



Stock Market Reaction to Dividend Change Announcement
in the Stock Exchange of Thailand

By

THANOMSRI JONGPRASERTPORN

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok Thailand

October, 2001

**Stock Market Reaction to Dividend Change Announcement
in the Stock Exchange of Thailand**

By

THANOMSRI JONGPRASERTPORN

A Thesis submitted in partial fulfillment
of the requirements for the degree of

Master of Business Administration

Examination Committee :

1. Dr. Ismail Ali Siad (Advisor)
2. Assoc. Prof. Dr. Navin Mathur (Member)
3. Dr. Theerachote Pongtaveewould (Member)
4. Dr. Thanawan Sangsuwan (MUA Representative)

[Handwritten signatures and initials]
218 <
*
Thanam Sangsuwan

Examined on : 4 October 2001

Approved for Graduation on :

Graduate School of Business
Assumption University
Bangkok Thailand
October 2001

ABSTRACT

Since the dividend is one of the determinants of shareholder's stock return, this research was designed to investigate whether the announcement of a dividend change affects stock return under different market conditions. Therefore, research hypotheses are constructed to study the association between dividend change and stock return based on different market conditions of bull market and bear market.

This research uses the standard event study method to examine the abnormal returns resulting from dividend change under different market condition and t-test to test significance of the constructed hypotheses. The data employed in the study are gathered on publicly traded companies, which announced dividend changes in bull market and bear market of 1993 and 1997, respectively. 116 dividend change announcements were taken in the bull market and 112 dividend change announcements of firms were taken in the bear market.

The analysis of the data indicates that, in bull market, there is no significant relationship between dividend change and stock return. This is consistent with the dividend irrelevant theory that investors are indifferent to dividend change. Besides, there is significantly negative association between dividend change and stock return in the bear market, implying that investors are pessimistic to dividend change. The empirical findings suggest that to increase shareholders' wealth the management should focus on investment on assets in the bull market and should keep stability of dividend policy in order to avoid negative consequence on firm's equity value in the bear market.

ACKNOWLEDGEMENT

I would like to express my deepest gratitude to Dr. Ismail Ali Said, my research advisor for his valuable suggestion and advice during the period of this study especially the way he let me think and control the research freely. I also indebted to Dr. Navin Mathur and Dr. Theerachote Pongtaveewould for their valuable comments which helped in shaping up this research to its present form.

I cannot forget how much I indebted to Dr. Wiyada Nittayagasetwat, for her kindness. She supported me with a lot of guideline and necessary data source for doing this research. Thank you very much for her cheerfulness at all times.

Sincere gratitude is also extended to Mr. Sompost Saelau for his valuable assistance during my data collection

I wish to express my appreciation to my friend, librarians in Assumption University, officials of Stock Exchange of Thailand, and also a number of people whom I do not name here. They provided me with the documents, books, and worth assistance related to my research study.

The last is the most sincere gratitude to my beloved family for their understanding, love, and for their endless moral support.

TABLE OF CONTENTS

	Page No.
ABSTRACT	i
ACKNOWLEDGEMENT	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
CHAPTER I: GENERALITIES OF THE STUDY	1
1.1 Background of the study	1
1.2 Statement of problem	2
1.3 Research objective	4
1.4 Scope of the study	4
1.5 Limitation of the study	5
1.6 Significance of the study	6
1.7 Definition of terms	6
CHAPTER II: LITERATURE REVIEW	10
2.1 Dividend theory	11
2.2 Type of dividends	13
2.3 Dividend payment policies	14
2.4 Information disclosure	15

2.5	Main literature reference	18
2.6	Empirical studies	20
CHAPTER III: RESEARCH FRAMEWORKS		35
3.1	Conceptual framework	35
3.2	Operationlization table of the variables	36
3.3	Hypothesis	38
CHAPTER IV: DATA AND RESEARCH METHODOLOGY		39
4.1	Data	39
4.1.1)	Data source	39
4.1.2)	Data collection	40
4.2	Data analysis	49
4.3	Diagnosis of statistical method	52
CHAPTER V: RESULT OF THE STUDY		56
5.1	Empirical results	57
5.2	Interpretation of the results	63
CHAPTER VI: CONCLUSIONS AND RECOMMENDATIONS		66
6.1	Summary of findings	66
6.2	Conclusions	68
6.3	Recommendations	70

APPENDICES

A.	Evolution of the Stock Exchange of Thailand (SET)	74
	A1) Introduction	74
	A2) Establishment of the Bangkok Stock Exchange	74
	A3) Establishment of the Sock Exchange of Thailand	75
B.	Roles of the Stock Exchange of Thailand	76
C.	Main Operations of the Stock Exchange of Thailand	77
D.	Trading system	78
	D1) Automated order matching (AOM)	78
	D2) Screen-based trading or put through (PT) transactions	78
	D3) Trading hours	79
	D4) Off-hours trading	79
E.	Growth performance	80
F.	Vision 2003	81
G.	Average abnormal returns (AAR) of dividend increases, dividend decreases, and all sample of dividend change announcements in bull market (1993)	82
H.	Average abnormal returns (AAR) of dividend increases, dividend decreases, and all sample of dividend change announcements in bear market (1997)	88

REFERENCES

LIST OF TABLES

TABLE	Page No.
Table2.1 The specific period for information disclosure	17
Table3.1 Operationalization table of the independent and dependent variables	36
Table4.1 Data source	39
Table4.2 The sample of dividend increase under bull market condition in year 1993	43
Table4.3 The sample of dividend decrease under bull market condition in year 1993	44
Table4.4 The sample of dividend increase under bear market condition in year 1997	46
Table4.5 The sample of dividend decrease under bear market condition in year 1997	47
Table5.1 Classified sample number of dividend change announcements during 1993 and 1997	56
Table5.2 Daily average abnormal returns, Cumulative daily average abnormal returns, and t-statistic values for dividend increases, dividend decreases, and all dividend change announcements over year 1993	58
Table5.3 Daily average abnormal returns, Cumulative daily average abnormal returns, and t-statistic values for dividend increases, dividend decreases, and all dividend change announcements over year 1997	60

LIST OF FIGURES

FIGURE	Page No.
Figure1.1 Set Index and Turnover of corporate securities	4
Figure3.1 Conceptual framework	35
Figure4.1 Set Index	40
Figure4.2 Market P/E Ratio	41



CHAPTER I

GENERALITIES OF THE STUDY

1.1 BACKGROUND OF THE STUDY

Investors, who participate in The Stock Exchange of Thailand (SET) fully hope to get higher return than their investment cost. But in the world of asymmetry information, who have the more information will have high possibility to make more right and more quickly decision making. One factor that can contribute the investors to get higher return is to pursue the stock market news or any news, which might affect to stock price change in order to use that news to support the decision making to sell or to buy the stock at the right time and get the higher return as a result.

Listed companies are responsible for publicly disclosing all materials that are important for investors' investment decisions. The Stock Exchange of Thailand (SET) has implemented a full disclosure policy, allowing investors to get accurate, adequate and timely information. The example of the listed companies' information that SET disclose to the public are financial statement, earning announcement (annually, semi-annually, and quarterly report), dividend announcement, trading volume, capital increase, stock split, or other some major event such as change in board of director, merger, acquisition, take over, etc. All of these information might be the useful transmission mechanic to signal the performance or the growth of the listed company in that period which will be reflected to the firm stock price.

Another news excluding from SET disclosure, which may affect to stock price changing also are the Thailand economic situation, world economic, market condition, and the political stability, etc.

Therefore, the major events and public disclosure information could probably affect the market stock reaction or investors may regard that information and serve them as the information-signaling device to access the firm's equity value at that present time.

1.2 STATEMENT OF PROBLEM

An investor can obtain two kinds of income from owning a share of stock. Firstly, income from price appreciation of the stock (or loss from price depreciation), which is sometimes called capital gains (or losses). Secondly, is income from cash dividend payment, which most corporations pay to common stockholders every year they can afford to do so.

The dividend is one of the determinants of the shareholder's stock return. Therefore, it is interesting to study whether dividend changes affect the stock returns or stock price adjustment or not. But the dividend may not be the only one factor that influences investor to invest in Thailand stock market. Market condition, macro economic, political situation, local reliability, or other events may be important also. For example, if firms make high dividend payments, but the market condition is bad (bear market), risk averse investors will be pessimistic about the future and will slow down their investment decision. On the other hand, if the market condition is bull market, the investor will be optimistic and willing to take risk.

Therefore, the researcher intends to investigate the stock market reaction to dividend changes under the different market condition in bull market and bear market condition in order to see whether market condition is the influencing factor to the relationship between stock returns and dividend change announcements.

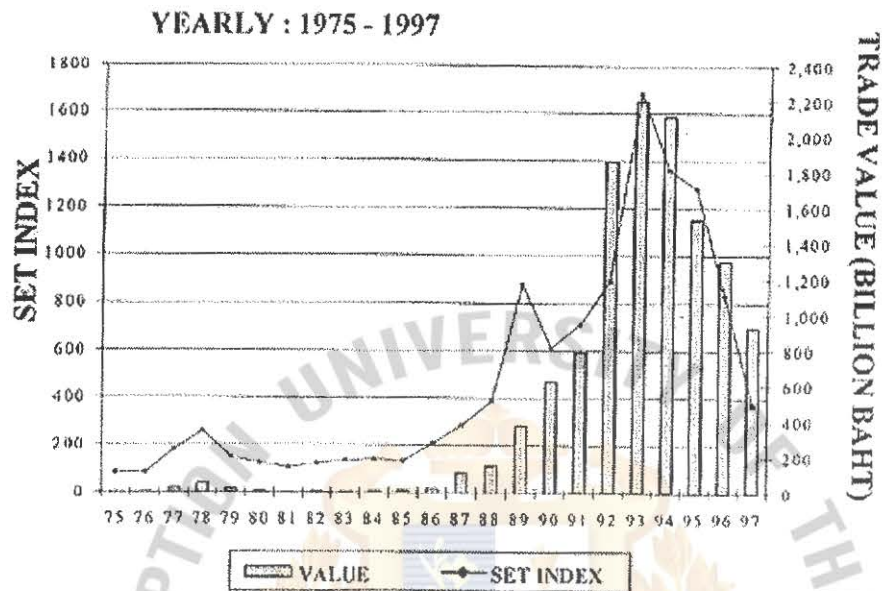
Moreover, most of the studies on the stock market were conducted in the United State of America (USA) due to many reasons. Firstly, USA is the biggest market in term of market capitalization. Secondly, there are a lot of investors. Lastly, USA stock market has been established long time ago and has developed until being accepted around the world as the original stock market for other countries.

Presently, The Stock Exchange of Thailand is in the early stages of its development process and improved its rules and regulations. The Securities and Exchange Commission (SEC) is established to play a supervisory and policy formulation role in the Thai capital market. There are many investor interesting to invest in this market more (both individual and institutional investor). However, there are still not many research studies on market condition and market behavior in Stock Exchange of Thailand. Especially there has been very little actual testing of the speed of adjustment of prices to specific kinds of information.

All the above of problems encouraged the researcher to take up the research. The statement of problem is that what is the relationship between stock returns and dividend changes under the bull market and bear market condition?

1.3 RESEARCH OBJECTIVE

Figure1.1 Set Index and Turnover of corporate securities



Source: Fact books at Stock Exchange of Thailand

The objective of this research is to investigate whether there is any association between dividend change announcement and the stock return in the Stock Exchange of Thailand under different market condition- the bull market in 1993 and bear market in 1997.

1.4 SCOPE OF THE STUDY

The study will be focused on the common stock in Stock Exchange of Thailand. To achieve the objectives of the study the data will be collected according to the following parameters:

- 1) **Sample:** Firms in the sample must have the regular dividend announcement in year 1993 (Bull market) and year 1997 (Bear market) and selected from all sectors in Stock Exchange of Thailand.
- 2) **Time:** One year prior 1993 and 1997 is needed in order to be the estimation period. Therefore the data period used is four years, which is year 1992, 1993, 1996, and 1997.

1.5 LIMITATION OF THE STUDY

The limitation for selection the sample are as following:

- 1) All stocks must have the dividend announcement date in 1993 and 1997
- 2) This study declares dividend changes as the dividend payment which is not equal to the previous payments level which composed of dividend increases, and dividend decreases by derived from comparing the amount of dividend payment with the prior payment (including annually, semi-annually, and quarterly dividend payment).
- 3) The announced dividends must be only regular dividend or cash dividend.
- 4) The researcher assumes the announcement date as the date that directors meet and declare the regular dividend.
- 5) There are no other concurrent firm specific events apart from the dividend announcement, such as capital increase, earning announcement, change in board of directors, merger, acquisition, and take over all the event periods of the study in order to reduce the impact of confounding events on the interpretation.
- 6) There is no Suspension trading “SP” sign history for the sample during the period of study 246 days (-244 through +3) in order to have no missing return.

- 7) The period of stock since listed in Stock Exchange of Thailand must equal or greater than 240 days (from day -244 to day -3 which is the estimation period) in order to calculate for alpha and beta more accurately.

1.6 SIGNIFICANCE OF THE STUDY

After the research completed, the researcher hopes that it will provide the benefit evidences to the following parties:

- 1) Dividend policy maker of the listed company in Stock Exchange of Thailand can use the result of this research as the guide for making the dividend policy.
- 2) This study will be the academic resource for the following researcher.

1.7 DEFINITION OF TERMS

In order to be clarify and understanding the term in this thesis, the researcher would like to define some term as follows:

Bull market¹: A market characterized by prolonged rises in stock prices and high trading volumes

Bear market¹: A market characterized by prolonged declines in stock prices and low trading volumes

¹ Glossary index of Stock Exchange of Thailand

Dividend¹: A share of company (or a mutual fund) profit distributed to holders of the company's common and preferred stocks (or the mutual fund unit) holders. A dividend on preferred stocks is normally at a fixed rate while a dividend on common stock depends on the company's annual performance. Dividends are determined by the company's board of directors and may be paid in cash or in kind of stock dividend

Remark: In this research will study only common stock which paid in cash dividend.

I-SIMS¹: Integrated-SET Information Management System (I-SIMS), an on-line system for retrieving and analyzing trading and listed companies' information in the SET's databases. It is available for subscribed members.

SET Index¹: A composite index calculated based on stock prices on the Main Board of the SET. It is a market capitalization weighted index which compares the current market value of all listed common stocks with the value on a base date of April 30, 1975, when the SET Index was first calculated and set at 100 points. Its calculation is adjusted in line with new listings, delistings, and capitalization changes.

$$\text{SET Index} = \frac{\text{Current market Value} \times 100}{\text{Base Market Value}}$$

¹ Glossary index of Stock Exchange of Thailand

Announcement date¹: Date on which a firm's directors issue a statement declaring a regular dividend and announce to the public, used in event studies.

Remark: In this thesis, the researcher assumes the board meeting date, which the meeting agenda is about the dividend payment to be as the announcement date.

Abnormal return (AR)²: Return on a stock beyond what would be predicted by market movements alone.

Cumulative average abnormal returns (CAAR)²: is the total average abnormal returns for the period surrounding an announcement or the release of information.

Beta (β)²: The measure of the systematic risk of a security. The tendency of a security's returns to respond to swings in the broad market.

Remark: Beta is the estimation of coefficient, or market model coefficient, which is the slope of Ordinary Least Square (OLS) graph.

Alpha (α)³: The abnormal rate of return on a security in excess of what would be predicted by an equilibrium model like CAPM or APT.

Remark: Alpha is the security's average rate of return, or market model parameter, which is the intercept x-axis in Ordinary Least Square (OLS) graph.

¹ Dickerson, B.; B. J., Camapsey; and E. F., Brigham, 1997, Introduction to Financial Management, The Dryden Press

² Bobie, Kane, Marcus, Investments, Forth Edition, McGraw-Hill, Inc.

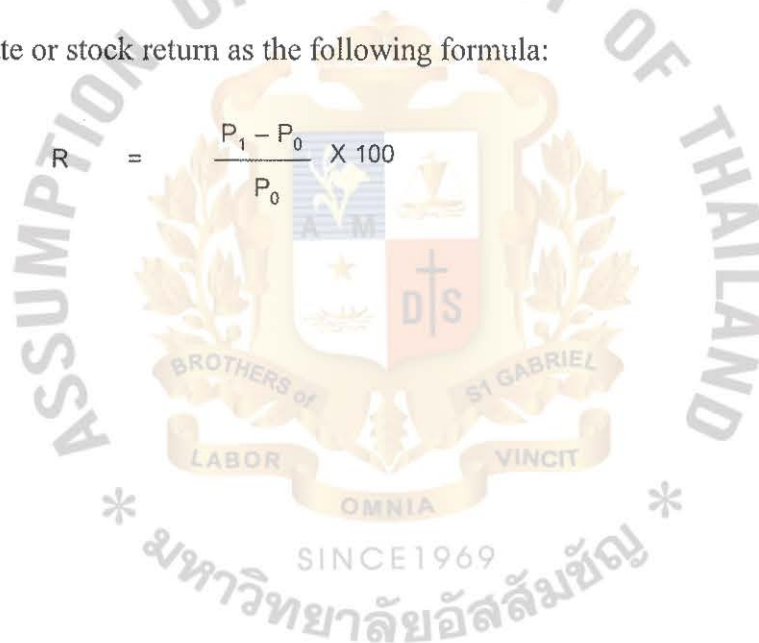
³ Francis, J. C., 1993, Management of Investment, Third Edition, McGraw-Hill, Inc.

Stock return¹: The sum of cash dividend payments and capital gains (or losses) equals the total change in invested wealth from the common stock investment during a given holding period. The rate of return formula is given in a form appropriate for a common stock investment

$$R = \frac{\text{Price change} + \text{Cash dividend (if any)}}{\text{Purchase price}}$$

Remark: In this thesis uses only capital (or losses) as the stock return, (which is equal to % change of closing price today and yesterday) because the value of dividend yield is so small. Therefore, the researcher define rate or stock return as the following formula:

$$R = \frac{P_1 - P_0}{P_0} \times 100$$



¹ Francis, J. C., 1993, Management of Investment, Third Edition, McGraw-Hill, Inc.

CHAPTER II

LITERATURE REVIEW

The theoretical issues that could affect dividend policy is the **Information Content (signaling) of dividends** which is the theory that stock price changes following dividend announcements simply reflect the fact that investors regard dividend changes as signals of management's earnings forecasts. It has been observed that an increase in the dividend is often accompanied by an increase in the price of stock, where as an unexpected dividend cut generally leads to a stock price decline. This suggests to some observers that investors like dividends more than capital gains. However, others argue differently. They state that corporations are always reluctant to cut dividends, so firms do not raise dividends unless they anticipate higher, or at least stable, earnings in the future. Thus, a dividend increase is a signal to investors that the firm's management forecasts good future earnings. Conversely, a dividend reduction signals that management is forecasting poor earnings in the future. Therefore, the price changes following a change in dividend policy may not reflect investors' preferences for either dividends or earnings growth, but may simply be a reflection of the important information regarding future earnings that is contained in the dividend announcement.

Another issue is the **Clientele Effect**, which believes that different groups, or clienteles, of stockholders prefer different dividend payout policies. Due to differences investors may have differences tax rate, and dividends are taxed more heavily for most investors than capital gains, and capital gains are not taxed until realized. Therefore, a corporation that pay less dividends will be more attractive to investors in high marginal tax brackets than corporation that pays high dividends.

Furthermore, this chapter clarifies the dividend theory, types of dividend, dividend payment policies, dividend payment procedure, and review related empirical studies respectively.

2.1 DIVIDEND THEORY

Due to some investors prefer high payouts but some investors prefer low payouts. **Frank K. Reilly & Keith C. Brown (1997)** classified three theories of investor preference as following:

2.1.1) Dividend Irrelevance Theory

It has been argued that dividend policy has no effect on either the price of a firm's stock or its cost of capital. If dividend policy has no significant effects, then it would be irrelevant. The principal proponent of the dividend **irrelevance theory** are **Merton Miller and Franco Modigliani (MM)**.¹ They argued that the firm's value is determined only by its basic earning power and its business risk. In other words, MM argued that the value of the firm depends only on the income produced by its assets, not on how this income is split between dividends and retained earnings.

In the conclusion of this theory is that dividends are irrelevant, investors don't care about payout. Even payout is higher, but stock price is the same. Investors are indifferent between dividends and retention-generated capital gains. If they want cash, they can sell stock. If they don't want cash, they can use dividends to buy stock.

¹ Merton H. Miler and Franco Modigliani, "Dividend Policy: Growth, and the Valuation of Shares. "Jounal of Business, October 1961, 411-433.

2.1.2) Bird-in-the-Hand Theory

From the MM's dividend irrelevance theory, the dividend policy does not affect the required rate of return on equity, k_s . **Myron Gordon and John Lintner**¹ argued MM's theory that k_s decrease as the dividend payout is increased because investors are less certain of receiving the capital gains which are supposed to result from retaining earnings than they are of receiving dividend payments. Investors value a dollar of expected dividends more highly than a dollar of expected capital gains because the dividend yield component, D_1/P_0 , is less risky than the g component in the total expected return equation, $k_s = D_1/P_0 + g$.

For this theory, investors prefer a high payout. Investors think dividends are less risky than potential future capital gains. Hence they like dividends, because they are not sure whether the higher risk in the future. Investors would value high payout firms more highly. They believe that the firms, which are high payout, would result in a high price (P_0). In other words is that the stock price of that firm will be high also.

¹ Myron J. Gordon, "Optimal Investment and Financing Policy," *Journal of Finance*, May 1963, 264-272, and John Lintner, "Dividends, Earnings, Leverage, Stock Prices, and the Supply of Capital to Corporations." *Review of Economics and Statistics*, August 1962. 243-269

2.1.3) Tax Preference Theory

For this theory, investors prefer a low payout. There are three tax-related reasons for thinking that investors might prefer a low dividend payout to a high payout.

- 1) For the wealthy investors, they have already paid high tax. So they don't like high dividend because they want to avoid tax. But they prefer retained earnings lead to capital gains, which are taxed at lower rates than dividends. Earning growth would presumably lead to higher stock prices, and thus lower-taxed capital gains would be substituted for higher taxed dividends.
- 2) Taxes are not paid on the gain until a stock is sold. Due to time value effects, a dollar of taxes paid in the future has a lower effective cost than a dollar paid today.
- 3) If someone holds a stock until he or she dies, no capital gains tax is due at all.

All the above tax advantages, investors may prefer to have companies retain most of their earnings. Investors would be willing to pay more for low-payout companies than for otherwise similar high-payout companies.

2.2 TYPE OF DIVIDENDS

Gitman, L. J., and M. D., Joehnk (1995) state that there are 2 types of dividends as follows:

- 1) **Cash dividend:** Payment of the dividend in the form of cash
- 2) **Stock dividend:** Payment of a dividend in the form of additional shares of stock

Normally, companies pay dividends in the form of cash, but sometimes they issue additional shares of stock. In this research considers only cash dividend.

2.3 DIVIDEND PAYMENT POLICIES (Dickerson, Campsey, and Brigham (1997))

Usually general corporations tend to use one of three major dividend payment policies as follows:

2.3.1) Constant, or Steadily increasing

Many firms set a specific annual cash dividend per share and then maintained it, increasing the annual dividend only if it seemed clear that future earnings would be sufficient to allow the new dividend to be maintained. The good reason for paying a stable dividend is that the existence of the information content, or signaling theory is given.

2.3.2) Constant payout ratio

Very few firms follow a policy of paying out a constant percentage of earnings every year. Following this policy, earnings surely will fluctuate. This policy is not likely to maximize a firm's stock price. Logic like this could drive any company to bankruptcy!

Most companies then establish a target payout based on the most likely set of conditions. The target will not be reached in every year, but over time the average payout will probably be close to the target level. The target would change if fundamental changes in the company's position occur.

2.3.3) Low regular dividends plus extras

A policy of paying a low regular dividend plus a year-end extra in good years is a compromise between a stable dividend and a constant payout rate. Such a policy gives the firm flexibility, yet investors can count on receiving at least a minimum dividend. Therefore, if a firm's earnings and cash flows are quite volatile, this policy may well be its best choice. The directors can set a relatively low regular dividend – low enough so that it can be maintained even in low profit years or in years when a considerable amount of retained earnings is needed, and then supplement it with an extra dividend in years when excess funds are available.

2.4 INFORMATION DISCLOSURE

2.4.1) Information Disclosure & Dissemination

Listed companies are responsible for publicly disclosing all materials that are important for investors' investment decisions. The SET has implemented a full disclosure policy, allowing investors to get accurate, adequate and timely information. This is to ensure market transparency and integrity. Disclosure is simultaneously transmitted by facsimile and on-line through the SET Information System.

2.4.2) Disclosure Procedure

To ensure equal access, any disclosure of material information must be made by the listed company at least one hour prior to the commencement of each trading session or after the close of the day's trading. There are two trading sessions, the morning trading session 10:00 a.m.-12:30 p.m. and the afternoon trading session 2:30 p.m.- 5:00 p.m.. Therefore, listed companies must submit their information:

- Before 9.00 a.m. for the morning trading session
- During 12:30 -1:30 p.m. for the afternoon trading session or
- Anytime from after 5:00 p.m. until 9:00 a.m. of the next morning for the following day's morning session.

2.4.3) Material Information

Vital information, which may affect the stock prices, investment decisions, or investor interests, must be disclosed within a specific period, according to the table below:



Table2.1 The specific period for information disclosure

1. Financial Statements <ul style="list-style-type: none"> • Unreviewed and unaudited financial statements 	<p>Within 30 days of the end of the accounting period. If a listed company decides to proceed, it shall consistently follow the same practice.</p>
<ul style="list-style-type: none"> • Reviewed quarterly financial statements (including consolidated statements if there are subsidiary companies) 	<p>Within 45 days of the end of each quarter.</p>
<ul style="list-style-type: none"> • Audited annual or semiannual financial statements (including consolidated statements, if there are subsidiary companies) 	<p>Within 3 months of the end of the accounting period. However, a listed company may elect to file audited or semiannual financial statements within 60 days, instead of filing the 2nd or 4th quarterly financial statements of these accounting periods. To do so, a listed company must give prior notice to the SET before such filings, and the notice must be within 30 days from the end of the accounting period.</p>
2. Annual Report	<p>Within 110 days of the end of the accounting period.</p>
3. Disclosure report of additional information (Form 56-1)	<p>Within 3 months of the end of the accounting period.</p>
4. Information on any operational and financial result which is price-sensitive and/or affects shareholder interests	<p>At least one hour prior to the trading session. If reported during the trading session, trading in that security will be posted with the H (Trading Halt) sign until the information is thoroughly disclosed to the public.</p>

2.5 MAIN LITERATURE REFERENCE

The study of **Eugene F. Fama, Lawrence Fisher, Michael C. Jensen and Richard Roll (FFJR, 1969)** is an inspiration for this thesis. FFJR examined the process of common stock prices adjust to the information that is caused by the announcement of stock splits in the New York Stock Exchange from January, 1927 through December, 1959, 940 sample splits. They examine separately splits that are associated with increased dividend, and splits that are associated with decreased dividends, and combine both splits as a whole.

“Increased” and “Decreased” dividends will be measured relative to the average dividends paid by all securities on the New York Stock Exchange during the relevant time periods. They employed Market Model Equation to calculate the Residual Term, Average Residual Term, and the Cumulative Residual Term for each particular stock, 30 months before and after Effective Date (split date).

After that analyses relationships by graphing the average residual term / cumulative residual term on the Y-axis and timing on the X-axis.

The result of the study shows that stock price is rapidly adjust to the split news both prior and after effective date. The stock splits have often been associated with substantial dividend increases. The evidence indicates that the market realizes this and uses the announcement of a split to re-evaluate the stream of expected income from the shares. The evidence suggests that in reacting to a split the market react only to its dividend implications. That is, the split causes price adjustments only to the extent that it is

associated with changes in the anticipated level of future dividends. Finally, there seems to be no way to use a split to increase one's expected returns, unless, of course, inside information concerning the split or subsequent dividend behavior is available.

Since **Brown and Warner (1985)** proved that using daily stock data depart more from normality than do monthly returns. Moreover, using daily data provides more accurate tests and reduces the confounding of other concurrent event than monthly data. Their researches have become the classical procedure for event studies which to investigate whether there are abnormal returns around announcement date. Therefore, in this thesis, the author uses daily stock returns instead of monthly stock return like **FFJR (1969)** study for abnormal return methodology.

Since **FFJR** examined the process of common stock prices adjust to the information that is caused by the announcement of stock splits in the New York Stock Exchange, but the author would investigate the announcement of dividend rather than the stock split. Because of in Thailand the stock split event occurs less while the dividend payment is often announced (annually, semi-annually, and quarterly). Therefore, it is interesting to study the relationship between the dividend change announcement and adjustment of stock price in Thailand stock market.

2.6 EMPIRICAL STUDIES

2.6.1) Signaling hypotheses

In the world of information asymmetry, if managers possess inside information about their firms' future prospects, they may use the "information content of dividends" to convey this information to the public.

In other word, the signaling hypothesis is that firms use dividends to signal asymmetric information, which induces a reassessment of the firm's expected future earnings and a simultaneous adjustment of share price.

Numerous academic studies have examined the 'information content of dividends' hypothesis. Mostly empirical evidence confirms the hypothesis that firms use dividends to convey information. Overall, prior event studies report results consistent with the view that dividend announcement contain information. But the study of **Miller and Modigliani (MM) (1961)** is against that claim. They develop irrelevant dividend theory. They argued that the value of the firm is independent of its dividend policy. The dividend irrelevance theory holds that dividend policy has no effect on either the price of a firm's stock or its cost of capital. They prove their position in a theoretical sense, but only under strict assumptions, some of which are clearly not true in the real world.

There are many empirical researches that found both positive and negative association between dividend change announcements and stock price changes as following:

a) Positive association between dividend changes and stock price changes

For the positive association between announcements of dividend changes and stock-price movements has been documented in the research of **Fama, Fisher, Jensen, and Roll (1969)**. They find that firms announcing stock splits accompanied by increases in cash dividends have a statistically significant, positive mean, risk-adjusted stock return during the announcement months, and those accompanied by dividend decreases have a significant negative return. The evidence indicates that on the average the market's judgments concerning the information implications of a split are fully reflected in the price of a share at least by the end of the split month but most probably almost immediately after the announcement date. Hence, the results of the study support the conclusion that the stock market is "efficient" because the stock prices can adjust very rapidly for the new information.

Pettit (1972) find that the mean risk-adjusted return for firms announcing dividend increases is significantly positive over the two days surrounding the announcement, and for those announcing dividend decreases the two-day return is significantly negative.

Watts (1973) investigates the relationship between dividend and future earnings and finds a weakly positive relation between unexpected earnings and dividend changes, and also concludes that current unexpected dividend changes convey information about future earnings changes. **Watts** used ordinary least square regressions to examine the relation between unexpected dividend and earnings changes. Since earnings releases have information content, his results indicate that dividend changes also have information content.

Aharony and Swary (1980) study whether quarterly dividend changes provide information beyond that already provided by quarterly earnings numbers. They were taken the sample of 149 industrial firms from New York Stock Exchange between 1963 through 1976 by using abnormal return methodology examined only those quarterly dividend and earnings announcements to public on different dates within any given quarter. They link between the signal and the market's reassessment of the stock. They provide evidence on the usefulness of both quarterly dividend and earnings announcements as signals of changes in future prospects of the firm. The evidence is consistent with the use of dividends as signals in that the market reacts positively to dividend increases and negatively to cut.

Divecha and Morse (1983) investigate whether dividend payout ratio changes affect stock price adjustments around dividend changes and find that firms simultaneously increasing dividends and decreasing payout ratio experience higher abnormal event period returns than firms that simultaneously increase both.

From the studies of **Dielman and Oppenheimer (1984)**, **Asquith and Mullin (1986)** show that around the announcement dates, dividend increases (decreases) generally lead to positive (negative) abnormal returns to stockholders. Investors use this evidence to view dividends as an information signaling device.

Manakyan and Carroll (1990) want to examine the reliability of dividend signals by determining if dividend signals are followed by changes in earnings in a direction consistent with the signal. Granger tests of causality and nonparametric tests are used to

examine dividend-earning relationship. Their results support the hypothesis that dividend signals are followed by unanticipated changes in earnings in the near term.

Firth (1996) tests whether the dividend change of one firm is associated with the stock price performance of other companies in the same industry with the total sample of 1115 observations from 1980-1991. The results of the study an unexpected dividend increase (decrease) for one firm tend to increased (decreased) stock returns for nonreporters. The dividend changes not only signal information about the future cash flows of the firm but they also signal valuation changes for other companies in the same industry. The magnitude of information transfer is positively related to the degree of the dividend surprise.

Alanger, Bathala, and Rao (1999) hypothesize that information content of dividend-change announcements can reflect stock prices, and directly related to the degree of pre-announcements information asymmetry in the stock. This hypothesis is tested over a sample of significant dividend-change announcements during fifteen-year period, 1967-90 from CRSP daily master tapes for New York Stock Exchange and American stock Exchange stocks. It includes initiations, large increase, large decreases, and omissions of at least 50 percent over the previous quarterly dividend. The hypothesis of dividend signaling implies that dividend-change announcements have greater information content when pre-announcement information asymmetry is higher. They test this hypothesis by using institutional ownership as a proxy for the degree of information asymmetry in the stock. They use the analysis of variance (ANOVA) and regression methodologies to test the hypothesis that the price reaction in response to dividend-change announcements would be significantly greater for stocks with lower institutional ownership than for stocks with higher institutional ownership. The overall evidence is

consistent with the hypothesis that the information content of dividend-change announcements is positively related to the degree of pre-announcement information symmetry in the stock.

Garrett and Priestley (2000) develop new behavioral model of dividend polity to show that dividends change and past changes in prices are proxy for current and future permanent earnings. Moreover, they develop a measure of permanent earnings by using Kalman filter over the period 1871 to 1997. They find significant evidence that dividends convey information regarding unexpected positive shocks to current permanent earnings. They also find evidence to support the hypothesis that information about expected changes in permanent earnings is already captured in lagged stock price changes.

b) Dividend initiation

Mitra and Owners (1995) examine the information of dividend initiation announcements across different firm-specific information environments. They test where the magnitude and volatility of security price reaction to a dividend initiation announcement are associated with the firm's information environment. A dividend initiation is defined as the first-time cash dividend payment in the firm's history. The sample was taken from the CRSP daily master between January 1976 and December 1987. The price reaction is defined as the magnitude of the 'event-period' mean standardized abnormal returns, while volatility is the variance of stock returns. Their results show that dividend initiation announcements are associated with highly significant abnormal returns. This association is much stronger for the 'low' information environment firms than for the 'medium/high' group, and in the market capitalization is the strongest proxy for the information environment.

c) Dividend cut/ omission

According to the information content of dividends hypothesis, a cut in the level of a common stock cash dividend has a negative implication regarding the corporations' future earnings prospects, therefore dividend decreases are an important issue for both managers and investors. **Rosenfeld (1983)** defined a "Dividend Cut" as a reduction in the annual dividend from its former level. Prior studies have shown that a dividend cut has a strong negative effect on the price of common stocks, and the firms are reluctant to cut dividends is well documented including among these studies

Lintner (1956) is general view of corporate dividend policy, he believes that dividend cuts hurt reputation. He frequently cited as evidence supporting this assertion. He suggests that the firms are reluctant to reduce dividends, then a split, which implies an increased expected dividend, is a signal to the market that the company's directors are confident that future earnings will be sufficient to maintain dividend payments at a higher level. If the market agrees with the judgments of the directors, the large price may increases in the months immediately before a split are due to altering expectations concerning the future earning potential of the firm rather than to any intrinsic effects of the split itself.

Later study of **Michaelsen (1961)** has indicated that, when dividends have been increased, large firms show great reluctance to reduce them, except under the most extreme conditions. Director have appeared to hedge against such dividend cuts by increasing dividends only when they are quite sure of their ability to maintain them in the future, or only when they feel strongly that future earnings will be sufficient to maintain the dividends at their new higher rate. Hence dividend changes may be assumed to

convey important information to the market concerning management's assessment of the firm's long run earning and dividend paying potential.

Similarly, **Ross (1977)** tests whether dividend changes have the potential to convey information. **Ross** indicated that the firm was bankrupt and managers were penalized. Their compensation are positively association with the market value of the firm, they could use leverage as a signaling. The signaling equilibrium relies on managerial aversion to increase leverage. Suppose the cost was low to do so, the managers who expected that the market value would be low. They might signal falsely and the value of the signal would drop to zero. Ross's signaling model shows that managerial reluctance to cut dividends. Managers' reluctance to cut dividends is a necessary condition for them to be able to signal using dividend payments.

Kalay (1980) want to refute the information content associated with the reluctance to cut dividends. **Kalay** tests the hypothesis that observed dividend reductions are not at the discretion of the management, but rather are forced reductions resulting from an existing and binding dividend constraint. Finally **Kalay** can not refute the informational content of dividend cut. **Kalay** provides evidence that dividend cuts convey information and suggests that managerial reluctance to cut dividends can be used as signals. Manager does not change dividend payments unless they have reasons to expect a significant change in the future prospects of the firm. Therefore, an increase in dividends should signal a favorable change in managers' expectations; where as a decrease in dividends should indicate a pessimistic view of the firm's future prospects. So manager tend to postpone decreases in dividend. The empirical observation that most firms follow a policy of dividend stabilization is consistent with the reluctance-to-change dividend assertion.

The empirical study of **Ghosh and Woolridge (1988)** focused on shareholder reaction to dividend cuts/omissions. They tested that stock market reaction to a dividend change is a function of its information content. A multiple regression model is formulated to identify the factors that contribute significantly to the capital loss suffered by shareholders when firms decide to cut/omit dividends. A standard event study technique is employed to measure the valuation effects of announcements of dividends cut or omissions. The sample was taken from all firms on the New York Stock and American Stock Exchanges that cut/omission dividends between 1962 and 1984. The results indicate that in conformity with the information content hypothesis, the announcement period capital loss induced by a dividend deduction significantly depends on the percentage change in dividends and the price performance of the firm's stock in the immediately preceding period. The result also reveals as the follows: Firstly, simultaneous announcements of poor earnings cause large capital losses. Secondly, prior announcements of loss/lower earnings, strikes, etc. reduce the negative impact of dividend cuts. Thirdly, the managerial reassurances that the dividend reduction is growth-motivated produce a weakly favorable effect. Finally, institution of stock dividends concurrently with the dividend cut significantly reduces the negative valuation effect.

DeAngelo, DeAngelo, and Skinner (1992) find the similar evidence that firms, which reduce or omit dividends often have the potential in poor performance during the year before omission. All firms with losses will reduce dividends, and have deeper earnings problems.

Impson (1997) compare the common share price reaction to dividend decrease announcements between public utilities and unregulated firms by using regressing

cumulative prediction errors from an event study methodology on firm characteristic. Forty-six dividend decrease and nineteen dividend omission announcements by public utilities from 1974 through 1993 from the source of the Dow Jones News Retrieval electronic database, the Center for Research in Security Prices database were taken to study. Dividend-decrease announcements by public utilities are hypothesized to produce stronger market reactions than those by unregulated firms. The evidence from this study also documents significantly stronger negative market responses to dividend-decrease announcements by public utilities compared with unregulated firms.

The studies of **Benartzi, Michaely, and Thaler (1997)** are consistent with Lintner's model on dividend policy that changes in dividends have information content about the future earnings of the firm.

d) Agency theory

Agency theory suggests that the dividend cut may cause a wealth transfer. Dividend cuts, which reduce leverage, will tend to lower common stock prices and raise the prices of unsecured senior securities via wealth-transfer effect. There are many evidences based on agency theory found that a stock price decline on announcement of a dividend cut/omission. For example, **Rozeff (1982)** make the evidence that since regular dividend payments force managers to raise capital in the market, they reduce agency cost of equity.

Where ownership and control are separated, conflicts of interest may occur between managers and shareholders. **Easterbrook (1984)** identifies two forms of agency

costs that may arise when managers fail to act as wealth-maximizing agents of shareholders

- costs of monitoring the managers
- costs associated with risk-averse managers choosing safer but less attractive projects.

Easterbrook indicates that both problems are mitigated if managers regularly go to the investment community to raise capital. Disclosures associated with raising external capital serve as powerful monitoring opportunities. Dividend policy plays an important role in this market-monitoring process. He concludes that since regular dividend payments force managers to raise capital in the market, they reduce agency costs.

Moreover, **Jensen (1986)** shows that the agency costs associated with managers wasting a firm's "free cash flow" on poor investments or other organizational inefficiencies and concludes that dividend payments can be effective in preventing this waste.

Impson (1997) said that dividend decreases might also signal increasing agency costs and loss of firm value. The evidence from this study shows that dividend-decrease announcements are expected to produce significantly strong market reactions. Dividend decrease may be disappointment to shareholders who prefer traditionally high yields, shareholders may strongly object to overinvestment in projects, no longer believed to be cost effective or safe, and lower dividends may result in higher agency costs. Dividend-decrease announcements by public utilities are hypothesized to produce stronger market reactions than those by unregulated firms because of a larger unexpected component in

the utility announcements, clientele effects of utility shareholders who prefer high yields, objection to overinvestment, and the possibility of rising agency costs.

In summary, a reduction in dividend payout generates internal funds for investment purposes, thereby reducing trips to the capital market and consequently increasing agency costs. Agency theory predicts a stock price decline on announcement of a dividend cut/omission.

e) Dividend signaling convey information about cash flows

There are numerous dividends signaling models predict that dividend changes convey information about cash flows; a dividend increase (decrease) conveys favorable (unfavorable) information about the current and/or future cash flows of the firm.

Lintner (1958), Fama and Babiak (1968) find a times-series relation between annual dividends and earnings that is consistent with the view that the firms will increase dividend-paying only when management is relatively confident that the higher payments can be maintained. If managers have information about future and/or current cash flows that investors do not have, investors will interpret a dividend increase as a signal that management anticipates permanently higher cash flows, and a dividend decrease as a signal that management expects permanently lower cash flows.

Bhattacharya (1979) adapted the signaling model for corporate dividend policy. He recommends that if stockholders have imperfect information about firms' profitability, and if there is a tax rate differential between capital gains and dividends, then dividends will be a proxy to signal the expected cash flows. If the signal increases with the

information disparity between managers and investors, firms with greater information disparities should pay higher dividends.

John and Williams (1985), Miller and Rock (1985) predicted that dividend announcements convey information about future and/or current cash flows, they examine theoretically of information transmission mechanism by which dividends can serve as signals.

John and Williams (1985) develop a signaling model where managers smooth dividends relative to stock prices, then extend the model to examine cases where corporate reputations and developed through repeated dividends, managers smooth dividends relative to cash flows. Their model states that the higher-quality firms signal their value by paying larger dividends. The dividend payment signals the firms true value, resulting in a higher stock price.

Miller and Rock (1985) found that unexpected dividends convey information about the firm's likely earnings that can provide strong theoretical justification for the information content of dividend. In **Miller and Rock's** signaling model, unexpected dividends are measured as the differences between actual and expected net dividends rather than cash dividends.

Kale and Noe (1990) formalizes idea that dividends may act as a signal of the systematic and unsystematic risk of the firm's cash flows. They indicated that the firms with more stable future cash flows pay a dividend at a higher rate.

2.6.2) Free cash flow hypothesis / Overinvestment hypothesis / Dividend clientele hypothesis

Jensen (1986) hypothesizes that free cash flow may be used to fund negative NPV projects. According to this overinvestment hypothesis, a firm with substantial free cash flows probably has a tendency to overinvest by accepting marginal investment projects with negative net present values. A dividend decrease by such a firm will signal that more negative NPV project will be undertaken, causing a decrease in firm value. Similarly, a dividend increase by a firm with free cash flow problems will reduce the extent of overinvestment and reduce the market's estimate of the amount of cash that will be wastefully invested, thereby causing an increase the market value of the firm. **Jensen** also provided evidence that firm with more growth opportunities has lower free cash flow and pay lower dividends. She uses the empirical evidence of a positive association between dividend-change announcement and stock price changes to support the free cash flow hypothesis.

Lang and Litzemberger (1989) suggest that a dividend change may convey information regarding a firm's future investments. They attempt to distinguish empirically between the cash flow signaling and overinvestment hypotheses by using Tobin's Q as an indicator of the expected profitability of future investment. They investigate the informational content of dividends in the framework of the principal-agent conflict model. They test the cash flow signaling and free cash flow/ overinvestment explanations of the impact of dividend announcements on stock price. They found that dividend change for overinvesting firms signal information about investment policies. If managers are overinvesting, an increase in the dividend will reduce the overinvestment and decrease the market value of the firm. While a dividend decrease signals that more negative-net-

present value projects will be undertaken. The results are also consistent with the cash flow signaling hypothesis if investors anticipate large dividend increases for the firms with average Q 's greater than unity.

Bajaj and Vijh (1990) suggest that the existence of dividend clienteles may partially explain price reactions to dividend change announcements. They use pre-announcement dividend yield as a proxy for anticipated yield and find that the magnitude of the stock price reaction to a dividend changes announcement is greater than the anticipated yield. They interpret this as evidence in favor of the dividend clientele hypothesis.

Denis, Denis, and Sarin (1994) reexamine the cash flow signaling, overinvestment, and dividend clientele hypothesis in order to explain for the information content of dividend change announcements. They control for standardized dividend change, dividend yield simultaneously and using a sample of 6,7000 large dividend changes over the period 1962-1988. The results show that announcement period excess returns are positively related to the magnitude of the standardized dividend change and to the level of dividend yield, but unrelated to Tobin's Q . They provide further evidence that update their forecasts of future earnings on the basis of the observed dividend change. And $Q < 1$ firms increase their capital expenditures following dividend increases and decrease them following dividend decreases. All of these finding are generally consistent with the implications of the cash flow signaling and dividend clientele hypotheses, but provide little support for the overinvestment hypothesis.

2.6.3) Thai Empirical Study

Anuwat J.(1986) who studied the relationship between dividend announcement and the market price of stocks in the Securities Exchange of Thailand. He applied the Market Model to find the weekly residual value in the given event period. The period of the study is between 1977 and 1979. The result of the study found that the dividend announcements don't affect the stock price in the Securities Exchange of Thailand significantly. During to the period of the study, the Securities Exchange of Thailand was not the computerized system yet, result in the limitation for the amount of trading volume. Additional, the institutional investor is not much like currently. In 1991, the Stock Exchange of Thailand replaced the traditional trading system to be fully computerized system (ASSET). As the result of Automated System for the Stock Exchange of Thailand (ASSET), efficiency and transparency of trading have greatly improved. Therefore it is interesting to study whether the dividend change announcement has the relationship with the stock return or not in the different time and different condition in Stock Exchange of Thailand. But the author uses the daily stock price instead of weekly stock price because it's more accurate test and prevent another concurrent firm specific event.

CHAPTER III

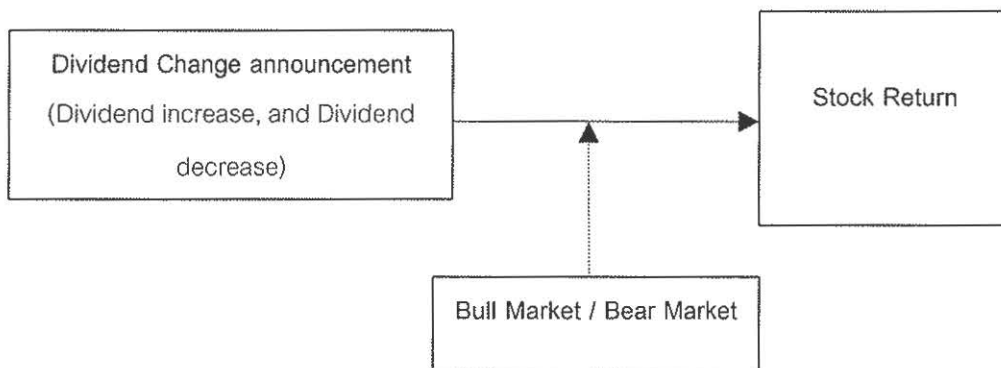
RESEARCH FRAMEWORKS

This chapter includes three parts. The first part presents the conceptual framework based on the concepts and theories of the prior empirical studies as referred in chapter II. The second part presents the operationalization table of dependent and independent variables. The third part presents the research hypotheses.

3.1 CONCEPTUAL FRAMEWORK

According to the prior empirical studies, there are many evidences consistent with the use of dividends as signals in that the market reacts positively to dividend increase and negative to dividend decrease. For example **Pettit (1972)**, **Dielman and Oppenheimer (1984)**, **Asquith and Mullin (1986)** show that the dividend increases (decreases) generally lead to positive (negative) abnormal returns to stockholders. Investors use this evidence to view dividends as an information-signaling device. All of those claims lead the author set the conceptual framework as follows:

Figure3.1 Conceptual framework



From the conceptual framework, the dependent variable is stock return, and the independent variables are dividend change announcement (dividend increase, and dividend decrease). The researcher also extends the scope of the study by setting the bull market and bear market condition as the determining variable.

3.2 OPERATIONLIZATION TABLE OF THE VARIALBES

Table3.1 Operationalization table of the independent and dependent variables

Variables to be tested	Operationlized by	Literature support
<u>Dependent variable</u>		
Stock return	<p>The rate of stock return used in this thesis is equal to the capital gain (or losses) which equal to % change of closing stock price today and yesterday</p> <p>Rate of return is defined as the following formula:</p> $R_{it} = \frac{P_1 - P_0}{P_0} \times 100$	<ul style="list-style-type: none"> - Lintner (1956) - Michaelsen (1961) - Pettit (1972) - Divecha and Morse (1983) - Dielman and Oppenheimer (1984) - Asquith and Mullin (1986) - Firth(1996) - Alanger, Bathala, and Rao (1999) - Impson (1997)

Variables to be tested	Operationlized by	Literature support
<u>Independent variables</u>		
Dividend change	The current of dividend payment is not equal to the previous payments level which may be increase or decrease.	<ul style="list-style-type: none"> - Lintner (1956) - Michaelsen (1961) - Pettit (1972) - Divecha and Morse (1983)
Dividend increase	An increased dividend payment in annually, semi-annually, and quarterly dividend comparing with its former level	<ul style="list-style-type: none"> - Dielman and Oppenheimer (1984) - Asquith and Mullin (1986) - Firth(1996)
Dividend decrease	An reduction dividend payment in annually, semi-annually, and quarterly dividend comparing with its former level	<ul style="list-style-type: none"> - Alanger, Bathala, and Rao (1999) - Impson (1997)
<u>Determining variables</u>		
Bull market	A market characterized by prolonged rises in stock prices and high trading volumes.	- Anuwat (1986)
Bear market	A market characterized by prolonged declines in stock prices and low trading volumes	

3.3 HYPOTHESIS

In this thesis, the researcher investigates the following two hypotheses.

H₀₁: There is no significant relationship between the announcement of dividend change (dividend increase or dividend decrease) and stock return under the bull market condition (1993) in Stock Exchange of Thailand.

H_{a1}: There is significant relationship between the announcement of dividend change (dividend increase or dividend decrease) and stock return under the bull market condition (1993) in Stock Exchange of Thailand.

H₀₂: There is no significant relationship between the announcement of dividend change (dividend increase or dividend decrease) and stock return under the bear market condition (1997) in Stock Exchange of Thailand.

H_{a2}: There is significant relationship between the announcement of dividend change (dividend increase or dividend decrease) and stock return under the bear market condition (1997) in Stock Exchange of Thailand.

CHAPTER IV

DATA AND RESEARCH METHODOLOGY

4.1 DATA

4.1.1) Data Source

In studying the stock market responses to the dividend change announcement, the secondary data are gathered from the several sources as follows:

Table4.1 Data source

Data	Source
<ul style="list-style-type: none"> - Dividend announcement date and amount of payment - Daily closing price of each security for finding the daily stock return - Daily closing price of SET Index for finding the daily market return - Major event or news about capital increase, merger, acquisition, change in board of director, or take over 	<ul style="list-style-type: none"> - Integrated-SET Information Management System (I-SIMS) CD-ROM and; - Data request from Stock Exchange of Thailand (SET)

4.1.2) Data Collection

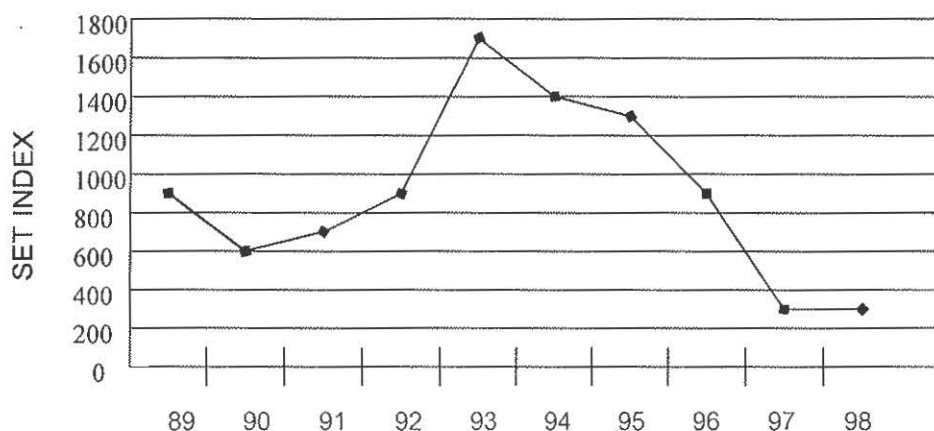
This thesis has the objective to investigate the relationship between dividend change announcements and the stock return in the Stock Exchange of Thailand under the different market condition which is the Bull market (1993) and Bear market (1997). Hence, first of all the author has to consider which year is the bull market and bear market, finally the author has chosen year 1993 as the bull market and year 1997 as the bear market due to these following reasons:

- 1) In 1993 is considered to study as the bull market. Due to bull market is characterized by prolonged rises in stock prices and high trading volumes. Additionally, considering from the graph of Set Index is very high during 1993 (see **Figure4.1**). Finally, Price/Earnings (P/E) ratio in Stock Exchange of Thailand during 1993 is very high also (see **Figure4.2**).

All the above reasons support the selection of year 1993 as the bull market for studying.

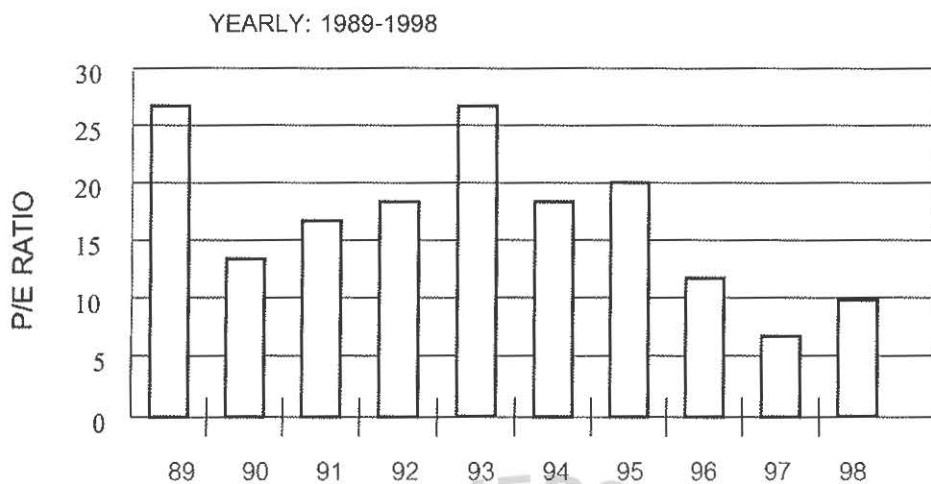
Figure4.1 Set Index

YEARLY: 1989-1998



Source: Fact books at Stock Exchange of Thailand

Figure4.2 Market P/E Ratio



Source: Fact books at Stock Exchange of Thailand

- 2) In 1997 is considered to study as the bear market. Due to bear market is characterized by prolonged declines in stock prices and low trading volumes. Additionally, the trend of Set Index sharply declines during 1997 (see **Figure4.1**). Finally, Price/Earnings (P/E) ratio in Stock Exchange of Thailand during 1997 is very low (see **Figure4.2**).

All the above reasons support the selection of year 1997 as the bear market for studying.

The criteria for sample selection

- 1) All the firms in the sample must be listed on the Stock Exchange of Thailand.
- 2) All firms must have the dividend announcement date in 1993 and 1997
- 3) In order to reduce the impact of confounding event, firms that have another concurrent announcements in the period of event time will be eliminated.

- 4) The firms must not have the suspension trading “SP” sign history during 244 days before announcement date and three days after announcement date.

The study assumes the board meeting date, which the meeting agenda is about paying dividend as the dividend announcement date. Therefore, the sample includes the firms that have the board meeting date which the meeting agenda is about dividend payment in 1993 and 1997 including quarterly, semi-annually, and annually operation period. Hence one firm may appear in the sample more than one time.

The number of sample that was taken from above criteria is 386. The next sample-filtering step is to eliminate the sample, which has another concurrent firm specific event such as capital increase, earning announcement, change in board of directors, take over, merger, or acquisition during two days before and three days after announcement date. The last sample-filtering step is to eliminate the sample, which has the SP (suspension of trading) sign in history in 244 days before and three days after announcement date.

Additional, the sample was classified in to 3 groups, which are dividend increase, dividend decrease, and dividend stable by comparing from the amount of dividend payment with the prior payment level. The total sample of dividend increase is 59, the total sample of dividend decrease is 169, and the total sample of dividend stable is 34. But the dividend stable was ignored, due to this study would like to test only whether dividend change (increase, or decrease) affects to the stock price or not.

Finally, the total sample is 228, then the author separates the sample in to dividend increase, decrease, and combining all dividend change announcements in bull market

(1993), and bear market (1997) respectively in order to test hypothesis further. The number of dividend increase in bull market condition (1993) is 50 as shown in **Table4.2**

Table4.2 The sample of dividend increase under bull market condition in year 1993

No.	Security symbol	Announcement date
1	TIG	11-Jan-93
2	TISCO	5-Mar-93
3	SCCC	12-Mar-93
4	AYUD	15-Mar-93
5	TCMC	18-Mar-93
6	IEC	19-Mar-93
7	INSURE	26-Mar-93
8	DS	1-Apr-93
9	SUE	2-Apr-93
10	AST	5-Apr-93
11	TASCO	5-Apr-93
12	BH	7-Apr-93
13	KARAT	9-Apr-93
14	SGF	15-Apr-93
15	ALUCON	16-Apr-93
16	ASL	20-Apr-93
17	BSI	20-Apr-93
18	TWFP	20-Apr-93
19	KKI	21-Apr-93
20	YCI	21-Apr-93
21	SCIB	21-Apr-93
22	UPF	22-Apr-93
23	SAWANG	23-Apr-93
24	UPOIC	23-Apr-93
25	TCB	23-Apr-93
26	TPCORP	26-Apr-93
27	WACOAL	26-Apr-93
28	BOA	26-Apr-93
29	MODERN	27-Apr-93
30	NC	27-Apr-93
31	NAVA	27-Apr-93
32	KCE	28-Apr-93
33	SUN	28-Apr-93
34	DVS	28-Apr-93
35	CHOTI	28-Apr-93
36	RHC	29-Apr-93
37	NKI	29-Apr-93
38	SST	29-Apr-93

39	FE	29-Apr-93
40	LH	29-Apr-93
41	TOPP	29-Apr-93
42	UNIVES	29-Apr-93
43	BFIT	29-Apr-93
44	TGCI	30-Apr-93
45	MATI	30-Apr-93
46	RCL	30-Apr-93
47	ASTL	30-Apr-93
48	CSC	4-May-93
49	TWP	13-May-93
50	JUTHA	28-Oct-93

The number of dividend decrease in bull market condition (1993) is 66 as shown in Table4.3

Table4.3 The sample of dividend decrease under bull market condition in year 1993

No.	Security symbol	Announcement date
1	TTL	27-Jan-93
2	TR	29-Jan-93
3	P-FCB	11-Feb-93
4	SICCO	25-Feb-93
5	UNITED	2-Mar-93
6	TPP	15-Mar-93
7	FBCB	18-Mar-93
8	TMB	26-Mar-93
9	SCB	29-Mar-93
10	SCC	30-Mar-93
11	MFC	31-Mar-93
12	PATKOL	31-Mar-93
13	TC	2-Apr-93
14	SH	7-Apr-93
15	TSTE	8-Apr-93
16	GEL	8-Apr-93
17	GF	15-Apr-93
18	TVO	15-Apr-93
19	AJ	16-Apr-93
20	DCC	16-Apr-93
21	PRANDA	16-Apr-93
22	VARO	16-Apr-93
23	HT	16-Apr-93
24	PHA	19-Apr-93

25	AHC	19-Apr-93
26	AMARIN	20-Apr-93
27	UF	21-Apr-93
28	UT	21-Apr-93
29	TFC	22-Apr-93
30	FFT	22-Apr-93
31	JCC	23-Apr-93
32	IFCT	23-Apr-93
33	PDI	23-Apr-93
34	BJC	27-Apr-93
35	TF	27-Apr-93
36	ONONO	27-Apr-93
37	POST	27-Apr-93
38	SOMPR	27-Apr-93
39	O-LAP	27-Apr-93
40	MORKOT	27-Apr-93
41	DTM	28-Apr-93
42	PE	28-Apr-93
43	MK	28-Apr-93
44	TGP	29-Apr-93
45	CPH	29-Apr-93
46	SMC	29-Apr-93
47	CMBT	29-Apr-93
48	NFS	29-Apr-93
49	SC	29-Apr-93
50	KK	29-Apr-93
51	MALEE	29-Apr-93
52	TFI	29-Apr-93
53	MCC	29-Apr-93
54	UMI	29-Apr-93
55	DTCI	29-Apr-93
56	HTX	30-Apr-93
57	SPP	30-Apr-93
58	TNPC	30-Apr-93
59	ASIA	30-Apr-93
60	BGH	30-Apr-93
61	JUDIS	30-Apr-93
62	NSTAR	30-Apr-93
63	TTI	30-Apr-93
64	TYONG	30-Jul-93
65	TPC	27-Aug-93
66	SINGER	28-Oct-93

The total number of all dividend change announcements combining the sample of dividend increases and dividend decreases under bull market condition in year 1993 are 116 observations.

The number of dividend increase in bear market condition (1997) is 9 as shown in **Table4.4**

Table4.4 The sample of dividend increase under bear market condition in year 1997

No.	Security symbol	Announcement date
1	FANCY	28-Mar-97
2	TPA	1-Apr-97
3	CFRESH	2-Apr-97
4	DELTA	9-Apr-97
5	SUN	18-Apr-97
6	MATI	18-Apr-97
7	SC	25-Apr-97
8	CHOTI	30-Apr-97
9	TF	30-Apr-97

The number of dividend decrease in bear market condition (1997) is 103 as shown in **Table4.5**

Table4.5 The sample of dividend decrease under bear market condition in year 1997

No.	Security symbol	Announcement date
1	TTL	23-Jan-97
2	METCO	24-Jan-97
3	IRC	27-Jan-97
4	TIG	28-Jan-97
5	KYE	29-Jan-97
6	INSURE	28-Mar-97
7	SMG	31-Mar-97
8	NIPPON	31-Mar-97
9	TVO	31-Mar-97
10	TFI	1-Apr-97
11	NPC	2-Apr-97
12	TCJ	2-Apr-97
13	BKI	3-Apr-97
14	NTV	3-Apr-97
15	SAMCO	9-Apr-97
16	BAT-3K	11-Apr-97
17	RAM	11-Apr-97
18	JCT	18-Apr-97
19	OGC	18-Apr-97
20	PATO	18-Apr-97
21	KWC	18-Apr-97
22	HT	18-Apr-97
23	RENOWN	18-Apr-97
24	TLI	18-Apr-97
25	MODERN	21-Apr-97
26	ASIMAR	21-Apr-97
27	SITHAI	22-Apr-97
28	MAKRO	23-Apr-97
29	SAWANG	23-Apr-97
30	AHC	23-Apr-97
31	TAG	23-Apr-97
32	WG	23-Apr-97
33	PP	23-Apr-97
34	UST	24-Apr-97
35	CPNE	24-Apr-97
36	APC	24-Apr-97
37	CIT	24-Apr-97
38	JASMIN	24-Apr-97
39	LPN	24-Apr-97
40	SAMART	24-Apr-97
41	TASCO	24-Apr-97
42	BGH	24-Apr-97
43	BKP	24-Apr-97
44	GYT	24-Apr-97

45	UPOIC	24-Apr-97
46	CENTEL	24-Apr-97
47	CPF	24-Apr-97
48	OHTL	24-Apr-97
49	AJ	24-Apr-97
50	IFEC	25-Apr-97
51	CPI	25-Apr-97
52	APRINT	25-Apr-97
53	CTW	25-Apr-97
54	PYT	25-Apr-97
55	WFC	25-Apr-97
56	TIW	25-Apr-97
57	DRACO	25-Apr-97
58	FE	25-Apr-97
59	RCL	25-Apr-97
60	BIGC	25-Apr-97
61	PG	28-Apr-97
62	CHARAN	28-Apr-97
63	NSI	28-Apr-97
64	ROH	28-Apr-97
65	TMD	28-Apr-97
66	STC	28-Apr-97
67	BNC	28-Apr-97
68	LOXLEY	28-Apr-97
69	PTTEP	28-Apr-97
70	TNL	28-Apr-97
71	ASTL	28-Apr-97
72	DTCI	28-Apr-97
73	ROBINS	28-Apr-97
74	SPC	28-Apr-97
75	CPN	28-Apr-97
76	SPI	28-Apr-97
77	TGI	29-Apr-97
78	NATION	29-Apr-97
79	YCI	29-Apr-97
80	ASIAN	29-Apr-97
81	SSSC	29-Apr-97
82	MK	29-Apr-97
83	TWFP	29-Apr-97
84	EGCOMP	29-Apr-97
85	S&P	29-Apr-97
86	SE-ED	29-Apr-97
87	TRU	29-Apr-97
88	UGP	29-Apr-97
89	RGP	29-Apr-97
90	TWC	29-Apr-97
91	BJC	30-Apr-97

92	TCI	30-Apr-97
93	MEC	30-Apr-97
94	KT	30-Apr-97
95	KWH	30-Apr-97
96	CWT	30-Apr-97
97	SCC	30-Apr-97
98	UMW	30-Apr-97
99	UV	30-Apr-97
100	PR	30-Apr-97
101	TCCC	30-Apr-97
102	HANA	30-Apr-97
103	IEC	30-Apr-97

The total sample of dividend change announcements, which include the sample of dividend increases, and dividend decreases under bear market condition in year 1997 are 112 observations.

4.2 DATA ANALYSIS

After the sample were selected according to the sample selection criteria. Then, it will be further investigated whether there are abnormal returns around the announcement date by using the event study methodology. The researcher uses the standard event study of **Brown and Warner (1985)** as the methodology reference in order to find out the excess stock return around the announcement date. Because the research of Brown and Warner is the classical study for using daily data relies on the use of mean adjusted returns by show this method to be as good as the market model in detecting abnormal daily returns.

The researcher would like to investigate whether there is excess stock returns in various event intervals surrounding announcement date due to the affect of dividend change. According to the information disclosure's regulation of the listed companies

about dividend payment claim that after board of directors have the meeting about dividend payment. Board of directors must inform the resolution about the dividend payment, amount of dividend payment to SET on that meeting date or before 9.00 am of next morning trading session. Hence, The researcher designates event period in to three intervals, which day 0 to day +1 is the “announcement period” whereas day 0 is assumed to be the announcement date. Day -2 to day -1 is designated as the “pre announcement period, and day +2 to day +3 is the “post announcement period. In additional, 240 days (-244 through -3) before announcement date is designated as the “estimation period” used to estimate the value of alpha and beta.

The study of relationship between dividend change announcement and stock return is reflected from the **Abnormal Returns (AR)**, which is the difference between actual return and expected return of the security. **Abnormal Returns** is calculated by using **Market Model** as the following formula.

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt})$$

Where AR_{it} = Abnormal returns of security i at day t

R_{it} = Actual daily return of security i at day t

R_{mt} = Daily market return on the SET market capitalization weighted index at day t

α_i and β_i = Alpha and beta estimated via least squares regression over the estimation period (-244 through -3)

The expected return of the security can be defined as $(\alpha_i + \beta_i R_{mt})$

Ordinary Least Squares (OLS) is the most used regression estimation technique.

In this thesis OLS is used to estimate the value of **alpha** (α) and **beta** (β) over the estimation period (-244 through -3) as the following equation.

$$\beta_i = \frac{\overline{\Sigma(R_{it} - R_i) (R_{mt} - R_m)}}{\overline{\Sigma(R_{mt} - R_m)^2}}$$

$$\alpha_i = \overline{R_i} - \beta_i \overline{R_m}$$

Where β_i and α_i = Beta and Alpha of security i

R_{it} = Daily stock return of security i at day t

$\overline{R_i}$ = Average daily stock return of security i

R_{mt} = Daily market return at day t

$\overline{R_m}$ = Average daily market return

Next the **Average Abnormal Returns (AAR_t)** are computed by using **Simple Average** as following formula.

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it}$$

Where AAR_t = Average abnormal returns at day t

AR_{it} = Abnormal returns of security i at day t

N = Number of security

Finally the **Cumulative Average Abnormal Returns** ($CAAR_{T1,T2}$) are calculated in order to see whether there is excess returns response to dividend change announcement over the event period or not.

$$CAAR_{T1,T2} = \sum_{t=T1}^{T2} AAR_t \quad \text{or} \quad = AAR_{T1} + AAR_{T2}$$

Where $CAAR_{T1,T2}$ = Cumulative average abnormal returns at $T1$, and $T2$

AAR_{T1} = Average abnormal returns at $T1$

AAR_{T2} = Average abnormal returns at $T2$

4.4 DIAGNOSIS OF STATISTICAL METHOD

After the cumulative average abnormal return is calculated for each classified set of data (dividend increase, decrease, and total of dividend change under bull market (1993), and bear market (1997) respectively. The last methodology is the hypotheses testing by using statistical test.

t-test statistic under two tail test is used for hypothesis testing in order to investigate whether cumulative average abnormal returns (CAAR) of each classified set of data in the event period is significant and different from zero or not.

Next, **Standard Deviation of Average Abnormal Return** ($S(AAR_t)$) is computed in order to use for calculating t-test statistic as a result. $S(AAR_t)$ is computed over estimation period (day -244 through -3) according to the following formula.

$$S(AAR_t) = \sqrt{\frac{\sum_{t=-244}^{t=-3} (AAR_t - \overline{AAR})^2}{t-1}}$$

Where $S(AAR_t)$ = Standard deviation of average abnormal returns

AAR_t = Average abnormal returns at day t

\overline{AAR} = Mean of average abnormal returns

t = Number of day in estimation period

Lastly, the formula for computing the value of “ t ” calculation (t_{cal}) is defined as follow:

$$t_{cal} = \frac{CAAR_{T1,T2}}{S(AAR_t) \times \sqrt{t}}$$

Where t_{cal} = t calculation

$CAAR_{T1,T2}$ = Cumulative average abnormal returns at $T1$, and $T2$

$S(AAR_t)$ = Standard deviation of average abnormal returns

t = Number of day in event period

The result of testing will be **rejectd** the null hypothesis when “ t ” calculation (t_{cal}) is equal or greater than “ t ” table (t_{tab}), and when t_{cal} is equal or less than t_{tab} .

There are two null hypotheses that will be tested in this thesis, which are as follows:

H₀₁: There is no significant relationship between the announcement of dividend change (dividend increase or dividend decrease) and stock return under the bull market condition (1993) in Stock Exchange of Thailand.

$$H_{01}: CAAR_{T1,T2} = \sum_{t=T1}^{T2} AAR_t = 0$$

If the null hypothesis is **accepted**, it implies that there is no significant relationship between the dividend change announcements (dividend increases, or dividend decreases) and stock returns under the bull market condition (1993) in Stock Exchange of Thailand.

But if the null hypothesis is **rejected** or cumulative average abnormal returns are significant and different from zero. It implies that dividend change can influence significant abnormal returns during bull market condition or there is significant relationship between the dividend change announcement (dividend increase, or dividend decrease) and stock return under the bull market condition (1993) in Stock Exchange of Thailand.

H₀₂: There is no significant relationship between the announcement of dividend change (dividend increase or dividend decrease) and stock return under the bear market condition (1997) in Stock Exchange of Thailand.

$$H_{02}: CAAR_{T1,T2} = \sum_{t=T1}^{T2} AAR_t = 0$$

If the null hypothesis is **accepted**, it implies that there is no significant relationship between the dividend change announcements (dividend increases, or dividend decreases) and stock returns under the bear market condition (1993) in Stock Exchange of Thailand.

But if the null hypothesis is **rejected** or cumulative average abnormal returns are significant and different from zero. It means that dividend change can influence significant abnormal returns during bear market condition or there is significant relationship between the dividend change announcements (dividend increases, or dividend decreases) and stock returns under the bear market condition (1993) in Stock Exchange of Thailand.



CHAPTER V

RESULT OF THE STUDY

As this research intends to investigate whether stock prices adjust to the information that is caused by the dividend change announcements in Stock Exchange of Thailand or not. In addition, the research is also examined whether the market condition is an important factor to influence the different stock market reaction response to dividend change announcement. Hence, two hypotheses investigating the stock market reaction to dividend change announcement are constructed base on different market condition.

Then, the sample was taken from all listed companies over all sectors in year 1993 (bull market) and 1997 (bear market). After researcher classified sample following the sample criteria in chapter IV. Then the sample included in this study are shown in **Table 5.1**

Table 5.1 Classified sample of dividend change announcements in 1993 and 1997

Data group	Number of sample	
- Dividend increase announcements in year 1993	50	116
- Dividend decrease announcements in year 1993	<u>66</u>	
All dividend change announcements in year 1993		
- Dividend increase announcements in year 1997	9	112
- Dividend decrease announcements in year 1997	<u>103</u>	
All dividend change announcements in year 1997		
Total		<u>228</u>

The portfolio of all dividend change announcements over year 1993, and year 1997, which composed of dividend increases and dividend decreases, were conducted for investigating the hypothesis 1, and hypothesis 2, respectively.

The first hypothesis is examined whether the stock returns have a significant effect on announcement of dividend change under the bull market condition (1993). For the second hypothesis is investigated whether the stock market reaction significantly response to dividend change announcement under bear market condition (1997). The abnormal returns surrounding the announcement date can access the stock market reaction on the news release of dividend change. Then the cumulative average abnormal returns (CAAR) are calculated by summarized the daily average abnormal return (AAR_t) within the event time. Finally, t-statistic is utilized in order to examine whether there are significant excess returns different from zero around the dividend change announcements, which use to interpret the relationship between stock price and dividend change announcement.

5.1 EMPIRICAL RESULTS

Of major concern to this study are the abnormal returns in the event period surrounding the announcement date. The standard event study method was employed to find out the abnormal returns surrounding dividend announcements date. Afterthat the cumulative average abnormal returns within the event time are computed in order to use for testing the hypotheses by using t-statistic further. The estimation period used for calculating standard deviation of average abnormal return and beta covers 240 days

period from 244 days to 3 days before announcement date. The result of testing the first hypothesis reveals in **Table 5.2**

Table 5.2 Daily Average abnormal returns, Cumulative daily average abnormal returns, and t-statistic values for a sample of 50 dividend increase announcements, 66 dividend decrease announcements, and 116 all dividend change announcements over year 1993

Panel A						
Date in Event Time	Dividend Increases		Dividend Decreases		All dividend Changes	
	AAR _t (%)	t-statistic	AAR _t (%)	t-statistic	AAR _t (%)	t-statistic
+3	-1.734	-0.846	-0.029	-0.015	-0.764	-0.512
+2	-0.722	-0.352	-1.356	-0.704	-1.083	-0.725
+1	-0.572	-0.279	-1.534	-0.796	-1.119	-0.750
0	-1.736	-0.847	-1.096	-0.569	-1.372	-0.919
-1	-0.779	-0.380	-1.466	-0.761	-1.170	-0.784
-2	-1.168	-0.570	-1.373	-0.713	-1.285	-0.861

Panel B						
Period in Event Time	Dividend Increases		Dividend Decreases		All Dividend Changes	
	CAAR (%)	t-statistic	CAAR (%)	t-statistic	CAAR (%)	t-statistic
Pre announcement period (-2 to -1)	-1.947	-0.672	-2.840	-1.043	-2.455	-1.163
Announcement period (0 to +1)	-2.308	-0.796	-2.630	-0.966	-2.491	-1.180
Post announcement period (+2 to +3)	-2.456	-0.847	-1.385	-0.509	-1.847	-0.875

Note: Day 0 is assumed to be announcement date. AAR_t is daily average abnormal returns. CAAR is cumulative daily average abnormal returns over event interval. While t-statistic is the associated test statistic that CAAR is significantly different from zero (two-tail test)

Results in **Table 5.2 (Panel A)** indicates that all daily average abnormal returns of dividend increase, dividend decrease, and all sample of dividend change are statistically negative insignificant for 2 days prior announcement date, 3 day after announcement date, and day 0 which is the announcement date. It implies that there are no significant excess returns responses to dividend change announcement neither dividend increases nor dividend decreases under bull market condition. The results from **Table 5.2 (Panel B)** also confirm that implication because the cumulative daily average abnormal returns in the interesting event time of prior announcement period, announcement period, and post announcement period are predominantly insignificant at 1 percent level, 5 percent level, or even 10 percent level.

As you can see from the Table 5.2 (Panel B) that there are no statistically significant market reactions to dividend change announcements. Because the CAAR of pre event period (-2 to -1) is -2.455% with t-statistic value of -1.163. CAAR of announcement period (0 to +1) is -2.491% with t value of -1.180, and CAAR of post announcement period (+2 to +3) is -1.847% with t-statistic of -0.875.

Notice that all the interesting periods of study are accepted the first null hypothesis, or there is insignificant excess returns surrounding announcement date, which means that there are no statistically significant relationship between dividend change announcement and stock return under bull market condition (year 1993) in Stock Exchange of Thailand. On the other hand, stock price doesn't adjust significantly following the dividend change announcements in a proper manner, or the informative dividend change announcements appear quiet weak under bull market condition.

Table 5.3 Daily Average abnormal returns, Cumulative daily average abnormal returns, and t-statistic values for a sample of 9 dividend increase announcements, 103 dividend decrease announcements, and 112 all dividend change announcements over year 1997

Panel A						
Date in Event Time	Dividend Increases		Dividend Decreases		All dividend Changes	
	AAR _t (%)	t-statistic	AAR _t (%)	t-statistic	AAR _t (%)	t-statistic
+3	-1.079	-1.100	-0.280	-0.628	-0.344	-0.797
+2	-2.389	-2.436**	-1.283	-2.876***	-1.372	-3.176***
+1	-0.852	-0.869	-0.557	-1.249	-0.581	-1.345
0	0.746	0.760	-0.429	-0.961	-0.334	-0.774
-1	-0.130	-0.133	-0.147	-0.329	-0.145	-0.337
-2	0.284	0.289	0.250	0.561	0.253	0.586

Panel B						
Period in Event Time	Dividend Increases		Dividend Decreases		All Dividend Changes	
	CAAR (%)	t-statistic	CAAR (%)	t-statistic	CAAR (%)	t-statistic
Pre announcement period (-2 to -1)	0.153	0.111	0.104	0.164	0.108	0.176
Announcement period (0 to +1)	-0.107	-0.077	-0.986	-1.563	-0.915	-1.498
Post announcement period (+2 to +3)	-3.468	-2.500**	-1.563	-2.478**	-1.716	-2.809***

Note: Day 0 is assumed to be dividend announcement date. AAR_t is daily average abnormal returns. CAAR is cumulative average abnormal returns. While t-statistic is the associated test statistic that CAAR is significantly different from zero (two-tail test).

** Significant at 5 percent level

*** Significant at 1 percent level

From **Table 5.3 (Panel A)**, discloses that there are significant daily average abnormal returns in dividend increases on two day following announcement date (day +2) at -2.389%, with t-statistic of -2.436% which significant at 5 percent level. In additional, in the dividend decreases also report the negative significant daily average abnormal return on day +2 at -1.283% with t-statistic of -2.876% at 1 percent level. The portfolio of all dividend changes is the most statistically negative significant daily average abnormal returns (AAR_t) occurred on day +2 after announcement date at 1 percent level. The table indicates that daily average abnormal returns (AAR) on day +2 of this portfolio, is -1.372 % with a t-value of -3.176 %.

As you can see from the above results, it found that the impact of the dividend change announcements appear on day +2 after announcement date. It can be implied that the market is gradually absorbed the information of dividend change, and there is no information leakage because it have no excess returns on any day prior announcement date.

Since the negative excess returns happen on day +2 in Table 5.3 (Panel A), **Table 5.3 (Panel B)** also provides the consistent results with Table 5.3 (Panel A). The post announcement period in event interval of day +2 to +3, still imports the negative significant cumulative daily abnormal returns at 5 percent level of significance for both dividend increase and dividend decrease. Most of the statistically significant and negative excess returns occur during day +2 through +3 for all sample of dividend change announcement at 1 percent level of significance.

The table indicates that the two-day (day +2 to +3) event period for the dividend increases reveal the CAAR at -3.468 % with t-statistic of -2.5 %. Additional, CAAR is -1.563% with the t-statistic of -2.478% over the post announcement period (day +2 to +3) for dividend decreases. All sample of dividend changes over post announcement period between day 2 through day 3 show CAAR at -1.716% with t-statistic of -2.809%.

The second null hypothesis tests whether CAAR in various event time for all sample of dividend change equal to zero result from the effect of dividend change announcement are rejected at 1 percent level. Therefore the second alternative hypothesis (H_{2a}) is accepted which is stated that there is negative significant relationship between the announcement of dividend change and stock return under the bear market condition (year 1997) in Stock Exchange of Thailand. It implies that the stock price will be declined following the dividend change announcement either dividend increases or dividend decreases.

From the results, the excess returns happen on two days (day+2) following announcement date or in the event interval of day +2 to +3. It implies that stock market reaction is quite slow or gradually absorbs the information of dividend change announcements after it is released to the public, because there are abnormal returns during post announcement period instead of immediately during announcement period. Moreover, there is no information leakage because there is no excess returns during pre announcement period.

The market condition (bull market and bear market) is the determining variable for setting two hypotheses in order to see whether market condition is one factor which influence the stock market reaction to the effect of dividend change announcements by

comparing the results of two portfolios. Finally, the results of two portfolios reveal differently, it should be implies that the market condition is one factor to determines the relationship between announcement of dividend change and excess returns.

5.2 INTERPRETATION OF THE RESULTS

Owing to the first null hypothesis (H_{01}) is accepted, it gives the confirmation that dividend change have no significant association with the firm's stock price under bull market condition. On the other hand, dividend would be irrelevant to stock return which supporting the **"Dividend Irrelevance Theory"** of **Merton Miller and Franco Modigliani (MM) (1961)**. Miller-Modigliani theorem, says that the corporations' dividend payout do not affect the value of its shares or the returns of shareholders. MM argued that the firm's value depends only on the income produced by its assets (earning power) and its business risk, not on dividend policy. Investors don't care about dividend payout in bull market, even dividend payout is higher, but it can not influence stock price raiser. Investors are indifferent in dividend payout, due to the fact that shareholders can construct his or her own dividend policy. For example, if they want to raise cash they can sell some shares/stocks, if they don't want cash now they can use dividend received to buy some new stock.

The second alternative hypothesis (H_{a2}) is accepted and turn out the negative significant association between dividend change announcement and stock price's movement under bear market condition. It demonstrates that either dividend increases or dividend decreases, it reflects to decline in stock price.

The results of second portfolio little support for signaling theory for only dividend decrease, it might be because of investors are more sensitive to bad news or dividend decreases, but the stock returns react in the opposite manner for dividend increase. Owing to different groups, or clienteles of stockholders prefer different dividend payout policies. This investor behavior is called the “**Clientele effect**”. Although investors regard returns coming in the form of dividends as being less risky than capital gains returns, but the payment of a cash dividend is generally taxable to the recipient. Therefore, investors in high marginal tax brackets and have less need for current investment income, usually prefer companies to reinvest dividends received in order to create more growth in earnings and stock prices. On the other hand, a taxable investor who is in a high tax bracket prefers low dividend stocks. And perhaps investor in lower marginal tax bracket (or tax exempt investor), and also want current investment income might prefer to own shares in high dividend payout firms.

The empirical results express that stock market reaction response to the effect of dividend change announcement under different market condition do not coincide. Because it does not appear significant excess returns surrounding announcement date under bull market condition, or it can say that there is no significant relationship between stock return and dividend change announcement under bull market condition. While it found the negative significant relationship between dividend change announcement and stock return under bear market. From these findings should be implied that market condition is one important factor to influence the association of stock price and dividend change announcements.

That evidence harmonizes with the truth that investors' return come from dividend and capital gains. While being bull market, usually security price will raise, then investors favor capital appreciation. Moreover, taxes on dividends have to be paid immediately, but taxes on capital gains can be deferred until stocks are sold and capital gains are realized. All of these reasons make the dividend less attractive in bull market condition.

Dues to price falling in bear market condition cause investors have a chance to get capital loss. Dividend becomes more interesting for investors to substitute that loss. And in bear market condition, A market characterized by prolonged declines in stock prices, generally investors' expected returns are less than actual returns, which cause of negative cumulative daily abnormal returns. So it is not strange that there is negative significant excess returns response to dividend change announcement under bear market condition. In additional, the empirical results found negative significant abnormal returns on day +2 through day +3. It shows that Thailand stock market reaction is gradually absorbed the information of dividend change announcements, and not found information leakage, because of there is no significant excess returns prior announcement date.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

In this chapter presents three parts which are summary of findings, conclusions and recommendations of the study.

6.1 SUMMARY OF FINDINGS

Due to dividend is one kinds of income which affect to totally stock returns of shareholders. So this thesis would like to investigate whether dividend changes affect the stock return or not. Moreover, the researcher extends the study to compare whether the impact of bull market on dividend change and abnormal returns is different from that of bear market. Therefore, two hypotheses are formed. The findings form hypotheses testing are summarized as following.

- 1. Hypothesis1: Is there the significant relationship between the announcement of dividend change and stock returns under bull market condition (1993) in Stock Exchange of Thailand?**

In first portfolio, there is no significant average abnormal returns (AAR_t) appeared surrounding announcement date. It means that dividend change can not influence the excess returns to the firms. Besides, cumulative average abnormal returns of different holding period are determined and their significance are tested by t-statistic under two tail test. Then, the first null hypothesis is accepted, and it gives the evidence that there is no significant relationship between the announcement of dividend change and the

stock returns under bull market condition (1993) in Stock Exchange of Thailand. Or the other word is that dividend is irrelevant with stock returns under bull market condition in Thailand stock market. It should be interpreted that dividend can not be informative transmission for shareholders to anticipate management's view of future firms' earnings, or cash flow prospects.

2. Hypothesis2: Is there the significant relationship between the announcement of dividend change and stock returns under bear market condition (1997) in Stock Exchange of Thailand?

From the empirical results of second portfolio, which examine whether dividend change can caused the abnormal returns of the firms surrounding announcement date under bear market condition. The evidence found that the dividend change could influence negative significant average abnormal returns on day 2 after announcement date, and appears the negative significant cumulative average abnormal returns in post announcement period of day +2 to day +3. Consequently, the assumption that dividend change does not associate with the volatility of market stock price under bear market is rejected at 99% confidence level. From the results, can be interpreted that dividend change announcements including dividend increases and dividend decreases have the effect on the volatility of stock price declining. On the other hand, dividend changes (dividend increase, and dividend decrease) lead to negative abnormal returns to stockholders.

The comparison of two hypotheses testing under bull market in 1993 and bear market in 1997 shows that different market condition had different effect on abnormal

returns, or market price of stocks behave differently caused by dividend change announcements. In bull market, the results show that dividend change has no significant effect on the volatility of the market price of stocks. In bear market, the results show negative significant abnormal returns on day 2 after announcement date. The negative sign maybe caused from the fact that investors over expected returns than actual returns being in bear market condition. This implication indicates that a market condition is one factor to influence the relationship between dividend change announcements and stock returns.

6.2 CONCLUSIONS

Given that dividend is one of determinants of the shareholder's stock returns, it is interesting to study whether dividend changes affect the stock price adjustment or not. In other word, this research investigates the association of stock returns and dividend change announcement by measuring abnormal returns occurring around announcement date. Moreover, the researcher also wants to verify whether the impact of dividend changes to stock market reaction under different market condition behave differently or not. Then, the assumption that dividend changes cannot influence the abnormal returns surrounding announcement date or dividend changes have no relationship with stock return are tested. Two hypotheses testing the relationship between dividend change and stock returns based on market condition are considered in order to test that assumption.

The samples for testing the first hypothesis are drawn from the listed companies that have the dividend change announcements in 1993, which is considered as bull market condition. In the same way, the samples in second portfolio for testing second hypothesis

are taken from firms that have the announcement of dividend changes in 1997, which is considered as bear market condition. The dividend changes compose of dividend increases and dividend decreases by comparing from the amount of dividend payment with the prior payment level.

The event study methodology is employed to find out the abnormal returns, which calculated over 2 days before through 3 days after announcement date. Besides, cumulative average abnormal returns over different interval, which is pre announcement period (day -2 to day-1), announcement period (day 0 to day+1), and post announcement period (day +2 to day+3) are computed. Furthermore, the hypotheses are tested by t-statistic.

The results of the data analysis for suggest the first portfolio, null hypothesis cannot be rejected, therefore, dividend changes do not produce the significant excess returns under bull market condition. This evidence contradicts the previous studies about dividend signaling theory, which states that investors interpret dividend change as a signal and reflected in stock price. The evidence supports the dividend irrelevant theory, which explains that investors are indifferent to dividend payout.

Under signaling hypothesis, dividend increase (decrease) should generally lead to significant and positive (negative) abnormal returns to stockholders around announcement date. The results of second portfolio little supports dividend signaling theory only for dividend decrease because it found negative significant abnormal returns response to dividend change announcement on 2 days following announcement date. It means that under bear market condition, the dividend decrease is associated with a negative stock

price reaction but the stock price react in the opposite manner according to signaling hypothesis for dividend increase.

From the second hypothesis testing, the null hypothesis is rejected at 99% confidence level. It reveals that there is negative significant relationship between dividend change announcement and stock returns under bear market condition. It is implied that both dividend increases and dividend decreases reflect stock price to decline. These empirical results give the evidence that changing dividend can lead the stock price to decline because such changes can signal the impression of dividend instability and might cause the stockholders' uncertainty to anticipate the firms' management, investment, and financing.

In addition, the above empirical results show that under different market condition being imposed upon by the dividend change announcements, the market price of stocks also behave differently. Hence, the market condition is one determinant variable to influence the association between dividend change announcements and stock returns in Stock Exchange of Thailand.

7.3 RECOMMENDATIONS

Since the conclusion of empirical results give the evidence that there is no association between dividend change announcements and the stock return under bull market condition. Unlike, the bear market, it found the negative significant relationship between dividend change and stock price movement. These finding should be useful for dividend policy maker or financial managers who do take dividend policy into account.

In bull market, dividend is irrelevant to firm's stock price. On the other hand, firm's dividend policy has no effect on the value of its stock. Investors are indifferent on dividend payout. In Thailand stock market, dividend might not be the important factor to influence the investors' anticipation of firm's future prospect under bull market condition.

In bear market, the aggregate investors are rather pessimistic. The investors might interpret the dividend increase that the firms have less money available for reinvestment. Then, it will cause the expected growth rate to decline, and that would tend to lower the stock's price. Likewise, investors interpret a decrease in dividend is caused from the firms have lower earnings. Then, it will often accompanied by a decrease in the price of stock- this is the signaling effect.

The opinions of the recommendations to the dividend policy maker or management concluded from the analysis of empirical results is that-:

Bull Market

- The management of the firm should pay attention in investment decision rather than financing decision. Because even the firms pay dividends (increasing or decreasing dividend payment) to investors but it can not affect the value of its shares to investors. According to MM argument, firm's value depends only on the income produced by firm's assets, not on how this income is split between dividends and retained earnings. Consequently, management should increase firm's investment on assets, which may increase firm's future income and finally increase shareholders' wealth.

Bear Market

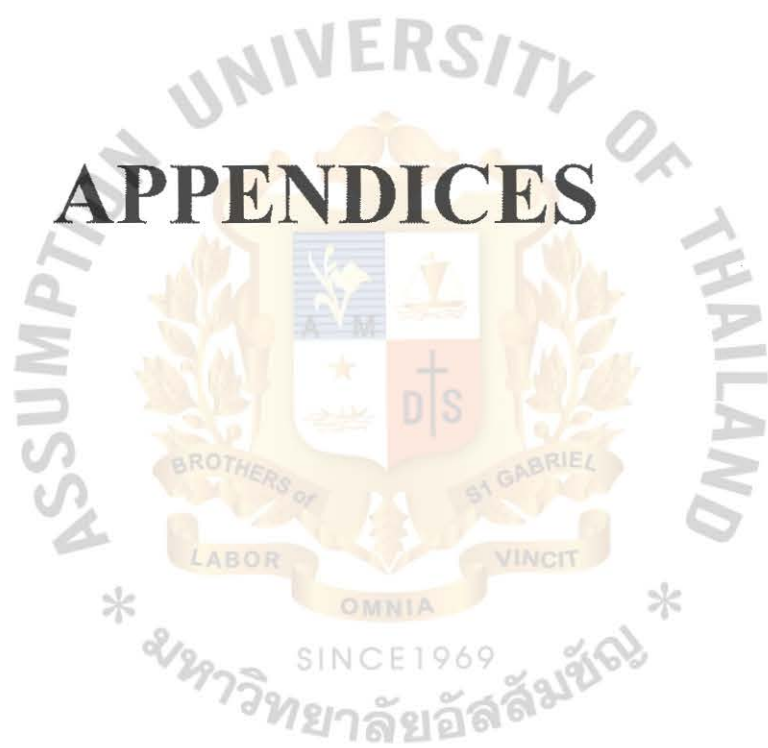
- The management or dividend policy maker should try to establish a rational dividend policy and then stick with it. The management should be hesitate to change its dividend policy. Actually, dividend policy can be changed, but this can cause problems because such changes can inconvenience the firm's existing stockholders, and convey signals of dividend instability, all of these can have negative implications for stock prices.
- Management should recognize that in the bear market any dividend increase does not lead to positive stock market response. Therefore, if the firm has increased income, management of the firm should continue stable dividend in the dividend policy. The increment income should be added up in retained earning rather than paid out as dividend so as to finance the potential project, which might enhance the firm's value in the future.
- Nonetheless, empirical results reveal that stock market investors react negatively to the decreased dividend. Accordingly, if management of the firm have the good project to invest, it is recommended that management should not ignore financial disclosure strategy. Before management decide to decrease the dividend, they should inform investors that the decreased dividend is not due to decreased earnings. Rather it is because the firm has the good project to invest. Although dividend reduction almost always results in drop in firm's equity value, investor might appreciate management's stated vision and they may react in the opposite way.

The researcher hopes that this research will be the valuable academic resource to understand the Thai stock market behavior response to the event of dividend change

announcement. However, this research still has some limitations, below is the recommendation for further study.

- It is such a short time period of this study. Thus, if period of further study is changed and expanded, the result might be different and more accurate than this research.
- Further research would be recommend to add other variables which might affecting stock prices that are not included in this study, and test their effects.





APPENDICES

A. EVOLUTION OF THE STOCK EXCHANGE OF THAILAND (SET)

A1) Introduction

Following upon the Second National Economic and Social Development Plan (1967-1971), then the proposed for the first time that an orderly securities market be established in order to mobilize additional capital for national economic development

The modern Thai capital market has undergone two phases. The first phase is "*The Bangkok Stock Exchange*" which was privately owned by lacked official support. The second phase is the establishment of "*The Securities Exchange of Thailand*" which need for the official support, planning, and regulating.

A2) Establishment of the Bangkok Stock Exchange

In July 1962 is the inception of the Thai stock market, when a private group established an organized stock exchange as a limited partnership. The group later became a limited company and changed its name to the "Bangkok Stock Exchange Co., Ltd." (BSE) in 1963.

Despite its well-intended foundation the BSE was rather inactive. Annual turnover value consisted of only 160 million baht in 1968, and 114 million baht in 1969. Trading volumes continued to fall sharply thereafter to 46 million baht in 1970, and then 28 million baht in 1971. The turnover in debentures reached 87 million baht in 1972, but stocks continued to perform poorly, with turnover hitting an all time low of only 26 million baht. The BSE finally ceased operations in the early 1970s.

It is generally accepted that the BSE failed to succeed because of a lack of official government support and a limited investor understanding of the equity market.

A3) Establishment of the Stock Exchange of Thailand

Despite the failure of the BSE, the concept of an orderly, officially supported securities market in Thailand had by then attracted considerable attention by the government. Due to the number of industrial enterprises rose rapidly in late sixties, the market for industrial and commercial capital was not being adequately served. In this regard, the Second National Economic and Social Development Plan (1967-1971) proposed, for the first time, a plan for the establishment of such a market, with appropriate facilities and procedures for securities trading in order to induce long-term funds to finance future economics growth.

In 1969, the government acquired the services of Professor Sidney M. Robbins from Columbia University, a former Chief Economist at the United States Securities and Exchange Commission. to study the development channels of the Thai capital market. In 1970, Professor Robbins produced a comprehensive report entitled "A Capital Market in Thailand". This report became the master plan for the future development of the Thai capital market.

In 1972 the Government took a further step in this direction by amending the "Announcement of the Executive Council No. 58 on the Control of Commercial Undertakings Affecting Public Safety and Welfare". The changes extended Government control and regulation over the operations of finance and securities companies, which until then had operated fairly freely. Following these amendments, in May 1974, long-

awaited legislation establishing "The Securities Exchange of Thailand" (SET) was enacted. This was followed by revisions to the Revenue Code at the end of the year, allowing the investment of savings in the capital market. By 1975 the basic legislative framework was in place and on April 30, 1975, "The Securities Exchange of Thailand" officially started trading. On January 1, 1991 its name was formally changed to "The Stock Exchange of Thailand" (SET).

In May 1992, an improved SET Act of 1984 (No. 2) was itself replaced by the Securities and Exchange Act 1992 (SEA) which also established the Securities and Exchange Commission (SEC) as the sole supervisor of securities business. The SEA is a comprehensive legislative framework regulating all vital elements of a modern capital market, such as disclosure, investor protection, fund management, takeover procedures and the establishing of securities firms.

B. ROLES OF THE STOCK EXCHANGE OF THAILAND

Legislation establishing "The Securities Exchange of Thailand" (SET) was formally enacted in 1974 and the SET began trading on April 30, 1975. On January 1, 1991 "The Securities Exchange of Thailand" officially changed its name to "The Stock Exchange of Thailand" (SET). As defined in the SEA (1992), the SET's primary roles are:

- 1) To serve as a center for the trading of listed securities, and to provide the essential systems needed to facilitate securities trading;
- 2) To undertake any business relating to the Securities Exchange, such as a clearing house, securities depository center, securities registrar, or similar activities;

- 3) To undertake any other business approved by the SEC.

The SET is a full self-regulatory organization which with the SEC ensures all individuals and institutions abide by the established laws, regulations and standards of Thailand's capital market. More than that, the SET continuously strives for expansion and improvement of products and services for investors worldwide.

C. MAIN OPERATIONS OF THE STOCK EXCHANGE OF THAILAND

The SET's main operations primarily consist of:

- 1) Securities Listing
- 2) Supervision of Listed Companies and Information Disclosure
- 3) Trading
- 4) Market Surveillance and Supervision of Members
- 5) Information Dissemination
- 6) Investor Education
- 7) Back Office Systems

D. TRADING SYSTEM

The SET has operated fully computerized trading system since April 1991. The "Automated System for the Stock Exchange of Thailand", or ASSET, enables trading to be efficient, equitable and liquid. Since 1994, it has been able to handle up to 600,000 orders a day.

There are two principle variations of trading system available to broker members, AOM and PT.

D1) Automated Order Matching (AOM)

Member firms key in their orders from their offices and this data goes on-line to the SET's mainframe computer which the ASSET system arranges the orders according to price-then-time priority. Executed transactions are immediately confirmed back to the members' terminals.

D2) Screen-based trading or Put Through (PT) transactions

Brokers can announce bid or offer prices quoted according to the price spread rules of the SET via the ASSET's facility. Any interested brokers can deal and negotiate directly between each other which the price can be changed and may not follow the price spread rules. The result of the deal will be then sent to the ASSET system for the SET's formal approval.

D3) Trading Hours

Trading at the SET is conducted every bank working day, normally from Monday to Friday. Each day, there are two trading sessions, morning and afternoon.

9.30 a.m. - T1*	Pre-opening Period
T1* - 12.30 p.m.	Morning Trading Session
12.30 p.m. - 2.00 p.m.	Intermission
2.00 p.m. - T2*	Pre-opening Period
T2* - 4.30 p.m.	Afternoon Trading Session
4.30 p.m. - T3*	
T3* - 5.00 p.m.	Off-hours trading

Remarks:

- T1* is the random opening time during 9.55 a.m. - 10.00 a.m. for calculating the opening price in the morning trading session.
- T2* is the random opening time during 2.25 a.m. - 2.30 p.m. for calculating the opening price in the afternoon trading session.
- T3* is the random closing time during 4.35 p.m. - 4.40 p.m. for calculating the closing price of each day.

D4) Off-hours Trading

Off-hours trading is the extra trading period for investors or members to have the additional opportunities to trade stocks after the closing of regular trading sessions. The off-hours period starts from the random closing time until 5.00 p.m. The SET allows only

Put-Through trading transactions to be recorded. The main objectives of this off-hours trading are as follows:

- To facilitate investors especially institutional investors and foreign investors, to adjust their portfolios and attract more trading activities in the market.
- To serve as a tool for investors or members to adjust the error transactions or cover the transactions which are executed in the regular trading session.

E. GROWTH PERFORMANCE

At the end of its first year of operation, there were just 21 SET-listed companies and total trading turnover topped 547.32 million baht. By the end of 1993, total annual turnover had reached 2,201.15 billion baht on a daily average of 8,984.28 million baht. On January 4, 1994, the market opened at an historic high of 1753.73 Index points and the following day recorded its highest-ever trading turnover of 40.01 billion baht. In 1999, the SET Index was closed at 481.92 with the total turnover value 1,609.79 billion baht on a daily average of 6,570.56 million baht.

Those original 21 listed companies have since grown to 392 stocks and have been joined by 20 unit trusts or mutual funds as well as preferred shares, debentures and warrants of various type - a total of 450 securities ended December 1999. Market capitalization has changed since the First Boom years of 1986-89 to a present value equal to 2,193.07 billion baht.

This remarkable rate of growth has been in parallel with the SET's own historic progress and initiatives. The Automated Trading System for the SET (ASSET) was

implemented in May 1991, while in June 1992, the SET's Share Depository Center adopted a scripless system which now includes debentures and warrants. In July 1992, trading hours were increased, as they were again in November 1994.

As a result of such rapid progress, foreign trading on the SET more than doubled between 1991 and 1992, continuing an upward trend to account for over 940 billion baht in 1999, approximately 29.44% of total trading turnover.

F. VISION 2003

To be one of the most attractive capital markets in Asia by providing quality products, representing the Thai economy truthfully, having effective risk management tools, and complying with international standards of enforcement and corporate governance.

Achieving the goals of Vision 2003 will bring greater benefits to market participants. Investors will be able to reduce their investment risks and receive better protection of their rights. Listed companies will see overall improvement in quality and will be able to mobilize funds more easily at lower costs while members will be more fairly regulated and able to generate higher business volumes.

G. Average abnormal returns (AAR_t) of dividend increases, dividend decreases, and all sample of dividend change announcements in bull market (1993)

Day	AAR _t of dividend increases	AAR _t of dividend decreases	AAR _t of all the sample of dividend change announcements
+3	-1.734	-0.029	-0.764
+2	-0.722	-1.356	-1.083
+1	-0.572	-1.534	-1.119
0	-1.736	-1.096	-1.372
-1	-0.779	-1.466	-1.170
-2	-1.168	-1.373	-1.285
-3	-1.301	-1.391	-1.352
-4	-0.517	-0.429	-0.467
-5	-0.373	-1.093	-0.783
-6	-1.444	-0.663	-1.000
-7	-1.113	-0.920	-1.004
-8	-0.343	-0.881	-0.649
-9	-0.767	-0.606	-0.675
-10	-1.348	-0.562	-0.900
-11	-1.085	-0.958	-1.012
-12	-1.280	-1.223	-1.248
-13	-1.658	-0.813	-1.177
-14	-0.585	-0.819	-0.718
-15	-0.942	-0.630	-0.764
-16	-0.782	-0.977	-0.893
-17	-0.591	-0.638	-0.618
-18	-0.989	-0.898	-0.937
-19	-1.322	-0.883	-1.072
-20	-1.080	-1.355	-1.237
-21	-1.168	-1.165	-1.166
-22	-0.797	-0.975	-0.899
-23	-1.105	-0.753	-0.904
-24	-1.136	-0.847	-0.971
-25	-0.682	-1.244	-1.002
-26	-0.792	-0.648	-0.710
-27	-0.686	-0.553	-0.610
-28	-0.734	-0.416	-0.553
-29	-0.822	-0.630	-0.712
-30	-0.765	-0.732	-0.746
-31	-1.131	-0.707	-0.890
-32	-1.536	-0.408	-0.894

-33	-1.586	-0.017	-0.693
-34	-0.165	-1.106	-0.700
-35	-1.318	-1.159	-1.228
-36	-1.049	-1.154	-1.109
-37	-0.881	-0.381	-0.596
-38	0.053	-1.139	-0.625
-39	-0.338	-0.795	-0.598
-40	-1.312	-0.652	-0.937
-41	-0.586	-0.097	-0.308
-42	-1.159	-0.278	-0.658
-43	-1.871	1.277	-0.080
-44	-1.254	-1.160	-1.201
-45	-1.079	-0.817	-0.930
-46	-2.148	-0.361	-1.131
-47	-0.598	-2.486	-1.672
-48	-1.250	-1.507	-1.396
-49	-0.668	-0.987	-0.850
-50	-0.809	-0.464	-0.613
-51	-0.635	-1.522	-1.140
-52	-0.716	0.381	-0.092
-53	-0.873	-0.421	-0.616
-54	-0.231	-1.621	-1.022
-55	-1.025	-0.228	-0.571
-56	-0.432	0.279	-0.027
-57	-0.707	-0.016	-0.314
-58	0.207	-0.883	-0.413
-59	0.149	-0.722	-0.347
-60	-1.012	-0.454	-0.694
-61	-0.818	0.504	-0.066
-62	-1.349	-0.031	-0.599
-63	-0.474	0.257	-0.058
-64	-0.774	0.224	-0.206
-65	-1.137	-1.331	-1.247
-66	0.002	-0.418	-0.237
-67	0.726	0.719	0.722
-68	-0.079	-0.756	-0.464
-69	-0.498	-0.325	-0.399
-70	-0.469	-1.924	-1.297
-71	-0.662	-0.942	-0.821
-72	-0.082	0.341	0.159
-73	-0.474	0.984	0.356
-74	-0.013	-0.613	-0.354
-75	-0.471	0.059	-0.169

-76	-0.303	0.223	-0.004
-77	1.051	-1.005	-0.119
-78	0.097	3.225	1.877
-79	-1.349	-1.764	-1.585
-80	0.229	-1.483	-0.745
-81	-1.586	-0.476	-0.954
-82	-0.025	0.109	0.051
-83	-0.313	0.261	0.014
-84	-2.377	0.442	-0.773
-85	-0.805	6.974	3.621
-86	2.735	-0.746	0.755
-87	0.561	-0.352	0.042
-88	-0.164	-1.296	-0.808
-89	-1.046	-3.902	-2.671
-90	0.706	-1.512	-0.556
-91	-2.317	3.416	0.945
-92	3.157	0.289	1.525
-93	2.029	5.862	4.210
-94	6.274	1.805	3.731
-95	-0.282	-5.169	-3.062
-96	-2.911	0.868	-0.761
-97	-0.677	-0.181	-0.395
-98	-0.518	2.173	1.013
-99	-1.713	-0.263	-0.888
-100	-1.279	-2.329	-1.876
-101	0.927	-1.581	-0.500
-102	-0.733	-1.757	-1.316
-103	-0.161	0.366	0.139
-104	-0.008	2.301	1.306
-105	-0.594	3.608	1.797
-106	-0.029	-0.372	-0.224
-107	-0.276	-0.063	-0.155
-108	1.285	-3.899	-1.665
-109	2.403	0.245	1.175
-110	-0.072	0.165	0.063
-111	-0.446	5.174	2.752
-112	-1.247	-0.822	-1.005
-113	0.963	0.644	0.782
-114	4.066	-1.001	1.183
-115	-1.341	-4.124	-2.925
-116	-2.106	-0.100	-0.965
-117	1.503	0.773	1.088
-118	-1.908	1.414	-0.018

-119	-0.885	0.698	0.016
-120	-1.063	-0.894	-0.967
-121	2.571	-0.294	0.941
-122	0.794	-0.789	-0.106
-123	-0.869	-0.659	-0.749
-124	1.130	0.507	0.776
-125	-1.345	0.632	-0.221
-126	-0.049	2.858	1.605
-127	15.756	1.313	7.539
-128	-0.181	0.580	0.252
-129	1.077	-0.665	0.086
-130	0.872	1.680	1.332
-131	2.496	4.421	3.591
-132	0.437	-1.227	-0.510
-133	-1.550	1.304	0.073
-134	1.340	0.251	0.720
-135	-2.168	-1.756	-1.933
-136	-1.030	-1.141	-1.093
-137	0.147	-0.148	-0.021
-138	-0.200	-0.364	-0.293
-139	-3.819	0.056	-1.614
-140	0.830	1.642	1.292
-141	2.969	0.477	1.551
-142	0.888	0.848	0.865
-143	-1.053	-0.922	-0.979
-144	-0.089	-2.817	-1.641
-145	-1.643	-1.107	-1.338
-146	0.561	-2.215	-1.019
-147	-0.109	3.629	2.017
-148	4.663	2.536	3.453
-149	7.502	1.953	4.344
-150	1.463	1.170	1.296
-151	-3.371	-3.083	-3.207
-152	3.337	-1.530	0.568
-153	3.189	0.011	1.381
-154	1.339	-0.569	0.253
-155	0.930	5.006	3.249
-156	-0.492	1.387	0.577
-157	0.120	3.099	1.815
-158	-2.064	-4.360	-3.370
-159	-0.970	0.157	-0.329
-160	2.046	2.505	2.307
-161	-1.179	0.473	-0.239

-162	-0.100	4.795	2.685
-163	-0.642	-0.134	-0.353
-164	3.111	-0.790	0.891
-165	1.179	-3.153	-1.286
-166	-1.984	-2.362	-2.199
-167	-0.138	2.301	1.249
-168	-2.053	2.488	0.530
-169	1.786	0.846	1.251
-170	0.158	-0.002	0.067
-171	9.409	0.777	4.498
-172	-4.796	-1.517	-2.930
-173	1.757	-1.682	-0.200
-174	1.142	-0.253	0.348
-175	3.735	0.890	2.116
-176	-0.318	2.489	1.279
-177	-1.384	1.393	0.196
-178	1.614	1.634	1.625
-179	0.884	-2.184	-0.861
-180	-2.842	-2.436	-2.611
-181	0.698	0.839	0.778
-182	0.088	1.426	0.849
-183	2.116	0.459	1.173
-184	-0.418	3.000	1.527
-185	1.428	0.353	0.816
-186	1.207	-3.514	-1.479
-187	-2.530	-0.537	-1.396
-188	-0.405	2.095	1.017
-189	1.424	0.745	1.038
-190	-1.940	-0.213	-0.957
-191	-0.852	2.504	1.058
-192	-1.818	0.244	-0.645
-193	0.363	1.522	1.022
-194	3.102	-4.816	-1.403
-195	0.433	1.643	1.122
-196	2.301	-5.612	-2.201
-197	1.025	3.564	2.469
-198	-0.779	2.408	1.034
-199	-0.307	0.290	0.033
-200	1.164	0.338	0.694
-201	0.451	-3.932	-2.043
-202	-0.730	1.196	0.366
-203	-0.174	1.327	0.680
-204	0.115	4.554	2.640

-205	2.173	1.028	1.522
-206	-0.792	-0.873	-0.838
-207	1.345	1.239	1.284
-208	-0.603	-0.125	-0.331
-209	-0.661	0.066	-0.247
-210	-3.498	-0.215	-1.630
-211	-0.763	3.046	1.404
-212	0.775	0.107	0.395
-213	7.641	0.034	3.313
-214	-1.075	-2.630	-1.960
-215	-0.361	0.633	0.204
-216	0.290	-2.346	-1.210
-217	1.538	1.321	1.414
-218	1.118	1.796	1.504
-219	-0.909	3.141	1.395
-220	0.069	-1.373	-0.751
-221	1.418	-3.386	-1.316
-222	1.712	2.626	2.232
-223	-1.727	1.615	0.175
-224	1.302	2.960	2.245
-225	1.077	0.289	0.628
-226	-0.827	-2.455	-1.753
-227	-0.204	0.080	-0.043
-228	-1.093	-0.957	-1.016
-229	0.150	-0.457	-0.196
-230	-3.154	5.797	1.939
-231	0.295	-2.391	-1.234
-232	2.473	1.316	1.815
-233	5.075	-1.332	1.430
-234	-4.047	-5.002	-4.590
-235	-0.388	0.450	0.089
-236	-1.247	1.216	0.154
-237	0.844	1.666	1.312
-238	0.995	1.516	1.292
-239	-0.111	2.697	1.487
-240	1.712	-2.959	-0.945
-241	-0.893	1.560	0.503
-242	0.889	1.803	1.409
-243	-0.587	1.844	0.796
-244	-1.135	-0.547	-0.801

H. Average abnormal returns (AAR_t) of dividend increases, dividend decreases, and all sample of dividend change announcements in bear market (1997)

Day	AAR _t of dividend increases	AAR _t of dividend decreases	AAR _t of all the sample of dividend change announcements
+3	-1.079	-0.280	-0.344
+2	-2.389	-1.283	-1.372
+1	-0.852	-0.557	-0.581
0	0.746	-0.429	-0.334
-1	-0.130	-0.147	-0.145
-2	0.284	0.250	0.253
-3	0.086	-0.194	-0.172
-4	-1.868	-0.314	-0.439
-5	-2.391	-0.149	-0.329
-6	-0.335	-0.390	-0.386
-7	-1.666	-0.133	-0.256
-8	0.123	0.119	0.119
-9	0.860	0.725	0.736
-10	-0.532	-0.320	-0.337
-11	0.323	-0.332	-0.280
-12	0.111	-0.051	-0.038
-13	-0.833	-0.697	-0.708
-14	-1.245	-1.355	-1.346
-15	0.616	-1.012	-0.881
-16	-1.614	-0.442	-0.536
-17	-1.068	-0.071	-0.151
-18	0.168	0.396	0.378
-19	0.769	0.390	0.420
-20	0.789	0.331	0.368
-21	0.961	0.144	0.210
-22	-0.080	0.104	0.089
-23	1.578	0.467	0.557
-24	1.489	0.098	0.210
-25	0.817	0.212	0.260
-26	1.671	0.328	0.436
-27	0.181	0.393	0.376
-28	1.343	-0.283	-0.152
-29	1.034	0.048	0.127
-30	0.502	0.400	0.408
-31	0.442	-0.053	-0.013
-32	0.393	-0.439	-0.372

-33	-0.209	-0.367	-0.355
-34	0.327	0.053	0.075
-35	-0.562	0.052	0.002
-36	1.699	0.181	0.303
-37	0.025	0.256	0.238
-38	0.889	-0.235	-0.145
-39	-0.135	0.122	0.101
-40	0.767	-0.225	-0.145
-41	1.279	0.250	0.333
-42	1.253	0.231	0.313
-43	1.970	-0.213	-0.038
-44	-0.659	-0.086	-0.132
-45	1.130	-0.147	-0.045
-46	0.074	0.016	0.021
-47	-2.613	-0.231	-0.422
-48	-0.556	-0.331	-0.349
-49	-0.267	-0.392	-0.382
-50	-0.083	0.297	0.266
-51	-0.171	-0.418	-0.398
-52	-0.702	0.171	0.101
-53	0.277	-0.180	-0.144
-54	-0.986	-0.292	-0.348
-55	0.022	-0.206	-0.188
-56	-0.031	-0.206	-0.192
-57	-0.438	0.013	-0.023
-58	-0.806	-0.364	-0.400
-59	2.093	4.736	4.524
-60	-0.947	-0.192	-0.253
-61	0.219	0.287	0.282
-62	0.095	0.067	0.069
-63	0.220	0.178	0.181
-64	0.923	-0.137	-0.052
-65	1.479	0.344	0.435
-66	-0.792	-0.110	-0.165
-67	0.308	-0.480	-0.417
-68	-0.301	-0.053	-0.073
-69	-1.481	-0.325	-0.418
-70	0.488	-0.021	0.020
-71	-0.361	-0.488	-0.478
-72	-0.586	0.071	0.018
-73	-1.081	0.107	0.011
-74	-0.054	0.142	0.127
-75	0.191	-0.052	-0.033

-76	0.456	0.227	0.246
-77	-0.851	-0.264	-0.311
-78	1.552	-0.330	-0.179
-79	-0.788	-0.038	-0.098
-80	0.546	0.757	0.740
-81	1.804	0.905	0.977
-82	-0.411	0.675	0.587
-83	0.487	0.055	0.089
-84	0.990	-0.115	-0.026
-85	-0.319	0.496	0.430
-86	0.015	0.012	0.012
-87	1.288	-0.377	-0.243
-88	0.902	0.239	0.292
-89	-0.771	0.124	0.052
-90	0.477	-0.558	-0.475
-91	0.426	-0.303	-0.245
-92	-1.207	-0.740	-0.778
-93	1.493	-0.289	-0.146
-94	0.819	-0.301	-0.211
-95	-1.356	-0.206	-0.298
-96	0.005	-0.218	-0.200
-97	1.137	-0.186	-0.080
-98	1.942	-0.216	-0.043
-99	0.880	0.029	0.098
-100	-0.444	-0.020	-0.054
-101	-0.748	-0.013	-0.072
-102	-0.203	-0.292	-0.285
-103	-0.078	0.326	0.294
-104	-1.576	-0.175	-0.288
-105	0.713	0.430	0.453
-106	-0.400	-0.284	-0.293
-107	-0.264	-0.279	-0.278
-108	0.417	-0.289	-0.232
-109	-1.975	0.411	0.219
-110	-0.627	-0.367	-0.388
-111	0.003	0.061	0.056
-112	-1.075	0.115	0.019
-113	0.220	-0.001	0.017
-114	-0.928	0.366	0.262
-115	-0.597	-0.083	-0.124
-116	-0.629	-0.183	-0.219
-117	-2.043	-0.441	-0.570
-118	-0.664	-0.171	-0.211

-119	-1.728	-0.193	-0.317
-120	0.864	-0.151	-0.070
-121	-0.612	-0.117	-0.157
-122	-0.763	-0.108	-0.161
-123	-1.189	-0.018	-0.112
-124	0.816	-0.015	0.052
-125	0.654	-0.605	-0.504
-126	-1.027	0.024	-0.060
-127	-1.558	-0.399	-0.492
-128	-0.069	-0.323	-0.302
-129	-0.769	0.059	-0.007
-130	-1.653	0.332	0.172
-131	-0.038	0.036	0.030
-132	0.448	0.768	0.742
-133	1.005	-0.363	-0.253
-134	0.890	0.195	0.251
-135	-0.163	0.290	0.254
-136	0.479	-0.339	-0.273
-137	-1.911	-0.129	-0.272
-138	-0.655	0.055	-0.002
-139	0.519	-0.082	-0.033
-140	-0.668	-0.037	-0.088
-141	0.418	-0.235	-0.182
-142	-0.099	0.257	0.228
-143	-0.643	0.262	0.189
-144	1.416	-0.415	-0.268
-145	0.683	-0.227	-0.154
-146	1.512	-0.099	0.030
-147	-1.614	0.297	0.143
-148	0.283	0.053	0.072
-149	0.163	0.215	0.211
-150	-0.462	0.261	0.203
-151	-0.728	-0.014	-0.071
-152	-0.105	-0.158	-0.154
-153	0.201	-0.067	-0.046
-154	0.532	0.457	0.463
-155	1.743	-0.822	-0.616
-156	-0.277	-0.157	-0.167
-157	-0.461	-0.282	-0.297
-158	-0.390	-0.320	-0.325
-159	0.278	-0.708	-0.629
-160	-0.774	0.353	0.263
-161	-0.334	0.014	-0.014

-162	-1.301	-0.295	-0.376
-163	1.438	0.113	0.219
-164	-1.115	-0.175	-0.251
-165	-1.810	0.372	0.196
-166	2.074	-0.168	0.013
-167	-0.451	-0.154	-0.178
-168	-0.203	-0.221	-0.220
-169	-0.340	0.106	0.070
-170	-0.695	-0.354	-0.382
-171	1.666	0.035	0.166
-172	-1.108	-0.390	-0.448
-173	0.485	-0.029	0.013
-174	-0.818	-0.181	-0.232
-175	-0.887	0.131	0.049
-176	0.256	0.129	0.139
-177	-0.078	-0.133	-0.129
-178	-0.307	-0.079	-0.097
-179	-0.172	-0.090	-0.096
-180	0.144	0.268	0.258
-181	-0.325	-0.182	-0.194
-182	-0.313	0.130	0.095
-183	-0.451	0.048	0.008
-184	-0.411	-0.632	-0.614
-185	0.934	-0.302	-0.202
-186	-0.077	-0.723	-0.671
-187	-0.232	-0.218	-0.219
-188	0.139	0.346	0.329
-189	1.158	-0.099	0.002
-190	-0.166	0.120	0.097
-191	-1.086	0.433	0.310
-192	-0.133	-0.105	-0.107
-193	1.033	0.114	0.188
-194	0.215	0.017	0.033
-195	0.212	-0.411	-0.361
-196	1.346	0.267	0.354
-197	1.091	-0.265	-0.156
-198	-1.091	-0.070	-0.152
-199	2.759	0.220	0.424
-200	-1.614	-0.096	-0.218
-201	1.415	-0.306	-0.168
-202	0.173	-0.028	-0.012
-203	-0.037	0.077	0.068
-204	-0.763	-0.001	-0.063

-205	-0.631	0.188	0.122
-206	0.934	0.444	0.483
-207	-0.815	-0.339	-0.378
-208	0.558	-0.160	-0.103
-209	1.492	0.383	0.472
-210	0.934	-0.103	-0.020
-211	0.209	0.090	0.099
-212	3.427	0.596	0.823
-213	-0.025	-0.078	-0.074
-214	-2.565	0.154	-0.064
-215	-1.234	0.074	-0.031
-216	0.469	0.050	0.084
-217	-1.191	0.370	0.245
-218	0.938	0.505	0.540
-219	-1.188	0.434	0.304
-220	0.906	0.665	0.685
-221	0.610	0.083	0.125
-222	-2.128	0.683	0.457
-223	-0.284	0.064	0.036
-224	0.424	-0.269	-0.213
-225	0.969	0.231	0.290
-226	-0.215	0.558	0.496
-227	1.008	0.345	0.399
-228	0.194	0.300	0.292
-229	1.085	0.239	0.307
-230	0.605	0.157	0.193
-231	-0.195	-0.063	-0.074
-232	-1.342	0.373	0.235
-233	-0.188	0.284	0.246
-234	1.177	0.685	0.725
-235	0.043	-0.147	-0.132
-236	0.593	0.236	0.265
-237	-0.706	0.076	0.013
-238	-0.969	0.429	0.317
-239	0.084	-0.250	-0.223
-240	-0.173	0.544	0.486
-241	0.213	-0.321	-0.278
-242	-1.027	0.146	0.052
-243	-0.403	-0.473	-0.467
-244	0.466	-0.207	-0.153

REFERENCES

Ahorony, J., and I., Swary, 1980, Quarterly dividend and earnings announcement and stockholders' returns: An empirical analysis, *Journal of Finance* 35 (March), 1-12.

Alanger, S., C. T., Bathala, and R. P., Rao, 1999, The effect of institutional interest on the information content of dividend-change announcements, *Journal of Financial Research* 12, 429-448.

Asquith, P. and D. Mullins, 1986, Signaling with dividends, stock repurchases, and equity issues, *Financial Management* 15, 27-44.

Bajaj, M., and A. M., Vijh, 1990, Dividend clienteles and the information content of dividend changes, *Journal of Financial Economics* 26, 193-219.

Benartzi, S., R., Michaely, and R., Thaler, 1997, Do changes in dividend signal the future or the past?, *Journal of Finance* 102, 1007-1034.

Bhattacharya, S., 1979, Imperfect information, dividend policy, and 'the bird-in-the-hand' fallacy, *Bell, Journal of Economics* 10, 259-270.

Brown, S. J. and J. B. Warner, 1985, Using Daily Stock Returns: The Case of Event Studies, *Journal of Financial Economics* 4, 3-31.

DeAngelo, H., L. and DeAngelo, and D. J., Skinner, 1992, Dividends and Losses, *Journal of Finance* 98, 1837-1863.

Denis D. J., D. K., Denis, and A. Sarin, 1994, The information content of dividend changes: cash flow signaling, overinvestment, an dividend clienteles, *Journal of Financial and Quantitative Analysis* 29, 567-587.

Dielman, T., and H. Oppentieimer, 1984, An examination of investor behavior during periods of large dividend changes, *Journal of Financial and Quantitative Analysis* 19, 197-216.

Divecha, A., and D., Morse, 1983, Market responses to dividend increases and changes in payout ratios, *Journal of Financial and Quantitative Analysis* 18, 163-173.

Easterbrook, F. H., 1984, Two Agency-Cost Explanations of Dividends, *American Economic Review* 74, 650-659.

Fama, E. and H., Babiak, 1968, Dividend policy: An empirical analysis, *Journal of American statistical Association* 63, 1132-1161.

Fama, E. F., L., Fisher, M. C., Jensen, and R., Roll, 1969, The Adjustment of Stock Prices to New Information, *International Economic Review*, 1-21.

Firth, M., 1996, Dividend changes, abnormal returns, and intra-industry firm valuations, *Journal of Financial and Quantitative Analysis* 31, 189-209.

Garrett, I., and R., Priestley, 2000, Dividend Behavior and Dividend Signaling, *Journal of Financial and Quantitative Analysis* 35, 173-189.

Ghosh, C. and J. Woolridge, 1988, An analysis of shareholder reaction to dividend cuts and omissions, *Journal of Financial Research* 11, 281-94.

Impson, M., 1997, Market reaction to dividend-decrease announcements: Public Utilities VS Unregulated industrial firms, *Journal of Financial Research* 10, 407-422.

Jensen, M. C., 1986, Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 313-329.

John, K. and J. Williams, 1985, Dividends, dilution and taxes: A signalling equilibrium, *Journal of Finance* 40, 1053-1070.

Kalay, A., 1980, Signalling, information content, and the reluctance to cut dividends, *Journal of Financial and Quantitative Analysis* 15, 855-869.

Kale, J. R., and T. H. Noe, 1990, Dividends, uncertainty, and underwriting costs under asymmetric information, *Journal of Financial Research* 13, 265-277.

Lang L. H. P., and R. H. Litzenberger, 1989, Dividend announcements, cash flow signalling VS free cash flow hypothesis?, *Journal of Financial Economics* 24, 181-191.

Lintner, J., 1956, Distribution of Incomes of Corporations Among Dividends, Retained Earnings and Taxes, *American Economic Review* 96, 97-113.

Manakyan H., and C. Carroll, 1990, An Empirical examination of the existence of a signaling value function for dividends, *Journal of financial Research* 13, 201-210.

Michaelsen, J. B., 1961, The Determinants of Dividend Policies: A Theoretical and Empirical Study, Unpublished Doctoral Dissertation, Graduate School of Business, University of Chicago

Miller, M. H. and K. Rock, 1985, Dividend policy under asymmetric information, *Journal of Finance* 40, 1031-1051.

Miller, M. H., and F., Modigliani, 1961, Dividend policy: Growth and the valuation of shares, *Journal of Business* 34, 411-33.

Mitra, D., and J. E., Owners, 1995, Dividend initiation announcement effects and the firm's information environment, *Journal of Business Finance & Accounting* 22, 551-573.

Petti, R. R., 1972, Dividend announcements, security performance and capital market efficiency, *Journal of Finance* 27, 993-1007.

Rosenfeld, J., 1983, The Effect of Common-Stock Dividend Reductions on the Returns of Nonconvertible Preferred Stocks: A Note, *The Journal of Finance* 38, 1019-1024.

Ross, S. A., 1977, The determination of financial structure: The incentive signaling approach, *The Bell Journal of Economics* 8, 23-40.

Rozeff, M., 1982, Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios, *Journal of Financial Research* 5, 249-259.

Watts, R., 1973, The information content of dividend, *Journal of Business* 46, 191-211.

Books

Bodie, Z., A. Kane, and A. J. Marcus, 1999, *Investments*, Forth Edition (McGraw-Hill, Companies, Inc.)

Dickerson, B., B. J., Camapsey, and E. F., Brigham, 1997, *Introduction to Financial Management* (The Dryden Press)

Francis, J. C., 1993, *Management of Investment*, Third Edition (McGraw-Hill, Companies, Inc.)

Gitman, L. J., and M. D., Joehnk, 1995, *Fundamentals of Investing*, Fifth Edition

Reilly, F. K., and K. C., Brown, 1997, *Investment Analysis and Portfolio Management*, Fifth Edition (The Dryden Press)

Thai research

Anuwat Jongyindee, 1986, *Relationship between dividend announcement and the market price of stocks in the Securities Exchange of Thailand*, Chulalongkorn University



