The Impact of Regularly Dividend Announcements to Future Unexpected Earnings

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By

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The previous researches about dividend content information that are worth for market are still in dispute. Several researches such as Natts (1973, 1976), Ang (1975), Gonedes (1978), and Dedi Hendriansah, Januardi M. Diah, Arianto, and Tashadi Tarmizi (2002) didn't invent evidence that dividend contains information. A recent research conducted by Aharony and Swary (1980), Woolridge (1982), Asquith and Mullins (1988), Venkantesh and Chiang (1986), Healy and Seifert (1992), Mande(1994), Jeremy Schultz (2003), Scott Fung and Jayendu Patel (2004) supported that announcement dividend contains of information.

This research is a replication from the research of Aharony and Dotan (1994) and try to confirm the observation that reveals fluctuation stock price influences announcement dividend in the form portfolio unexpected earning company in the future. Population of this research is all companies that are listed on the LQ'45 in Jakarta stock exchange period 1999-2004. The reason of using period 1999-2004 is coincident with politics events general election that probably influences financial position in Jakarta stock exchange. The research also confirms the Scott Fung and Jayendu Patel (2004) theories where future profitability tends to be influenced by firm's characteristic, long-term growth, and firm valuation.

The result of this research shows announcement dividend changes do not significantly influence fluctuation company profitability. However, this research indicates that announcement dividend contains any information to market. The Hypothesis "informational content of dividend" can be accepted. This research proves new evidence about this hypothesis and it seems that fluctuation dividend is more influenced by company profitability in the next period with conduction dividend announcement. This indicates that fluctuated dividend gives a picture of chances company profitability in the future. It seems the liquidness of LQ'45 relates to their regularly dividend announcements, the increasing (decreasing) future unexpected earning is influenced by amount of their dividend regular announcements.

Key Word: ***unexpected dividend change, future unexpected earnings, and information content of dividend***

Abstract

Nur Alam, A Destyanto (2005). The Impact of Regularly dividend announcements to Future Unexpected Earnings (Case Study of LQ'45), Yogyakarta. International Program, Fakultas Ekonomi, Universitas Islam Indonesia.

Penilitian sebelumnya yang telah dilakukan mengenai dividend mengandung informasi yang berarti bagi pasar masih diperdebatkan, beberapa penelitian yang dihasilkan oleh Natts (1973, 1976), Ang (1975), and Gonedes (1978), Dedi Hendriansah, Januardi M. Diah, Arianto, and Tashadi Tarmizi (2002) tidak menemukan bukti bahwa dividend mengandung informasi. Dan penelitian baru-baru ini yang dilakukan oleh Aharony and Swary (1980), Woolridge (1982), Asquith and Mullins (1988), Venkantesh and Chiang (1986), Healy and Seifert (1992), Mande(1994), Jeremy Schultz (2004), Scott Fung and Jayendu Patel (2004) mendukung bahwa pengumuman dividend mengandung informasi.

Penilitian ini adalah replikasi dari penelitian Aharony dan Dotan (1994) dan bertujuan untuk menkonfirmasi dari penelitian sebelumnya yang mengungkap bahwa kenaikan (penurunan) harga saham mempengaruhi pengumuman dividend dalam bentuk portfolio earning yang tak terduga pada suatu perusahaan di masa yang akan datang. Penelitian ini mencoba untuk menambah bukti mengenai hypothesis "informational content of dividend". Populasi dari penelitian ini adalah seluruh perusahaan yang terdaftar di LQ'45 di Bursa Efek Jakarta dengan periode 1999-2004. Alasan memilih periode ini karna bersamaan dengan peristiwa politik Pemilihan Umum yang mungkin mempengaruhi posisi keuangan di Bursa Efek Jakarta. Juga mengkonfirmasi teori Scott Fung dan Jayendu Patel (2004) dimana keuntungan perusahaan di masa yang akan datang cenderung dipengaruhi oleh karakteristik perusahaan, pertumbuhan jangka panjang, dan penilaian perusahaan.

Hasil dari penelitian ini menunjukan bahwa pengumuman dividend yang berubah tidak signifikan mempengaruhi kenaikan (penurunan) keuntungan perusahaan, tetapi penelitian ini mengindikasikan bahwa pengumuman dividend mengandung informasi kepada pasar. Hipotesis "informational content of dividend" dapat diterima, dan penelitian ini menambah bukti baru mengenai hipotesis "informational content of dividend" dan sepertinya Kenaikan (penurunan) dividend lebih dipengaruhi oleh keuntungan perushaan periode selanjutnya bersamaan dengan dilakukanya pengumuman dividend. Ini mengindikasikan bahwa fluktuasi dividend memberi gambaran tentang kesempata keuntungan perusahaan dim as yang akan datang. Dan sepertinya istilah liquid "cair" dalam perusahaan LQ'45 berhubungan dengan pengumuman dividendnya, kenaikan (penurunan) keuntungan yang tak terduga perusahaan di masa yang akan datang dipengaruhi oleh besarnya pengumuman dividend regularnya.

Kata Kunci: ***unexpected dividend change, future unexpected earnings, and information content of dividend***

STATEMENT OF FREE PLAGIARISM

Herein I declare the originality of this thesis: there is no other work which has ever presented to obtain any university degree, and in my concern there is neither one else's opinion nor published written work, except acknowledge quotation relevant to the topic of this thesis which have been stated or listed on the thesis bibliography.

If in the future this statement is not proven as it supposed to be, I am willing to accept any sanction complying to the determinated regulation for its consequence.

Yogyakarta, ,2005

Anom Destyanto Nur Alam

CHAPTER I

INTRODUCTION

1.1. Study Background

Management of company usually has two alternatives treatments about EAT (*earning after tax*) which are divided to shareholder as a form of dividend or, reinvested to company as retained earnings (Atmaja, 1999). Commonly management treats EAT (*earning after tax*) partially, half divided as a form of dividend and half reinvested to company. It means that management should decide the amount of EAT to be shared or divided as a dividend. This kind of decision in term of dividends treatment is considered as dividend policy (Jogiyanto, 1998).

According to Scott Fung and Jayendu Patel's (2004) research, the impacts of dividend policy and firm valuation are central to the relevance and informational effects of dividend policy. In the presence of asymmetric information, dividends can be considered as a communication device that allows insiders to convey important information to outside inventors. The content of this information reflects the presence of different economic mechanisms in which dividends affect firm value and its valuation. Yet these mechanisms are contingent upon different types of market imperfections and firm characteristics.

Scott Fung and Jayendu Patel (2004) have tried to undertake a new direction in testing the information effects of dividend policy by exploring the relationships between analysts' earnings forecast revisions and price reactions surrounding dividend change announcements. New insights obtained on the informational effects of dividend policy analysts' earning forecast revisions (surrounding dividend announcements) play more important role than dividend announcement alone in verifying and transmitting these new signals to investors. Dividend signals (as incorporated by analysts' earning forecasts) do not only reinforce existing information from previous earnings announcements, but also convey new information about future earnings. The most important thing is that these dividend signals on future earnings are clearly influenced by governance, long-term growth opportunities, and other firm characteristics.

Existing literatures have suggested that there are two major relationships which are commonly employed to verify the information content of dividend policy and whether dividends are important signals about firm value communicated to outside investors. Those kind of literatures discuss about (i) the relationship between dividend changes and unexpected changes in future earnings [Ofer and Siegel (1987), Denis and Sarin (1994), and Yoon and Stark (1995)]; (ii) the relationship between dividend signals and capital market price reactions [Aharony and Swary (1980), Asquith and Mullins (1983), Kalay and Lowenstein (1986)]. Allen (1995) and Michaely (2002) have claimed that the relationship between dividends and earnings is the most crucial condition for any dividend signaling model, if the relation is not supported by empirical tests, dividends do not have potential to convey information, let alone to signal. The reason is that without the predictive power of dividends on subsequent earnings, dividends may simply convey information about current earnings through the sources and uses of funds, and not because of signaling (Miller and Rock, 1985). Several studies which support the signaling effect of dividends on future earnings are Aharony and Dotan (1994), Bernheim and Wantz (1995), Michealy, Thaler, and Womack (1995), Brooks, Charlton and Hendershott (1998), Dyl and Weigand (1998), Healy and Palepu (1988), Kao and Wu (1994), Nissim and Ziv (2001). These studies including Ofer and Siegel (1987) and Lang and Litzenberger (1989) which also found that the analysts revise earnings forecasts following announcement of unexpected dividend changes and the revision are related to the size of the unexpected changes. On the other side, there are also studies which found the lack of predictability of dividends on future earnings, such as Gonedes (1978), Watts (1973), Miller (1987), Benartzi Michealy and Thaler (1997), and DeAngelo, DeAngelo, and skinner (1996). Furthermore, Fung's (2004) research has demonstrated a calibrated simulation features that the powers of existing test methods on dividend signaling depend upon the joint considerations on the types of uncertainties faced by the firm, the managerial objectives in setting dividend policies, and the information contents the firm attempts to signal. This result casts some doubt regarding the conclusions in the literature to date about the absence of signaling of earnings by observed dividends.

Although there is mixed evidence on a significant relationship between dividends and subsequent earnings, most empirical studies [such as Aharony and Swary (1980), Asquith and Mullins (1983), Kalay and Lowenstein (1986), Ofer and Siegel (1987)] have resulted the similar conclusion that the relationships between price (and market valuation of the firm) and dividends are strong among certain types of firms. Although DeAngelo, DeAngelo and Skinner (2003) did not found a material portion of aggregate dividends that reflect signaling motives, dividend signals of individual firms elicit strong market responses (though differ according to firm types). Aharony and Swary (1980), Asquith and Mullins (1983), Kalay and Lowenstain (1986), and Ofer and Siegel (1987) noticed that there is positive but differential association between dividend change announcement and stock price. For example, Lang and Litzenberger (1989) have found that a dividend change may convey information regarding a firm's future investment and governance, as price reaction to dividends are larger for over-investing firms (i.e. firms with lower profitability of future investment). Denis, Denis and Sarin (1994) have found that announcement period excess returns are positively related to dividend change and dividend yield, but unrelated to Tobin's Q. They found overall support for information signaling but weak evidence for agency (over-investment) hypothesis. Yoon and Starks (1995) also concluded that signaling effect rather than agency effect is a more likely explanation for observed stock price reactions to dividend changes. Nonetheless, these studies do not provide strong evidence that differentiates whether dividend signals convey information about future earnings, agency, and/or other considerations.

The phrase "the dividend phenomenon" often has been used to describe this effect, and real world occurrences of this phenomenon can be found throughout history. Carol Loomis, for example described the story of general Public Utilities which is quoted as follows:

In 1968 the management of public utilities decided to reduce its cash dividend to avoid a stock issue. Despite the company's assurances, it encountered considerable opposition. Individual shareholders advised the president to see a psychiatrist, institutional holders threatened to sell their stock, the share price feel nearly 10%, and eventually GPU capitulated (Loomis, qtd. In Brealy and Myers 376).

Despite anecdotal evidence such as the case of General Public Utilities, much debate remains in the academic realm about the role, if any; the dividend phenomenon plays on firm valuation.

Practically companies tend to give dividend with amount relatively stable or rise in order. These policies have a big possibility made by assumptions that: 1) Investor sees the increase of dividend as a goods signal that company has a bright prospect. On the other hand, investor sees the decrease of dividend as a bad signal that company has bad prospect 2) Investors tend more like the dividend that is not fluctuate but stable dividend (Atmaja, 1999).

The dividend announcement can be indicated as contents of information if market has a reaction when the announcement is accepted by market. The reaction to this announcement can be shown by changes of price or security trade volume from the company involved with. The reaction in a form of price changes can be measured by using return as a price changes value or use *abnormal return* (Jogiyanto, 1998). If *abnormal return* is used, it can be said that a certain announcement which conveys of information can give abnormal return, and the other way if it doesn't contain of information so it does not give abnormal return.

This research is a kind of replication from the research models that have been conducted by Ahary and Dotan (1994). The model used by Aharony and Dotan (1994) tried to develop the instrument measure to hypothesis "informational content of dividends". The need of this research is based on the previous researches that have been done where the result of study about dividend contents of information may be useful for market also produce a conclusion that's still mix. Watts (1973, 1976), Ang (1975) and Gonedes (1978) failed to discover the evidence of dividend contents of information. But the result from recent study such as Scott Fung and Jayendu Patel (2004) succeeded to discover the evidence of dividend contents of information. Some of approaches have been used to test the content information from dividend. This research is an approach that observes the security price movement around *Unexpected Dividend Changes*.

There are several researches who discover an evidence about announcement of dividend contents of information such as Laub (1976), Aharony and Swary (1980), Woolridge (1982), Asquits and Mullins (1983), Venkantesh and Chiang (1986), Healy and Palepu (1988), Chang and Chen (1991), Eddy and Seifert (1992), Mende (1994), and Scott Fung and Jayendu Patel (2004).

The research object in this study are several companies listed on LQ'45, consisting of 45 companies that have the best finance performance Jakarta stock exchange version. This research is important to view best finance performance of LQ'45 since managements, investors, and shareholders' decision or reactions are related with dividend announcements that contain of information about future earnings.

1.2.Problem Identification

This research tries to confirm about observation that the fluctuation dividend significantly will be followed by fluctuation of stock price. The reason why this research needs further observation because this can be important analysis for management making decision and performance to determine next step about future unexpected earning of company. It is also aimed to confirm and strengthen the validity about hypothesis *"informational content of dividend"*. The more evidence gained, those hypotheses are reliable.

This research will evaluate whether Unexpected Dividend Changes can provide information about future unexpected earnings. Therefore, there will be three test will be conducted. The test will be examine earnings and dividend announcements as they pertain to fluctuation in stock prices before and after these announcements occur, examine only dividends and earnings announced annually to the public, and examine if dividends convey useful information in the market, which will be reflected by changes in stock price immediately following a public announcement. To this end of research will be done by using data to compare stock price fluctuations versus earnings and dividends announcement annually for 45 companies listed on LQ'45 from January 1999 to December 31, 2004.

This research is important because it analyzes how important earnings per share and dividends per share to determine the change in stock price following their announcement. This research could give us insight into how stock price may fluctuate.

1.3. Problem Formulation

Based on the main idea and argumentation from the background and problem identification there are several formulating problems which are described as follows:

1. Do the announcements of dividend in LQ'45 company have positive (negative) impact to future earnings?
2. Is there any relationship between liquidness (best financial performances) LQ'45 to regularly announcements dividend and future unexpected earnings.
3. Is there any information in dividends announcements that influences next period of future earnings, to state the hypotheses "*informational contents of dividend*"

The second and third formulations as the main problem in this research are kind of efforts to test the contents of information from announcement of dividend regular. If the announcement contains of information, so it gives a signal for investor that the announcement reflects the changes management judgments to future company profit.

1.4. Research Objectives

The objective of this study is to provide two important new directions and opportunities in testing the information contents of dividend policy which are:

1. The study of economic relationship between dividend changes, earnings expectations and capital prices, and

2. The assessment of the relative importance of different information signals that are conveyed by dividend announcements to analyst and capital market investors.

The two empirical tests are linked in the sense to answer the latter (relative assessments of different considerations in dividends), and the understanding of the former (the linkages between analysts and capital market investors in response to dividend announcements). Those two empirical tests are necessary to enable suitable controls. This research investigates the possibility where analysts and investors react differently to dividend announcements, which analysts play a prominent role in receiving and transferring different signals. One reason for this difference in reaction is that analysts closely monitor firm's performance and provide forecast of firm value based on availability of new information. When there is new information about firm value (from dividend announcements), analysts will incorporate the new information in earnings forecast (Conditional on firm characteristics), analysts' forecast provides capital market investors an important justification of the dividend signals about future earnings. On the other hand, existing theories and empirical studies do not consider the possible interactions between price and analyst's forecast during dividend announcements.

The primary objectives of this study are to examine the stock price change following a dividend announcement and to explore the causes behind the market reaction to dividend initiations. This study largely explains the *unexpected dividend changes to future unexpected earnings by* using Ordinary Least Square (OLS) cross-sectional multiple regressions. As an extension of the existing empirical work, the predictability of abnormal return is examined. The logit model is implemented to determine the probability of a positive market reaction and then combined with the results from the cross-sectional regressions, the expected value from dividend initiation is predicted.

The innovations of this study are to: (i) combining price-reaction and earning expectation during dividend changes, and (ii) exploring the systematic firm variations in the nexus between dividend changes, earnings expectations, stock price, and liquidness of LQ'45.

This research features an event study method that combines price-reaction and earnings-expectation data for LQ'45 dividend paying firms between 1999 and 2004. The firm-level window provides suitable control for information content dividend announcements about future earnings, by measuring the closest (in time) analyst' earning forecast revision before and after dividend announcements.

The test of containing information only tests reaction from market, but it does not test how fast reaction market's. If the test includes the speed reaction from market to absorb information of dividend announcement, this test is just examining the efficiency market in form half strength. Then the testing of market efficiencies in form half strength is supposed to be conducted after the test of contents information, so double test above can be said as two different form of test (Jogiyanto, 1998:318-328).

1.5. Research Scope

Since this research has tried to confirm about informational content of dividend in company list in LQ'45, this research has a limitation or scope as follows:

1. The data used in this research is only several companies listed on LQ'45 that consists in the JSX value LQ'45 and Indonesian Capital Market Directory and other available resources data period 1999-2004.
2. The companies of LQ'45 that have dividend policy (regularly announcements dividend) from 1999-2004.
3. Sample only involves Dividend Company that is not a combination with other abnormal distribution, which are stock split and stock dividend (Aharony and Dotan, 1994).

1.5.1 Research purposes

Based on the formulating problem, the purposes of this research are:

1. To see the positive or negative of announcement dividend regular to EPS (earning per share) that is fluctuated in Jakarta stock exchange.
2. To see the relation between announcement dividends regular to EPS (earning per share) with the liquidness of companies that are listed on LQ'45.
3. To get the empiric evidence by using Ahary and Dotan (1994) model, about information content of dividend from the dividend changes to company earnings in the period after dividend changes period occurred.

1.6 Research Contribution

This research hopefully can determine that dividend Announcements Company listed in LQ'45 conveys of information about future earnings so that this research can provide several contributions as follow:

1. For researcher, this research gives the information and empiric evidence about the availability of information contents from dividend changes to prospect of future company profit, and the relations between best finance performances of LQ'45 company and Information contents of dividend in the future earnings.
2. For company, the result from this result can be a guidance to set up their dividend policy. If the result from this research is significant, it means that companies at least have to keep their dividend payment stable.
3. For other parties, this research can be used as references for next research especially for university student who will conduct a research or prove hypothesis "informational content of dividend" or "signaling theory

1.7 Definition of Terms

The terms used in this study are described as follows:

1. Signaling theory: "Is an asymmetric information problem in the firms where individuals who supply capital do not run the firms themselves"(S Narayan Rao and Jijo Lukose P.J, 2003).
2. Pecking order theory: "Explains the preferences sequences in financing decision which tries to use the retained earnings, and then move to debt

when their internal funds run out. Equity is issued only when firms have no more debt capacity (Myers, 1984; Myers and Majluf, 1984).

3. Agency cost: "The sum of all costs associated with having managers make decision on behalf of the owners. These costs include the costs of monitoring and control procedures, as well as the loss in value when manager do not make decisions in the best interest of owners" (Shapiro and Balbirer, 2001).
4. Agency conflicts: "Conflict of interest that arises when corporate decisions are delegated to agents (the managers) who work on behalf of the owners (Shapiro and Balbirer, 2001).
5. Unexpected dividend Change: "Dividend announcement that changes periodically, increasingly or decreasingly when it's distributed to company as earning" (Aharony and Dotan, 1994).
6. Tobin Q Ratio: "Tobin Q ratio is calculated as the market value of installed capital divided by the replacement cost of installed capital. An average Q ratio of less than 1.0 implies a high likelihood of over-investment, where as a Q ratio of greater than 1.0 signifies a firm that has undertaken the value-maximizing level of investment" Jeremy Schultz (2004).
7. Future unexpected earnings: "Prediction of earning in the future that can not be expected by management, investors, and shareholders as dividend policy" (Aharony and Dotan, 1994).

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter explains the previous studies and theories used to confirm announcements of dividend conveying information about future earnings. This research uses abnormal returns, dividend signaling, agency theory, and window analyst before and after dividend announced to conclude some hypothesis derived from previous studies and theories and also to verify the impact of dividend announcement to future unexpected earnings.

2.1 Literature review and Fundamental Theory

2.1.1 Measuring Abnormal returns

Empirical studies looking at measuring abnormal returns that are a result of dividend announcements begin with a very important proposition. This proposition is that the announcements of dividend changes cause similar changes in share prices (Jeremy Schultz, 2004). Petit (1972) provided one of the earliest validations of this widely accepted proposition. His study focused on the efficient market hypothesis and examined this theory by testing the speed and accuracy which market prices adjusted to dividend announcements. As a corollary, his investigation analyzed the possibility that changes in dividend contained informational content. The efficient market hypothesis states that "stock prices incorporate and reflect all relevant, widely available information". The theory also implies that no investor can "beat the market" on a consistent basis. Pettit also found that the market is efficient in its use of the information provided by dividend announcements, evidenced by significant price changes during his specified announcement period. Additionally, Pettit's study suggested that dividends supply substantially more information to the market over-and-above the effect of concurrent earnings announcements.

Although Pettit provided some compelling evidence for the informational content of dividends, his conclusions met significant dispute, primarily from Watts (1976). The two researches produced a series of articles criticizing the validity of each other's conclusions and how each arrived at different results. The main dispute between Petit and Watts was on the issue of adequate identification and control of the information conveyed by earnings (Aharony and Swary 1980). Generalizing to the whole body of empirical work on dividends, Asquith and Mullins (1983) contended that the disparate findings among researches stemmed from three main sources which are:

1. Inadequate identification and control of other simultaneous source of information,
2. The lack of isolation and control for investors' expectations,
3. The in ability to relate the wealth effect to the magnitude of dividends.

Thus, subsequent researchers have attempted to ameliorate these problems of variable misspecification and improper methodology.

Aharony and Swary (1980) took a significant step toward resolving the confounding influence of earnings announcements on dividend announcements. To this end, they conducted a study designed to ascertain whether quarterly dividend changes provided information beyond that of quarterly earnings numbers. Their analysis focused on dividend announcement dates that differed from earnings announcements dates by at least 11 days. This research also used daily stock price data to allow explicit identification and control of contemporaneous information. They reported a small, but significant effect from dividend an announcement that was separated from the impact of information from earnings announcement. Jeremy Schultz (2004) found a significant average excess return of about 1% over the 2-day announcement period when reviewing dividend increases and when reviewing dividend decreases, found negative abnormal returns of about 3% over the 2-day period. Their results also indicated that there was no leakage of information, such as information provided by earnings numbers prior to the announcement. In other words, dividends appeared to signal unique, valuable information to the market. Their study also supported Pettit's (1972) semi-strong form of the efficient capital market hypothesis.

Asquith and Mullins (1983) improved on the existing empirical work, as discussed above. These researches eliminated the problem of investor expectations by focusing their analysis on dividend initiating firms, "their sample only to firms in which the dividend was the first in their history or the resumption of dividend after a 10-year suspension". This provided a clearer view of the true impact of dividends on shareholder wealth. They also controlled for contemporaneous earnings announcements by identifying other information releases within ±10 days of the dividend initiation, so as not to confound the dividend announcement effect.

Asquith and Mullins (1983) reported large and significant results over the two-day announcement period. They cited excess returns of 4.7% for the subset of firms with no contemporaneous announcements, while the subset of firms with concurrent earnings announcements realized an excess return of only 2.5% because earning numbers appear to negate the impact of the dividend announcement, these results indicated the importance of separating earnings information from dividend information. In light of this relationship, Asquith and Mullins suggested that dividend and earnings announcements were partial substitutes for conveying information to the market.

Amsary (1993) also conducted the same research by testing the information about dividend changes have a signal for investor in Jakarta stock exchange in predict abnormal returns. He assumed that individual stock return is influenced by return entirely. As a result Amsary indicate that dividend announcements are a signal for investors in decision maker about dividend policy.

Sudjoko (1999) found that the information contents of dividend based on dividend signaling theory is considered with the increasing dividend only, with assumption of infestations opportunity. The research "information contents" test is based on the increasingly dividend announcement consistently and not consistently. And his result indicates the evidence about information content of dividend but not clearly approved whether the market-reaction is happen because of dividend announcement only or there is another factor such as profit announcement in same period with those dividend announcements.

2.2 Theoretical Models

2.2.1 Signaling and information content theory

The signaling theory is based on asymmetric information problem in the firms where individuals who supply capital do not run the firms by themselves. There are two types of asymmetric information problems: First problem arises when there is an adverse selection, the controlling managers may posses some information that is unknown by outside investors. In such cases, the financing method can serve as a signal to outside investors. Second, facing information asymmetry between inside and outside investors, firms end up having a financial hierarchy. The firms try to use their retained earnings, and then move to debt when their internal funds run out. Equity is issued only when firms have no more debt capacity (Myers, 1984; Myers and Majluf, 1984). This proceed is considered as "pecking order theory".

In a perfectly informed market, all participants (managers, bankers, shareholders and others) have the same information about a firm. However, if one group has superior information about the firm's current situation and future a prospect, an information asymmetry exists. There is a general consensus between the academic and financial communities that managers possess superior information about their firms relative to other interested parties. When this type of information asymmetry exists, managers may be compelled to use dividends as signals to convey to investors the favorable future prospects of their firm. According to Brigham et al (1999), there are two suggestions about corporate financial policy based on this theory, which are: (i) In a real world where asymmetric information exist, corporation should issue new share only in the unlikely event that they have extraordinary profitable investment that cannot be postponed, signaled to investors, or financed by debt, or in situations where management thinks the share are overvalued, and (ii) Selling pressure drives down a company's share price when it announces plans to issue new shares.

Much of the theoretical and empirical work on the dividend phenomenon stems from the pioneering study of Miller and Modigliani (1961). These researchers are responsible for the much scrutinized "dividend irrelevance" conclusion-a conclusion based on several carefully defined assumptions regarding the state of the world. Specifically, this research analysis assumed that there was no tax, transaction costs, asymmetric information, or other market imperfections. Under their perfect capital market assumption, Miller and Modigliani argued that the level of a firm's dividend payout should have no effect on the value of its shares of stock. They also maintained that the value of the firm's shares were the present value of the stream of future cash flow from current assets and future growth opportunities. This assumption held as long as the securities sold to finance any incremental current dividends were fairly priced. The authors further suggested that a dividend payment was merely an exchange of current cash for future cash of equal market value. Therefore, they concluded that dividend policy was irrelevant to the firm's financing decisions, because it had no effect on firm valuation.

Although Miller and Modigliani suggested that dividends were irrelevant under the assumptions of the perfect capital market, they did concede that dividend policy could be important if firms used dividend changes to convey information not otherwise known to the market (Jeremy Schultz, 2004). In this view, managers might announce dividend changes in an effort to move market expectations closer to those of management's expectations about future earnings. This proposition has given rise to significant research, both theoretical and empirical, termed the "informational content of dividends."

Announcements of dividend changes, initiations, and omissions are regularly found in the financial media. The responses to such announcements are that share price usually increases following dividend increases and initiations, while share price usually declines following dividend cuts and omissions. However, researches (e.g. jin, 2000) have acknowledged that price changes do not always follow this typical pattern.

In an attempt to explain the observed market reaction from dividend announcements, economists have formulated variety of models to analyze whether dividends can be used credibly to signal new information to the market. The driving force behind these models is that managers have private information about their firms' future prospects and then choose dividend levels that support their private information. The signal is credible if other firms, whose future prospects are not as good, cannot deceptively mimic the dividend actions of the firms with good future prospects. These theories provide a rationale for dividend changes and generate hypotheses from which empirical work can judge the observed effects of dividend announcements.

Bhattacharya (1979) created an early model of dividend signaling, in which managers signal the quality of an investment project by adhering to a specific dividend policy. The "investment project quality," measured as the expected profitability, is private information known only to managers. A key assumption of this model is that, if the payoffs from the project are not sufficient to cover the committed dividends, the firm will resort to outside financing to cover the short-fall-a move that may involve significant transaction costs. Thus, a firm with an investment project of genuinely high-quality would have lower expected transaction costs to meet its committed dividend obligations than would a firm with a low-quality project. Accordingly, it would be unprofitable for the latter firm to mimic the dividend policy of the firm having a high-quality project.

John and Williams (1985) took a significant step toward formalizing what they referred to as "signaling equilibrium". A credible signal is defined as any action that is prohibitively expensive for other firms to mimic (Jeremy Schultz, 2004). This is why firms without favorable information do not increase dividends. If the signal is credible, then investors will attach a higher value to the signaling firm than to the non-signaling firm. Therefore, there exists a "signaling equilibrium," because investors are able to assign different values to firms based on the content of the signal, or lack thereof.

John and Williams' analysis indicated that the effect of asymmetric information was most important when a firm had incentives to establish its true market value. Information asymmetry arises when investors are un aware of the quality of a firm's investment opportunities and future cash flows, for example, the benefit of establishing maximum value may occur when (1) the firm is selling shares of stock in the market, (2) current shareholders are selling their shares to raise cash for personal reasons, or (3) the firm is facing a takeover threat (Brealy and Myers, 1988). This can be accomplished when the payment of a dividend serves as a proxy for favorable inside information. In this case managers, acting in the interests of their current shareholders, may distribute a cash dividend if it signals that "better" firms distribute larger cash dividends. The market will believe that firms with more favorable private information will choose to pay larger dividends, and as a result will react to the signal in a way that adjusts share prices accordingly.

John and Williams also focused on the tax disadvantage of cash dividends. They believed higher share prices must be great enough to compensate shareholders for additional personal taxes on dividends (Jeremy Schultz, 2004).

2.2.2 Agency Theory

The agency theory is based on another problem due to information asymmetry that is the principle-agent conflict. The conflict arises when there is moral hazard inside the firm, which is called the agency costs of equity. Managers may pursue their own interests which may conflict with shareholders' benefits. This agency problem can be solved by increasing management ownership because high management ownership aligns the interests of management and shareholders (Jensen and Meckling, 1976). Other possibilities include monitoring of management by large shareholders (Jensen, 1986; Stulz, 1990). However, debt the benefit of establishing maximum value may occur when (1) the firm is selling shares of stock in the market, (2) current shareholders are selling their shares to raise cash for personal reasons, or (3) the firm is facing a takeover threat (Brealy and Myers, 1988). This can be accomplished when the payment of a dividend serves as a proxy for favorable inside information. In this case managers, acting in the interests of their current shareholders, may distribute a cash dividend if it signals that "better" firms distribute larger cash dividends. The market will believe that firms with more favorable private information will choose to pay larger dividends, and as a result will react to the signal in a way that adjusts share prices accordingly.

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The agency theory of dividends provides an alternative explanation for the positive wealth effect resulting from dividend announcements. Agency theorists point to two major sources of agency costs that are reduced by dividends. First major source is that issues a dividend eliminates the amount of free cash flow available to managers to spend on poor or wasteful investment projects. The other is that by starting a dividend program, firms will find the need to go to external financing sources. The external financing source will increase the monitoring of the firm and will reduce agency conflicts between management and stockholders. Easterbrook (1984) and Jensen (1986) provided the theoretic groundwork for much of the literature concerning the relationship between dividends and agency costs Easterbrook suggested that dividends might be an effective tool to reduce the agency costs associated with the separation of ownership and control. He argued that dividend payments forced managers to raise funds in the financial markets more frequently than they would without a dividend program, because cash flows would not be sufficient to meet regular dividend payments. As a result, dividends subjected managers to intense monitoring by outside professionals, such as investment bankers, commercial bankers, lawyers, and public accountants. Given the frequency of this scrutiny, managers have fewer chances to follow their own interests as compared to their shareholders' interests. Jensen argued, in the spirit of Easterbrook, that agency costs exist because shareholders cannot perfectly monitor their managers. Without perfect monitoring, managers may use excess cash for uses not in the best interest of shareholders. Under this condition, Jensen claimed that dividends, which minimize discretionary cash flow from management control, benefit shareholders by eliminating the possibility of wasteful investments (Jeremy Schultz, 2004).

2.3 Theoretical Framework and Previous researches

Unexpected changes in dividends are often associated with reactions in stock price. Howe (1998) believed that since managers are more informed than the market about the future prospects of their firms, their actions may convey new information to investors. Therefore, many investors assume that an unexpected change in dividends conveys news about the profitability of the firm.

To measure the unexpected change in dividends, a number of articles use thc dividend expectation model. By comparing actual dividends to expected dividends, managers are able to determine whether the announcement is favorable or not. Aharony and Swary (1980) found that about 87% of all firms had no change in quarterly dividend payments. To generate unexpected earnings, Kane, Lee, and Marcus (1984) used the earnings expectation model. The difference between actual and expected earnings was used as a proxy for earnings information supplied to the market. The earnings expectation model basically found the same results as the dividend expectation model, an insignificant correlation. Kane, Lee, and Marcus believed that interaction seemed to be better able to explain stock performance.

The abnormal performance is another key measurement used. The abnormal returns can be calculated over a period of time before and after the first dividend or earnings announcement, and using the capital asset pricing model or the market model. Kane, Lee, and Marcus (1984) believed that the capital market is interesting in the uniformity of information conveyed by dividend and earnings announcements. By using the CAPM, it was found that a 1% surprise in earnings and dividends leads to a 7% increase in price (Kane et al, 1984). Both Pettit (1972) Aharony and Swary (1980) used the market model in their studies to measure abnormal performance. Pettit (1972) stated "the market model posits a linier relationship between return of individual securities and return on the market." The results found in these studies suggested abnormal returns do not differ from zero (Aharony and Swary 1980).

Datta and Dhillon (1993) also examined the reaction in the bond market to unexpected quarterly earnings announcements. They stated that management uses dividends and earnings to signal information to security holders concerning future cash flows of the firm. They concluded that bondholders react positively to unexpected earnings increases. The effect on stockholders is not an issue in this article.

After studying the information content of dividend announcements, Kaestner and Feng-Ying (1998) found the most significant affect in stock price to be the size of the dividend payment that is announced. A study by Bajaj and Vijh (1990) was cited in the article because their findings reported that stock price is affected by a dividend change. They determined that when a firm has a history of high dividends, there will be an increase in their stock price when they announce an increase in dividends. Therefore, the response of a company's stock price to a dividend announcement corresponds to the expected dividend yield and the size of the dividend.

Dielman and Oppenheimer (1984) discussed the effects of dividend changes on investor behavior. A decrease in the dividend signals to investor that the firm may be worried about whether or not there will be sufficient cash flows to continue paying the dividend at their past level. However, an increase in the dividend rate provides investors with the confidence that the company anticipates high future cash flows that will allow them to pay the increased dividend rate.

Joseph Aharony and Itzhak Swary (1980) discussed the effects that dividend announcements and earnings announcements have on stock prices. The main goal of their study is to determine if quarterly dividend changes provide more information to investors than announcements regarding earnings changes. Their studies found that there is a positive correlation between quarterly dividend changes and stock price changes. Their findings also showed that changes in quarterly dividends also give additional information to the investor in addition to earnings announcements made by organizations.

Stephen H. Penman (1983) also looked at what dividend announcements show to potential investors. His studies determined that earnings and dividend announcements together show management's expectation of future earnings. These future earnings announcements also create more or less confidence in the organization affecting stock prices. However, dividend announcements alone do not predict value as well as earnings forecasts. Penman research was able to conclude that dividends and earnings announcements convey value to the market.

A study by Ross Watts (1973) found something different he determined dividends announcements do not give an indication of future earnings of a firm. Any correlation between dividend announcements and earnings are small and, therefore, were deemed negligible.

Scott Fung and Jayendu Patel (2004) examined informational content of dividend by exploring the nexus between dividend changes, revision of analyst' earnings expectations, and equity prices. Based on their findings, there are three clear patterns emerge. First, dividend changes reliably impact revisions in analysts' expectation of earnings. Second, analysts' revisions around dividend announcements are significantly related to equity returns in the same window. These two patterns strongly suggest that dividend changes bring new-to-market information on firms' earnings. Third, the pattern of price-reactions to analysts' earnings forecasts varies with firm characteristics: the reaction is stronger for firms with high dividend-to-free cash flow ratios, low leverage ratios, high market-to-book ratios and negative changes in long-term growth. This dependency on firm characteristic is consistence with the theory that dividend signaling of future earnings depends on the firm's governance and long-term growth opportunities.

Jeremy Schultz (2004) research examined stock price change following a dividend announcement and to explore the causes behind the market reaction to dividend initiation. His research attempted to capture investor expectation and ultimately predict their behavior, drawing on agency, signaling, and behavioral theories from previous research. The model incorporate proxies for firm reputation, investment opportunity set, operating risk, intensity of monitoring, information environment, and dividend anticipation.

Amy George, Chris Hein, Jeff Schmidt, and Heather Solberg (2001) tried to get the empirical research project by analyzing the relationship between earning per share, dividends per share, and change in stock price.

Dedi Herdiansyah, Januardi M. Diah, Arianto, and Tashadi Tarmizi (2002) used the Aharony and Dotan (1994) model to confirm "informational content of dividend" on the company list Jakarta stock exchange version period 1992 until 1996. Their research is failed to find any evidence to confirm the hypothesis "informational content of dividend". In further, their research concluded a significant evidence only one year and it did not prove that dividend convey information about future earnings.

In this research, profit announcement also anticipates with inputs the *unexpected earning yield* on the same period when dividend is announced and put in regression. This is conducted to avoid the effect of fluctuated dividend not because profit announcement in same years but implicate information contents about profit (loss) for future earnings company.

2.4 Hypotheses Formulation

Miller and Modigliani introduced the idea that dividend produces information about company profitability through the stock price changes. They stated that possibility investor interprets the dividend changes as a changes of management vision to company profit prospect in the future (Wansley dkk, 1991).

Watts (1976), in the first effort within identification those relation get a conclusion that observation about unexpected dividend change can not be concluded as a sign of changes in future unexpected earning, so the average of unexpected earnings would be different from zero.

Brickley (1983) tested the stock return also dividend pattern and earnings around dividend announcement date, comparing with situation occurred around the announcement date dividend rises. With his concern on earnings pattern, Brickley found that the increase of dividend annual regular on the 35 biggest rates will produce the increase earnings 30% on the next year. But there is no control conducted to potential information that content within past announcement and current earnings, so it can not be concluded whether the increasing earnings that observe on the next period is the impact from increasing dividend bigger than the expected only based on the past earnings.

Using the different methods, Healy and Palepu (1998) used the company sample which conducted initiation and omission to their dividend. They found that company who conducts initiation (omission) has a significant fluctuated on their annual earnings at list one year before dividend changes.

Dennis and Sarin (1994) had an opinion about positive relation between dividend announcement and stock price changes. First, there is a theory dividend signaling where dividend changes contain information about cash flow that is fluctuated dividend content good (bad) news about company cash flow at this time or future. Second, the dividend changes are affordable to give information about company infestations in the future (Lang and Lintzenberger, 1989).

Based on the explanation above the LQ'45 companies have a tendency about increasing or decreasing unexpected dividend as a good or bad signal for investors, managements, and shareholders that influence their actions, and its actions will give an impact in future earnings of the company. Based on that reasons the null hypothesis and the first hypothesis for this research as follows:

H_0: There is no a positive relation between increasingly (decreasingly) unexpected dividends and increasingly (decreasingly) unexpected earnings.

$$e\lfloor UEY_j(i)\rfloor = 0 \text{ For all j and for i = 1, 2, 3, 4}$$

Where UEY_j (i) is the unexpected earning yield of firm j in the i-th quarter subsequent to the event quarter. The alternative hypotheses are:

H_{1a}: There is a positive relation between increasingly unexpected dividends and increasingly unexpected earnings.

$$H_{1a} : e\lfloor UEYj(i)/\Delta D > 0\rfloor > 0$$

H_{1b}: There is a positive relation between decreasingly unexpected dividends and decreasingly unexpected earning.

$$H_{1b} : e\lfloor UEYj(i) / \Delta D < 0 \rfloor < 0$$

Where the ΔD denotes the percentage changes of unexpected dividend per year, counted as the differences between actual dividend and (D) and expectation value (D) divided by the expectation value. $\lfloor \Delta D = (D - D)/ D) \rfloor$.

The LQ'45 is consists of 45 companies listed on Jakarta Stock Exchange which are rated as the best financial performance. Therefore, these 45 companies have a kind good signal for all investors and shareholders. It means that these 45 companies have an ability to convince the investors and shareholders about the profitability future earnings. This assumption can be explored through the information that may contain in financial reports or dividend announcements of those companies. If dividend changes convey no incremental information about future earnings beyond that contained in current earnings, then the coefficient of ΔD should not be significantly different from zero for any *i*. Based on that assumption, this research will propose a second hypothesis as follow:

H_{2}o: Dividend changes do not have contents of information about future earnings, or dividend announcement does not content of information to future company profit.

$$H_{20}: a_0 = a_1 = a_2 = a_3 = a_4 = a_5 = 0$$

H_2: Dividend changes have contents of information about future earnings, or dividend announcement content of information to future company profit.

$$H_2 : a_0 \neq a_1 \neq a_2 \neq a_3 \neq a_4 \neq a_5 \neq 0$$

CHAPTER III

RESEARCH METHOD

This research is an event study which tries to confirm about observation revealing a fluctuation dividend significantly will be follow by fluctuated of stock price. The reason why this research needs further observation because this can be important analysis for management making decision and performance to determine next step about future unexpected earning of company. It is also aimed to confirm and strengthen the validity about hypothesis *"informational content of dividend"*. The more evidence gained, those hypotheses are reliable.

3.1.Research Subject

The subject of this research is whether Unexpected Dividend Changes can provide information revealing a fluctuation dividend significantly will be follow by fluctuated of stock price that provided by Future Unexpected Earnings. This research will examine only dividends and earnings announced annually to the public. This research will examine if dividends convey useful information in the market, which will be reflected by changes in stock price immediately following a public announcement. This will be done by using data to compare stock price fluctuations versus earnings and dividends announcement annually for 45 companies listed in LQ'45 from January 1999 to December 31, 2004.

The population for this research is only companies listed on LQ'45 Jakarta stock exchange (JSX). While the data needed are: stock price, earning per share

(EPS), also dividend announcement within 6 periods from 1999 until 2004. The method to collect sample in this research is purposive sampling. Purposive sampling is a technique to collect the sample based on certain criteria that is in accordance with the purpose of research (Kuncoro, 2003). The purpose of the research is to analyze the impact of regularly dividend announcements to future unexpected earnings companies listed in LQ'45 within period 1999 until 2004.

The samples taken in this research are companies that only listed on LQ'45 in JSX. Since this research was a case study of LQ'45, the numbers of firms that are included for the sample can be found 37 firms from 93 firms within 1999 until 2004 which are considered as 222 valid samples. However, industries may react differently to certain conditions. Therefore, there are several criteria that should fulfill the requirement as the sample of the research, as follow:

1. The samples are only companies listed in LQ'45 data period 1999-2005. The reason choosing this period is to know govern interference, growth opportunities and firm characteristic influencing dividend policy to future unexpected earning.
2. The researcher has selected companies that fulfill the criteria and data requirement for the research.
3. Companies that have dividend policy which indicates that each dividend change is changing management expectation.
4. Sample only involves Dividend which is not a combination with other abnormal distributions, which are stock split and stock dividend. (Aharony and Dotan, 1994).

5. The company that has cased with missing data is deleted from the sample.
6. The sample is initially set by the number of companies in population that has completed data.
7. The company that has zero dividends and closing price is deleted from the sample.

3.2.Classical Assumption Tests

3.2.1. Multicollinearity Test

The term multicollinearity means the existence of a "perfect" or exact, linear relationship among some or all explanatory variables of a regression model. The existence of multicollinearity causes in appropriate estimation result (Gujarati, 1995). The classical linear regression model assumes that there is no multicollinearity among explanatory variables because if multicollinearity is perfect, the regression coefficients, although determinate passed large standard errors (in relation to the coefficients themselves), which means the coefficients can not be estimated with great precision or accuracy.

According to Gujarati (1995), as a rule of thumb of this test is high pair wise correlation among regression. If the pair wise or zero order correlation coefficient between two repressors is high, for example, in excess of 0.8, the only multicollinearity is serious problem.

3.2.2. Autocorrelation Test

The term Autocorrelation means "correlation between members of series of observations ordered in time series (as in time series) or space (as in cross-sectional data)". In the regression context, the classical linear regression model assumes that such autocorrelation does not exist in the disturbance (Gujarati, 1995).

The autocorrelation consequences is the bias of the variance to the smaller value from the real value, so the R-squared value resulted tends to be overestimated. The way of detecting the presence of autocorrelation is by comparing the Durbin Watson statistics value (d- count statistics) with the d-table. The rule of thumb the d-statistic value can be seen in the following table:

Table Durbin Watson: Decision Rules

If	Condition	Decision
$0 < d < do$	Evidence of positive autocorrelation	Reject Ho
$dl \leq d \leq du$	Zone of indecision	No decision
$du < d < 4 - du$	No autocorrelation	Do not reject Ho or H*o
$4 - du \leq d \leq 4 - dl$	Zone of indecision	No decision
$4 - dl < d < 4$	Evidence of negative autocorrelation	Reject H*o

Source: Gujarati, 1995

Note:

Ho = No positive autocorrelation and H*o = No negative autocorrelation

3.4.3 Heteroscedasticity Test

The heteroscedasticity symptom will appear when the residual (el) has the different variance from one observation to another. The existence of heteroscedasticity causes the regression coefficient estimation becomes inefficient. One of the ways for detecting the heteroscedasticity symptom in the regression equation is using Glejser's test.

The Glejser test is similar in spirit to the park test. After obtaining the residuals (e_1) from the OLS regression, Glejser suggested to regress the absolute values of residuals (e_1) on the explanatory variables that is though to be closely associated with σ_1^2. If the t- count is found higher than t- table score between the regression results, so in the model will happen heteroscedasticity.

The most straight forward method of correcting heteroscedasticity is by means of weighted least squares. The WLS estimator is used when the variance of the disturbances in a regression are known to differ across observations. In addition to that to correct the heteroscedasticity may use ML- ARCCH, which is the estimation can be performed therefore that asymptotically valid statistical inferences can be made about the true parameter value (Gujarati, 1995).

3.3.Research Variables

Variable measurement that used in this research is:

$$UEY_{J(t+1)} = a_0 + a_1.\Delta D_j + a_2.UEY_J(0) + \bar{e}$$

Where:

ΔD_j = The percentage changes of unexpected dividend per year company j, counted as the differences between actual dividend and (D) and expectation value $(\breve{D})$ divided by the expectation value. $\lfloor \Delta D = (D - \breve{D}) / \breve{D}) \rfloor$.

UEY_{J_t} = The differences between actual EPS and expectation EPS divided the closed stock prices company j on year t-1.

$$UEY_{J(t+1)} = a_0 + a_1.\Delta D^{+}{}_J + a_2.\Delta D^{-}{}_J + a_3.UEY_J(0) + a_4.D_{IJ} + a_5.D_{NJ} + \bar{e}_J$$

Where:

$\Delta D^{+}{}_J$ = Positive dividend changes,

$\Delta D^{-}{}_J$ = Negative dividend changes

For the dividend case which does not change those two variables set up become zero. For D_{IJ} and D_{NJ} which is put in dummy variables clarifier within equation (2), where:

For D_{IJ}; 1 if $\Delta D_J > 0$ and D_{NJ}; 1 if $\Delta D_J = 0$, 0 if the others

3.5.1. Research Procedures Hypothesis testing

3.5.1.1. First hypothesis testing

To test the hypothesis H_{1a} and H_{1b} so the averages of UEY counted as:

$$\overline{UEY} = \frac{1}{N_1} \sum_j \sum_k UEY_{jk}(i), for \Delta D > 0 and \Delta D < 0$$

And

$$\overline{UEY} = \frac{1}{M_i} \sum_j \sum_k UEY_{jk}(i), for \Delta D = 0$$

Where N_i observation amount from dividend sample which changes, while is M_i is observation amount where dividend doesn't changes. To test the significant statistically from UEY, firstly t test is conducted:

$$t\left(\overline{UEY}\right)(i) = \frac{UEY(i)}{SD\left[UEY_{jk}(i)\right]}\sqrt{Ni}$$

Where:

$$SD\left[UEYjk(i)\right] = \sqrt{\frac{1}{(Ni-1)}\sum_{j}\sum_{k}\left[UEY_{jk}(i) - UEY(i)\right]^2}$$

The second step test for hypothesis is conducted by using data normality testing. This normal distribution test is very important, because if this test is true those data are far from assumption a distribution normal, so those group data cannot be conducted hypothesis static parametric test. But, statistic non parametric test will be conducted. In this research, data normality testing based on the *skew ness* value just like what SPSS (1998) book given in the form of *rule of thumb* which is -2 until +2.

The formula is:

$$Z = \frac{Skewness}{S.e.skewness}$$

Normality assumption can be refuse, if z values less then or more than critical value, But if the data doesn't normal distribution, so SPSS propose to use teohos non parametric like Mann Whitney-Wilcoxon Signed Rank test for 2 free sample or Kruskal-Wallis for K free sample. Since the samples uses in this research are more than 100-200, the data can be indicated normal. So normality testing is does not necessary conducted.

3.5.1.2. Second Hypotheses Testing (H_2)

To test second hypotheses (H_2), the estimation is conducted by plugging in *change cash* and also fixed cash (data dividend). Null hypotheses are accepted when $a_0 = a_1 = a_2 = a_3 = a_4 = a_5 = 0$ for A, and for a_3, if expectation earnings model used to estimate $UEY_J(i)$ does not fully effect to current unexpected earnings would be different from null $(a_3 \neq 0)$, and positive tendency, impact of positive correlation from unexpected earnings (Bernard and Thomas,1990). Finally, if $a_0 \neq a_1 \neq a_2 \neq a_3 \neq a_4 \neq a_5 \neq 0$, so null hypotheses are rejected (Aharony and Dotan, 1994).

Then for the purposes relation testing between dividend changes with unexpected earnings yield coefficient $a_0 a_4 and a_5$ has to be interpreted as follows: a_0 represent intercept for declining dividend group; $(a_0 + a_4)$ represent intercept for rise group dividend; and $(a_0 + a_5)$represent intercept for fixed dividend group, and conduct f test (Aharony and Dotan, 1994).

3.6. Technique and Data Analysis Tools

Earnings-and Dividend-Expectation Model

Unexpected earning and dividend can be defined as a different between actual value and expected value, this model has been found to represent quite adequately the time-series behavioral of annual earnings (Albrecht, et.Al., 1977), similar to Ahary and Dotan's (1994) excerpt, Parameter w in equation is estimated from each company, by using earning per year where expectation earning will be tested.

Therefore, the expectation model used for annual earnings is a random-walk with drift, namely:

$$e(A_{t+1}) = A_t + W \text{ ....} \textbf{(1)}$$

Where:

A_t = Amount of company EPS per year

w = a drift term, computed as the mean of the differenced annual earnings series [$(A_t - A_1)/(t-2)$] as average from annual earning different series.

The parameters w in equation (1) are estimated for each firm by using quarterly (annual) earnings from as early as 2000 to the most recent quarter for which data is available at the time the earnings expectation is estimated.

It is needed to be noted, however, that a rejection of the null hypothesis does not necessarily assure that dividend change provides incremental information about future earnings. A dividend change may be a reaction to changes in the concurrent earnings which, due to imperfections in the earnings expectation model, may be associated with subsequent earnings. To control this possibility, Aharony and Dotan suggested second test that is cross sectional multiple OLS regressions in a form:

$$UEY_{J(t+1)} = a_0 + a_1.\Delta D_j + a_2.UEY_J(0) + \overline{e_j} \text{ ....} (2)$$

Where:

$UEY_J(0)$= Unexpected earning yield of firm j in years where dividend changes annually (even annual)

$\overrightarrow{e_j}$ = a random error, at the year after event annual if dividend changes do not contain information about earnings in the future and stay at the earning right now so coefficient ΔD is equal to 0 every year or under hypothesis null (H_0). Meanwhile if the other way happened it is going to be alternative hypothesis. Then UEY $_{jk(t+1)}$ definition as unexpected earnings yield from company j within year $_{t-1}$ is used to make a standard yearly error forecast (Aharony and Dotan, 1994).

Ahary and Dotan (1994) excerpted Aharony and Swary (1980), Bar Yosef and sarig (1992) showed the differences investor reaction to fluctuated dividend. It is possible for a manager to re-reset their dividend policy reaction into increasing expected EPS compare to decreasing expected EPS, to handling this possibility slope variable (ΔD) on the second equation, the variable will be changed with $\Delta D^{+}{}_{j}$ for positive dividend changes, and $\Delta D^{-}{}_{j}$ for negative dividend changes. Meanwhile, for the dividend case which does not change those two variables set up become zero. And the other variables used to make differentiation, intercept separation will be conducted. In further, D_{ij} and D_{Nj} considered as a dummy variable:

For $D_I j$; 1 if $\Delta D_j > 0$ and D_{Nj};1 if $\Delta D_j = 0$, and 0 if the others

The regression equation (2) now becomes regression equation 2a):

$$UEY_{j(t+1)} = a_0 + a_1.\Delta D^{+}{}_{j} + a_2.\Delta D^{-}{}_{j} + a_3.UEY_j(0) + a_4.D_{Ij} + a_5.D_{Nj} + \bar{e}_j (2a)$$

CHAPTER IV

REASEARCH FINDINGS, DISCUSSION, AND IMPLICATIONS

This chapter will explain about the early process of gathering data, measurement of variables used in this research, data analysis and the interpretation of hypothesis testing which consists of explanations about research findings, discussion and research implications.

4.1 Research Preparation

4.1.1 Data and Descriptive Analysis

Data used in this research is quantitative data taken from all dividend announcements of firms listed on the Indonesian Capital Market Directory (ICMD) 1999-2004, Capital Market Data Base of JSX corner Islamic University of Indonesia, and also other relevant sources. The researcher requires at least six years of annually (six period) data be available around the dividend announcement date. The regularly dividend announcement date is identified by scanning the JSX value of LQ'45 February 2005, while the annual earnings report date is from the Indonesian Capital Market Directory (ICMD) 1999-2004 annually tapes. To be included as a sample, a dividend announcement must fulfill these following criteria's:

1. The dividend distribution is a regular annually dividend announcements. There is no other dividend event (stock dividends, stock splits, special dividends) on the announcement date. Stock

dividends, stock splits and special dividends have all been shown to be non-trivial corporate events. This sampling restriction ensures that the sample is not contaminated by these other events;

2. The shares on which dividends are paid are ordinary common shares with the LQ'45 share codes company;
3. The firm has not missed the previous regular dividend payment;
4. The firms is listed in the JSX value of LQ'45 from 1999 until 2004;

On each firm announcement, this research retrieves earning per share (A_t) and the expectation value of earning in the future (A_{t+1}) around the dividend announcement from JSX value LQ'45 and COMPUSTAT in Capital Market Data Base of JSX corner Islamic University of Indonesia. After that process, the researcher accesses 37 stock file and EPS per year. The expectation model for earnings each year is defined as follows:

$$e(A_{t+1}) = A_t + W$$

Where:

A_t = Amount of company Earnings per year

w = a drift term, computed as the mean of the differenced annual earnings series $[(A_t - A_1)/(t-2)]$ as average from annual earnings different series.

In addition, this research calculates the regular dividend expectation model by using up to 200 samples from 1999-2004 dividends, earning, and stock after even date. At least 185 samples are required to calculate the coefficient. These 185 samples are excluded 1999 because this years is used as a base year to calculate next year. The expectation model coefficients (a2) are estimated from this following regression:

$$UEY_{J(t+1)} = a_0 + a_1.\Delta D_j + a_2.UEY_J(0) + \overline{e_j}$$

Where:

UEY $_J(0)$= Unexpected earning yield of firm j in years where dividend changes annually (event annual)

$\overline{e_j}$ = a random error, at the year after event annual

This research calculates the future earnings by differentiating between actual value and expected value to measure the unexpected earning that company receives in the same date with regular announcements dividend. This research retrieves earnings and stocks before the company actions are conducted to gather the original data so hypothesis "informational content of dividend" can be revealed. If the data of earnings and stocks retrieve after company action, the data is not original. This means that managements already use this data as information to predict the future earnings.

For dividend changes, instead of using reported quartered dividend changes, this research constructs annually changes in dividend from the JSX value of LQ'45:

$$\Delta Div = \frac{D_{act} - D_{\exp}}{D_{\exp}}$$

Where:

Δ Div: Dividend Changes (the difference between actual and expectation).

D_{act}: Regularly Dividend Announcements.

D_{exp}: Dividend Expectation Using Aharony and Dotan (1994) Model.

This study uses annualized data because earnings have contained strong seasonality, and dividends are not uniformly distributed across the four quarters. The measurement of annual data has advantages over previous studies. The dividend announcements would always be right before the next annual data (six years 1999-2004) are known. Some previous studies measure the annual dividend by summing all the four quarterly dividends in the year or by summing the first quarter dividend and the three last quarterly dividends of the previous year as the previous year's annual dividend [e.g., Watts (1973)]. Others multiply the last quarterly dividend by four to get the annual dividend (Nairong Yan, 2000).

4.1.2 Sample Statistic

Table 4.1

Sample Selection

Panel A: Sample	Dividend Increases	No Change	Dividend Decreases	Total
Total number of firms conducted dividend events	42	15	36	93
Dividend events with firms not listed in the LQ'45 from 1999 until 2004	5	3	7	15
Dividend events which potentially contaminating announcements occurs during 1999-2004	10	6	4	20
Dividend events with zero and missing data	9	2	10	21
Total excluded dividend events	24	11	21	56
Total numbers of dividend for analysis	**18**	**4**	**15**	**37**
Events percentage (%)	**48.65**	**10.81**	**40.54**	**100.00**

This table reports the number of dividend events, classified by sample selection criteria (Panel A). To be included in the final sample, a dividend announcement must satisfy several following criteria's that have already been discussed.

The resulting sample contains 37 firm events across 93 firms which represent the number of samples 222, 37 firms multiplied by 6 periods (1999-2004). Among the 37 firm events or 222 samples, there is no sample of dividend increases less than 10% (small dividend increases), all 71 samples are dividend increases between 10% and 500% (large dividend increases), 83 samples are dividend decreases, and the rest 68 samples are observations with no dividend changes.

Thus statistic value of dividend can be seen through the descriptive statistic as follows:

Table 4.2

Panel B: Descriptive sample for the modified sample 185 observations

	UEY		UEY
Mean	0.08	Skew ness	5.03
Medium	-0.006	Kurtosis	52.42
Max	23.58	Jarque-bera	19611.43
Min	-10.83	Probability	0.000
Std Dev	2.45	Sum Sq. Dev	1105.429

The sample is dominated by large firms. The mean and median UEY show 0.08 and -0.006 which confirms previous studies that dividend-paying firms are usually large firms. The range of unexpected earnings yield shows high dividend payment that is -10.83 to 23.58 averagely.

4.2 Research process

The data needed in this research is obtained from Indonesian Capital Market Directory (ICMD) 1999-2004, Capital Market data base of Jakarta Stock Exchange (JSX) corner at Faculty of Economics, Islamic University of Indonesia and other relevant sources with data criterion:

a. The companies selected in this research are 37 companies, started from 1999-2004. Those companies are already sorted and can fulfill the requirements as sample in this research with the completeness data based on research variable. The final numbers of samples are from 93 companies that are ever listed as LQ'45 companies in Jakarta Stock Exchange from

1999-2004. Then, the company which has zero (0) dividend, earning per share, and closing price is deleted from the sample. This is because this case may deviate the important assumptions which may influence the estimation result. The companies which cannot fulfill data requirements yearly are excluded as the sample.

b. The data used in this research includes the information of financial report from 93 companies-years at JSX value LQ'45 February 2005 period 1999-2004. The data includes: Dividend announcements, issued history, Earning per share, Stock price, and other data can be seen in appendix 1.

c. The use of issued history in this research is to adjust the value of dividend, earning per share, and stock price of companies which conduct stock split and stock dividend. The research scope in this research avoids the companies that issue or conduct other abnormal distribution such as stock split and stock dividend. If the sample in this research is deducted by companies which conduct abnormal distribution, the sample are only 25 companies. Therefore, to avoid the lack of samples, the companies which have conducted abnormal distribution are included as a sample. However, the data needs to be adjusted first by exploring the issued history of companies at the date when companies issue stock split and dividend.

d. The data is obtained and processed by making several calculations by using Microsoft Excel computer software to measure the notation as a basis in making research variables needed in this research. The variable used in this research is two variables plus four dummy variables to control the variance of the data. All samples used are 37 companies' data based on the data requirement criteria.

The hypothesis testing is done by using statistical testing method for the measurement of variables. Microsoft Excel is used and the data is processed by using Eviews 3.0 for the statistical calculations.

4.3 Research Findings and Discussions

There are 93 firms which represent 465 data samples included in LQ'45 company during 1999-2004. The companies which have minus or zero dividend, earning per share and closing price are eliminated from the samples. Thus, there are 37 firms which represent 222 samples.

Based on the data, there is a finding by using regression method of Eviews 3.0 which is described as follows:

Table 4.3
Average UEY Dividend Changes and Not Changes

Dividend		2000		2001		2002		2003		2004		2000-2004	
Case	N	UEY	Std dev	UEY	Std dev	UEY	Std dev	UEY	Std dev	UEY	Std dev	UEY	Std dev
D>0	71	-0.26 (-1.10)	0.81	0.64 (1.03)	2.16	1.61 (1.03)	6.07	0.04 (0.51)	0.31	-0.07 (-0.24)	1.09	0.38 (1.03)	2.13
D<0	83	-0.14 (-1.45)	0.45	0.46 (0.85)	2.18	-0.49 (-1.2)	1.55	-0.51 (-1.1)	1.74	-0.17 (-1.39)	0.52	-0.16 (-1.59)	0.62
D=0	68	-2.37 (-1.11)	4.76	0.19 (0.34)	1.75	1.54 (1.05)	4.13	-0.76 (-0.9)	1.96	0.33 (2.59)	0.25	-0.38 (-0.13)	1.22

N = the number of case **(....) = value of t-statistic**

Table 4.4

OLS REGRESSION RESULT 2_a EQUATION

Coefficient Parameter	2000	2001	2002	2003	2004	2000-2004
Constant (a_0)	-2.208 (-2.756) [0.009]*	-0.847 (-0.949) [0.349]	-1.212 (-0.339) [0.736]	-0.321 (-0.457) [0.650]	-0.160 (-0.363) [0.718]	0.150 (0.278) [0.780]
ΔD Positive (a_1)	-0.008 (-0.501) [0.619]	-1.242 (-0.923) [0.362]	-0.340 (-0.704) [0.486]	0.002 (0.030) [0.975]	0.041 (0.322) [0.749]	0.059 (2.925)* [0.003]
ΔD Negative (a_2)	-3.680 (-2.004) [0.054]	-3.340 (-2.053)* [0.048]	-1.738 (-0.298) [0.767]	0.873 (0.553) [0.584]	-0.377 (-0.502) [0.618]	0.287 (0.274) [0.784]
UEY $_0$ (a_3)	-0.034 (-0.184) [0.855]	0.351 (2.160) [0.038]*	-0.025 (-0.151) [0.880]	-0.100 (-0.558) [0.580]	-0.229 (-1.168) [0.251]	-0.073 (-1.010) [0.313]
Dummy ΔD Positive (a_4)	2.330 (2.311) [0.027]*	2.006 (1.547) [0.132]	1.606 (0.414) [0.681]	0.380 (0.475) [0.638]	0.030 (0.059) [0.953]	-0.518 (-0.842) [0.400]
Dummy ΔD Fixed (a_5)	1.832 (1.481) [0.149]	0.326 (0.301) [0.765]	6.332 (1.601) [0.119]	-0.481 (-0.519) [0.606]	-0.647 (-1.088) [0.285]	0.653 (0.945) [0.345]
Adjusted R-squared	0.0232	0.167	0.110	-0.063	0.047	0.043
N	36	36	36	36	36	184
F-Statistic	1.166	2.406	1.865	0.581	1.347	2.652
Probability	0.348	0.059	0.130	0.713	0.271	0.024*
Durbin Watson	2.074	1.852	1.972	1.877	2.123	2.253

(....) = value of t-statistic **[...] = probability**

N = the number of case ***significant at the OLS regression**

4.4 Hypothesis Testing

4.4.1 F-Statistic Testing

F- Statistic testing obtained from regression analysis on table 4.2 shows the values of F-Statistic period 2000-2004 which are 1.166, 2.406, 1.865, 0.581, 1.347, 2.652, and probability which are 0.348, 0.059, 0.130, 0.713, 0.271, and 0.024. Since the probability in period 2000-2004 < 0.05, Ho is rejected and H_a fails to reject. It may conclude that dividend changes positive, dividend changes negative, unexpected earnings yield, dummy positive and dummy fixed significant influence on future unexpected earnings.

Coefficient determination ($R^2_{adjusted}$) is found 0.043 which means that around 4,3% from variation on Unexpected Future Earnings variable may be explained by 5 independent variables in the model, where as the residual of 89,46% is explained by other factors outside the model. The number of adjusted R^2 is small because the number of significant independent variable such as constant variable, dividend decrease (ΔD^-), unexpected earning yields, dummy positive, and dummy fixed or no changes for overall period are more than 5% or $\alpha > 0.05$ which are 0.3499, 0.7841, 0.3134, 0.4005, and 0.3459. It means that the only significance of independent variable according least square result of Eviews for overall period is dividend increase (ΔD^+) with the number of significances 0.0039. This probability number has an impact to adjusted R^2 resulted small number. But the probability of entire (overall period) test for period 1999-2004 results significant number.

4.3.2 T-Statistic Testing

T- Statistic testing obtained from table 4.1 shows the average of unexpected earning yield $\left(\overline{UEY}_{(i)}\right)$ occurs after the announcements unexpected dividend increases, decreases, and fixed. The result is conducted per year (2000, 2001, 2002, 2003, and 2004) to see whether this result indicates time-period specific which is the data relates with certain year (Aharony and Dotan, 1994). The result is also conducted as a whole or overall period (2000-2004).

The result of the research indicates that the whole period (2000-2004) for increasing dividend ($\Delta D>0$), decreasing dividend ($\Delta D<0$), and fix dividend ($\Delta D=0$), the percentage of **UEY** provide evidence which is not significant to use t-test. The information in table 4.2 also indicates that UEY is not significant with probability 0.313, which means that increasing (decreasing) dividend does not give any signal to increasing (decreasing) profitability company in the future, so H_o fails to reject.

4.5 Empirical Result

Based on the information in table 4.2 about regression result from 2_a equation for each years and overall years indicates that each increasing dividend group (ΔD^+) is represented by a_1 coefficient results positive unexpected earnings yield in research period 2003, 2004, and overall 2000-2004 at amount 0.002, 0.041, 0.059. But in research period 2000, 2001, 2002, the increasing dividends affect on the decreasing unexpected earnings yield at amount -0.008, -1.242, -

0.340, this is in accordance with following period years that have been mentioned previously.

The mix evidence result also can be seen in the table 4.2 for decreasing dividend groups (ΔD^-) which are represented by a_2. This variable affects the decreases unexpected earnings yield in the period 2000, 2001, 2002, and 2004 at -3.680, -3.340, -1.738, -0.377. But in the period 2003 and 2000-2004 (overall), the decreasing dividend affects the increasing unexpected earning yield that is 0.873, 0.241 based on the following period that is mentioned previously.

According to Aharony and Dotan (1994), for further analyzes to see the relation between dividend changes with future unexpected earnings, the coefficient of a0, a4, a5 should be interpreted as follows; a0 represents the intercept for decreasing dividend groups; (a0 + a4) represents the intercept for increasing dividend groups; and (a0 + a5) represents the intercept for fixed dividend groups. Based on the information provided in table 4.2, the estimation result from coefficient a0 and a4 is statistically significant in year 2000, and coefficient of a5 within each year period statistically not significant. It means that in year 2000, the increasing or decreasing dividend changes (ΔD) contain information about future earnings.

The intercept for decreasing dividend groups (a0) is -2.208, and intercept for increasing dividend groups (a0 + a4) is 0.122. It may be concluded that decreasing dividend has an impact in reducing unexpected earning yield and increasing dividend has an impact in increasing unexpected earning yield. But intercept for no change dividend groups (a0 + a5) is -0.376 which indicates that dividend no change has an impact in decreasing unexpected earning yield. From this information, the companies listed in LQ'45 which announce dividend stable or decrease will affect in decreasing future profitability.

As a whole or overall research (2000-2004), regression result shows that the intercept for decreasing dividend groups (a0) is 0.135, intercept for increasing dividend groups (a0 + a4) is -0.387, and intercept for fix dividend groups (a0 + a5) is 0.795. It can be seen that no change dividend groups produce unexpected earning yield which is bigger compared to increasing and decreasing dividend groups. But as a whole research period 2000-2004, the regression is not significant statistically by using t-test. Conversely it is significant statistically by using F-test.

Those evidence can be concluded that the result of this research finally indicates new evidence that there is kind of incremental information conveyed by dividend announcements to future profitability of company in the period after dividend announcements period occurred. The estimation result 2a regression on the table 4.2 indicates that no change dividend groups produce unexpected earning yield bigger than increasing or decreasing dividend group in two research period 2002 and 2000-2004. In research period 2000, 2001, 2003, and 2004, the intercept increasing dividend groups produce unexpected earning yield which is bigger than decreasing and no change dividend groups.

The evidence solves the problem of this research about relationship between liquidness (best financial performances) LQ'45 to regularly announcements dividend and future unexpected earnings. It seems that the liquidness of LQ'45 is influenced by the market reaction such as managements, investors, and stockholders in making decision about their dividend whether it will be divided or reinvested as retained earnings.

Finally, the results of this research in period 2000-2004 indicates the conclusion to answer the first hypothesis (H1a and H1b) and second hypothesis (H2) which is rejected Ho and fail to reject H_a with interpretation dividend changes affecting the profitability of company in the future.

4.6 Classical Assumption Tests

4.6.1 Multicollinearity Test

The term multicollinearity means the existence of a "perfect" or exact, linear relationship among some or all explanatory variables of a regression model. The existence of multicollinearity causes in appropriate estimation result (Gujarati, 1995). The classical linear regression model assumes that there is no multicollinearity among explanatory variables because, if multicollinearity is perfect, the regressions coefficients of the explanatory variables are in determine and the standard error is infinite.

According to Gujarati (1995), as a rule of thumb of this test is high pair wise correlation among regression. If the pair wise or zero order correlation coefficient between two repressors is high, for example, in excess of 0.8, the only multicollinearity is serious problem. There is a correlation matrix among independent variables use Eviews:

Table 4.5
Correlation Matrix among Independent Variable

	X1 -	X1+	X2 -	X2+	X3 -	X3+	X4 -	X4+	X5 -	X5+
X1 -	1,000									
X1+	0.188	1,000								
X2 -	-0.073	0.149	1,000							
X2+	-0.271	-0.06	0.353	1,000						
X3 -	-0.318	-0.309	0.024	0.191	1,000					
X3+	-0.361	-0.093	-0.476	-0.068	0.289	1,000				
X4 -	-0.031	-0.173	-0.522	-0.074	-0.14	0.202	1,000			
X4+	0.154	0.31	-0.125	-0.159	-0.498	0.014	0.212	1,000		
X5 -	-0.084	0.002	0.019	0.171	0.108	-0.124	-0.305	-0.263	1,000	
X5+	0.171	0.126	-0.077	-0.071	-0.132	-0.113	-0.611	-0.101	**0.356**	1,000

Based on the multicollinierity testing result on table above, it shows that there is no correlation coefficient that is beyond 0, 80. Where the highest value is 0.356, it means there is no problem in multicollinierity among independent variables. Thus, the assumption there is no multicollinierity among independent variables fulfill in the least square regression.

4.6.2 Autocorrelation Test

To test whether there is autocorrelation, the Durbin Watson (D-W) table statistics is used. The criteria used is D-W must be between dU and 4-dU in order the assumption of there is no autocorrelation is fulfilled (Gujarati, D N, 1995:143-144). The dU value is obtained from D-W value (appendix 10) based on the number of samples and the number of independent variables. In this research, the number of samples is 222 and there are 5 independent variables. In the table of Durbin Watson, the sample which is more than 200 and 5 independent variables can be explained by dU value 1,820, thus 4-dU = 4 – 1,820 = 2,180. Thus, D-W must be between 1,820–2,180 to fulfill the assumption there is no autocorrelation, from the estimation least square regression result model obtains D-W value from

2000-2004 is 2.075, 1.853, 1.972, 1.877, 2.124. Therefore, it can be concluded that there is no autocorrelation fulfill on least square regression model.

4.6.3 Heteroscedasticity Test

The heteroscedasticity symptom will appear when the residual (el) has the different variance from one observation to another. The existence of heteroscedasticity causes the regression coefficient estimation becomes inefficient. To indicate whether there is no heteroscedasticity, the probability value is more than $\alpha = 0, 05$.

The deviation to the homoscedasticity assumption may cause the result of F test and T test becomes inaccurate or bias, so the conclusion or inference will be misleading (Gujarati, 1995: 366). To solve this problem, this research uses technique developed by Engle which is Autoregressive Conditional Heteroscedasticity with Absalom residual estimation. By using ABRES- ARCH, this research makes a correction to the heteroscedasticity which exists in the result. Through several iteration or adjusting point in ABRES- ARCH the heteroscedasticity may be more considered and can be responsible, therefore the hypothesis in this research is based on the ABRES-ARCH result which is shown in the table.

4.7 Comparison to Previous Research

Several previous studies show that the stock market reacts to dividend changes. The signaling hypothesis suggests that the market reacts because dividend changes contain new information about future earnings. However, empirical evidence on the signaling hypothesis is weak and mixed. Some recent studies even find that dividend changes reflect mostly current and past earnings but not future earnings [e.g., Benartzi, Michaely, and Thaler (1997)].

By classifying dividends into the two groups, this paper provides evidence consistent with the implications of the Aharony and Dotan (1994) model. Therefore, this paper does not only provide new evidence for the signaling hypothesis but also helps explaining the weak and mixed results of previous studies that do not distinguish between the two types of dividend changes [e.g., Watts (1973), Gonedes (1978), and Benartzi, Michaely, and Thaler (1997)]. Although this research finds evidence in favor of the dividend clientele hypothesis, this research also finds that the differential market reactions remain even after controlling for the dividend clientele effect.

The result is similar to the previous research conducted by Datta and Dhilon (1993) which stated that management uses dividends and earnings to signal information to security holders concerning future cash flows of the firm. They concluded that bondholders react positively to unexpected earnings increases. The effect on stockholders is not an issue in this article.

By using the large sample, this research is similar to the Aharony and Dotan (1994) research and findings. Their result is significant in which dividend change conveys incremental information about future earnings in term of dividend increase (ΔD^{+}) and gives a good signal about profitability in the future.

Joseph Aharony and Itzhak Swary (1980) also concluded the same result but different methods of model which shows that changes in quarterly dividends also give additional information to the investor in addition to earnings announcements made by organizations. They used quarterly dividend and conversely this research use the annual dividend.

A study by Ross Watts (1973) found something different in which dividends announcements do not give an indication of future earnings of a firm. Any correlation between dividend announcements and earnings are small and deemed negligible. Conversely, the result of this research is significant and only one independent variable influences future earning, although the coefficient of R^2 adjusted is small. This can be concluded that future earnings are influenced by dividend changes.

Dedi Herdiansyah, Januardi M. Diah, Arianto, and Tashadi Tarmizi (2002) did not find the significant model of Aharony and Dotan (1994) in Jakarta Stock Exchange. Their study is empiric research which also uses data in JSX but the result is not significant in overall period 1992-1996. However, their finding is significant in certain years, and their conclusion states that the dividend does not contain any information about future earnings. Conversely, this research is case study of LQ'45 in JSX which has the good financial performance and it indicates that dividends, earnings, and stock price have a good proposition. The result shows a significant influence both in overall period and certain period indicate that dividend conveys incremental information in the future. The results also answer the relationship between liquidness (best financial performance) of LQ'45 and regular announcements dividend to future unexpected earnings. This may be concluded that liquidness of LQ'45 is influenced by information content in dividend changes.

4.6 Research Implication

The findings of the hypothesis "informational content of dividends" and the relationship in best financial performances of LQ'45 companies may give several contribution and implication. For the researcher, it can be seen on the increases dividend changes (ΔD^{+}) result obtained regression coefficient 0.0595 and probability 0.0039. It means the increasing of dividend changes will cause the increasing earnings in the future. This research analysis is consistent with the signaling theory and asymmetric information suggestion that is used to estimate the market reaction such as managements, investors, and stockholders for future profitability in company. The results afford to answer that the liquidness company listed on LQ'45 in term of future earnings relate to the market reaction in responding their regular dividend announcements.

From the management perspective, increasing dividend within announcement date may indicate that company has a good signal about profitability in the future. The regression of ΔD^{+} coefficient is 0.0595 and probability is 0.0039, so management should be careful in treatment of earnings after tax. Based on the findings in this research, it is better for management to divide the earnings after tax to shareholders as a dividend then reinvest as retained earnings. Because the shareholder may consider that the increasing dividend may have a good signal about profitability in the future, the shareholder could invest more to company related with. Managements should be careful in facing the decrease and not change regular dividend with coefficient 0.287. Although decreasing dividend change has a positive relationship but the probability is 0.784 which is not significant. Management should keep aware to treat this decreasing dividend change. It means that the proportions of dividend decreases or not change do not always increase or decrease future earnings.

Furthermore, the management party may see increasing and decreasing dividend change and unexpected earning yield prior years as information to make decision that affects future unexpected earnings or profitability in the future. For the investor, the findings of this research may help them to have some consideration in selecting the company acknowledging. This also helps seeing the finding of regular dividend change as a guidance or consideration thing which companies have a bright prospect in the future in term of earnings and profitability. According to Scott Fung and Jayendu Patel (2004), future earnings are not always influenced by regular dividend announcements and unexpected earning yield accepted. The other factors such as governance, long-term growth opportunities, and other firm characteristics clearly influence future earnings or profitability in the future.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This chapter covers the conclusion, limitation, and the recommendation for managements, shareholders, investors, and the future research. Through this chapter, the economists can learn some important lessons in this study, particularly in term of decision making about future earnings. Thus, for the students who will conduct the next research or further research relates to this study, this paper can be a guidance to derive and determine new evidence relates to informational content of dividend.

5.1 Research Conclusions

This paper provides a model in which not all dividend changes contain new information about future earnings. Some dividend decisions are backward-looking (i.e., non-information or non-signaling events) that they simply reflect current and past earnings. Other dividend decisions are forward-looking (i.e., information or signaling events) that they reveal managers' superior information about future earnings. The model helps identifying the two types of dividend changes and predicts that the market will respond strongly only to the forward-looking dividend changes

Based on the research purpose, the statistical test and analysis described in the earlier or previous chapter, some conclusions are drawn as follows:

1. The result concludes that announcement dividend changes or no changes dividend case (unexpected dividend change) in data period 1999-2004, statistically are not significant to increasing (decreasing) Profitability Company (future unexpected earnings).
2. The second hypothesis which tries to reveal the hypotheses "informational content of dividend" is significantly proved. This research succeeds to get new evidence that regular dividend announcements convey incremental information about profitability in the future. By using the ordinary least square regression for period 1999-2004, this research is simultaneously significant and affordable to answer second hypothesis. But partially only increasing dividend changes that are significant and influence dependent variable of UEY in the future. It means the increasing regular dividend could be a good signal that company has a bright prospect in the future.
3. From the result also indicates that companies listed in LQ'45 in JSX are related with these findings. In term of liquidness, these 45 companies have the best financial performance from the information regularly dividend, earning per share and stock. The term liquid refers to the company ability in payment, investment and distribution within stock market including dividends, earnings and the amounts relatively increase. Thus, 45 companies are rated as the best companies in that term. To measure the liquidness of LQ'45, this research is conducted whether the amount of regular announcements dividend influence future earnings, so the investors and managements look at this phenomenon as guidance to

react positively to these 45 companies that claim as good prospect in term of future earnings. This finding proves that this market reacts positively to regular dividend announcements particularly the increasing dividend changes (ΔD^{+}).

5.2 Research limitations

There are some limitations in this study, which are explained as follows:

1. The companies which are selected in this research are 37 companies, started from 1999-2004. Those companies are already sorted and can fulfill the requirements as sample in this research with the completeness data based on research variable. The company which has zero (0) dividend, earnings, and stock price is deleted from the sample because in this case it may deviate the important assumption which may influence the estimation result. Furthermore, since this research is aimed to see the prediction of future earnings that are influenced by regular dividend announcements, the existences data information of previous years is suggested, if prior years information such as dividends, earnings, and stocks are not available or missing the research can not be processed further.
2. This research maybe lack of model to measure the other key performances of future profitability.
3. The research is a case study of LQ'45 which combines all the firms that change its level of dividends into one portfolio.

5.3 Research Recommendations

This research tries to give some recommendations for parties as described as follows:

1. The investors

The investor should be careful to response or react the announcement of dividend changes conducted by management party, a company can be indicated to have a good prospect in future earnings when the dividend announcements increases. When announcements dividend decreases or not changes, it could be good or could be bad signal. The result of this research is only significant to the increasing dividends.

2. The company managements

The company management should raise the stability of dividend Payment Company, because investors would see this raise as a good signal that the company has a good prospect in the future. The company management should raise their payment of dividend until the management of company it self convinces about chances Profitability Company in the future. Hopefully with that condition, markets would be more attractive in the capital cycle, because investor will not feel cheated by dividend changes.

3. **For Both Parties (Investors and Company Managements)**

Both parties should consider about others influences in the market reaction of this announcements regular dividend to future earnings such as governance, long-term growth opportunities, and other firm characteristics.

4. **For the future research**

From the limitation that may influence this research, the researcher suggests for the future research to add more period and samples to conclude better evidence, result and reliable research. The researcher also suggests to add or use another model as key measurements performances such as abnormal return and market reaction that can give a different perspective about measurement of future profitability.

Furthermore, the researcher suggests the future research to investigate what firm-specific factors that could influence the intensity of the signaling effect for a firm which increases its dividend versus another firm that decreases its current level of dividend.

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APPENDICES

No.	Company name	DIV 99	DIV 00	DIV 01	DIV 02	DIV 03	DIV 04	EPS 99	EPS 00	EPS 01	EPS 02
1	Astra Agro Lestari Tbk	45	7	10	60	90	100	114.53	46.62	59.14	150.3
2	Aneka Tambang Tbk	79.19	155.66	93.87	34.42	38.596	19.6	182.93	311.31	291	105.9
3	Astra International Tbk	80	90	120	50	170	100	601.55	-95.23	332.72	1394.36
4	Bank Central Asia Tbk	100	85	140	225	225	50	217.83	612.13	524.58	422.36
5	Bank Danamon Tbk	100	55	5.85	39.97	124.5	178.73	-26.66	0.69	29.48	38.66
6	BFI Finance Indonesia Tbk	1	110	125	62.5	33.32	100	182.65	-549.85	1114.51	149.49
7	Bakrie & Brothers Tbk	211	200	180	150	100	35	-391.47	-555.14	24.66	0.67
8	Bank Niaga Tbk	210	235	142	155	7.5	60	99.62	0.83	2.6	1.8
9	Bank International Indonesia	100	100	100	100	60	23	-22.55	2.88	-44.51	14.28
10	Barito Pacific Timber Tbk	133	50	50	55	100	75	-73.83	-731.67	-1077.71	94.83
11	Bumi Resources Tbk	1	50	50	2.5	50	10	0.7	0.54	3.46	4.69
12	Enseval Putera Megatrading Tbk	80	35	35	10	20	5	87.86	-44.17	119.32	268.47
13	Gudang Garam Tbk	500	500	300	300	300	260	1183.23	1165.86	1084.86	1084.61
14	Gajah Tunggal Tbk	200	150	100	100	100	60	-153.32	-482.89	-389.58	1202.11
15	H M Sampoerna Tbk	500	350	25	190	440	150	522.26	592.56	212.31	371.35
16	International Nickel Indonesia Tbk	225.68	174.15	84.65	424.25	1293.9	112.3	607.31	3039.03	385.84	1085.56
17	Indofood Sukses Makmur Tbk	47	18	25	28	28	58	762.01	70.57	81.51	85.52
18	Indah Kiat Pulp & Paper Tbk	100	50	25	35	35	35	5.23	-686.97	-344.88	-433.46
19	Indocement Tunggal Prakarsa Tbk	225	250	208	120	160	70	215.83	-353.33	-17.15	282.8
20	Indosat Tbk	666	610.8	561.2	146.13	144.55	425.08	332.05	743.07	402.99	324.72
21	Jakarta Int'l Hotel & Dev. Tbk	320	420	25	17	10	10	4.04	-360.42	258.55	103.77
22	Kawasan Industri Jababeka Tbk	85	50	100	100	75	90	-845.2	-157.33	21.68	54.1
23	Kalbe Farma Tbk	200	85	200	115	75	70	96.94	-69.8	80.4	65.73
24	Medco EnergiInternational Tbk	120	85	110	111	59	75	264.21	172.44	224.08	241.36
25	Bank Pan Indonesia Tbk	40	46.5	30	8	5.63	30	59.3	48.5	37	67.7
26	Ramayana Lestari Tbk	100	75	100	100	120	90	298.18	183.71	228.63	214.06
27	Bentoel International Investama Tbk	25	50	45	20	55	35	41.6	24.58	32.86	14.97
28	Semen Cibinong Tbk	100	100	100	200	150	200	13.42	-616.57	151.84	65.57
29	Timah Tbk	247.37	237.86	24.83	6.43	67.79	118.86	631.9	658.78	73.07	22.41
30	Pabrik Kertas Tjiwie Kimia Tbk	60	60	60	60	50	50	553.05	-2525.17	-392.44	-316.15
31	Telekomunikasi Indonesia Tbk	107.75	88.16	210.819	331.16	301.95	711.2	215.51	251.89	421.64	827.9
32	Trimegah Securities Tbk	100	100	100	100	200	200	9.535	4.06	6.6	1.92
33	Bakrie Sumatra Plantations Tbk	200	275	275	285	350	400	-30	-78	-28	31
34	United Tractors Tbk	230	150	110	130	160	20	309.32	397	153.99	194.5
35	Unilever Indonesia Tbk	2500	690	850	1200	330	700	985.65	165.8	162.44	282.11
36	Matahari Putra Prima Tbk	16.5	31	31	11	12	26	86	105	37	40
37	Humpus Intermoda Transportasi Tbk	15	50	100	100	90	60	25	962	468	310

No.	Company name	EPS 03	EPS 04	S 99	S 00	S 01	S 02	S 03	S 04
1	Astra Agro Lestari Tbk	181.87	423.19	1950	975	925	1550	1725	3100
2	Aneka Tambang Tbk	118.76	272.96	1400	900	800	600	1925	1725
3	Astra International Tbk	1095.71	984.63	3750	2000	1950	3150	5000	9600
4	Bank Central Asia Tbk	389.95	190.34	1400	1675	1475	2500	3325	2975
5	Bank Danamon Tbk	311.72	490.75	225	60	280	350	2025	4375
6	BFI Finance Indonesia Tbk	144.24	-7.57	275	230	170	350	1000	1200
7	Bakrie & Brothers Tbk	0.58	-7.32	300	60	50	15	40	40
8	Bank Niaga Tbk	5.97	84.02	175	70	60	35	35	460
9	Bank International Indonesia	6.47	17.19	100	40	25	50	110	185
10	Barito Pacific Timber Tbk	87.71	-106.21	625	130	50	90	270	450
11	Bumi Resources Tbk	5.54	38.08	275	170	50	20	500	800
12	Enseval Putera Megatrading Tbk	67.3	57.37	875	405	285	340	370	550
13	Gudang Garam Tbk	955.61	789.36	16725	13000	8650	8300	13600	13550
14	Gajah Tunggal Tbk	266.5	83.01	975	360	135	230	550	650
15	H M Sampoerna Tbk	312.63	393.84	7775	2980	3200	3700	4475	6650
16	International Nickel Indonesia Tbk	3542.76	1927.39	6300	7850	5000	3675	34900	11550
17	Indofood Sukses Makmur Tbk	63.91	30.14	750	775	625	600	800	800
18	Indah Kiat Pulp & Paper Tbk	-442.55	-234.39	750	825	315	145	575	1025
19	Indocement Tunggal Prakarsa Tbk	182.08	49.7	3100	1600	700	675	2125	3075
20	Indosat Tbk	516.14	266.27	15600	9000	9450	9250	15000	5750
21	Jakarta Int'l Hotel & Dev. Tbk	-78.38	127.39	700	450	400	650	725	440
22	Kawasan Industri Jababeka Tbk	18.24	3.96	575	145	80	50	55	115
23	Kalbe Farma Tbk	39.75	41.12	1125	310	225	275	1000	550
24	Medco EnergiInternational Tbk	145.33	132.63	3700	1000	1500	1350	1350	2075
25	Bank Pan Indonesia Tbk	281.1	323.9	675	170	185	180	285	420
26	Ramayana Lestari Tbk	216.1	122.51	900	525	535	505	870	775
27	Bentoel International Investama Tbk	-3.24	6.84	100	168	140	125	90	110
28	Semen Cibinong Tbk	22.72	-49.49	500	435	385	145	405	575
29	Timah Tbk	151.74	271.91	4875	1375	430	345	2550	2075
30	Pabrik Kertas Tjiwie Kimia Tbk	-191.39	61.27	275	625	185	155	575	2275
31	Telekomunikasi Indonesia Tbk	603.89	249.22	3975	1025	1600	1925	3375	4825
32	Trimegah Securities Tbk	9.46	11.57	1000	245	170	90	95	165
33	Bakrie Sumatra Plantations Tbk	32	24	950	270	170	150	575	310
34	United Tractors Tbk	217.79	293.15	856	338	286	242	994	275
35	Unilever Indonesia Tbk	169.95	143.21	15000	1250	1635	1820	3625	3300
36	Matahari Putra Prima Tbk	45	50	1175	500	435	500	525	575
37	Humpus Intermoda Transportasi Tbk	328	335	825	525	675	800	1175	2900

		DIV						Δ DIV				
No.	Company name	1999	2000	2001	2002	2003	2004	Δ 99/00	Δ 00/01	Δ 01/02	Δ 02/03	Δ 03/04
1	Astra Agro Lestari Tbk	45	7	10	60	90	100	-38	3	50	30	10
2	Aneka Tambang Tbk	79.19	155.66	93.87	34.42	38.596	19.6	76.47	-61.79	-59.45	4.176	-18.996
3	Astra International Tbk	80	90	120	50	170	100	10	30	-70	120	-70
4	Bank Central Asia Tbk	100	85	140	225	225	50	-15	55	85	0	-175
5	Bank Danamon Tbk	100	55	5.85	39.97	124.5	178.73	-45	-49.15	34.12	84.53	54.23
6	BFI Finance Indonesia Tbk	1	110	125	62.5	33.32	100	109	15	-62.5	-29.18	66.68
7	Bakrie & Brothers Tbk	211	200	180	150	100	35	-11	-20	-30	-50	-65
8	Bank Niaga Tbk	210	235	142	155	7.5	60	25	-93	13	-147.5	52.5
9	Bank International Indonesia	100	100	100	100	60	23	0	0	0	-40	-37
10	Barito Pacific Timber Tbk	133	50	50	55	100	75	-83	0	5	45	-25
11	Bumi Resources Tbk	1	50	50	2.5	50	10	49	0	-47.5	47.5	-40
12	Enseval Putera Megatrading Tbk	80	35	35	10	20	5	-45	0	-25	10	-15
13	Gudang Garam Tbk	500	500	300	300	300	260	0	-200	0	0	-40
14	Gajah Tunggal Tbk	200	150	100	100	100	60	-50	-50	0	0	-40
15	H M Sampoerna Tbk	500	350	25	190	440	150	-150	-325	165	250	-290
16	International Nickel Indonesia Tbk	225.68	174.15	84.65	424.25	1293.9	112.3	-51.53	-89.5	339.6	869.65	-1181.6
17	Indofood Sukses Makmur Tbk	47	18	25	28	28	58	-29	7	3	0	30
18	Indah Kiat Pulp & Paper Tbk	100	50	25	35	35	35	-50	-25	10	0	0
19	Indocement Tunggal Prakarsa Tbk	225	250	208	120	160	70	25	-42	-88	40	-90
20	Indosat Tbk	666	610.8	561.2	146.13	144.55	425.08	-55.2	-49.6	-415.07	-1.58	280.53
21	Jakarta Int'l Hotel & Dev. Tbk	320	420	25	17	10	10	100	-395	-8	-7	0
22	Kawasan Industri Jababeka Tbk	85	50	100	100	75	90	-35	50	0	-25	15
23	Kalbe Farma Tbk	200	85	200	115	75	70	-115	115	-85	-40	-5
24	Medco EnergiInternational Tbk	120	85	110	111	59	75	-35	25	1	-52	16
25	Bank Pan Indonesia Tbk	40	46.5	30	8	5.63	30	6.5	-16.5	-22	-2.37	24.37
26	Ramayana Lestari Tbk	100	75	100	100	120	90	-25	25	0	20	-30
27	Bentoel International Investama Tbk	25	50	45	20	55	35	25	-5	-25	35	-20
28	Semen Cibinong Tbk	100	100	100	200	150	200	0	0	100	-50	50
29	Timah Tbk	247.37	237.86	24.83	6.43	67.79	118.86	-9.51	-213.03	-18.4	61.36	51.07
30	Pabrik Kertas Tjiwie Kimia Tbk	60	60	60	60	50	50	0	0	0	-10	0
31	Telekomunikasi Indonesia Tbk	107.75	88.16	210.819	331.16	301.95	711.2	-19.59	122.659	120.341	-29.21	409.25
32	Trimegah Securities Tbk	100	100	100	100	200	200	0	0	0	100	0
33	Bakrie Sumatra Plantations Tbk	200	275	275	285	350	400	75	0	10	65	50
34	United Tractors Tbk	230	150	110	130	160	20	-80	-40	20	30	-140
35	Unilever Indonesia Tbk	2500	690	850	1200	330	700	-1810	160	350	-870	370
36	Matahari Putra Prima Tbk	16.5	31	31	11	12	26	14.5	0	-20	1	14
37	Humpus Intermoda Transportasi Tbk	15	50	100	100	90	60	35	50	0	-10	-30

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W DIV	ΔD					EPS						Δ EPS		
	2000	**2001**	**2002**	**2003**	**2004**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**Δ 99/00**	**Δ 00/01**	**Δ 01/02**
11	-0.84444	0.428571	5	0.5	0.111111	114.53	46.62	59.14	150.3	181.87	423.19	-67.91	12.52	91.16
-11.918	0.965652	-0.39695	-0.63332	0.121325	-0.49218	182.93	311.31	291	105.9	118.76	272.96	128.38	-20.31	-185.1
4	0.125	0.333333	-0.58333	2.4	-0.41176	601.55	-95.23	332.72	1394.36	1095.71	984.63	-696.78	427.95	1061.64
-10	-0.15	0.647059	0.607143	0	-0.77778	217.83	612.13	524.58	422.36	389.95	190.34	394.3	-87.55	-102.22
15.746	-0.45	-0.89364	5.832479	2.114836	0.435582	-26.66	0.69	29.48	38.66	311.72	490.75	27.35	28.79	9.18
19.8	109	0.136364	-0.5	-0.46688	2.0012	182.65	-549.85	1114.51	149.49	144.24	-7.57	-732.5	1664.36	-965.02
-35.2	-0.05213	-0.1	-0.16667	-0.33333	-0.65	-391.47	-555.14	24.66	0.67	0.58	-7.32	-163.67	579.8	-23.99
-30	0.119048	-0.39574	0.091549	-0.95161	7	99.62	0.83	2.6	1.8	5.97	84.02	-98.79	1.77	-0.8
-15.4	0	0	0	-0.4	-0.61667	-22.55	2.88	-44.51	14.28	6.47	17.19	25.43	-47.39	58.79
-11.6	-0.62406	0	0.1	0.818182	-0.25	-73.83	-731.67	-1077.71	94.83	87.71	-106.21	-657.84	-346.04	1172.54
1.8	49	0	-0.95	19	-0.8	0.7	0.54	3.46	4.69	5.54	38.08	-0.16	2.92	1.23
-15	-0.5625	0	-0.71429	1	-0.75	87.86	-44.17	119.32	268.47	67.3	57.37	-132.03	163.49	149.15
-48	0	-0.4	0	0	-0.13333	1183.23	1165.86	1084.86	1084.61	955.61	789.36	-17.37	-81	-0.25
-28	-0.25	-0.33333	0	0	-0.4	-153.32	-482.89	-389.58	1202.11	266.5	83.01	-329.57	93.31	1591.69
-70	-0.3	-0.92857	6.6	1.315789	-0.65909	522.26	592.56	212.31	371.35	312.63	393.84	70.3	-380.25	159.04
-22.676	-0.22833	-0.51392	4.011813	2.049853	-0.91321	607.31	3039.03	385.84	1085.56	3542.76	1927.39	2431.72	-2653.19	699.72
2.2	-0.61702	0.388889	0.12	0	1.071429	762.01	70.57	81.51	85.52	63.91	30.14	-691.44	10.94	4.01
-13	-0.5	-0.5	0.4	0	0	5.23	-686.97	-344.88	-433.46	-442.55	-234.39	-692.2	342.09	-88.58
-31	0.111111	-0.168	-0.42308	0.333333	-0.5625	215.83	-353.33	-17.15	282.8	182.08	49.7	-569.16	336.18	299.95
-48.184	-0.08288	-0.0812	-0.73961	-0.01081	1.940713	332.05	743.07	402.99	324.72	516.14	266.27	411.02	-340.08	-78.27
-62	0.3125	-0.94048	-0.32	-0.41176	0	4.04	-360.42	258.55	103.77	-78.38	127.39	-364.46	618.97	-154.78
1	-0.41176	1	0	-0.25	0.2	-845.2	-157.33	21.68	54.1	18.24	3.96	687.87	179.01	32.42
-26	-0.575	1.352941	-0.425	-0.34783	-0.06667	96.94	-69.8	80.4	65.73	39.75	41.12	-166.74	150.2	-14.67
-9	-0.29167	0.294118	0.009091	-0.46847	0.271186	264.21	172.44	224.08	241.36	145.33	132.63	-91.77	51.64	17.28
-2	0.1625	-0.35484	-0.73333	-0.29625	4.328597	59.3	48.5	37	67.7	281.1	323.9	-10.8	-11.5	30.7
-2	-0.25	0.333333	0	0.2	-0.25	298.18	183.71	228.63	214.06	216.1	122.51	-114.47	44.92	-14.57
2	1	-0.1	-0.55556	1.75	-0.36364	41.6	24.58	32.86	14.97	-3.24	6.84	-17.02	8.28	-17.89
20	0	0	1	-0.25	0.333333	13.42	-616.57	151.84	65.57	22.72	-49.49	-629.99	768.41	-86.27
-25.702	-0.03844	-0.89561	-0.74104	9.542768	0.753356	631.9	658.78	73.07	22.41	151.74	271.91	26.88	-585.71	-50.66
-2	0	0	0	-0.16667	0	553.05	-2525.17	-392.44	-316.15	-191.39	61.27	-3078.22	2132.73	76.29
120.69	-0.18181	1.391323	0.570826	-0.08821	1.355357	215.51	251.89	421.64	827.9	603.89	249.22	36.38	169.75	406.26
20	0	0	0	1	0	9.535	4.06	6.6	1.92	9.46	11.57	-5.475	2.54	-4.68
40	0.375	0	0.036364	0.22807	0.142857	-30	-78	-28	31	32	24	-48	50	59
-42	-0.34783	-0.26667	0.181818	0.230769	-0.875	309.32	397	153.99	194.5	217.79	293.15	87.68	-243.01	40.51
-360	-0.724	0.231884	0.411765	-0.725	1.121212	985.65	165.8	162.44	282.11	169.95	143.21	-819.85	-3.36	119.67
1.9	0.878788	0	-0.64516	0.090909	1.166667	86	105	37	40	45	50	19	-68	3
9	2.333333	1	0	-0.1	-0.33333	25	962	468	310	328	335	937	-494	-158

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		W EPS								UEY				
Δ 02/03	Δ 03/04		S 99	S 00	S 01	S 02	S 03	S 04		2000	2001	2002	2003	2004
31.57	241.32	61.732	1950	975	925	1550	1725	3100		-0.06648	-0.05047	0.031814	-0.01946	0.104109
12.86	154.2	18.006	1400	900	800	600	1925	1725		0.078839	-0.04257	-0.25388	-0.00858	0.07075
-298.65	-111.08	76.616	3750	2000	1950	3150	5000	9600		-0.20624	0.175667	0.505141	-0.11913	-0.03754
-32.41	-199.61	-5.498	1400	1675	1475	2500	3325	2975		0.28557	-0.04899	-0.06557	-0.01076	-0.05838
273.06	179.03	103.482	225	60	280	350	2025	4375		-0.33836	-1.24487	-0.33679	0.484509	0.037308
-5.25	-151.81	-38.044	275	230	170	350	1000	1200		-2.52529	7.401757	-5.4528	0.093697	-0.11377
-0.09	-7.9	76.83	300	60	50	15	40	40		-0.80167	8.382833	-2.0164	-5.128	-2.11825
4.17	78.05	-3.12	175	70	60	35	35	460		-0.54669	0.069857	0.038667	0.208286	2.319143
-7.81	10.72	7.948	100	40	25	50	110	185		0.17482	-1.38345	2.03368	-0.31516	0.0252
-7.12	-193.92	-6.476	625	130	50	90	270	450		-1.04218	-2.61203	23.58032	-0.00716	-0.69424
0.85	32.54	7.476	275	170	50	20	500	800		-0.02777	-0.0268	-0.12492	-0.3313	0.050128
-201.17	-9.93	-6.098	875	405	285	340	370	550		-0.14392	0.418736	0.54473	-0.57374	-0.01036
-129	-166.25	-78.774	16725	13000	8650	8300	13600	13550		0.003671	-0.00017	0.009078	-0.00605	-0.00643
-935.61	-183.49	47.266	975	360	135	230	550	650		-0.3865	0.1279	11.44018	-4.27337	-0.41956
-58.72	81.21	-25.684	7775	2980	3200	3700	4475	6650		0.012345	-0.11898	0.057726	-0.00893	0.023887
2457.2	-1615.37	264.016	6300	7850	5000	3675	34900	11550		0.34408	-0.37162	0.087141	0.596785	-0.05385
-21.61	-33.77	-146.374	750	775	625	600	800	800		-0.72675	0.202986	0.240614	0.20794	0.140755
-9.09	208.16	-47.924	750	825	315	145	575	1025		-0.85903	0.472744	-0.12907	0.267821	0.445363
-100.72	-132.38	-33.226	3100	1600	700	675	2125	3075		-0.17288	0.230879	0.475966	-0.09999	-0.04666
191.42	-249.87	-13.156	15600	9000	9450	9250	15000	5750		0.027191	-0.03632	-0.00689	0.022116	-0.01578
-182.15	205.77	24.67	700	450	400	650	725	440		-0.5559	1.320667	-0.44863	-0.31818	0.249793
-35.86	-14.28	169.832	575	145	80	50	55	115		0.900936	0.063297	-1.71765	-4.11384	-3.34749
-25.98	1.37	-11.164	1125	310	225	275	1000	550		-0.13829	0.520529	-0.01558	-0.05388	0.012534
-96.03	-12.7	-26.316	3700	1000	1500	1350	1350	2075		-0.01769	0.077956	0.029064	-0.05164	0.010086
213.4	42.8	52.92	675	170	185	180	285	420		-0.0944	-0.37894	-0.12011	0.891556	-0.03551
2.04	-93.59	-35.134	900	525	535	505	870	775		-0.08815	0.152484	0.038437	0.073612	-0.06719
-18.21	10.08	-6.952	100	168	140	125	90	110		-0.10068	0.090667	-0.07813	-0.09006	0.189244
-42.85	-72.21	-12.582	500	435	385	145	405	575		-1.23482	1.795384	-0.1914	-0.20874	-0.14723
129.33	120.17	-71.998	4875	1375	430	345	2550	2075		0.020283	-0.37361	0.049623	0.583559	0.07536
124.76	252.66	-98.356	275	625	185	155	575	2275		-10.8359	3.569738	0.944032	1.439458	0.610463
-224.01	-354.67	6.742	3975	1025	1600	1925	3375	4825		0.007456	0.159032	0.249699	-0.11987	-0.10709
7.54	2.11	0.407	1000	245	170	90	95	165		-0.00588	0.008706	-0.02992	0.079256	0.017926
1	-8	10.8	950	270	170	150	575	310		-0.06189	0.145185	0.283529	-0.06533	-0.0327
23.29	75.36	-3.234	856	338	286	242	994	275		0.106208	-0.7094	0.152951	0.109603	0.079068
-112.16	-26.74	-168.488	15000	1250	1635	1820	3625	3300		-0.04342	0.132102	0.176243	0.030949	0.039103
5	5	-7.2	1175	500	435	500	525	575		0.022298	-0.1216	0.023448	0.0244	0.023238
18	7	62	825	525	675	800	1175	2900		1.060606	-1.05905	-0.32593	-0.055	-0.04681

Descriptive Statistics

	N	Mean		Std.	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
UEY dividend increase 2000	12	-.2608334	.2367114	.81999248	-1.832	.637	6.208	1.232
UEY dividend decrease 2000	20	-.1474197	.1013415	.45321303	-.114	.512	.753	.992
UEY dividend increase 2001	12	.6439418	.6237453	2.16071718	3.267	.637	11.112	1.232
UEY dividend decrease 2001	16	.4636915	.5453350	2.18133987	3.583	.564	13.655	1.091
UEY dividend increase 2002	15	1.6136625	1.5696728	6.07931668	3.868	.580	14.971	1.121
UEY dividend decrease 2002	14	-.4941735	.4157847	1.55572371	-2.901	.597	8.972	1.154
UEY dividend increase 2003	17	.0369436	.0719641	.29671544	.383	.550	.884	1.063
UEY dividend decrease 2003	15	-.5118836	.4497476	1.74186508	-2.083	.580	3.888	1.121
UEY dividend increase 2004	15	-.0700304	.2811466	1.08887599	-1.376	.580	7.798	1.121
UEY dividend decrease 2004	18	-.1726916	.1236148	.52445308	-3.391	.536	12.387	1.038
UEY dividend increase 2000 - 2004	32	.3895903	.3770170	2.13273021	5.215	.414	28.657	.809
UEY dividend decrease 2000 - 2004	35	-.1681582	.1057007	.62533395	-1.926	.398	8.497	.778
Valid N (listwise)	0							

Descriptive Statistics

	N	Mean		Std.	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
UEY dividend no change 2000	5	-2.3796151	2.1290679	4.76074045	-2.161	.913	4.707	2.000
UEY dividend no change 2001	9	.1993186	.5840176	1.75205295	.482	.717	1.236	1.400
UEY dividend no change 2002	8	1.5489883	1.4624393	4.13640297	2.463	.752	6.478	1.481
UEY dividend no change 2003	5	-.7628859	.8793995	1.96639707	-2.213	.913	4.920	2.000
UEY dividend no change 2004	4	.3308864	.1277328	.25546558	-.313	1.014	-1.043	2.619
UEY dividend no change 2000 - 2004	18	-.0382	.2877	1.22073	.847	.536	4.983	1.038
Valid N (listwise)	0							

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
UEY dividend increase 2000	12	-.2608334	.81999248	.23671144
UEY dividend decrease 2000	20	-.1474197	.45321303	.10134151
UEY dividend increase 2001	12	.6439418	2.16071718	.62374532
UEY dividend decrease 2001	16	.4636915	2.18133987	.54533497
UEY dividend increase 2002	15	1.6136625	6.07931668	1.56967282
UEY dividend decrease 2002	14	-.4941735	1.55572371	.41578465
UEY dividend increase 2003	17	.0369436	.29671544	.07196407
UEY dividend decrease 2003	15	-.5118836	1.74186508	.44974763
UEY dividend increase 2004	15	-.0700304	1.08887599	.28114657
UEY dividend decrease 2004	18	-.1726916	.52445308	.12361478
UEY dividend increase 2000 - 2004	32	.3895903	2.13273021	.37701700
UEY dividend decrease 2000 - 2004	35	-.1681582	.62533395	.10570073

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
UEY dividend increase 2000	-1.102	11	.294	-.2608334	-.7818318	.2601650
UEY dividend decrease 2000	-1.455	19	.162	-.1474197	-.3595299	.0646905
UEY dividend increase 2001	1.032	11	.324	.6439418	-.7289124	2.0167960
UEY dividend decrease 2001	.850	15	.409	.4636915	-.6986625	1.6260455
UEY dividend increase 2002	1.028	14	.321	1.6136625	-1.7529509	4.9802759
UEY dividend decrease 2002	-1.189	13	.256	-.4941735	-1.3924216	.4040746
UEY dividend increase 2003	.513	16	.615	.0369436	-.1156134	.1895006
UEY dividend decrease 2003	-1.138	14	.274	-.5118836	-1.4764964	.4527291
UEY dividend increase 2004	-.249	14	.807	-.0700304	-.6730298	.5329691
UEY dividend decrease 2004	-1.397	17	.180	-.1726916	-.4334960	.0881127
UEY dividend increase 2000 - 2004	1.033	31	.309	.3895903	-.3793409	1.1585215
UEY dividend decrease 2000 - 2004	-1.591	34	.121	-.1681582	-.3829679	.0466515

	N	Mean	Std. Deviation	Std. Error Mean
UEY dividend no change 2000	5	-2.3796151	4.76074045	2.12906785
UEY dividend no change 2001	9	.1993186	1.75205295	.58401765
UEY dividend no change 2002	8	1.5489883	4.13640297	1.46243930
UEY dividend no change 2003	5	-.7628859	1.96639707	.87939951
UEY dividend no change 2004	4	.3308864	.25546558	.12773279
UEY dividend no change 2000 - 2004	18	-.0382	1.22073	.28773

Dependent Variable: UEY00(1)
Method: Least Squares
Date: 10/08/05 Time: 08:35
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.208250	0.801092	-2.756551	0.0098
DD00_POS	-0.008678	0.017299	-0.501635	0.6196
DD00_NEG	-3.680185	1.835812	-2.004664	0.0541
UEY00	-0.034800	0.188832	-0.184290	0.8550
DUM00_POS	2.330152	1.007889	2.311913	0.0278
DUM00_NOCHANGE	1.832873	1.237450	1.481170	0.1490

R-squared	0.162790	Mean dependent var	-0.497500
Adjusted R-squared	0.023255	S.D. dependent var	1.871644
S.E. of regression	1.849753	Akaike info criteri	4.218993
Sum squared resid	102.6476	Schwarz criterion	4.482913
Log likelihood	-69.94187	F-statistic	1.166664
Durbin-Watson stat	2.074613	Prob(F-statistic)	0.348386

Dependent Variable: UEY01(1)
Method: Least Squares
Date: 10/08/05 Time: 08:23
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.847310	0.892351	-0.949526	0.3499
DD01_POS	-1.242231	1.344531	-0.923914	0.3629
DD01_NEG	-3.340299	1.626885	-2.053188	0.0489
UEY01	0.351634	0.162737	2.160754	0.0388
DUM01_POS	2.006252	1.296082	1.547937	0.1321
DUM01_NOCHANGE	0.326323	1.083221	0.301252	0.7653

R-squared	0.286292	Mean dependent var	0.471964
Adjusted R-squared	0.167340	S.D. dependent var	2.056620
S.E. of regression	1.876669	Akaike info criteri	4.247886
Sum squared resid	105.6566	Schwarz criterion	4.511806
Log likelihood	-70.46195	F-statistic	2.406795
Durbin-Watson stat	1.852595	Prob(F-statistic)	0.059896

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============================================================
Dependent Variable: UEY02(1)
Method: Least Squares
Date: 10/08/05   Time: 08:24
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints
============================================================
     Variable       CoefficientStd. Errort-Statistic  Prob.
============================================================
        C            -1.212379   3.575982  -0.339034   0.7369
    DD02_POS         -0.340396   0.483175  -0.704498   0.4866
    DD02_NEG         -1.738551   5.828854  -0.298266   0.7676
      UEY02          -0.025279   0.167197  -0.151195   0.8808
    DUM02_POS         1.606026   3.878500   0.414084   0.6818
  DUM02_NOCHANGE      6.332270   3.954957   1.601097   0.1198
============================================================
R-squared             0.237159    Mean dependent var 0.823517
Adjusted R-squared    0.110019    S.D. dependent var 4.490952
S.E. of regression    4.236710    Akaike info criteri5.876463
Sum squared resid     538.4914    Schwarz criterion  6.140383
Log likelihood       -99.77633    F-statistic        1.865335
Durbin-Watson stat    1.972115    Prob(F-statistic)  0.130252
============================================================
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============================================================
Dependent Variable: UEY03(1)
Method: Least Squares
Date: 10/08/05   Time: 08:24
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints
============================================================
     Variable       CoefficientStd. Errort-Statistic  Prob.
============================================================
        C            -0.321589   0.702631  -0.457693   0.6505
    DD03_POS          0.002217   0.072171   0.030717   0.9757
    DD03_NEG          0.873358   1.578247   0.553372   0.5841
      UEY03          -0.100702   0.180324  -0.558449   0.5807
    DUM03_POS         0.380438   0.800837   0.475051   0.6382
  DUM03_NOCHANGE     -0.481227   0.925603  -0.519907   0.6069
============================================================
R-squared             0.088393    Mean dependent var-0.301255
Adjusted R-squared   -0.063541    S.D. dependent var 1.341096
S.E. of regression    1.383047    Akaike info criteri3.637467
Sum squared resid     57.38458    Schwarz criterion  3.901387
Log likelihood       -59.47441    F-statistic        0.581785
Durbin-Watson stat    1.877499    Prob(F-statistic)  0.713616
============================================================
```

Dependent Variable: UEY04(1)
Method: Least Squares
Date: 10/08/05 Time: 08:25
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.160078	0.439954	-0.363852	0.7185
DD04_POS	0.041873	0.129787	0.322626	0.7492
DD04_NEG	-0.377225	0.750263	-0.502790	0.6188
UEY04	-0.229691	0.196492	-1.168958	0.2516
DUM04_POS	0.030475	0.516043	0.059056	0.9533
DUM04_NOCHANGE	-0.647403	0.594722	-1.088581	0.2850

R-squared	0.183346	Mean dependent var	-0.081652
Adjusted R-squared	0.047237	S.D. dependent var	0.797643
S.E. of regression	0.778577	Akaike info criteri	2.488313
Sum squared resid	18.18544	Schwarz criterion	2.752233
Log likelihood	-38.78963	F-statistic	1.347051
Durbin-Watson stat	2.123810	Prob(F-statistic)	0.271929

Dependent Variable: UEY(1)
Method: Least Squares
Date: 10/17/05 Time: 09:24
Sample(adjusted): 2 184
Included observations: 183 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.150497	0.539823	0.278789	0.7807
UEY(-1)	-0.073499	0.072702	-1.010962	0.3134
DD_POS	0.059585	0.020368	2.925366	0.0039
DD_NEG	0.287286	1.047009	0.274387	0.7841
DUM_POS	-0.518644	0.615371	-0.842816	0.4005
DUM_NOCHANGE	0.653823	0.691840	0.945049	0.3459

R-squared	0.069704	Mean dependent var	0.082290
Adjusted R-squared	0.043425	S.D. dependent var	2.464461
S.E. of regression	2.410358	Akaike info criteri	4.629665
Sum squared resid	1028.339	Schwarz criterion	4.734894
Log likelihood	-417.6143	F-statistic	2.652413
Durbin-Watson stat	2.253216	Prob(F-statistic)	0.024372

2000

ARCH Test:

F-statistic	0.075328	Probability	0.785442
Obs*R-squared	0.079712	Probability	0.777689

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/08/05 Time: 09:19
Sample(adjusted): 2 36
Included observations: 35 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.052165	2.268725	1.345322	0.1877
RESID^2(-1)	-0.047719	0.173865	-0.274460	0.7854

R-squared	0.002277	Mean dependent var	2.913438
Adjusted R-squared	-0.027957	S.D. dependent var	12.90546
S.E. of regression	13.08461	Akaike info criteri	8.036196
Sum squared resid	5649.832	Schwarz criterion	8.125073
Log likelihood	-138.6334	F-statistic	0.075328
Durbin-Watson stat	1.999655	Prob(F-statistic)	0.785442

2001

ARCH Test:

F-statistic	10.11442	Probability	0.003195
Obs*R-squared	8.210821	Probability	0.004164

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/08/05 Time: 09:20
Sample(adjusted): 2 36
Included observations: 35 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.547424	1.090653	1.418804	0.1653
RESID^2(-1)	0.484507	0.152345	3.180318	0.0032

R-squared	0.234595	Mean dependent var	3.006638
Adjusted R-squared	0.211401	S.D. dependent var	6.591707
S.E. of regression	5.853640	Akaike info criteri	6.427450
Sum squared resid	1130.748	Schwarz criterion	6.516327
Log likelihood	-110.4804	F-statistic	10.11442
Durbin-Watson stat	1.765682	Prob(F-statistic)	0.003195

2002

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==========================================================
ARCH Test:
==========================================================
F-statistic          0.097246    Probability         0.757121
Obs*R-squared        0.102837    Probability         0.748451
==========================================================

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/08/05   Time: 09:20
Sample(adjusted): 2 36
Included observations: 35 after adjusting endpoints
==========================================================
     Variable       CoefficientStd. Errort-Statistic  Prob.
==========================================================
        C            16.18765    10.27903   1.574823   0.1248
    RESID^2(-1)     -0.054213    0.173846  -0.311843   0.7571
==========================================================
R-squared             0.002938    Mean dependent var 15.35365
Adjusted R-squared   -0.027276    S.D. dependent var 57.93242
S.E. of regression    58.71718    Akaike info criteri11.03879
Sum squared resid     113774.4    Schwarz criterion  11.12766
Log likelihood       -191.1788    F-statistic         0.097246
Durbin-Watson stat    2.006886    Prob(F-statistic)   0.757121
==========================================================
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2003

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==========================================================
ARCH Test:
==========================================================
F-statistic          0.686867    Probability         0.413187
Obs*R-squared        0.713642    Probability         0.398238
==========================================================

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/08/05   Time: 09:21
Sample(adjusted): 2 36
Included observations: 35 after adjusting endpoints
==========================================================
     Variable       CoefficientStd. Errort-Statistic  Prob.
==========================================================
        C            1.873479    0.759289   2.467413   0.0190
    RESID^2(-1)     -0.142790    0.172290  -0.828774   0.4132
==========================================================
R-squared             0.020390    Mean dependent var 1.639417
Adjusted R-squared   -0.009295    S.D. dependent var 4.150475
S.E. of regression    4.169720    Akaike info criteri5.749020
Sum squared resid     573.7567    Schwarz criterion  5.837897
Log likelihood       -98.60785    F-statistic        0.686867
Durbin-Watson stat    2.022186    Prob(F-statistic)  0.413187
==========================================================
```

2004

ARCH Test:

F-statistic	0.649107	Probability	0.426200
Obs*R-squared	0.675167	Probability	0.411256

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/08/05 Time: 09:21
Sample(adjusted): 2 36
Included observations: 35 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.446019	0.242245	1.841192	0.0746
RESID^2(-1)	0.138944	0.172457	0.805672	0.4262

R-squared	0.019290	Mean dependent var	0.518206
Adjusted R-squared	-0.010428	S.D. dependent var	1.324619
S.E. of regression	1.331508	Akaike info criteri	3.465946
Sum squared resid	58.50614	Schwarz criterion	3.554823
Log likelihood	-58.65406	F-statistic	0.649107
Durbin-Watson stat	1.964607	Prob(F-statistic)	0.426200

overall period

ARCH Test:

F-statistic	0.017348	Probability	0.895358
Obs*R-squared	0.017538	Probability	0.894642

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 10/08/05 Time: 09:24
Sample(adjusted): 2 184
Included observations: 183 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.596458	3.040311	1.840752	0.0673
RESID^2(-1)	0.009790	0.074326	0.131713	0.8954

R-squared	0.000096	Mean dependent var	5.651786
Adjusted R-squared	-0.005428	S.D. dependent var	40.62399
S.E. of regression	40.73411	Akaike info criteri	10.26288
Sum squared resid	300327.4	Schwarz criterion	10.29795
Log likelihood	-937.0533	F-statistic	0.017348
Durbin-Watson stat	1.999812	Prob(F-statistic)	0.895358

Dependent Variable: |e00|
Method: Least Squares
Date: 10/08/05 Time: 09:14
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.770216	0.562633	4.923662	0.0000
UEY00	0.029767	0.132623	0.224447	0.8239
DD00_POS	-0.003075	0.012150	-0.253111	0.8019
DD00_NEG	3.888687	1.289351	3.016003	0.0052
DUM00_POS	-2.338950	0.707874	-3.304191	0.0025
DUM00_NOCHANGE	-2.430697	0.869102	-2.796792	0.0089

R-squared	0.322710	Mean dependent var	0.880170
Adjusted R-squared	0.209828	S.D. dependent var	1.461490
S.E. of regression	1.299142	Akaike info criteri	3.512298
Sum squared resid	50.63314	Schwarz criterion	3.776217
Log likelihood	-57.22136	F-statistic	2.858831
Durbin-Watson stat	1.967777	Prob(F-statistic)	0.031588

Dependent Variable: |e01|
Method: Least Squares
Date: 10/08/05 Time: 09:15
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.156133	0.504698	0.309359	0.7592
UEY01	0.222238	0.092041	2.414548	0.0221
DD01_POS	-0.881866	0.760443	-1.159675	0.2553
DD01_NEG	-2.717905	0.920137	-2.953805	0.0061
DUM01_POS	1.337936	0.733041	1.825186	0.0779
DUM01_NOCHANGE	0.554793	0.612651	0.905562	0.3724

R-squared	0.368536	Mean dependent var	1.203394
Adjusted R-squared	0.263293	S.D. dependent var	1.236619
S.E. of regression	1.061411	Akaike info criteri	3.108087
Sum squared resid	33.79779	Schwarz criterion	3.372007
Log likelihood	-49.94556	F-statistic	3.501737
Durbin-Watson stat	1.191843	Prob(F-statistic)	0.013033

```
==============================================================
Dependent Variable: |e02|
Method: Least Squares
Date: 10/08/05   Time: 09:36
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints
==============================================================
     Variable        CoefficientStd. Errort-Statistic  Prob.
==============================================================
        C              1.187456   1.964387   0.604492   0.5501
      UEY02           -0.022484   0.091846  -0.244802   0.8083
     DD02_POS          0.314094   0.265422   1.183377   0.2460
     DD02_NEG          1.159909   3.201952   0.362251   0.7197
     DUM02_POS        -0.846022   2.130568  -0.397088   0.6941
   DUM02_NOCAHANGE     5.948352   2.172568   2.737936   0.0103
==============================================================
R-squared              0.598347    Mean dependent var 1.928757
Adjusted R-squared     0.531405    S.D. dependent var 3.399864
S.E. of regression     2.327343    Akaike info criteri4.678344
Sum squared resid      162.4958    Schwarz criterion  4.942263
Log likelihood        -78.21018    F-statistic        8.938272
Durbin-Watson stat     1.696132    Prob(F-statistic)  0.000028
==============================================================
```

```
==============================================================
Dependent Variable: |e03|
Method: Least Squares
Date: 10/08/05   Time: 09:17
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints
==============================================================
     Variable        CoefficientStd. Errort-Statistic  Prob.
==============================================================
        C              0.713870   0.456631   1.563339   0.1285
      UEY03            0.185829   0.117190   1.585701   0.1233
     DD03_POS          0.050118   0.046903   1.068548   0.2938
     DD03_NEG         -1.380005   1.025684  -1.345449   0.1886
     DUM03_POS        -0.578419   0.520455  -1.111372   0.2752
   DUM03_NOCHANGE      0.816363   0.601538   1.357126   0.1849
==============================================================
R-squared              0.341742    Mean dependent var 0.755815
Adjusted R-squared     0.232033    S.D. dependent var 1.025662
S.E. of regression     0.898826    Akaike info criteri2.775557
Sum squared resid      24.23663    Schwarz criterion  3.039477
Log likelihood        -43.96002    F-statistic        3.114971
Durbin-Watson stat     2.206700    Prob(F-statistic)  0.022114
==============================================================
```

Dependent Variable: |e04|
Method: Least Squares
Date: 10/08/05 Time: 09:18
Sample(adjusted): 1 36
Included observations: 36 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.125561	0.281685	0.445749	0.6590
UEY04	-0.282874	0.125806	-2.248496	0.0320
DD04_POS	0.122639	0.083097	1.475846	0.1504
DD04_NEG	-0.141479	0.480364	-0.294524	0.7704
DUM04_POS	0.054282	0.330402	0.164292	0.8706
DUM04_NOCHANGE	1.209355	0.380777	3.176018	0.0034

R-squared	0.377289	Mean dependent var	0.415460
Adjusted R-squared	0.273504	S.D. dependent var	0.584846
S.E. of regression	0.498492	Akaike info criteri	1.596553
Sum squared resid	7.454827	Schwarz criterion	1.860473
Log likelihood	-22.73796	F-statistic	3.635295
Durbin-Watson stat	1.885288	Prob(F-statistic)	0.010889

Dependent Variable: |e-overall|
Method: Least Squares
Date: 10/08/05 Time: 09:24
Sample(adjusted): 1 184
Included observations: 184 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.159358	0.484847	2.391185	0.0178
DD_POS	0.009105	0.018376	0.495497	0.6209
DD_NEG	1.041276	0.930397	1.119173	0.2646
DUM_POS	-0.487206	0.553440	-0.880324	0.3799
DUM_NOCHANGE	0.691972	0.622635	1.111360	0.2679

R-squared	0.046712	Mean dependent var	0.890833
Adjusted R-squared	0.025410	S.D. dependent var	2.203149
S.E. of regression	2.174979	Akaike info criteri	4.418713
Sum squared resid	846.7653	Schwarz criterion	4.506075
Log likelihood	-401.5216	F-statistic	2.192798
Durbin-Watson stat	1.727295	Prob(F-statistic)	0.071605

Dependent Variable: |e-overall|
Method: Least Squares
Date: 10/17/05 Time: 07:13
Sample(adjusted): 1 184
Included observations: 184 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.159273	0.485906	2.385799	0.0181
UEY	-0.031123	0.066229	-0.469938	0.6390
DD_POS	0.008303	0.018495	0.448957	0.6540
DD_NEG	1.052144	0.932715	1.128044	0.2608
DUM_POS	-0.471723	0.555626	-0.848994	0.3970
DUM_NOCHANGE	0.691854	0.623995	1.108749	0.2690

R-squared	0.047893	Mean dependent var	0.890833
Adjusted R-squared	0.021149	S.D. dependent var	2.203149
S.E. of regression	2.179728	Akaike info criteri	4.428342
Sum squared resid	845.7160	Schwarz criterion	4.533177
Log likelihood	-401.4075	F-statistic	1.790771
Durbin-Watson stat	1.691640	Prob(F-statistic)	0.116929

Correlation Matrix

DD00_NEG	DD00_POS	DD01_NEG	DD01_POS	DD02_NEG	DD02_POS
1.000000	0.188084	-0.072635	-0.271470	-0.318319	-0.361222
0.188084	1.000000	0.149071	-0.060246	-0.309052	-0.093448
-0.072635	0.149071	1.000000	0.353511	0.024451	-0.476325
-0.271470	-0.060246	0.353511	1.000000	0.189856	-0.068308
-0.318319	-0.309052	0.024451	0.189856	1.000000	0.289155
-0.361222	-0.093448	-0.476325	-0.068308	0.289155	1.000000
-0.031340	-0.172764	-0.052229	-0.074377	-0.140214	0.201809
0.154228	0.309704	-0.125078	-0.159475	-0.497579	0.014545
-0.084156	0.001861	0.018840	0.170676	0.107710	-0.123843
0.169667	0.126310	-0.077345	-0.071150	-0.131866	-0.113141

Correlation Matrix

	DD03_NEG	DD03_POS	DD04_NEG	DD04_POS
DD00_NEG	-0.031340	0.154228	-0.084156	0.169667
DD00_POS	-0.172764	0.309704	0.001861	0.126310
DD01_NEG	-0.052229	-0.125078	0.018840	-0.077345
DD01_POS	-0.074377	-0.159475	0.170676	-0.071150
DD02_NEG	-0.140214	-0.497579	0.107710	-0.131866
DD02_POS	0.201809	0.014545	-0.123843	-0.113141
DD03_NEG	1.000000	0.211658	-0.305305	-0.599885
DD03_POS	0.211658	1.000000	-0.263371	-0.101465
DD04_NEG	-0.305305	-0.263371	1.000000	0.356215
DD04_POS	-0.599885	-0.101465	0.356215	1.000000

Date: 10/17/05 Time: 09:28
Sample: 1 185

	UEY
Mean	0.080769
Median	-0.006432
Maximum	23.58032
Minimum	-10.83587
Std. Dev.	2.451074
Skewness	5.031054
Kurtosis	52.42611
Jarque-Bera	19611.43
Probability	0.000000
Sum	14.94218
Sum Sq. Dev.	1105.429
Observations	185

TABLE D.5a

Durbin-Watson d statistic: Significance points of d_L and d_U at 0.05 level of significance

	$k'=1$		$k'=2$		$k'=3$		$k'=4$		$k'=5$		$k'=6$		$k'=7$		$k'=8$		$k'=9$		$k'=10$	
n	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U
6	0.610	1.400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	0.700	1.356	0.467	1.896	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	0.763	1.332	0.559	1.777	0.368	2.287	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	0.824	1.320	0.629	1.699	0.455	2.128	0.296	2.588	—	—	—	—	—	—	—	—	—	—	—	—
10	0.879	1.320	0.697	1.641	0.525	2.016	0.376	2.414	0.243	2.822	—	—	—	—	—	—	—	—	—	—
11	0.927	1.324	0.658	1.604	0.595	1.928	0.444	2.283	0.316	2.645	0.203	3.005	—	—	—	—	—	—	—	—
12	0.971	1.331	0.812	1.579	0.658	1.864	0.512	2.177	0.379	2.506	0.268	2.832	0.171	3.149	—	—	—	—	—	—
13	1.010	1.340	0.861	1.562	0.715	1.816	0.574	2.094	0.445	2.390	0.328	2.692	0.230	2.985	0.147	3.266	—	—	—	—
14	1.045	1.350	0.905	1.551	0.767	1.779	0.632	2.030	0.505	2.296	0.389	2.572	0.286	2.848	0.200	3.111	0.127	3.360	—	—
15	1.077	1.361	0.946	1.543	0.814	1.750	0.685	1.977	0.562	2.220	0.447	2.472	0.343	2.727	0.251	2.979	0.175	3.216	0.111	3.438
16	1.106	1.371	0.982	1.539	0.857	1.728	0.734	1.935	0.615	2.157	0.502	2.388	0.398	2.624	0.304	2.860	0.222	3.090	0.155	3.304
17	1.133	1.381	1.015	1.536	0.897	1.710	0.779	1.900	0.664	2.104	0.554	2.318	0.451	2.537	0.356	2.757	0.272	2.975	0.198	3.184
18	1.158	1.391	1.046	1.535	0.933	1.696	0.820	1.872	0.710	2.060	0.603	2.257	0.502	2.461	0.407	2.667	0.321	2.873	0.244	3.073
19	1.180	1.401	1.074	1.536	0.967	1.685	0.859	1.848	0.752	2.023	0.649	2.206	0.549	2.396	0.456	2.589	0.369	2.783	0.290	2.974
20	1.201	1.411	1.100	1.537	0.998	1.676	0.894	1.828	0.792	1.991	0.692	2.162	0.595	2.339	0.502	2.521	0.416	2.704	0.336	2.885
21	1.221	1.420	1.125	1.538	1.026	1.669	0.927	1.812	0.829	1.964	0.732	2.124	0.637	2.290	0.547	2.460	0.461	2.633	0.380	2.806
22	1.239	1.429	1.147	1.541	1.053	1.664	0.958	1.797	0.863	1.940	0.769	2.090	0.677	2.246	0.588	2.407	0.504	2.571	0.424	2.734
23	1.257	1.437	1.168	1.543	1.078	1.660	0.986	1.785	0.895	1.920	0.804	2.061	0.715	2.208	0.628	2.360	0.545	2.514	0.465	2.670
24	1.273	1.446	1.188	1.546	1.101	1.656	1.013	1.775	0.925	1.902	0.837	2.035	0.751	2.174	0.666	2.318	0.584	2.464	0.506	2.613
25	1.288	1.454	1.206	1.550	1.123	1.654	1.038	1.767	0.953	1.886	0.868	2.012	0.784	2.144	0.702	2.280	0.621	2.419	0.544	2.560
26	1.302	1.461	1.224	1.553	1.143	1.652	1.062	1.759	0.979	1.873	0.897	1.992	0.816	2.117	0.735	2.246	0.657	2.379	0.581	2.513
27	1.316	1.469	1.240	1.556	1.162	1.651	1.084	1.753	1.004	1.861	0.925	1.974	0.845	2.093	0.767	2.216	0.691	2.342	0.616	2.470
28	1.328	1.475	1.255	1.560	1.181	1.650	1.104	1.747	1.028	1.850	0.951	1.958	0.874	2.071	0.798	2.188	0.723	2.309	0.650	2.431
29	1.341	1.483	1.270	1.563	1.198	1.650	1.124	1.743	1.050	1.841	0.975	1.944	0.900	2.052	0.826	2.164	0.753	2.278	0.682	2.396
30	1.352	1.489	1.284	1.567	1.214	1.650	1.143	1.739	1.071	1.833	0.998	1.931	0.926	2.034	0.854	2.141	0.782	2.251	0.712	2.363
31	1.363	1.496	1.297	1.570	1.229	1.650	1.160	1.735	1.090	1.825	1.020	1.920	0.950	2.018	0.879	2.120	0.810	2.226	0.741	2.333
32	1.373	1.502	1.309	1.574	1.244	1.650	1.177	1.732	1.109	1.819	1.041	1.909	0.972	2.004	0.904	2.102	0.836	2.203	0.769	2.306
33	1.383	1.508	1.321	1.577	1.258	1.651	1.193	1.730	1.127	1.813	1.061	1.900	0.994	1.991	0.927	2.085	0.861	2.181	0.795	2.281
34	1.393	1.514	1.333	1.580	1.271	1.652	1.208	1.728	1.144	1.808	1.080	1.891	1.015	1.979	0.950	2.069	0.885	2.162	0.821	2.257
35	1.402	1.519	1.343	1.584	1.283	1.653	1.222	1.726	1.160	1.803	1.097	1.884	1.034	1.967	0.971	2.054	0.908	2.144	0.845	2.236
36	1.411	1.525	1.354	1.587	1.295	1.654	1.236	1.724	1.175	1.799	1.114	1.877	1.053	1.957	0.991	2.041	0.930	2.127	0.868	2.216
37	1.419	1.530	1.364	1.590	1.307	1.655	1.249	1.723	1.190	1.795	1.131	1.870	1.071	1.948	1.011	2.029	0.951	2.112	0.891	2.198
38	1.427	1.535	1.373	1.594	1.318	1.656	1.261	1.722	1.204	1.792	1.146	1.864	1.088	1.939	1.029	2.017	0.970	2.098	0.912	2.180
39	1.435	1.540	1.382	1.597	1.328	1.658	1.273	1.722	1.218	1.789	1.161	1.859	1.104	1.932	1.047	2.007	0.990	2.085	0.932	2.164
40	1.442	1.544	1.391	1.600	1.338	1.659	1.285	1.721	1.230	1.786	1.175	1.854	1.120	1.924	1.064	1.997	1.008	2.072	0.952	2.149
45	1.475	1.566	1.430	1.615	1.383	1.666	1.336	1.720	1.287	1.776	1.238	1.835	1.189	1.895	1.139	1.958	1.089	2.022	1.038	2.088
50	1.503	1.585	1.462	1.628	1.421	1.674	1.378	1.721	1.335	1.771	1.291	1.822	1.246	1.875	1.201	1.930	1.156	1.986	1.110	2.044
55	1.528	1.601	1.490	1.641	1.452	1.681	1.414	1.724	1.374	1.768	1.334	1.814	1.294	1.861	1.253	1.909	1.212	1.959	1.170	2.010
60	1.549	1.616	1.514	1.652	1.480	1.689	1.444	1.727	1.408	1.767	1.372	1.808	1.335	1.850	1.298	1.894	1.260	1.939	1.222	1.984
65	1.567	1.629	1.536	1.662	1.503	1.696	1.471	1.731	1.438	1.767	1.404	1.805	1.370	1.843	1.336	1.882	1.301	1.923	1.266	1.964
70	1.583	1.641	1.554	1.672	1.525	1.703	1.494	1.735	1.464	1.768	1.433	1.802	1.401	1.837	1.369	1.873	1.337	1.910	1.305	1.948
75	1.598	1.652	1.571	1.680	1.543	1.709	1.515	1.739	1.487	1.770	1.458	1.801	1.428	1.834	1.399	1.867	1.369	1.901	1.339	1.935
80	1.611	1.662	1.586	1.688	1.560	1.715	1.534	1.743	1.507	1.772	1.480	1.801	1.453	1.831	1.425	1.861	1.397	1.893	1.369	1.925
85	1.624	1.671	1.600	1.696	1.575	1.721	1.550	1.747	1.525	1.774	1.500	1.801	1.474	1.829	1.448	1.857	1.422	1.886	1.396	1.916
90	1.635	1.679	1.612	1.703	1.589	1.726	1.566	1.751	1.542	1.776	1.518	1.801	1.494	1.827	1.469	1.854	1.445	1.881	1.420	1.909
95	1.645	1.687	1.623	1.709	1.602	1.732	1.579	1.755	1.557	1.778	1.535	1.802	1.512	1.827	1.489	1.852	1.465	1.877	1.442	1.903
100	1.654	1.694	1.634	1.715	1.613	1.736	1.592	1.758	1.571	1.780	1.550	1.803	1.528	1.826	1.506	1.850	1.484	1.874	1.462	1.898
150	1.720	1.746	1.706	1.760	1.693	1.774	1.679	1.788	1.665	1.802	1.651	1.817	1.637	1.832	1.622	1.847	1.608	1.862	1.594	1.877
200	1.758	1.778	1.748	1.789	1.738	1.799	1.728	1.810	1.718	1.820	1.707	1.831	1.697	1.841	1.686	1.852	1.675	1.863	1.665	1.874