is an opportunity to study the details of SEO whether there is a significant influence to the abnormal return.

Other factors to be studied include characteristics of the firms, the size of the firms, the time to issue SEOs and the trading volume. It is possible for firms to issue stocks purely to time the market and quickly spent the offer proceeds on new

investments that managers would not otherwise have undertaken. There is a research conducted by Dierkens (1991) related to the relative size of the issue i.e. the ratio of the number of new shares to the number of shares outstanding before the announcement. Teoh et al. (1998) explores about the firm size against the return. DeAngelo et al. (2010) stated that market timing appears to have a statistically significant influence on the decisions to conduct SEOs even though there is not many literatures confirm the economic significance. It is also questionable whether what is more important between the announcement date and the date of issuance. Shahid et al. (2010) conducted an extensive research on the abnormal return between the Board and shareholder meeting date versus the announcement date. It is, therefore, hypothesized that seasoned equity offerings convey negative signals and information about the firm's future prospects, as in Jensen (1986), future negative payout, as in Miller and Rock (1985), and overvaluation of stocks, as in Myers and Majluf (1984).

H2: Private Placements (PPs) have the lowest negative relationship with stock return among other types of SEOs.

Initially, Hertzel and Smith (1993) extended the research of Myers and Majluf (1984). Private placement investors can engage and extract information better than normal investors in cases of public and rights offering. As a result, they can learn the true value of the firm as well as predict the firms' future cash flow. This is the reason why private placements may have the highest return among other types of SEO. In addition, Cronqvist and Nilsson (2005) reasonably assumed that the certification benefit is also larger in PPs, comparing to underwritten offers. They also observed that even the undervalued firms prefer PP method provided that NPV of the investment project exceeds the information costs of private investors.

In a closely held market, Gajewski and Ginglinger (2002) examined that public offerings, resulting in less concentrated ownership, are better news for investors rather than rights issues. They also found negative abnormal returns to rights issues and no significant abnormal returns to public offerings. There is evidence from the study by Cronqvist and Nilsson (2005). They found that private placements have lower cost of offering (adverse selection cost, contracting cost); thus, there is a significant CAR and subsequent increase in return on asset (ROA) for PPs. There is an even greater effect for PPs to existing shareholders since the current investors have a comparative advantage

in valuing the firm – the investors have already been involved in information when making their initial investment, and they may also have developed relationships with the firm's managers in the past, enabling the information transmission from the managers to the investors. In other words, it is consistent with previous studies by Wruck (1989) and Hertzel and Smith (1993), who showed that the stock-market reaction to PPs in the US has a positive relationship to ownership concentration.

In summary, many researches documented that the announcement effect of private placement of SEO (by listed firms) is positive, on average. This is supported by Wruck (1989), Hertzel and Smith (1992), and Kato and Schalleheim (1993).

H3: The higher the offering dilution, the more the negative return on SEO.

Offering dilution is the effect from issuing additional stocks. It varies inversely with the ratio of offerings (current shares to new offering shares). For example, there are a total of 100 shares for Company A. There are 10 shareholders holding equally 10 shares each. If the firm issue 100 new shares, and that a new single investor buys them all up. By not maintaining the proportion, the current shareholders ownership is diluted from 10% to 5% each; while the new investor owns 50% of the Company A. Briefly, when the ratio is low, the dilution is high – if the shareholders do not maintain their ownership by purchasing the amount of newly issued shares proportionately.

Aside from SEO, stock ownership can be diluted by 1) conversion of optionable securities – ESOP, or Employee Stock Ownership Plan, may be converted into common shares, boosting the total share count and 2) offering new shares in exchange for acquisition or services – even though it eases the cash flow, the number of shares outstanding increases.

Supporting the signaling effect, Limpaphayom and Ngamwutikul (2004) realized that the ratio of issue proceeds to pre-issue equity negatively relates to post-issue operating performance. Further, Mola and Loughran (2004) found that the average discount during 1996-1999 was as high as 4.5% for companies issuing a high ratio of new equity to company market value, where high was defined as being greater than or equal to the mean value of the distribution, which in their sample was 0.2. Therefore, I believe that the higher the offering dilution, the more the negative return on SEO.

H4A: There is a direct relationship between SET index and SEO abnormal return on the issuance date. On the issuance date, a positive SET index has a positive effect on SEO.

H4B: There is a direct relationship between SET index and SEO abnormal return on the date of announcement.

Normally, when the stock market index ends the trading day on the positive side, we can expect the majority of stocks to end the day with higher price. Masulis and Korwar (1986) had documented that the stock announcement return is negatively related to the previous two-month firm return, and a stock announcement return is positively related to the previous two-month market return.

The economy of the country can frequently influence all the businesses of the country. Ironically, the business operating performance, in aggregate, can shape up the economy of the country. Thai market is highly volatile i.e. it can be easily changed in accordance with other external factors.

In Thailand, for examples, money supply is highly correlated with Consumer Price Index or CPI, Gross Domestic Product or GDP. Meanwhile, interest rate is highly correlated with return on investment in Treasury bill and negatively correlated with unemployment rate. Given that all of the assets, including financial assets, can be converted into currency unit. Thus, it is comparable in monetary unit as well as gold, which Ismail et al. (2009) and Sindhu (2013) said can be affected by the economy.

H5: Dividend-SEO has less negative abnormal return than normal SEO without dividend.

Dividend-SEO is defined as the equity offerings that giving out dividends that are announced on the last dividend declaration date prior to SEO announcements. It is limited to only this time frame referring to the thesis by Chang (2008). In addition, Korajczyk, Lucas and McDonald (1992) had previously discovered that the longer the time between the last information release and SEO announcement, the larger the degree of information asymmetry, and the more the drop in stock price after SEO. In summary, dividend can perform as a signal showing the earnings of the firms; as a result, from theory, it can reduce the level of information asymmetry.

Chang (2008) also found that there the dividends are usually declared before the SEO announcement, which is consistent with preceding studies by John and Williams (1985) and Ambarish, John and Williams (1987). The reason is the availability of information during dividend declaration would have been publicized. So, the degree of information asymmetry will be lower. The SEO cost would be lower because the firm has already disclosed information.

Recently, there was a study by Wang, Chen and Cheng (2011) in Taiwan. They empirically summarized that the timely dividend declaration prior to SEO announcement has a positive market reaction to stock price. The abnormal return of SEOs following the dividend declaration was -1.45%, whereas the return of non-dividend SEOs (or SEOs that did not timely follow a dividend declaration) was -1.83%.

However, all of the results above contradict with irrelevance theory of Miller and Modigliani (1958 and 1961). The theory draws two conclusions. First, the only determinant of the value of the firm is its net present values of current and future expected free cash flows. Second, the level of dividend is irrelevant to firm's value. This is because they assumed that the investment decision was done to maximize the firm's value and the difference between payout and new equity issue equals to its free cash flow. Therefore, dividend policy should not have an impact to the value of the firm.

H6: Among right offerings, SEO with warrant provides higher abnormal return than SEO with common stocks.

In Thailand, there are many security types issued via right offerings: common stocks, preferred stocks, warrant, unit trusts, debenture, convertible debenture and transferrable subscription rights. The two most famous security types are common stocks (59.6%) and warrant (38.4%). As a result, this hypothesis would like to cover the study of common stocks and warrant only.

To begin with, Miller (1977) explained the divergence of investors' option leads to high short-run and poor long-run stock returns for IPO firms since the smaller and high-growth firms, e.g. warrant-based compensation offering firms, are difficult for precise valuation. Therefore, SEO firms with warrant-based compensation offering are expected to have short-run overvaluation and long-run underperformance.

There is a warrant inclusion models developed by Schultz (1993) and Mayers (1998), indicate that warrant reduces future agency and flotation costs and,

consequently, market perceives warrant issuance as good news. Moreover, Suchard (2005) stated that "The announcement return of warrant issues can be interpreted that management believes that the firm is currently undervalued and rather than issue undervalued equity to raise capital, uses an issue of warrants to signal information. The market reacts positively and the share price continues to increase post the announcement." In other words, the firms that issue out of the money warrant bond the capital inflow to the good news. This supported the signaling information asymmetry hypothesis.

Recently, Bae, Chang and Jo (2013) summarized that the high-growth firms tend to issue underwritten warrants. Subsequently, those underwritten warrants are offered in such a way that will take advantages of higher growth potential. Likewise, the initial positive market response to the warrant announcements reflects the anticipated capitalization of growth potential. Briefly, expected returns vary directly with the sales growth and capital investment. Once again, this is consistent to the scenario when firms announce stock issues with warrant compensation when their stocks are grossly overvalued. Similar with the previous study, they applied 3-factor model from Fama and French (1993) and regression analysis. They confirmed that following the issue, in the short-run, even though the growth trend for warrant-based stays at a higher level than cash-based compensation offerings, the growth potential is not apparent into higher operating performance. In the long-run, vice versa, when the transitory nature of growth performance becomes materialized, warrant-based compensation firms underperform.

H7: The abnormal return for each investor type on SEO is significantly different, and the institutional investor has the highest abnormal return (lowest negative) among all types.

With respect to the information asymmetry theory, I believe that different types of investors perceive news and information about firms' performances and future prospects unequally. Thus, there is a gap in confidence and decision making for investment. For example, Masulis and Korwar (1986) historically found that the portfolios which do not involve any known sales of stocks by management perform better than the portfolios which do. The former one has a return of -2.22%, while the

latter has a larger negative announcement period return of -4.54%; both are significant at z-statistic of 6.6 and 5.9, respectively.

This research does not consider insider trading information to the SEO since they are abundantly available and studied in deep details; however, it focuses on separating the investors into 3 types based on available data from SETSMART:

1) Individual investors include broker portfolio, broker customers, sub-broker portfolio and sub-broker customers,
2) Institution investors include broker mutual fund and sub-broker mutual fund, and
3) Foreign investors include foreign broker and foreign sub-broker.

Ryu, Kim and Yang (2016) recently found that institutional trades are positively related with stock returns since there is an information superiority of institutional investors. In contrary, individual trades are negatively associated with stock returns because of the information inferiority.

In addition, it is expected that, from the information asymmetry, "individual investors are net buyers of attention grabbing stocks, e.g., stocks in the news, stocks experiencing high abnormal trading volume, and stocks with extreme one day returns. Attention-based buying results from the difficulty that investors have searching the thousands of stocks they can potentially buy. Individual investors don't face the same search problem when selling, because they tend to sell only a small subset of all stocks – those they already own. Stocks bought by individual investors on high-attention days tend to subsequently underperform stocks sold by those investors," summarized Barber and Odean (2005). Likewise, SEO stocks are considered 'in the news' as they must be reported and/or publicly announced. As a result, individual investors are predicted to be net buyers.

H8: Subsequent SEO has a less negative return than the primary SEO due to the information availability and the knowledge of investors.

Primary SEO is the first-time ever for the listed firms to issue additional securities to raise fund, after it has gone IPO – sometimes, it is called as first SEO (FSEO). Subsequent SEOs (SSEO) are the offerings done after primary SEO, counting all offerings afterwards. In early studies, many researches focus on primary equity

offerings: Smith (1977), Logue and Jarrow (1978), Marsh (1979) and Hess and Frost (1982), which consistently found a small price reduction in the period around SEO.

It was later deeply studied the SEO details after IPO. Empirically, Bessler and Thies (2006) confirmed the hypothesis. Primary SEO showed some better performance relative to the firms that do not return to the equity market. Likewise, the results showed that the portfolio of firms that issue only primary SEO have an underperformance average of -31.0% over the four year time interval surrounding the event. This result contradicts to those firms that issue additional shares after primary SEO (SSEO) firms. The portfolio of SSEO firms has a positive abnormal return of 11.7% over the same time interval. The difference of means between these two portfolios is significant at the 5% level (t-value = 2.24).

Similar explanation is applied to this hypothesis. It is expected that the subsequent SEO has higher return than the primary SEO. Aside from the theories and researches above, information asymmetry comes into play. Generally accepted, investors may perceive the primary SEO as a negative signal; however, subsequent SEO would have some meaningful intention and investors may be more familiar and knowledgeable about the firm performance.

H9A: The firms with high liquidity ratio have more positive abnormal returns versus the firms with low liquidity ratio.

H9B: The firms with relatively higher market liquidity index in the Stock Exchange of Thailand tend to perform better than those with less liquidity.

The term liquidity is wide in economic and financial world – it is multifaceted consisting of different perspectives, for examples, it can refer to time-related aspects focusing on how soon one can convert assets into cash, it can be transaction-related costs capturing in bid-ask spread, and it can also refer to how ease an individual or a firm can meet financial obligations with the liquid assets available to them. Another perspective concerns with volume-related aspect of market liquidity.

Market liquidity refers to the extent to which a market allows stocks to be bought and sold, as stable prices. The market liquidity measures can be prominently grouped along several different lines, such as ex-ante measure (the potential for a trade to occur) and ex-post measure (the trade that really happened).

There have been two perspectives focused by SEO researches. First, the riskiness of the firm (measured by liquidity ratio) was studied by Loughran and Ritter (1997), Corwin (2003) and Mola and Loughran (2004). They found that the higher the risk the firm is, the higher the SEO discount the firm gives. Thus, there is a lower subsequent stock return. Bundgaard (2012) empirically summarized that the average SEO discount across all liquidity tertiles of the least risky group is 2.62%, and that of the most risky group stands at 7.64%. "Liquidity has a substantial and statistically significant relation to the SEO discount in the portfolio consisting of the smallest deals where the SEO discount of the most liquid firms exhibits a negligible discount, while the least liquid tertile has an average SEO discount of 4.56%. This could be seen as indicating that the importance of liquidity is not linear as changes in liquidity seem to matter less when you are in the realm of illiquidity."

Second, Butler et al. (2005) and Bundgaard (2012) studied the market liquidity of the issuing firm, or the stock turnover rate in the secondary market. Higher liquid issuers are found to pay consistently and significantly lower fees than their less liquid firms when controlling for risk and the size of the offering. The multivariate analysis confirmed by Bundgaard (2012) revealed that there is a negative relationship between secondary market liquidity and gross fees. The higher the cost, the higher the discount, thus, a higher negative return is expected.

H10: Firms with smaller size, on the last tertile of yearly market capitalization, have more negative return on SEO announcement with significant impact.

In general, smaller firms are usually more volatile and risky. Thus, investors will have to compensate for the additional risk, from normal average level, they have to bear by paying less of investment amount. There are also several researches prove this statement. Slovin et al. (1991) pointed out that the firm's return to the equity market is an unfavorable signal about the firm's performance. With this, it can be concluded that firms with higher earnings tend to have SEOs. Implying that, the amount of SEOs will be larger, and the stock price reaction at the time of SEO will be smaller. This is consistent with Michaely and Shaw (1994).

Loughran and Ritter (1997) summarized the decline in post-issue stock price from the SEO announcement is larger for small issuer than large issuer. The subsequent

stock return is the lowest for smallest issuers; however, regardless of firm size, there is a deteriorating post-issue operating performance relative to firms that do not issue SEOs. McLaughlin et al. (1996) and Brav et al. (2000) found that small stocks exhibit greater underperformance than large stocks following SEOs. Given the documented tendency for institutions to hold large stocks, see Falkenstein (1996) and Gompers and Metrick (2001), it is simply a manifestation for institutions to buy a greater share of large-firm SEOs, which in turn perform better than their smaller counterparts. It was also confirmed by Limpaphayom and Ngamwutikul (2004) that smaller firms have a lower performance after SEO since there is some evidence showing high degree of information asymmetry categorized by firm size.

H11: There is a negative abnormal return for long-term performance of SEO; however, the return is expected to be better than the short-term performance.

SEO is perceived as unfavorable news, which threatens the post-issuance performance to be negative. However, in the long-run, the issuance firm will have more capital to invest in positive NPV projects that can later generate cash and profits for the firm. In the end, this will hence be a positive impact to overall performance of the firm, when projects are starting to payoff.

There are many studies to compare the announcement effect and long-term performance of SEO. Ritter (1991), Loughran and Ritter (1997), Stehle, Ehrhardt and Przyborowsky (2000), Li and Zhao (2003), Byoun (2004), and Allen and Soucik (2008), though empirical research used data from various countries, are on the same page. They consistently concluded that there is a negative long-run abnormal return, when the long-run frames the time of 5 years after SEO.

In addition, Loughran and Ritter (1997) specifically mentioned that the performance gap gets narrower, or less negative, as time period gets longer. Likewise, Allan and Soucik (2008) even found a turnaround point by the 6^{th} year, when there is a significant over-performance started to be observed, comparing with non-issuers.

4.4 Results

The abnormal returns for this paper referred the SET market return of the same time interval as a benchmark. Buy-and-hold abnormal return (BHAR) is the computation method applied as it provides a measure of long-run investor experience, the focus of most long-run event studies (see for example Ritter (1991) or Loughran and Ritter (1995)).

4.4.1 Result of H1: Impact of SEO on Announcement and Issuance Date

On the first hypothesis, two event dates are compared to see the magnitude of the impact whether which one is higher: announcement date as studied by Asquith and Mullins (1986), Masulis and Korwar (1986), Mikkelson and Partch (1986), Brous and Kini (1994) and Limpaphayom and Ngamwutikul (2004), and issuance date as researched by Marsh (1979) and Hess and Frost (1982).

There is a negative abnormal return of -0.6% in the short period (1-day after the event), significant at 1% using announcement date as an event. The trend is decreasing exponentially with the longer window; the stock abnormal return goes as low as -196.0% in the 5-year period, also significant at 1%. However, this does not significant through all time intervals, as in 5-day and 1-month results are not statistically significant, but most of the results are consistent with previous researches, SEO causes negative abnormal return. Table 4.4 elaborates more details. It can be summarized that short-term interpretation might not be accurate (less than one month); however, this confirms that there is a negative average abnormal return for SEO.

Table 4.4 Abnormal Return of Announcement Date

Event	Std Dev	Mean	Min	Max	t Value	P(r) > |t|
1D	0.0993	-0.6%***	-0.2676	0.3074	-2.5700	0.0103
5D	0.1376	-0.5%	-0.4221	0.5156	-1.4000	0.1609
1M	0.2714	-0.3%	-0.8973	1.0725	-0.4400	0.6567
6M	0.6170	-5.4%***	-0.9554	2.8013	-3.7100	0.0002
1Y	0.8231	-20.7%***	-1.2337	3.3516	-10.6300	<.0001
3Y	1.5335	-82.1%***	-2.2115	7.1428	-22.6700	<.0001
5Y	2.3670	-196.0%***	-4.0079	10.0284	-35.0600	<.0001

Table 4.4 shows the abnormal return results of the SEO firms using announcement date as the event date. The study covers one day, one week, one month, half year, one year, three years and five years post announcement. The first column indicates the standard deviation of the abnormal returns, the second column is the average abnormal return, and *** means that the return is statistically significant at 1%. Minimum and maximum returns are elaborated in the third and fourth column, respectively. T-test is applied to see the statistics whether there is a meaning in the average abnormal return, and the probability in the last column is translated from the t-value. There is a total of 1,792 samples for this study.

Table 4.5, on the other hand, applies issuance date as an event, in which the results are similar to those of announcement date. There is no statistical inference for the one day post SEO (the 0.3% return for 1-day issuance date is insignificant), but 1-week abnormal return shows -0.9%, and -136.5% for five years with 1% significant level.

Table 4.5 Abnormal Return of Issuance Date

Event	Std Dev	Mean	Min	Max	t Value	P(r) > |t|
1D	0.0976	0.3%	-0.2754	0.3308	1.2000	0.2288
5D	0.1445	-0.9%***	-0.4430	0.5850	-2.7600	0.0059
1M	0.2763	-0.5%	-0.8973	1.1087	-0.8200	0.4126
6M	0.6190	-5.8%***	-0.9773	2.7337	-4.0000	<.0001
1Y	0.8558	-20.4%***	-1.2638	3.5794	-10.0900	<.0001
3Y	1.6376	-75.9%***	-2.1000	9.2924	-19.6200	<.0001
5Y	2.0246	-136.5%***	-2.7945	11.6390	-28.5400	<.0001

Table 4.5 is interpret the same way as Table 4.4; however, this table refers SEO issuance date as an event, which is happened after the announcement as per Thailand's regulation: Securities and Exchange Act 1992. The number of asterisks shown at the Mean column shows the significant level of the results: * for 10%, ** for 5% and *** for 1%. The number of sample is still the same at 1,792 samples.

The comparison of returns is visualized in Figure 4.1. It implies that the announcement date is more important than the date of issuance since the magnitude of negative return is higher. The differences in abnormal returns diverge from 0.4% up to ~60%, from 6-month to 5-year periods. The results here support the hypotheses both H1A and H1B, there is a negative impact of SEO to firms' abnormal return after the issuance as well as the announcement date. However, the impact is more on the announcement date, which supports the statement that SET is volatile and reacts to news. Subsequently, the rest of the research will focus more on the announcement date as an event. Still, the results of using issuance date as an event will also be provided for comparison.

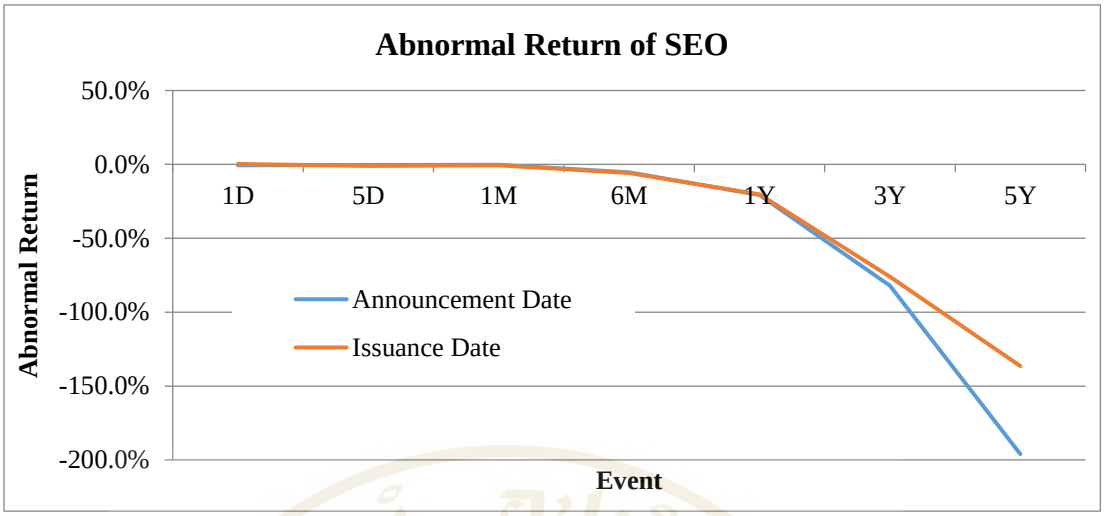

Figure 4.1 Comparison of Abnormal Returns

4.4.2 Result of H2: Private Placement has the Lowest Negative Returns among Others

On the second hypothesis, the empirical results shows that there is a significant difference in abnormal return over the long run as illustrated in Figure 4.2. The results are significant at 1% for 3-year and 5-year abnormal return for all offering types. From Panel A in Table 7, Public offering (PO) and rights offering with warrant (XRW) have more negative abnormal return with the ranges of -251.6% to -75.8%, and -229.2% to -98.64%, respectively. While private placement (PP) gives -185.0% to -82.1%, and rights offering with common stock (XRS) yields -182.7% to -70.3%. All are significant at 1%. It can then be summarized that both PP and XRS have less negative returns versus the other two types. This is in line with the hypothesis stating PP would have a less negative return because of information availability or disclosed to banks and other financial institutions.

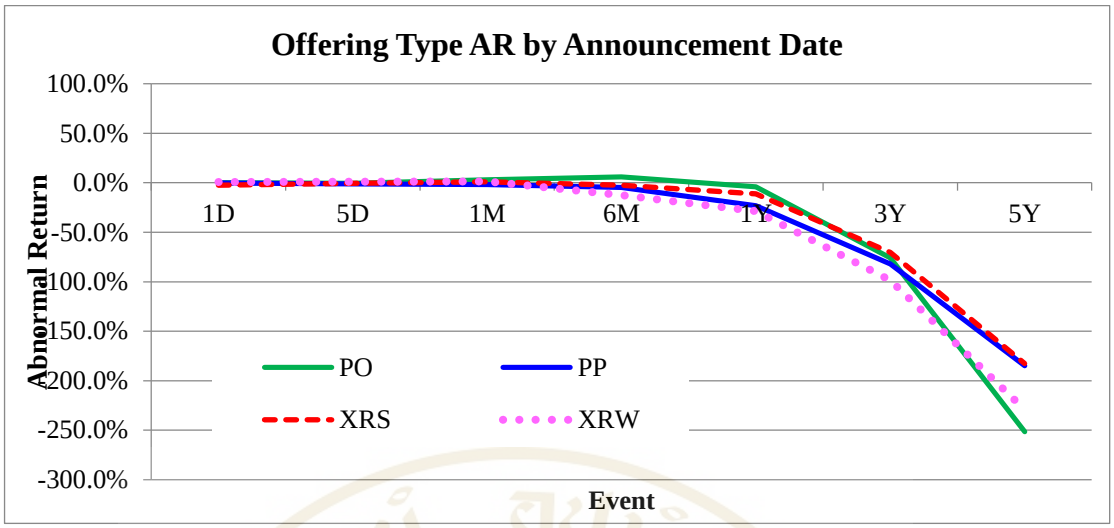

Figure 4.2 Comparison of Abnormal Returns by Offering Type (Announcement Date)

In detailed comparison, Table 4.6, rights offering with common stock (XRS) has the lowest negative return, though not significant through all event windows. Please be noted that announcement date (Panel A) is used as an event here because there is more impact to the abnormal return than issuance date (Panel B). For the 3-year period after the event, the differences in the stock return between announcement and issuance date range from 5.6% (PO) to 7.6% (PP) between the announcement and issuance dates. Likewise, the numbers are consistent with the 5-year period after the event ranging from 56.1% (PP) to 69.6% (PO) differences.

Similar results are also observed if issuance date is applied as an event date, illustrated in Figure 4.3. The graphs show the negative returns for all offering types with public offering, at 5 years, as the most negative (-182.0%), follow by rights offering with warrants (-165.8%), private placement (-128.9%) and rights offering with common stocks (-121.3%). Details are tabulated in Panel B, Table 4.6.

Table 4.6 Abnormal Returns by Offering Type

Event	Panel A: Announcement Date				Panel B: Issuance Date			
	PO (n = 61)	PP (n = 896)	XRS (n = 453)	XRW (n = 367)	PO (n = 61)	PP (n = 896)	XRS (n = 453)	XRW (n = 367)
1D	0.0008	-0.0031	-0.0245***	0.0086	-0.0061	0.0067**	-0.0176***	0.0199***
5D	-0.0048	-0.0108**	-0.0041	0.0112	-0.0243*	-0.0112***	-0.0210***	0.0122
1M	0.0292*	-0.0172*	0.0100	0.0140	-0.0086	-0.0154*	0.0026	0.0124
6M	0.0593	-0.0472**	-0.0250	-0.1249***	0.0124	-0.0610***	-0.0098	-0.1244***
1Y	-0.0393	-0.2312***	-0.1102***	-0.2852***	-0.1074	-0.2259***	-0.1025**	-0.2829***
3Y	-0.7584***	-0.8209***	-0.7027***	-0.9864***	-0.8140***	-0.7452***	-0.6463***	-0.9299***
5Y	-2.5160***	-1.8495***	-1.8266***	-2.2921***	-1.8202***	-1.2889***	-1.2134***	-1.6576***

Table 4.6 shows the average abnormal return results separated by SEO offering type: PO for Public Offering, PP for Private Placement, XRS for common stocks rights offering, and XRW for warrant rights offering. The numbers of samples are mentioned in the parentheses, there are 61, 896, 453 and 367 samples for PO, PP, XRS and XRW, respectively. The rest of the samples cannot be classified, based on data availability. The number of asterisks indicates the significant level, *** for 1%, ** for 5% and * for 10%.

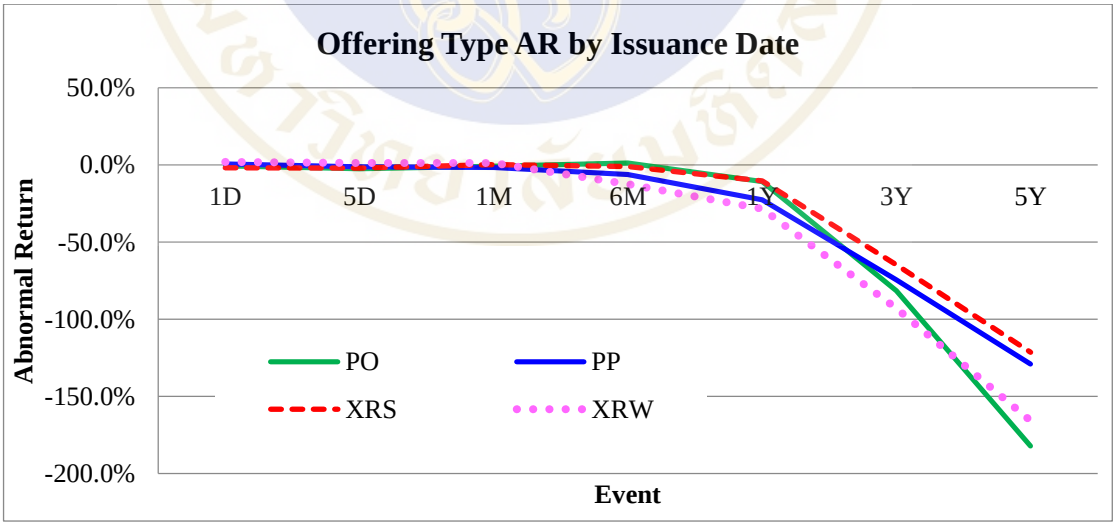

Figure 4.3 Comparison of Abnormal Returns by Offering Type (Issuance Date)

To make it simpler, and to re-emphasize on the first hypothesis, the comparison between announcement and issuance date for each offering type is drawn

in Figure 4.4. This confirms once again that the impact of announcement is more than the issuance of the SEO.

Figure 4.4 shows the comparison of abnormal returns, using announcement date or red curve, by each offering type: PO ranges from -251.60%*** (5Y) to 2.92%* (1M), PP ranges from -184.95%*** (5Y) to -1.08%** (5D), XRS ranges from -182.66%*** (5Y) to -2.45%*** (1D), and XRW ranges from -229.21%*** (5Y) to -12.49%*** (6M). When using issuance date or purple curve, PO ranges from -182.02%*** (5Y) to -2.43%* (5D), PP ranges from -128.89%*** (5Y) to 0.67%** (1D), XRS ranges from -121.34%*** (5Y) to -1.76%*** (1D), and XRW ranges from -165.76%*** (5Y) to 1.99%*** (1D).

The graph plots different windows of period after the event date. Even though there are some fluctuations in the short and intermediate terms, they are not statistically significant. The number of asterisks shows the significant level, one for 10%, two for 5%, and three for 1%.

These results are, somewhat, consistent with the previous researches by Hertzel and Smith (1993) and Cronqvist and Nilsson (2005), in such a way that private placement has higher return than public offering. They claim that private placement investors can engage and extract information better than normal investors in cases of public and rights offering. As a result, they can learn the true value of the firm as well as predict the firms' future cash flow. In contrast, for Thailand, it is concluded that rights offering with common stocks is the type that gives the highest abnormal return over the long period. Thus, this proves the hypothesis to be wrong for Stock Exchange of Thailand especially more than one year. It is the right offering with common stocks (XRS) that has the lowest negative abnormal return, follows by private placement (PP).

However, there are several event periods showing the insignificance of the abnormal returns. The reasons are probably because 1) the number of samples in each sub-group is small; hence, it lowers the degree of freedom and 2) there is a different sample mix of characteristics within the group. That is, there are various types and natures of firms which might distort the data.

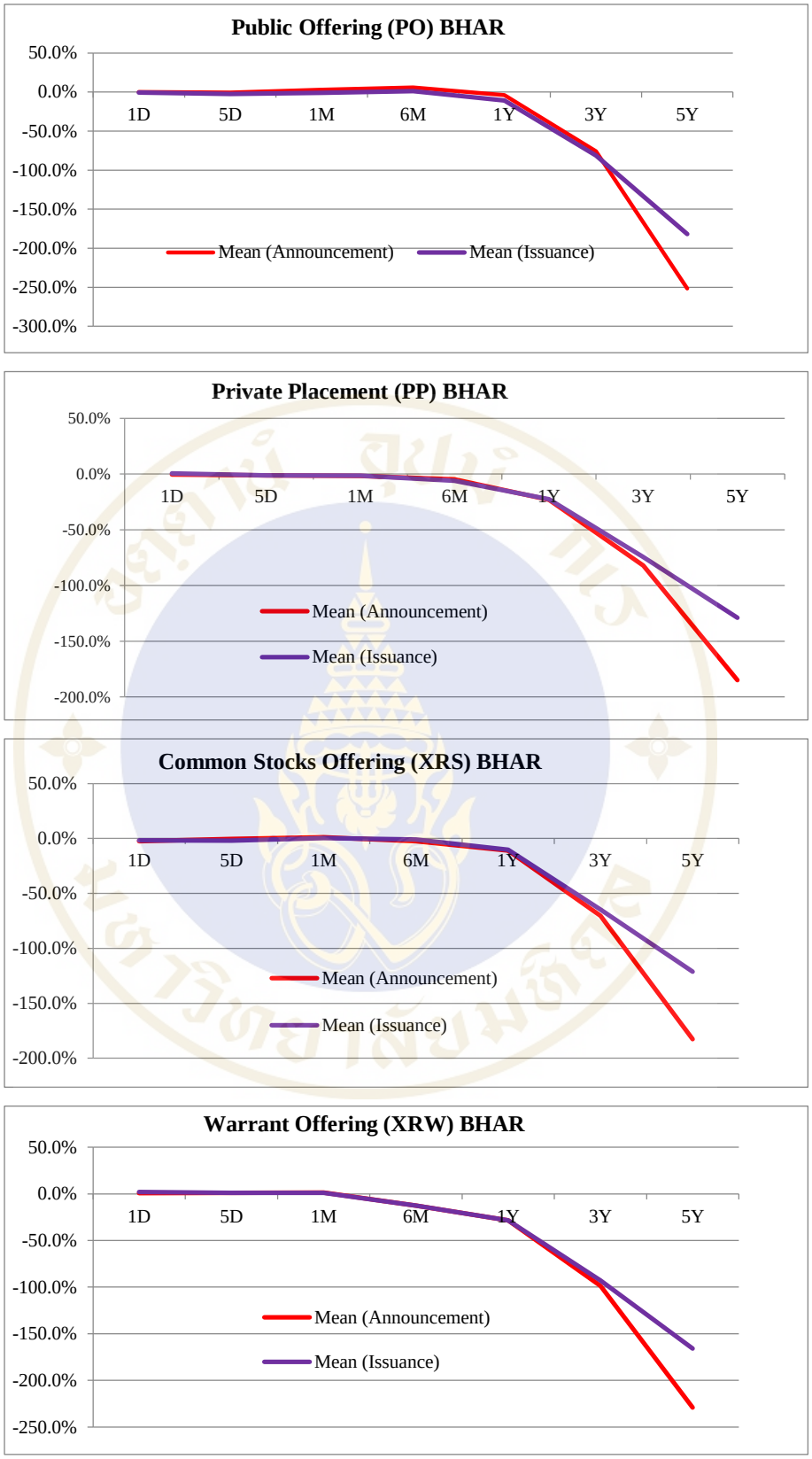

Figure 4.4 Comparison of Abnormal Returns by Events and Offering Type

The data is clustered in some specific combination of industries and offering types: property and construction is the biggest industry issuing stocks for 33% of the events with more than half of the time offering PP. Services industry is the second largest (20%) with 62% of the time issuing PP. Financials and Industrials are the third and fourth largest industry, respectively. Industrials issue PP most of the time as well (61%). In fact, most industries issue PP as the major offering type, except consumer products and financials industries. These two industries offer XRS for most of the time, 45% and 41%, respectively. The sample disperses randomly in the rest of the combinations. Table 8 elaborates more details, an example of 5-year time period. Aside from the cluster and data dispersion, the table also shows the average abnormal return (Mean) as well as its probability, P(r) > |t|. The asterisks above the mean return represent the significant level. Key industries and offering types combination are illustrated in Figure 4.5.

Looking at the key industries (financial, industrial, service and property and construction), over the long run with 1% significant level, financial and service industries tend to perform better or less negative than others, while industrial industry performs worst after the seasoned equity offering; the difference between the financial and industrial magnitudes range from 19% (XRS) to 110% (PP). Alternatively, if we compare between property and construction and industrial industries, the difference in return ranges from 17% (XRW) to 107% (PP). This is consistent for all offering types as in Figure 7. Note on the key difference among each offering type, financial industry seems to be better offering by warrants as it outperforms the others around 18% on average after the seasoned equity offering event based on 5Y BHAR.

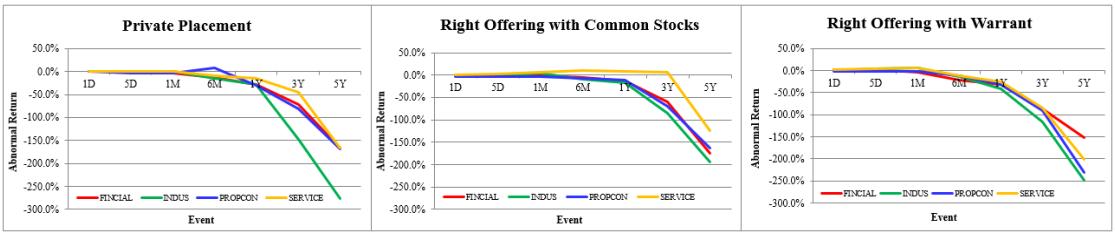

Figure 4.5 Abnormal Returns of Key Industries by Different Offering Types

Table 4.7 5-Year Abnormal Return by Industry and Offering Type Combination

Offering Type	Industry	# of Samples	Std Dev	Mean	Min	Max	t Value	P(r) > |t|
PO (Public Offering)	Other	1	.	-0.8177	-0.8177	-0.8177	.	.
	AGRO	5	1.6285	-2.8196**	-4.0079	-0.9415	-3.87	0.0180
	COMSUMP	1	.	-2.1818	-2.1818	-2.1818	.	.
	FINCIAL	17	2.0612	-2.5317***	-4.0079	0.3533	-5.06	0.0001
	INDUS	4	0.4790	-0.6181*	-1.0359	0.0721	-2.58	0.0817
	PROPCON	13	1.7020	-2.7507***	-4.0079	-0.3588	-5.83	<.0001
	RESOURC	5	1.7282	-3.2350***	-4.0079	-0.1435	-4.19	0.0139
	SERVICE	7	1.5675	-3.1028***	-4.0079	-0.3883	-5.24	0.0019
	TECH	4	2.2458	-0.9883	-4.0079	1.4257	-0.88	0.4436
PP (Private Placement)	Other	13	1.0163	-1.5002***	-4.0079	-0.1810	-5.32	0.0002
	AGRO	34	3.1618	-0.0883	-4.0079	9.5107	-0.16	0.8716
	COMSUMP	16	2.1835	-1.3944**	-4.0079	4.1503	-2.55	0.0220
	FINCIAL	67	2.0410	-1.6579***	-4.0079	2.8416	-6.65	<.0001
	INDUS	120	2.3862	-2.7660***	-4.0079	10.0284	-12.70	<.0001
	PROPCON	274	2.4087	-1.6937***	-4.0079	10.0284	-11.64	<.0001
	RESOURC	25	2.1487	-1.3108***	-4.0079	3.7127	-3.05	0.0055
	SERVICE	198	2.2121	-1.6663***	-4.0079	10.0284	-10.60	<.0001
	TECH	74	1.8658	-1.5080***	-4.0079	4.7639	-6.95	<.0001
XR (Right Offering – Unidentified Security)	Other	1	.	-4.0079	-4.0079	-4.0079	.	.
	AGRO	2	3.5491	2.1556	-0.3540	4.6652	0.86	3.5491
	FINCIAL	2	1.9440	-2.6333	-4.0079	-1.2587	-1.92	1.9440
	INDUS	5	2.7998	-2.7558	-4.0079	2.2526	-2.20	2.7998
	PROPCON	3	2.8423	-2.3669	-4.0079	0.9152	-1.44	2.8423
	TECH	1	.	-4.0079	-4.0079	-4.0079	.	.
XRS (Right Offering With Common Stocks)	Other	7	0.3127	-1.2118***	-1.5733	-0.7587	-10.25	<.0001
	AGRO	24	2.4542	-1.4912***	-4.0079	6.2529	-2.98	0.0067
	COMSUMP	22	1.6851	-1.8209***	-4.0079	0.3646	-5.07	<.0001
	FINCIAL	81	2.6528	-1.7449***	-4.0079	10.0284	-5.92	<.0001
	INDUS	42	2.2733	-1.9330***	-4.0079	4.5465	-5.51	<.0001
	PROPCON	131	3.0146	-1.6329***	-4.0079	10.0284	-6.20	<.0001
	RESOURC	12	2.4977	-1.8913**	-4.0079	3.7127	-2.62	0.0237
	SERVICE	60	3.3907	-1.2324***	-4.0079	10.0284	-2.82	0.0066
	TECH	30	2.3080	-2.0284***	-4.0079	3.1474	-4.81	<.0001

Table 4.7 5-Year Abnormal Return by Industry and Offering Type Combination (cont.)

Offering Type	Industry	# of Samples	Std Dev	Mean	Min	Max	t Value	P(r) > |t|
XRW (Right Offering with Warrant)	Other	8	1.4942	-1.8469***	-4.0079	0.0992	-3.50	0.0100
	AGRO	20	1.9110	-1.6851***	-4.0079	1.9685	-3.94	0.0009
	COMSUMP	10	1.8404	-2.5923***	-4.0079	0.0764	-4.45	0.0016
	FINCIAL	34	1.5392	-1.5243***	-4.0079	1.5440	-5.77	<.0001
	INDUS	32	1.5120	-2.4847***	-4.0079	-0.1279	-9.30	<.0001
	PROPCON	99	2.1951	-2.3156***	-4.0079	7.9013	-10.50	<.0001
	RESOURC	21	2.4424	-2.0833***	-4.0079	3.7127	-3.91	0.0009
	SERVICE	54	2.4934	-2.0121***	-4.0079	10.0284	-5.93	<.0001
	TECH	21	2.1635	-1.7109***	-4.0079	2.5980	-3.62	0.0017

Table 4.7, similar to Table 4.4 and 4.5, elaborates the average abnormal returns as well as other statistical results. The number of asterisks indicates the significant level, *** for 1%, ** for 5% and * for 10%. This table is just an example for 5-year buy-and-hold average abnormal return (BHAR), using announcement date as an event. It is separated into 5 sections according to the SEO offering type, and each type is divided into key main industries: AGRO (Agro and Food), CONSUMP (Consumer Products), FINCIAL (Financials), INDUS (Industrials), PROPCON (Property & Construction), RESOURC (Resources), SERVICE (Services) and TECH (Technology). The result is repeatedly run with different event window in order to see the trend.

From sector analysis, finance and securities sector usually XRS. Property development sector offers PP, XRS and XRW. On the other hand, PP are very common for sectors like banking, construction materials, information and communication technology, media and publishing, tourism and leisure, property development, steel and construction services.

4.4.3 Result of H3: Dilution Effect

Figure 4.6 shows the buy-and-hold abnormal return of seasoned equity offerings, separated by the ratio of old to new securities, using announcement date as an

event. The blue curve represents the offering of new to old securities as 1:1, which means that the company issue additional securities at the same amount to its current number of securities outstanding. The red curve represents the offering at higher dilution.

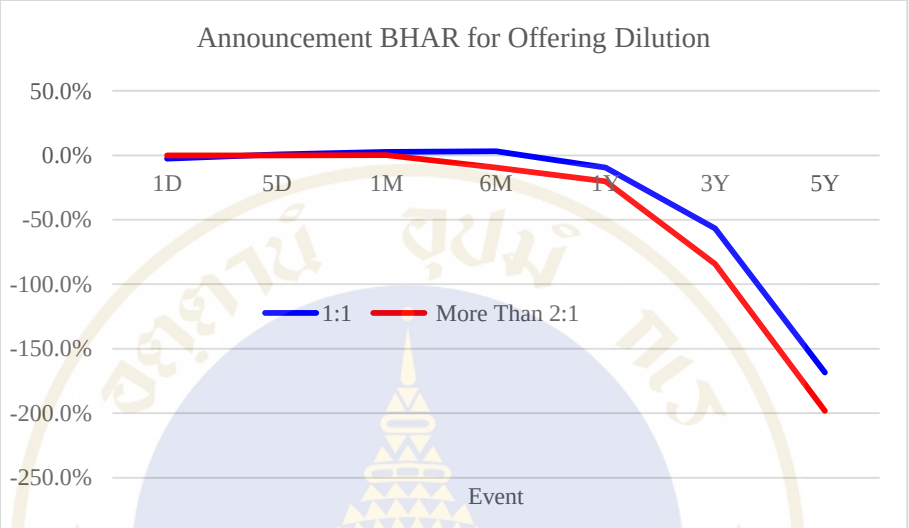

Figure 4.6 Abnormal Return for Offering Dilution (Announcement)

It clearly illustrates that the higher the offering dilution the lower the return. For offering dilution of 1:1, the returns range from -2.6% for 1 day, down to -168.4% for 5 years, both are significant at 1%. For offerings at higher dilution, more than one securities are offered to the current one security outstanding. With statistical justification at 1% level, the return ranges from -9.5% to -198.1% from 6 months onwards. The result is consistent with the previous researches by Limpaphayom and Ngamwutikul (2004), and Mola and Loughran (2004). In conclusion, the hypothesis H3 is proven to be true for Stock Exchange of Thailand, the higher the offering dilution, the more the negative return on SEO because of the dilution effects as mentioned in the hypothesis setting, and signaling effects as proposed by Limpaphayom and Ngamwutikul (2004) and Mola and Loughran (2004).

The issuance date is also used as an event; likewise previous hypotheses, the impact of issuance date to SEO is lower than the announcement, as demonstrated in Figure 4.7. The return of 1:1 dilution ranges from -2.2% for 1 day down to -117.5% for 5 years, with 5% and 1% significance level, respectively.

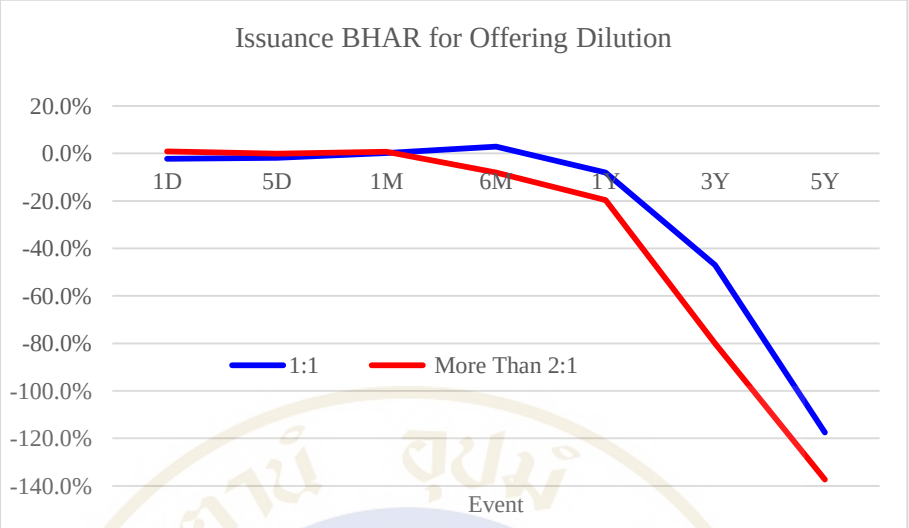

Figure 4.7 Abnormal Return for Offering Dilution (Issuance)

On the other hand, high offering dilution SEOs give the returns with -8.0% to -137.4% from intermediate to long-term abnormal return at 1% significance. The summary of these BHAR is organized in Table 4.8.

Table 4.8: Summary of BHAR for Offering Dilution

Event	Panel A: Announcement Date		Panel B: Issuance Date	
	1:1 (n = 191)	More Than 2:1 (n = 571)	1:1 (n = 191)	More Than 2:1 (n = 571)
1D	-2.6%***	-0.1%	-2.2%*	0.9%
5D	0.7%	0.0%	-1.8%	0.0%
1M	2.6%	0.2%	0.2%	0.8%
6M	3.3%	-9.5%***	2.9%	-8.0%***
1Y	-9.6%	-20.2%***	-8.0%	-19.7%***
3Y	-56.8%***	-84.4%***	-47.0%***	-80.1%***
5Y	-168.4%***	-198.1%***	-117.5%***	-137.4%***

Table 4.8 layouts the buy-and-hold abnormal return (BHAR) to see the impact of dilution effect, whether the firm issue how many new securities vs. a unit of current security outstanding. The higher the ratio, the higher number of new securities compared with the current one. There are two panels separated by the event date, and each panel bi-truncates the BHAR into low offering dilution and high offering dilution. Again, the number of asterisks indicates the significant level, *** for 1%, ** for 5% and * for 10%.

4.4.4 Result of H4: The Impact of SET Index

From the hypothesis, it is expected that the return will follow the market trends since Masulis and Korwar (1986) mentioned that a stock announcement return is positively related to the previous two-month market return, and Ismail et al. (2009) and Sindhu (2013) said that asset and cash can be affected by the economy.

Consequently, the abnormal return of SEO is categorized into 1) Bull Period, a financial market of a group of securities in which prices are rising or are expected to rise, and 2) Bear Period, the condition opposite to Bull, securities prices fall and widespread pessimism causes downward in stock market. Investors anticipate losses, and selling increases. Figure 10 shows the SET index from 1992 onwards. The green-shaded areas are considered as Bull Periods.

From Figure 4.8, the bull periods are Jan 1992 – Dec 1993, Oct 1998 – May 2008 and Jan 2009 – Dec 2014. The rests are Bear Periods.

Figure 4.8 SET Index (edited from www.set.or.th**)**

The abnormal return of bull periods is higher from 6 months to 1 year, but lower in the 3-year long term with 1% significance level for both events. The 5-year abnormal return of SEO during the bull period is lower than that of the bear period, but there is no statistically meaning. Figure 4.9 and 4.10 show comparisons of SEO abnormal returns between bull and bear periods for announcement and issuance date, respectively.

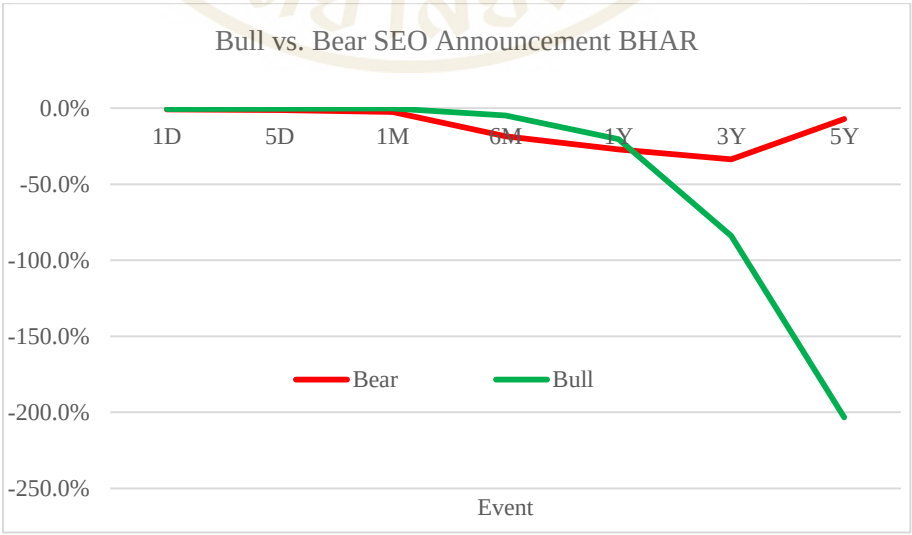

Figure 4.9 Bull-Bear SEO Announcement BHAR

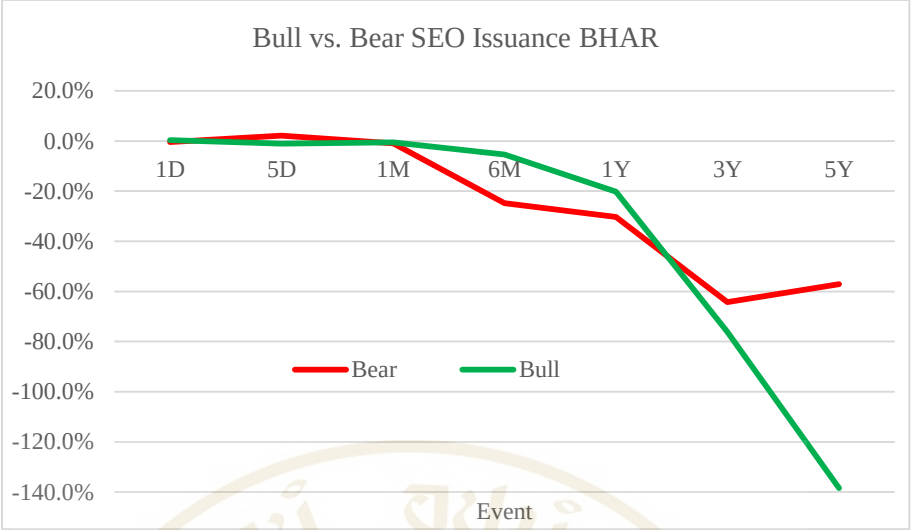

Figure 4.10 Bull-Bear SEO Issuance BHAR

Likewise, the announcement date impact is higher than the issuance date, the BHAR is more negative. In the bear period, the average abnormal return of 6 months is -18.6%, and it starts to decline in the longer period down to -33.7%, except insignificant 5-year return.

On the other hand, abnormal return decreases at a faster rate in the bull period. This contradicts with the hypothesis set especially in the long horizon. The reason might be that the firms who issued SEO will have more assets or money to survive during the bear period. Unlike the bull period, when the markets are good, firms issued SEO are perceived negatively by investors.

However, the returns during 6 months to 1 year are the same with hypothesis. This could be supported by the researches from Masulis and Korwar (1986), Ismail et al. (2009) and Sindhu (2013). It is important to note that the number of samples in the bear period is relatively low vs. the number of samples in the bull period i.e. 67 vs. 1,725 samples.

In summary, this hypothesis is inconclusive; the abnormal return trends are fluctuating and randomly significant without justification for the investor and market behaviors.

4.4.5 Result of H5: SEO Performance to Dividend-paying vs. Non-dividend paying Firm

The results clearly show that dividend-paying firm has higher abnormal return versus non-dividend paying firm by approximately 24% to 26% for private placements over the long-term period at 1% significant level, as shown in Figure 4.11, Panel A.

This is consistent with hypothesis, and is supported by many researches from John and Williams (1985) and Ambarish, John and Williams (1987). While rights offering, on the other hand, either with common stocks or with warrants, the return of dividend paying firm is less, over the long run with 1% significant level as in Panel B and C of Figure 4.11.

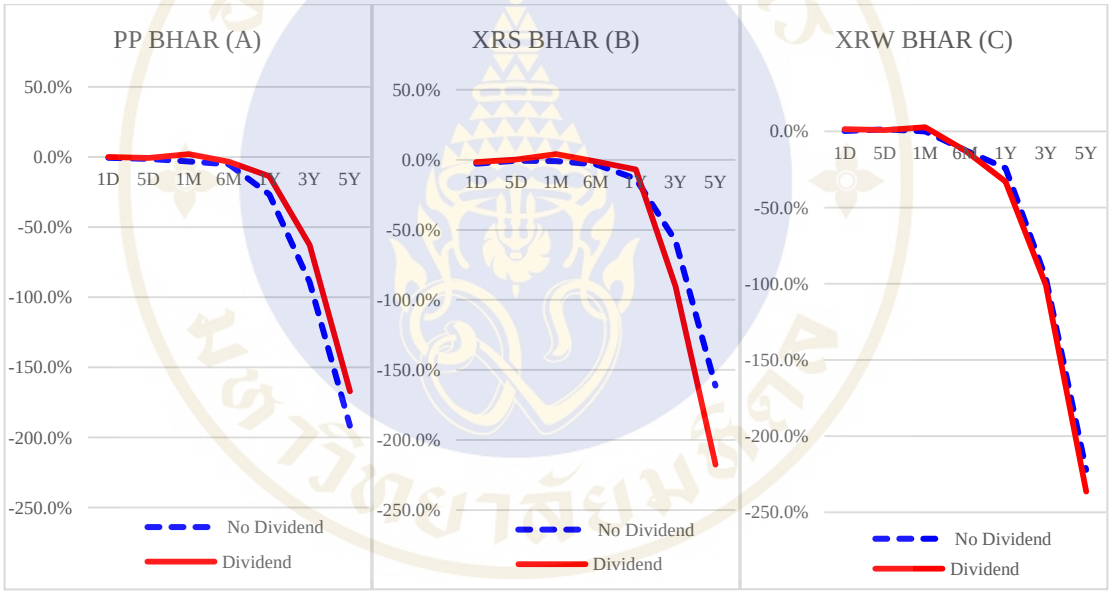

Figure 4.11 BHAR of SEO by Offering Type: Dividend-paying vs. Non dividend-paying Firm

More details are elaborated in Table 4.9. It indicates that the long-run abnormal return for dividend-paying firm is lower than that of non-dividend paying firm for XRS (32% to 56% at 1% significant level) and XRW (4% to 14% also significant at 1% level). The results of these two offering types contradict with the hypothesis. The reason might be that non dividend- paying firms have more money/assets, from not paying out, to fuel business growth in the long-run. In fact, this is the first and cheapest

source of fund according to the Pecking Order Theory. With this, it makes sense that the results turn out this way.

The explanation to the difference in the results between dividend-paying and non-dividend paying firm issuing SEO in each offering type might be information availability. Since private placements are issued to limited group of financial institutions, information must be disclosed to gain confidence from investors. This is, perhaps, another reason why dividend-SEO firm issuing PP has a less negative return than non-dividend SEO firm. The degree of information asymmetry is lower such that the firm has already disclosed information during dividend announcement; consequently, the SEO cost will be lower.

Paired T-test was performed, as in Table 10 – Column 3 and 4 in each Panel, to see if there is a statistical significant in the difference between the average abnormal returns of dividend-SEO and non-dividend SEO regardless of offering type. If the F-value of the test for equality of variance rejects the null hypothesis, the variances between these two data sets are not equal. Then, the t-value of Satterthwaite method will be used. For example, in Panel B Column 4, we can conclude that there is a 5% statistical significance that the one-month buy-and-hold abnormal returns for dividend-paying and non-dividend paying firms issuing common stocks (XRS) are not equal. The dividend-paying firm issuing common stocks yields higher return by approximately 5%, significant at 5%. Overall, with the equality of the mean results in Table 10, it is quite inconclusive whether the means are statistically different since the evidences are insufficient to reject the null hypotheses.

This is, however, in line with the irrelevancy theory by Miller and Modigliani (1958 and 1961). The theory draws two conclusions. First, the only determinant of the value of the firm is its net present values of current and future expected free cash flows. Second, the level of dividend is irrelevant to firm's value. This is because they assumed that the investment decision was done to maximize the firm's value and the difference between payout and new equity issue equals to its free cash flow. Therefore, dividend policy should not have an impact to the value of the firm.

Table 4.9 SEO Dividend-paying Firm vs. Non dividend-paying Firm BHAR

Event	Panel A: Private Placement (PP)				Panel B: Common Stock Offering (XRS)				Panel C: Warrant Offering (XRW)			
	No Dividend (n = 654)	Dividend (n = 242)	Equality of Variance F-Test	T-Test for Mean	No Dividend (n = 280)	Dividend (n = 173)	Equality of Variance F-Test	T-Test for Mean	No Dividend (n = 185)	Dividend (n = 182)	Equality of Variance F-Test	T-Test for Mean
1D	-0.47%	0.13%	2.58 ***	-1.09	-2.92% ***	-1.69% **	1.67 ***	-1.22	0.28%	1.44% **	2.52 ***	-1.05
5D	-1.23% **	-0.70%	3.72 ***	-0.70	-0.71%	0.07%	1.66 ***	-0.59	1.32%	0.93%	2.31 ***	0.26
1M	-3.15% ***	2.14% *	3.17 ***	-3.29 ***	-0.92%	4.11% **	1.64 ***	-1.98 **	0.03%	2.79%	1.37 **	-0.97
6M	-5.26% *	-3.26%	2.64 ***	-0.51	-3.34%	-1.14%	1.50 ***	-0.38	-12.41% ***	-12.58% ***	1.09	0.03
1Y	-26.66% ***	-13.56% ***	1.53 ***	-2.29 **	-13.52% **	-6.98%	1.94 ***	-0.85	-24.19% ***	-32.93% ***	1.43 **	1.11
3Y	-89.23% ***	-62.78% ***	1.78 ***	-2.61 ***	-57.91% ***	-90.29% ***	1.63 ***	2.06 **	-96.45% ***	-100.87% ***	1.11	0.33
5Y	-191.53% ***	-167.16% ***	1.14	-1.40	-161.11% ***	-217.53% ***	1.3 *	2.24 **	-222.17% ***	-236.35% ***	1.01	0.66

Table 4.9 shows the results of buy-and-hold abnormal returns split by whether the firm is paying out dividend. It is also separated into 3 panels depending on the offering type: PP, XRS and XRW. The first column in each panel represents the abnormal return of the dividend-paying firm who issues SEO, and the second column shows the SEO performance by non-dividend paying firm. The number of asterisks indicate the significant level: * means 10%, ** means 5% and *** means 1%. Paired T-test was applied to test if there is significant difference between the two sample sets, by checking the variance in the third column. If the variance is statistically different (significant), t-value of Satterthwaite method will be used. Else, pooled t-test will be applied. For those with insufficient evidence (fail to reject H_0), they are all mentioned as 'Equal' in the table.

4.4.6 Result of H6: Comparing Rights Offering with Common Stock vs. with Warrant

This hypothesis has been proven in different aspects of SEO along with other hypotheses. This summarizes the results comparing between rights offering with common stocks (XRS) and warrants (XRW). In general, XRS has less negative return than that of XRW no matter the announcement or issuance date is used as an event. Whether the company pays dividend or not, XRW has lower abnormal return with 1% significant level by 10.6% to 18.8% for dividend-SEO, and by 10.7% to 61.1% for non-dividend SEO. Likewise, regardless the times of offerings, whether the SEO is the primary or subsequent, at a significant level of 1%, XRW performs worse by 8.9% to 26.9% for primary SEO, and 10.0% to 53.7% for secondary or subsequent offerings. Looking at the size of the firm via market capitalization, it is better for firms to issue XRS rather than XRW for all sizes. Statistically, large firm will get better return if it applies XRS by approximately 8% to 22% with 1% significant level. Same approach was done, and the results indicate the same: the return from XRS is more than XRW – for both small, medium and large-size firms, significant in the long-run. (Refer from table)

4.4.7 Result of H7: SEO and the Impact of Investor Types (Market Microstructure)

There are four key different types of investors: individuals, foreigners, proprietary traders, and institutional investors. However, the data provided by the SET is very limited such that the proprietary investors trading information is not available. Furthermore, the abnormal return cannot be computed as the data provided shows just the behavior of each investor. With this limitation at this point of time, the hypothesis cannot be tested.

From the on-hand data, the behavioral aspect of each investor type can be studied. If the mean is more than zero, or positive, it implies that this investor is a net-buyer. Vice versa, the mean less than zero, or negative, denotes that the investor is a net-seller. The result is shown in Table 4.10, again the asterisk defines the standard practice of significant level.

Table 4.10: Investor Reaction to SEO Events

Event	Individuals	Foreigners	Institutions
1D	0.13%***	-0.08%***	-0.10%***
5D	0.23%***	-0.14%***	-0.17%***
1M	0.33%***	-0.26%***	-0.08%**
6M	1.03%***	-0.85%***	-0.16%***
1Y	1.64%***	-1.13%***	-0.47%***
3Y	2.62%***	-1.70%***	-0.85%***
5Y	3.21%***	-2.04%***	-1.10%***

Table 4.10 presents how each investor type reacts to SEO events using the announcement dates in different window, negative number implies that that specific group of investors buy stocks (from the total market picture) and vice versa. From SETSMART database, investors can be classified into individuals, foreigners, and institutions – proprietary investor information is not fully available. The number of asterisks show the significant level.

The higher the magnitude is, the higher the value investor buys or sells. In fact, the mean comes from the total value of buy (+) or sell (-) divided by total shares registered (referring from market capitalization), as denoted in Equation (8).

$$\frac{(net\ buy - net\ sell\ \ value)}{total\ share\ registered} \tag{8}$$

Table 4.10 summarizes the behavior of each investor type with 1% significant level that individuals are the buyers of stocks right after SEO, while foreigners and institutional investors are the sellers.

Like other hypotheses, the comparison between announcement date and stock issuance date was done so as to confirm the first hypothesis. Figure 4.12 illustrated the comparison between announcement date (A) and issuance date (I), which is written in the description. However, as the result shows only the investor behavior, it can be concluded that either the event is signaled by announcement of SEO or the actual date of stock issuance, there is no impact to investors' reaction. The day after SEO, individuals cumulatively buy 0.13% vs. market capitalization at 1% significant level, while the foreigners and institutional investors sell at 0.08% and 0.10% vs. market capitalization, respectively. The cumulative number, in term of magnitude, gradually increases – as presented in Table 4.10, and illustrated in Figure 4.12.

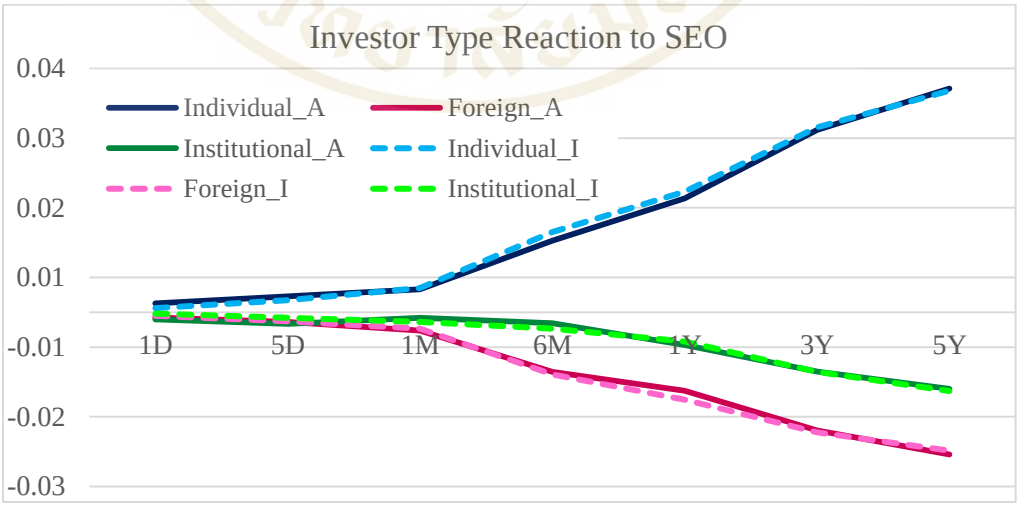

Figure 4.12 Reaction to SEO by Each Investor Type – Initial Analysis

Therefore, from Figure 4.12, individuals will buy the stocks from foreigners and institutional investors. The trend is the same regardless of event widows.

Looking by each type of SEO at a deeper level, there are some key differences in the investor type behavior or reaction, but please be noted that there are some limitations in the number of samples. Right now, the study holds the investor type as the controlled variable, PO has relatively less number of samples, say 50-60 samples, vs. other types: PP, XRS, and XRW, in which the numbers of samples are all above 300 samples. This makes the result of PO is less statistically significant. Figures 4.13, 4.14 and 4.15 show the behaviors of individual, foreign and institutional investors to different offering type, respectively.

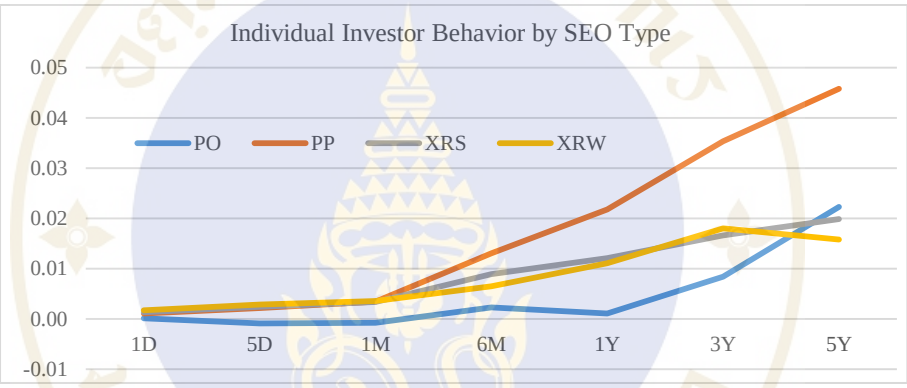

Figure 4.13 Reaction of Individuals to Different SEO Type

Figure 4.13 shows the individual behavior after SEO. This is in-line with the Figure 4.12 that individual investor is the net-buyer. Figure 4.13 points out at a deeper level of analysis. When it comes to SEO offering type, individual investor prefers to buy more if the offering type is private placement, which has the less negative return as supported by the result from Hypothesis 2. The cumulative purchase can go up to 2 times more than other types of offering over the long run; this is significant at 1% level for rights offering with common stocks and with warrants. However, public offering information is too less to statistically conclude that individuals prefer this type the least even though the graph points out that way.

From the sellers' point of view, Figure 4.14 and 4.15 breaks down the initial analysis into foreign and institutional investors, respectively. Both below figures illustrate that foreign and institutional investors prefer to sell more if the listed company

issue private placement rather than rights offerings. Public offerings show the least movement, corresponding with the low number of samples in this study; consequently, the result shows for public offering is not statistically significant.

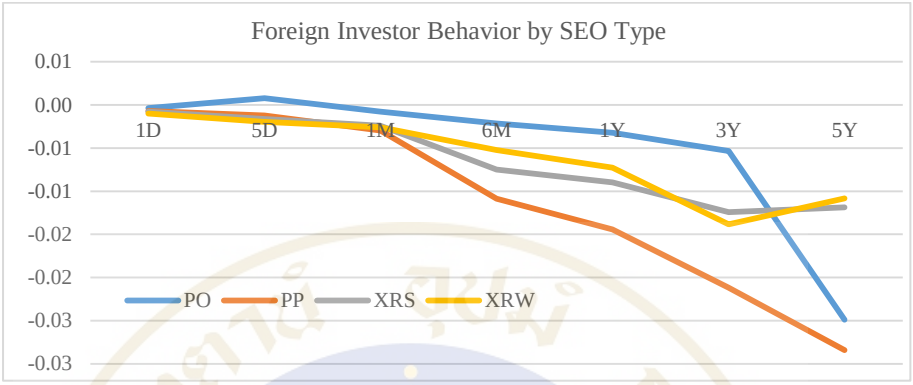

Figure 4.14 Reaction of Foreigners to Different SEO Type

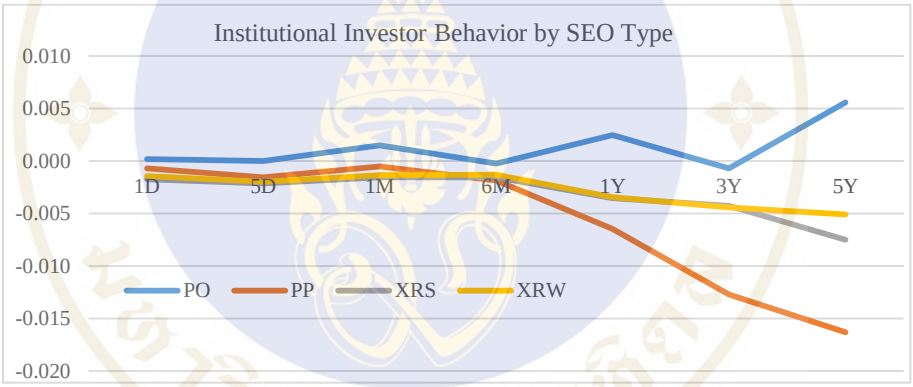

Figure 4.15 Reaction of Institutions to Different SEO Type

Nevertheless, it might not be effective to conclude the studies over the long-run as there are uncountable variables/factors that induce investors to sell or to buy. In addition, the effect of event might be negligible by that time since there are also social, economic and political changes along the way, especially in the Stock Exchange of Thailand as the market condition is relatively unstable.

4.4.8 Result of H8: The Comparison between Primary and Secondary SEO

It is expected that the abnormal returns of the secondary or subsequent SEOs (SSEOs) will be higher than that of the first or primary SEOs (FSEO). Investors perceive the primary SEO as a negative signal; however, subsequent SEO would have some meaningful intention and investors may be more familiar and knowledgeable about the firm performance.

Figure 4.16 compares the returns between FSEO and SSEO over the event windows. It illustrates that FSEO underperforms SSEO during the intermediate term with 1% significant level return by approximately 3%, on average, from 6 months to 1 year. On the other hand, the result turns around post 1 year and continue over the long-run by having higher return in FSEO than in SSEO, in the range of 3% to 13%, significant at 1% as well.

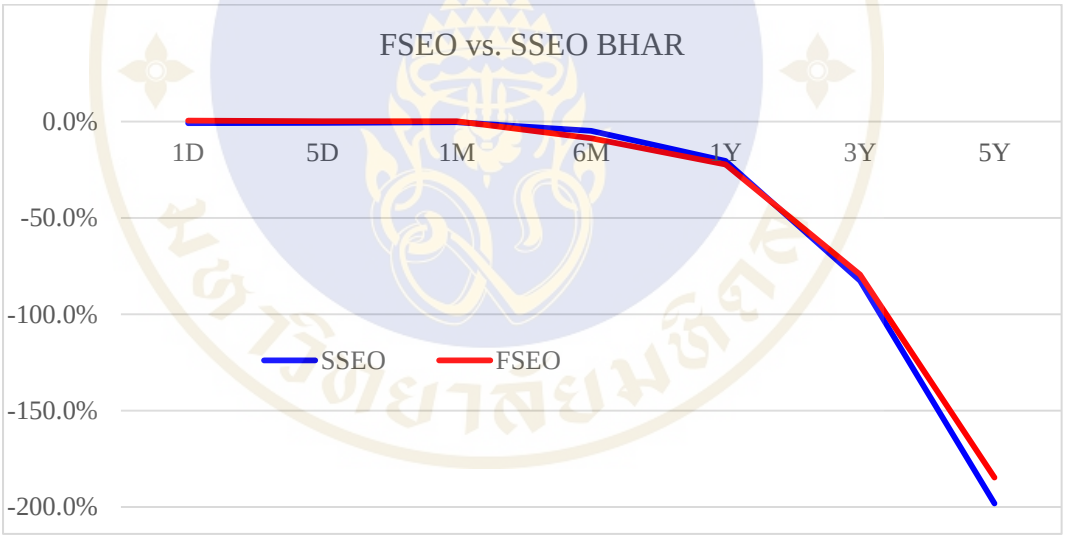

Figure 4.16 FSEO vs. SSEO BHAR

However, when breaking down the analysis into offering types, Table 4.11 shows the different results versus the hypothesis. It is also illustrated in Figure 4.17, which the results can be categorized into two groups: 1) Public Offering (PO) and Common Stocks Offering (XRS), and 2) Private Placement (PP) and Warrant Offering (XRW).

Table 4.11: Abnormal Returns of Primary and Secondary Seasoned Equity Offerings

Offering Type	Issue	# of Samples	1D	5D	1M	6M	1Y	3Y	5Y
Panel A: PO (Public Offering)	Secondary	51	0.0015	-0.0100	0.0280	0.0655	-0.0712	-0.7982 ***	-2.3761 ***
	Primary	10	-0.0023	0.0217	0.0353	0.0281	0.1233	-0.5553	-3.2298 ***
	Equality of Variance	P(r) > F	0.6331	0.1368	0.4536	0.0025 ***	0.5539	0.0001 ***	0.2357
	T-Test for Mean	P(r) > |t|	0.8165	0.1459	0.8673	0.6734	0.3845	0.7450	0.1752
Panel B: PP (Private Placement)	Secondary	804	-0.0048	-0.0116 ***	-0.0165 *	-0.0445 **	-0.2330 ***	-0.8435 ***	-1.9081 ***
	Primary	92	0.0122	-0.0040	-0.0232	-0.0709	-0.2152 ***	-0.6230 ***	-1.3372 ***
	Equality of Variance	P(r) > F	0.6250	0.0010 ***	0.7506	0.6401	0.9075	0.0810 *	0.7143
	T-Test for Mean	P(r) > |t|	0.0908 *	0.6691	0.8259	0.7104	0.8458	0.1458	0.0254 **
Panel C: XRS (Common Stock Offering)	Secondary	371	-0.0274 ***	-0.0036	0.0116	-0.0177	-0.1124 **	-0.6589 ***	-1.8159 ***
	Primary	82	-0.0114	-0.0063	0.0031	-0.0577	-0.1003	-0.9012 ***	-1.8748 ***
	Equality of Variance	P(r) > F	0.6679	0.0628 *	0.4174	0.0116 ***	0.0172 **	0.0001 ***	0.0019 ***
	T-Test for Mean	P(r) > |t|	0.2356	0.8900	0.8036	0.5477	0.8951	0.1202	0.8301
Panel D: XRW (Warrant Offering)	Secondary	276	0.0084	0.0098	0.0095	-0.1178 ***	-0.2575 ***	-1.0161 ***	-2.3532 ***
	Primary	91	0.0092	0.0156	0.0276	-0.1466 ***	-0.3693 ***	-0.8966 ***	-2.1065 ***
	Equality of Variance	P(r) > F	0.5308	0.1142	0.3015	0.2578	0.1073	0.1500	0.9089
	T-Test for Mean	P(r) > |t|	0.9523	0.7422	0.5833	0.6633	0.2237	0.4411	0.3188

Table 4.11 shows the BHAR of primary SEO (FSEO) and secondary SEO (SSEO) classified by offering types: PO, PP, XRS and XRW. This table is read horizontally from short term to long term. The comparison between FSEO and SSEO is done using the paired t-test to see if there is an equality of the variance and the mean. If the variance is significantly different (P(r) > F value), Satterthwaite t-test will be used, else pooled t-test will be applied (P(r) > |t|). The asterisks show significant level.

In the long-run study, the abnormal returns are significant at 1% level, FSEO has lower return than SSEO by 6% to 85% for the first group. Vice versa, SSEO has lower return than FSEO by 25% to 57% for the second group.

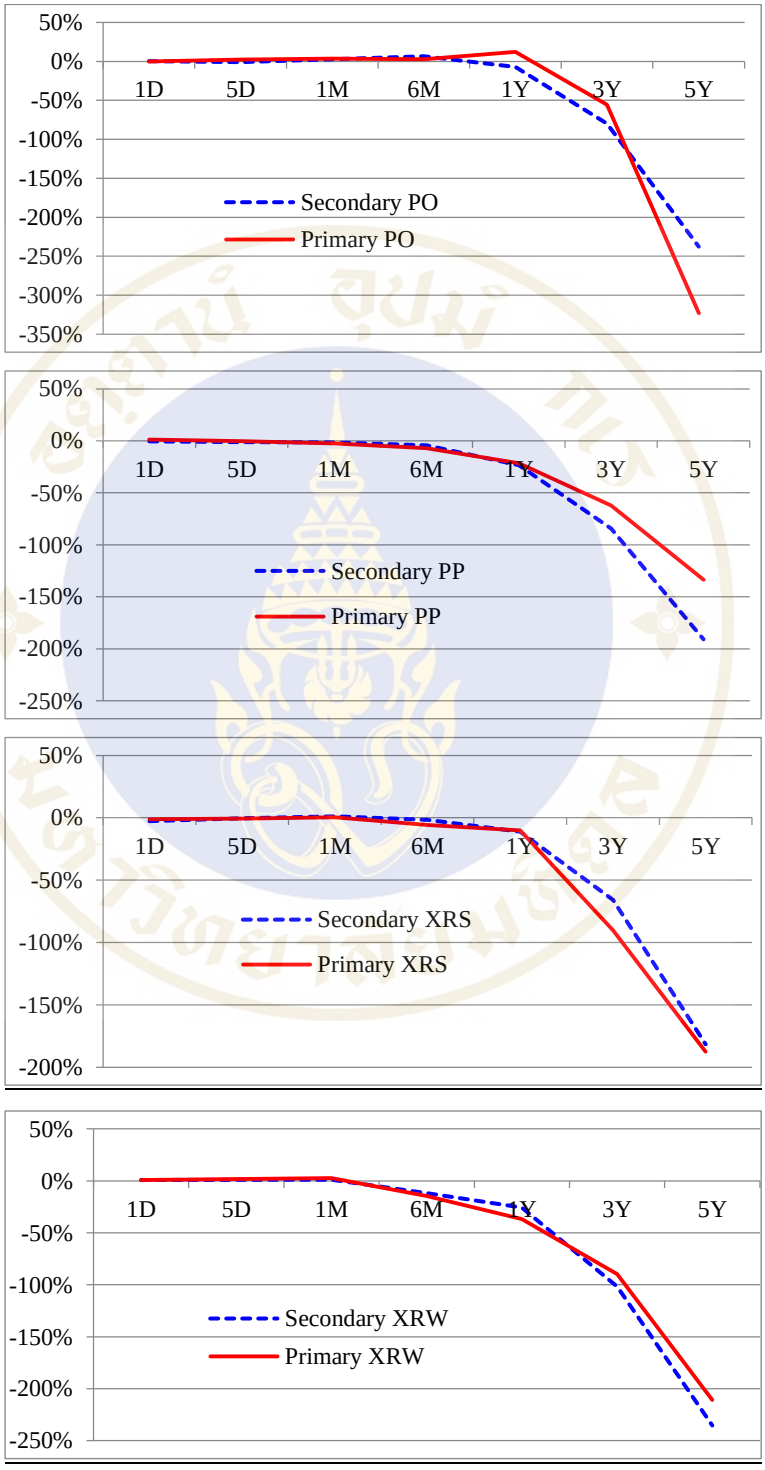

Figure 4.17 FSEO vs. SSEO BHAR by Offering Types

Graphically, it can be observed clearly that the abnormal returns of the secondary SEOs and that of primary SEOs cannot be concluded. This depends on the type of offerings. It is quite difficult to distinguish the returns during the short and intermediate-term; however, the graphs diverge vividly 6 months after SEOs.

So far, there has not been any explanation to the results as presented above from any literature reviews. It is also important to observe the numbers of samples in each group as they vary a lot. Limited information is available for primary PO with only 10 samples. In addition, the number of samples in SSEO is 3-9 times more than that of the FSEO. With this difference, paired T-test was conducted to see the equality of variance and the mean with statistical meaning.

Statistically, paired t-test is applied to see if there is a significant difference in the mean of two independent groups. Regardless of offering type, the variances of 1-day abnormal return between primary and secondary SEOs are not equal at 5% significant level, $P(r) > F = 0.0498$, while the means are not equal at 10% significant level, $P(r) > |t| = 0.0724$.

However, Table 4.11 elaborates the detailed check whether there is enough evidence to conclude that the variances and the means are equal. The test running is applied to all event windows, separated by offering type, as tabulated in the third and fourth rows of each panel.

With the results from Table 4.11, the probability, P(r), without asterisk means that there is not enough evidence to reject the null hypotheses. This makes the inequality of variances and means becomes insignificant. Thus, it cannot be concluded that the secondary SEOs have higher abnormal return than that of primary SEOs for all offering types. The result in Thailand is not consistent with previous findings, Michaely and Shaw (1994) and Bessler and Thies (2006). The asterisks in the table represent the significant level where there is sufficient data to conclude the inequality of variances and means.

The reasons that SET does not follow other markets might be, first, when breaking down into offering types, there might not be enough sample to assure the significant level. Second, Thai people perceive the primary and secondary SEOs indifferently. This is possible because SET is quite volatile and reacts proactively with news. No matter the offering is primary or secondary SEOs, investors still see this as a

negative signal. However, there is a sign to have significant difference in the means from private placement, starting to observe in 5-year post event at 5% significance level, $P(r) > |t| = 0.0254$. It is very interesting to observe more data in the future study to look for longer term or with more number of samples.

It might be interesting for future study when information will be more complete and abundantly available. This will give light to listed firms whether or not they should issue additional stocks/securities after the primary issuance.

4.4.9 Result of H9: The Impacts of Firms' Liquidity and Market's Liquidity

From hypothesis H9A, the firms with higher liquidity ratio are expected to have higher stock return since Loughran and Ritter (1997), Corwin (2003) and Mola and Loughran (2004) found that the higher the risk the firm has, the higher the SEO discount the firm gives. Thus, there is a lower subsequent stock return. To prove this, firstly, the quick ratio is applied in this research as it is an indicator of a company's short-term liquidity, and it measures the actual company's ability to meet its short-term obligations with its most liquid assets. Even though the study is also extended to cover long-run abnormal return and using quick ratio might not fit with the model, it is the best way that represents the standard or common method to repay debt. Inventory turnover is different from business to business; consequently, the results will vary a lot if any kind of inventories can be used – the comparison will be unfair, and market demand and supply will come into play. That is to say, different kinds of inventory take different time to convert to cash – a medium of exchange.

From Table 4.12 Panel A, the samples are divided into low quick ratio ($<50^{th}$ percentile) and high quick ratio ($\geq 50^{th}$ percentile). The abnormal returns are shown in the first column of every panel. Please be noted that there are several samples in which the information are not sufficient to compute quick ratio, and they are excluded from the analysis.

Not only quick ratio, other liquidity measures are also used to classify the samples into two groups: $< 50^{th}$ percentile and $\geq 50^{th}$ percentile, and see if there is any difference among each liquidity ratios: current ratio (Panel B), cash ratio (Panel C), and cash conversion cycle (Panel D). All results are illustrated in Figure 4.18.

Secondly, Table 4.12 Panel B applies current ratio, which is a liquidity ratio that measures a company's ability to pay its short-term debts/obligations, using total current assets (liquid and illiquid). Likewise, the events are separated into low and high liquidity. The results are similar to what was discussed in Panel A. Higher liquidity gives a better return. However, not always the case, high current ratios might not be considered as a good sign for investors. If the current ratio is too high, it may indicate that the firm is not efficiently using its current assets or its short-term financing tools. This can also be further studied for the way to test current ratio.

Thirdly, using only most-liquid form of asset to repay debt, Table 4.12 Panel C uses cash ratio to study how SEO firms of different liquidity background perform. Like the first two panels, samples are divided into low ($< 50^{th}$ percentile) and high ($\geq 50^{th}$ percentile) liquidity. The first and third column of Panel C compare the abnormal returns between low and high liquidity. Over the long run, with 1% significant level, high liquidity firm has higher return by 5.3% - 32.8% from 1 year to 5 years. The graph, illustrated in Figure 4.18 Panel C, clearly differentiates the performance of these two groups.

Lastly, cash conversion cycle is applied to the events. Unlike other liquidity measures mentioned in Panel A, B and C, the group below 50^{th} percentile is considered as high liquidity, while the group equal to or above 50^{th} percentile has low liquidity. Cash conversion cycle is the length of time taken by the firm to convert its resources into cash flows; comprising of the time needed to sell inventory, collect receivables and pay its bills/accounts payable without incurring penalties/interest charges. Table 4.12 Panel D still shows that the higher the liquidity the firms have, the higher the returns investors can expect. For the long run study, with 1% significant level, the firms with lower cash conversion cycle tend to perform better from 8.4% - 41.8% from 1 year to 5 years – this is also shown in Figure 4.18 Panel D.

Table 4.12 SEO BHAR by Firms' Liquidity

Event	Panel A: Quick Ratio				Panel B: Current Ratio				Panel C: Cash Ratio				Panel D: Cash Conversion Cycle			
	Low Liquidity (n = 814)		High Liquidity (n = 533)		Low Liquidity (n = 903)		High Liquidity (n = 567)		Low Liquidity (n = 868)		High Liquidity (n = 602)		High Liquidity (n = 704)		Low Liquidity (n = 591)	
	Mean	P(r) > |t|	Mean	P(r) > |t|	Mean	P(r) > |t|	Mean	P(r) > |t|	Mean	P(r) > |t|	Mean	P(r) > |t|	Mean	P(r) > |t|	Mean	P(r) > |t|
1D	-0.0054	0.1264	-0.0085	0.0441	-0.0068	0.0414	-0.0077	0.0663	-0.0078	0.0204	-0.0061	0.1343	-0.0094	0.0131	-0.0058	0.1501
5D	-0.0030	0.5340	-0.0118	0.0721	-0.0073	0.1084	-0.006	0.3292	-0.0095	0.0473	-0.0029	0.6095	-0.0126	0.0180	-0.0063	0.2741
1M	-0.0167	0.0831	0.0058	0.6123	-0.0203	0.0238	0.0168	0.1393	-0.0217	0.0189	0.0165	0.1306	-0.0160	0.1259	-0.0052	0.6226
6M	-0.0151	0.4759	0.0002	0.9951	-0.0217	0.2783	0.0287	0.3122	-0.0311	0.1261	0.0393	0.1534	-0.0484	0.0173	-0.0150	0.5836
1Y	-0.1792	<.0001	-0.1567	<.0001	-0.156	<.0001	-0.1621	<.0001	-0.1801	<.0001	-0.1269	0.0004	-0.1362	<.0001	-0.2204	<.0001
3Y	-0.7804	<.0001	-0.7755	<.0001	-0.7622	<.0001	-0.779	<.0001	-0.8104	<.0001	-0.7085	<.0001	-0.7110	<.0001	-0.8651	<.0001
5Y	-1.9633	<.0001	-1.7924	<.0001	-1.9089	<.0001	-1.8177	<.0001	-2.0082	<.0001	-1.6798	<.0001	-1.7372	<.0001	-2.1549	<.0001

Table 4.12 elaborates the buy-and-hold average abnormal return for the SEO firms, separated by the firms' liquidity. The table is divided into 4 panels with different liquidity measures: quick ratio, current ratio, cash ratio and cash conversion cycle. In each panel, the events are classified into two groups: < 50th percentile (low liquidity) and ≥ 50th percentile (high liquidity) – except Panel D, in which the first column (< 50th percentile) means high liquidity. The results are significant at 1%, or P(r) > |t| value is < 0.0001, showing that the SEO firms with higher liquidity perform better (less negative) over the long-term period.

Table 4.12 clearly shows that, in the long-run at 1% significant level, the firms with lower liquidity (as measured by all types of liquidity ratio) tend to perform worse. It can also be illustrated in Figure 4.18. This is consistent with the hypothesis, and is therefore supported by many studies aforementioned. Firms need to attractively discount the SEO a lot to compensate for the risks investors have to bear, this contributes a lower return for firms with lower liquidity ratio.

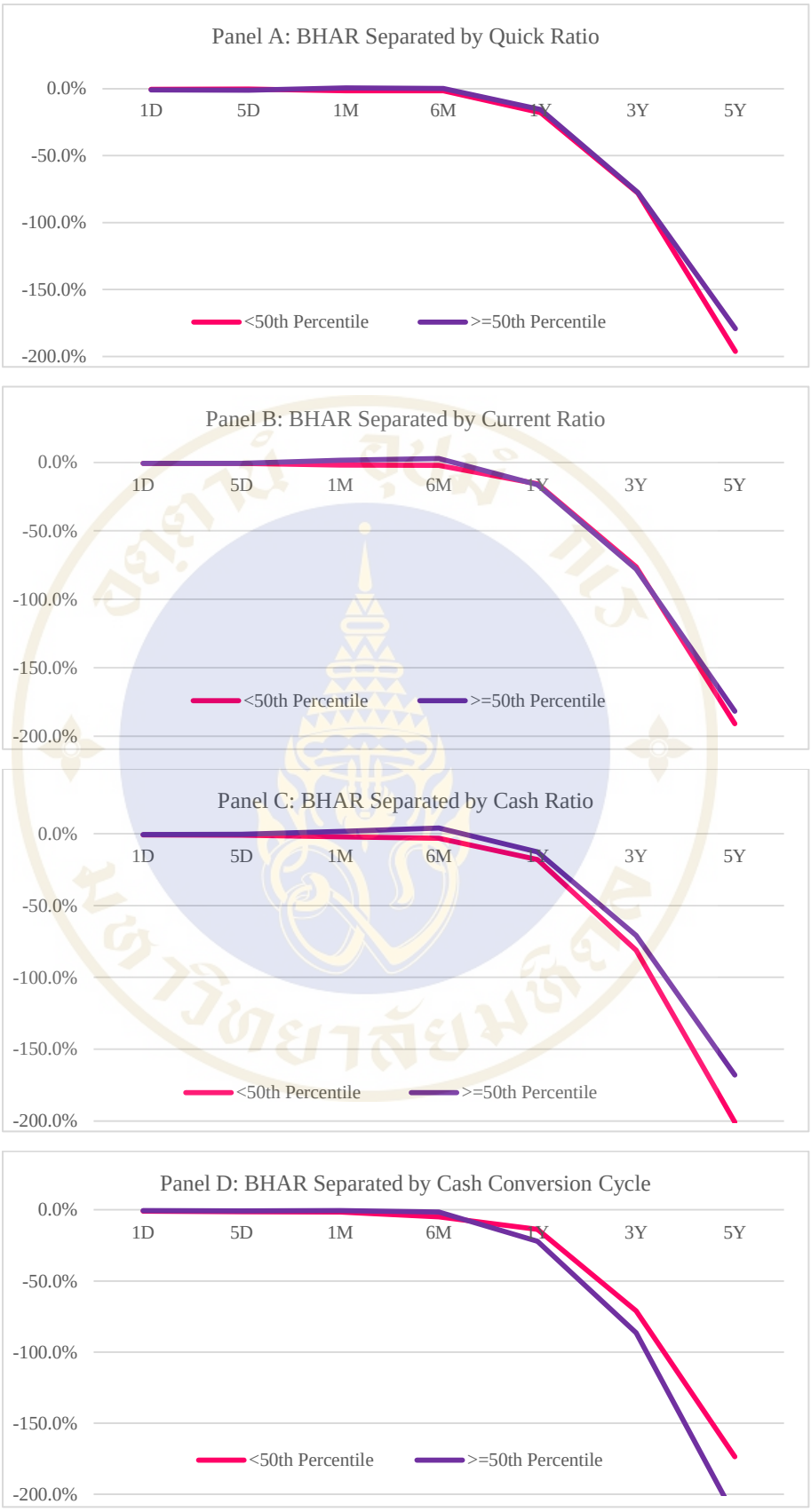

Figure 4.18 SEO BHAR Curves Separated by Different Firms' Liquidity Measures

On the other hand, for hypothesis H9B, another perspective of liquidity is studied – Market Liquidity. It can be summarized that the higher liquid issuers pay lower SEO cost, and therefore higher return is expected. Samples are inversely divided into tertiles according to the market liquidity of the SEO firms: low, medium and high. The results are drawn in Figure 4.19.

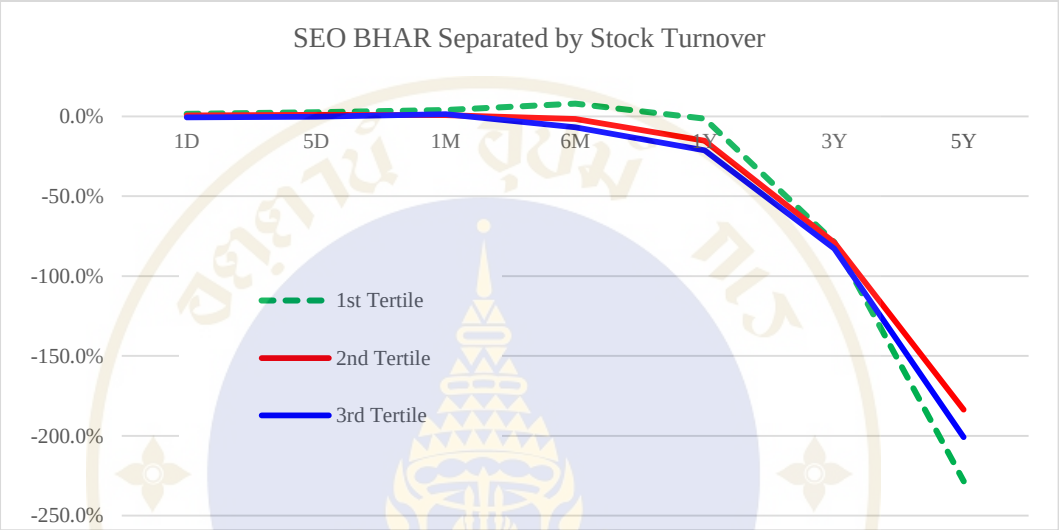

Figure 4.19 SEO BHAR Curves Separated by Market Liquidity

From the figure, the green dotted line represents the low market liquidity firms. However, there are only 26 samples in this group, and the results might not be normally distributed. The red and the blue curve is the medium and high market liquidity, respectively. Figure 4.19 does not illustrate clearly on which group performs better over the short period; nonetheless, the curves diverge over the long-run. It shows that the medium-range market liquidity seems to perform the best among these groups.

Detailed empirical results are tabulated in Table 4.13. There is no sufficient evidence to conclude that the low market liquidity issuer has the lowest return. Comparing between the 2nd and 3rd tertile, between the medium and high market liquidity, over the long-run with 1% significant level, the high market liquidity issuer tends to have lower return, from 6% 1-year post SEO up to 17% after 5 years.

Table 4.13 SEO BHAR Separated by Market Liquidity

Event	Low (n = 26)		Medium (n = 372)		High (n = 1208)	
	Mean	P(r) > |t|	Mean	P(r) > |t|	Mean	P(r) > |t|
1D	0.0149	0.2877	0.0048	0.1781	-0.0072	0.0160
5D	0.0257	0.2001	0.0092	0.0568	-0.0019	0.6228
1M	0.0403	0.1433	0.0078	0.3857	0.0143	0.0534
6M	0.0797	0.2226	-0.0171	0.5122	-0.0676	0.0002
1Y	-0.0151	0.8824	-0.1534	<.0001	-0.2135	<.0001
3Y	-0.7873	0.0009	-0.7902	<.0001	-0.8284	<.0001
5Y	-2.2844	<.0001	-1.8358	<.0001	-2.0081	<.0001

Table 4.13 displays the abnormal return of the SEO firms when grouping them with respect to market liquidity, or stock turnover. The samples are divided into three groups: low, medium and high market liquidity. The low market liquidity group is not significant due to the low number of samples, while the high market liquidity firm performs worse than that with medium level – especially during the long-run period with 1% significance.

The results are the not the same with what had been concluded by Butler et al. (2005) and Bundgaard (2012), this might be because of the distribution of security issuer firms' market liquidity in Stock Exchange of Thailand i.e. there are more than 75% of the samples allocated in the high market liquidity group, while there is less than 2% in the low market liquidity. Further study might consider to have more samples in each group, or see the opportunity whether the classification can be done in different approach.

4.4.10 Result of H10: The Impact of Firm Size to the SEO (Market Capitalization)

In terms of firm size impact study, listed firms are classified into three tertiles based on market capitalization, or market value of the company calculated by multiplying the stock price with the total number of shares outstanding, for that

particular year. Figure 4.20 shows that the smaller the firm size, the better the abnormal returns no matter firms issue what type of securities.

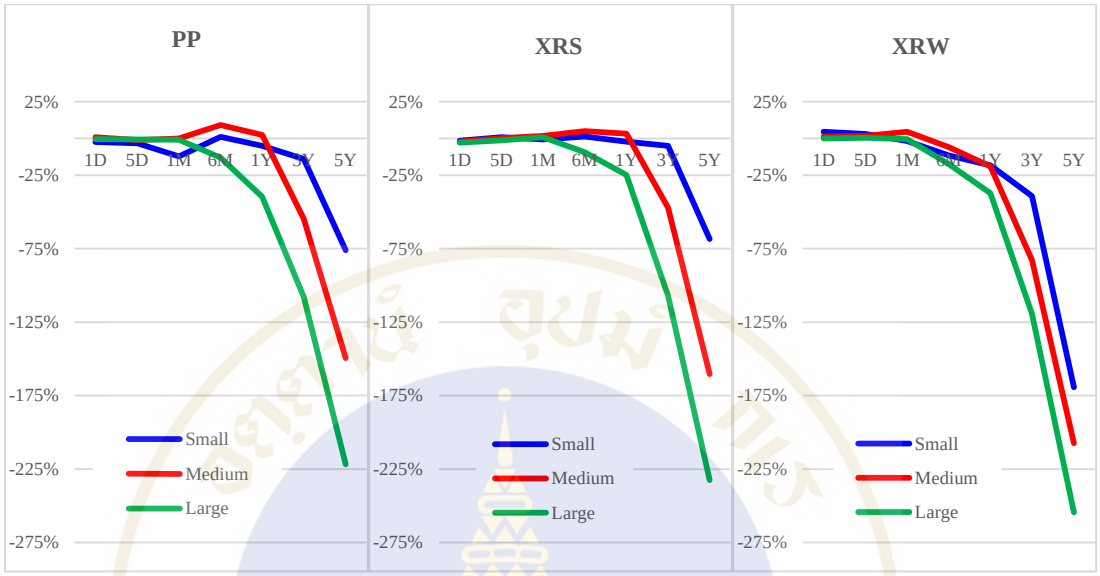

Figure 4.20 BHAR by Firm Size and Offering Type

This is elaborated in Table 4.14 which shows that the abnormal returns start to have statistical meaning 6 months post the event. For PP, the smaller firms can have 146% higher return than that of the large firms, significant at 1%. Likewise, smaller firms issuing XRS and XRW can have meaningful higher return by 164% and 85%, respectively.

Table 4.14 BHAR by Firm Size and Offering Type

Event	PP			XRS			XRW		
	Small (n = 87)	**Medium** (n = 282)	**Large** (n = 527)	**Small** (n = 61)	**Medium** (n = 174)	**Large** (n = 218)	**Small** (n = 29)	**Medium** (n = 145)	**Large** (n = 193)
1D	-0.0248	0.0075	-0.0052 *	-0.0147	-0.0229 **	-0.0285 ***	0.0448	0.0131	-0.0002
5D	-0.0330	-0.0122	-0.0064	0.0075	0.0023	-0.0124 *	0.0297	0.0161	0.0048
1M	-0.1225 **	-0.0004	-0.0088	-0.0065	0.0168	0.0092	-0.0181	0.0464*	-0.0056
6M	0.0105	0.0922 **	-0.1313 ***	0.0119	0.0494	-0.0946 ***	-0.1164	-0.0591	-0.1756 ***
1Y	-0.0506	0.0237	-0.3974 ***	-0.0229	0.0321	-0.2482 ***	-0.1834	-0.1897 ***	-0.3723 ***
3Y	-0.1403	-0.5479 ***	-1.0793 ***	-0.0511	-0.4703 ***	-1.0706 ***	-0.3922*	-0.8292 ***	-1.1939 ***
5Y	-0.7605 **	-1.4945 ***	-2.2192 ***	-0.6849 *	-1.6035 ***	-2.3241 ***	-1.6931 ***	-2.0748 ***	-2.5453 ***

Table 4.14 shows the average abnormal returns from SEO events separated by the combination of firm's size, or market capitalization, and the SEO offering type. Each offering type is divided into small, medium and large firm; the number of asterisks represents the significant level. From the table, it can be observed that, over the long run regardless of SEO offering type, the larger firms tend to perform worse than that of the smaller firm.

Hypothesis H10 is false. The results contradict with previous researches aforementioned in literature reviews: Slovin et al. (1991), Michaely and Shaw (1994), Loughran and Ritter (1997) and Limpaphayom and Ngamwutikul (2004). However, they are in line with the risk-return tradeoff theory. Usually, the smaller firms have higher risks. It is generally accepted the higher the risks, the higher the expected returns. The smaller firms can relatively and have potential to grow at a faster pace. In addition, Stock Exchange of Thailand might be different from other markets, and the condition of current market might be different from the study of Limpaphayom and Ngamwutikul (2004) who used the data from year 1991-1994. Those years were the period before ASEAN Economic Crisis in 1997 (Tom Yum Goong).

Aside from this, Relander (2011) concluded his Thesis that the majority of small firms indeed grow faster than large firms, supported by both theoretical and empirical evidence. Original work, there was a law called Proportionate Effect, also known as Gibrat's Rule of Proportionate Growth or Gibrat's Law by Gibrat (1931), stating that firm's growth rate and its size are independent of each other, and the variance of firm growth rates is also independent of firm size. Research by Carpenter and Petersen (2002) found that the growth of small firms is consistently constrained by the availability of internal financing (Internal Finance Theory of Growth) from over 1,600 small firms during 1980-1992 in U.S. When the firm's financial constraints are bounded by limited funds, an additional dollar of fund should generate slightly more than an additional dollar of growth in assets, regardless of the sources whether it is internal retained earnings or external equity.

4.4.11 Result of H11: SEO Over the Time Horizon – Short-term vs. Long-term

The short-term abnormal returns are, more often than not, statically insignificant unlike long-term returns which are significant at 1%. The trends are reliable and the comparisons are done apples to apples; as a result, investors and people who are reading this research can refer to the trend and the comparisons. It can be concluded that there is a negative abnormal return of SEO companies over the 5-year long-run, which is supported by many researches: Ritter (1991), Loughran and Ritter (1995), Loughran and Ritter (1997), Stehle, Ehrhardt and Przyborowsky (2000), Li and Zhao (2003), Byoun (2004), and Allen and Soucik (2008). However, the magnitude of abnormal returns might not be able to use as a reference since buy-and-hold methodology is applied.

This methodology is used to compute the abnormal return because:

1) It is the standard method for long-term abnormal returns as elaborated by Barber and Lyon (1997) and Lyon, Barber and Tsai (1999),
2) It measures the average multiple-year return from an investment strategy of buying securities that complete an event and selling them at the end of pre-specified holding period, claimed Mitchell and

Stafford (2000),

3) It precisely resembles investors' actual experience, and avoids biases arising from security microstructure issues when portfolio performance is measured with frequent rebalancing, Blume and Stambaugh (1983), Roll (1983), and Ball, Kothari, and Shanken (1995).

4) It allows compounding since BHARs employ geometric returns rather than arithmetic returns.

However, there is a limitation to this methodology since the abnormal return increase with the holding period. If the abnormal performance exists for only first six months after the event, long-term BHAR can be significant with relatively larger magnitude. This is the reason why the magnitude of results is highly negative. From the results, investors should avoid investing in SEO firms post the offering. From listed firms stand point, it is highly recommended that other sources of funds might be more attractive.

In summary, there is not enough evidence to conclude that the abnormal return over the long-run period is better than that of the short-term returns as most results are not statistically significant. It is interesting to see what will happen after 5 years as Allan and Soucik (2008) found a turnaround point by the 6^{th} year, when there is a significant over-performance started to be observed, comparing with non-issuers. This can also be captured in future study.

CHAPTER V
DISCUSSIONS

The drawback of this research is that the buy-and-hold abnormal return is used. Even though it best represents the behavior of investors, the buy-and-hold abnormal return allow the compounding since it employs geometric returns rather than arithmetic return. The magnitude of the number might be huge since it covers the consequences of two big economic crises: Tom Yum Goong Economic Crisis in 1997 and Subprime (Hamburger) Economic Crisis in 2008; however, it provides an apple-to-apple comparison as the same approach is applied throughout all studies and hypotheses testing. This implies that the comparisons make sense and reliable if the results turn out to be significant.

Most of the time, SEO firms experience a stock return underperformance vs. market's average. This is because investors perceive, regardless the characteristics, SEO as a negative signal. Besides, there are additional costs and complicated regulated processes in order to issue new securities, causing the costs of capital to be even higher. This explains why and answers my motivation of study.

In the future, there are many opportunities to work further to build on top of this research. First, there are several measures that can be used as a benchmark for abnormal return computation. The expected return can be referred from mean-adjusted, market-adjusted, market-model-adjusted, CAPM-adjusted, reference portfolios, matched firm approach and Fama-French three factor model. Using different benchmark expected return may give out new things or ideas about SEO in Thailand. Second, other approaches of event study may be applied to see the actual and more realistic abnormal return e.g. employing CAR instead of BHAR so as to see the implication of the outcomes. These two points play with the methodology applied to the study. However, there are more areas to explore. Third, the market liquidity can be restudied using diverse classification methods to see the impact of stock turnover on the SEO performance. The level of firms' liquidity can be dig down at a deeper level to see the

balance between the efficiency of short-term asset utilization and the keeping on such asset for SEO stock performance. Fourth, once there are more data available, the comparison of FSEO vs. SSEO for specific offering type can be re-evaluated as the current number of samples is relatively small. Last, it is also interesting to study different time frame e.g. study the SEO stock performance beyond 5 years like the research Allan and Soucik (2008) who find the turnaround point, or shift the time frame to exclude economic crisis i.e. Tom Yum Goong in 1997 and Subprime in 2008.

CHAPTER VI
CONCLUSIONS

Most of the time, the issuance of new securities in the Stock Exchange of Thailand particularly follows the researches and statistics in other leading markets. However, there are some hypotheses that cannot be tested due to data availability, and several of them do not have sufficient evidence to reject the null hypotheses. There are some good implications and interpretations from the previous chapter that should be highlighted for investors and firms that are going to issue new security on the way to optimize their SEO.

SEO, regardless of the event whether to use announcement or issuance date, gives a negative abnormal return to the stock performance of -0.6%, significance at 1%. The trend continues to the long-run. However, with the limitation of BHAR, the magnitude of long-term abnormal return might not be realistic; in reality, investor may cut losses before they realize a very low stock performance (lower than -100%). From empirical study, it can be concluded that investors are more proactive to the news announcement rather than the actual date firm distribute newly issued stocks.

Both PP and XRS have better performance vs. PO and XRW. However, XRS is the best when investors decide to buy the securities and hold them over the long-run. With statistical inference, XRS returns at -11.0% vs. -23.1% PP and -28.5% XRW for 1-year BHAR. In terms of industry analysis, Service and Financial Industries perform better than Industrial and Property & Construction Industries.

It is also summarized that the higher the offering dilution is, the lower the return will be. SEO's announced or issued during the Bull market gives higher return vs. those announced or issued during the Bear market during 6 months to 1 year. Nevertheless, it might not be logical to use long-run comparison to summarize the effects from stock market as there can be many factors impacting to the performances.

For PP, dividend-SEO has higher abnormal return versus non-dividend paying firm, but the results are opposite for XRS and XRW. Previous researches did not

study the detailed level of offering type, but the contradiction in rights offering to the previous study is supported by Pecking Order, Information Asymmetry and Irrelevancy Theories. No matter what the characteristics of SEO are, XRS has less negative return than that of XRW.

From Microstructure analysis, individual investors will buy the newly issued stocks from foreigners and institutional investors. All of the investors prefer PP rather than PO, XRS and XRW. There is no enough evidence to conclude that the secondary SEOs have higher abnormal return than that of primary SEOs for all offering types. Thai investors may perceive SEO indifferently; whether it is the first time or not, SEO is still a negative signal.

Liquidity plays a crucial role to identify the performance of SEO issuing firms. The firms with lower liquidity (as measured by quick ratio, current ratio, cash ratio, and cash conversion cycle) tends to perform worse. Firms need to attractively discount the SEO a lot to compensate for the risks investors have to bear, this contributes a lower return for firms with lower quick ratio. However, Market liquidity (as measured by stocks turnover: number of shares bought or sold per total number of shares outstanding) does not play significant effect in SET. Thai Stock Market is dominated by high stock turnover firms, accounting for >75%, which make other tertiles become statistically insignificant.

Smaller listed firms (the first tertile of market capitalization) perform better once they issue new stocks irrespective to SEO offering types. This contradicts with previous researches, but is supported by risk-return tradeoff theory, Gibrat's Law, Internal Finance Theory of Growth, and the potential to grow of the smaller firms.

Long-term study is defined as 5 years in this research. Under this window, the abnormal return is still negative. As the drawback of using BHAR was mentioned earlier, future study can cover the scope of changing benchmark market return calculation method, or can even explore longer event window.

Table 6.1 Summary of Results – Evidence from the Stock Exchange of Thailand

Hypothesis	Expected Outcome	Results
Impact of SEO	Announcement Date (-) Issuance Date (-)	Accept Note: The magnitude of impact is more on the announcement date rather than the issuance date
SEO Offering Type	PP > PO, XRS and XRW	Reject Note: XRS > PP > XRW > PO
Dilution Effect	Higher offering dilution gives more negative return	Accept
Market Effect (SET Index)	Bull > Bear	Inconclusive
Dividend Effect	Dividend-paying SEO firm > Non dividend-paying SEO firm	Inconclusive Note: Likelihood, PP: True and XRS & XRW: False
Rights Offering Type	XRW > XRS	Reject
Investor Type Impact (Microstructure)	Institutional Investors > Foreigners or Individuals	Inconclusive (Insufficient Information) Note: 1) Individuals are net-buyer, while institutions and foreigners are net-seller. 2) Investors prefer PP.
Primary vs. Secondary SEO	SSEO > FSEO	Inconclusive: Note: Likelihood, PO and XRS: True, PP and XRW: False
Firms' Liquidity Effect (Quick Ratio)	High > Low	Accept

Table 6.1 Summary of Results – Evidence from the Stock Exchange of Thailand (cont.)

Hypothesis	Expected Outcome	Results
Firms' Liquidity Effect (Current Ratio)	High > Low	Accept
Firms' Liquidity Effect (Cash Ratio)	High > Low	Accept
Firms' Liquidity Effect (Cash Conversion Cycle)	High > Low	Accept
Market's Liquidity Effect (Stock Turnover)	High > Low	Reject Note: Low > High
Firm Size Impact (Market Capitalization)	Large > Medium > Small	Reject Note: Small > Medium > Large
Long-term Study of SEO	Long-term > Short-term	Inconclusive Note: BHAR Bias may result in more negative stock return over the long-run. Need to study other approach or even longer window post SEO.
Table 6.1 summarizes all of the test results from all hypotheses. Some are True, some are false and some are inconclusive. Please be noted that this is the result of the Stock Exchange of Thailand during 1999 – 2014.		

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