Joint Announcement Effects on Share Price

- *A Study on Nordic Stock Exchanges*

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ABSTRACT

The objective of this thesis is to investigate to what extent the information content in the joint dividend and earnings announcement affect share price reactions in the NASDAQ OMX Nordic Stock Exchange. Further, this study examines the financial performance of the companies in subsequent period to the announcement. OLS regression models from market-based and accounting data combined with analyzing of financial figures is used to arrive at the result. The study concludes that the joint dividend and earnings announcement has diminutive effect on the share price. Moreover, the relation between announcement and future financial performance is inconclusive for OMXN on the period of 2006 to 2008.

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Key words:	Dividend, Stock Returns, Cumulative Abnormal Return, Signaling theory, Information asymmetry, Behavioral of dividend, Financial performance, Efficient market hypothesis (EMH)
Purpose:	The purpose of this study is to investigate the joint dividend and earnings announcement affect to share price and subsequent financial performance in the OMXN during 2006 and 2008.
Methodology:	The entire study is based on a hypothetical-deductive approach. Cross-sectional regression models are applied to arrive at the result.
Theoretical Perspectives:	The theoretical perspective is derived from the ongoing debate regarding the information content of dividend.
Empirical Foundations:	Based on the regression results on the relationships between the dividend and earnings announcement towards stock and financial performance of Large Cap and Mid Cap listed companies on OMXN
Conclusions:	The result supports the original theory from Miller & Modigliani (1961) around dividend irrelevancy proposition that a change in dividend policy does not affect share price. The findings of the regressions on the post announcement financial ratio growth were statistically insignificant.

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I.   INTRODUCTION

This introduction chapter provides a prologue into the subject by supplying background information, underlying research problem as well as an overview of the stock markets. Furthermore, delimitations, disposition of the thesis and target audience are presented.

1.1   Background

Since summer 2007, the financial crisis has started to show its effect to the global economy. Later in 2008, the falls of major US financial institutes such as Bear Stearns and Lehman Brothers magnified the lack of confidence in the financial system. Stock indexes and prices worldwide moved extensively downward. On 9th March, 2009, Dow Jones Industrial Average was as low as 6,440.08, the lowest point in the last decade. Again on the same date, NASDAQ also reached 1265.52, the bottom price during the last five years (Yahoo! Finance 2009). This downturn had a huge impact on shareholders' wealth which could either be created through capital gains or dividends (Copeland *et al*. 2005). As the current global economic recession is impacting companies' performance, the managements' dilemma in maintaining dividend policy has become more severe. The announcement of financial figures for companies is analyzed by the investors to evaluate the value of the company hence the shareholders' reactions to those announcements would be of importance. It is an interesting aspect to see how management choose to treat net profit as it can either be distributed to the investors, as return on their investments, or kept as retained earnings for sustainable growth (Copeland *et al*. 2005). The fact that managers have better access to information as well as better understanding regarding the company's current and future performance implies that management's choice of balancing the firm's growth and relationships with investors would convey information of managers' confidence in the firm (Ross 1977).

Can the dividend and earnings announcement reveal any content that would create any additional value to the shareholders?

1.2   Problem Discussion

Since the release of Miller and Modigliani (1961) proposition of dividend irrelevancy, the topic has been widely debated by experts in the financial arena. Prominent academics such as Watts (1973) argued that *"there is little potential information in dividends"* while Pettit (1972) disagreed and proposed the opposite. Aharony and Swary (1980) studied the announcement effects of the separated dividend and earnings announcements in the US capital market and found that the information content of dividend does exist.

In recent research, the results are still dispersed. Conroy *et al*. (2000) conducted a study in Tokyo Stock Exchange (TSE), where the information of current dividend and earnings as well as the next year forecast figures are released on the same date. The information effects of the dividend and earnings announcement were analyzed separately. The findings suggested that earnings variable has more effect on share price movement than the dividend variable has. In particular, current dividend surprises do not have any effects on the share price; while, management's forecast of next year's dividend provides little additional information to the earnings forecast figure. The study concluded that the absent of the influence of current dividend surprise on share price is consistent with the dividend irrelevancy proposition. However, Sponholtz (2005) applied the methodology used in Conroy *et al*. (2000) on the Danish market and reached a conclusion that dividend does convey additional information to the shareholders.

If the supposition that the dividend and earnings announcement conveys information regarding manager's anticipation in future performance of the company is applicable, then it would be relevant to investigate the future financial condition of the firm.

According to this interpretation, if a company presents a positive change from the market's expectations, an improvement of the future performance should occur in subsequent periods while a negative change from the market's expectation would imply weakening future performance.

To shed a light over the NASDAQ OMX Nordic Stock Exchange (OMXN), the objective of this study is to investigate the phenomena in the recent years (2006-2008) on the Nordic markets and to analyze to what extent the dividend and earnings announcement influences the stock price and its relation to the financial performance.

The majority of the companies listed on the OMXN release the information regarding its performance and dividend simultaneously. This would give this study a comprehensive edge to investigate the joint announcement of the dividend and earnings.

1.3   Stock Market

1.3.1   NASDAQ OMX Nordic Stock Exchange (OMXN)

OMXN includes four main markets, OMX Copenhagen, OMX Helsinki, OMX Iceland and OMX Stockholm Stock Exchange.

As inflation, population and overall market valuation change over time; all listed companies in OMXN are grouped into three categories: Nordic Large Cap, Mid Cap and Small Cap. The criterions are presented below:

Table 1: OMXN Market Capitalization Category

Category	Criterion
Large Cap	Market Cap is equivalent to EUR 1 billion or more
Mid Cap	Market Cap is between EUR 150 million and 1 billion
Small Cap	Market Cap is less than EUR 150 million.

Source: Business Wire

Exhibit 1: OMX Nordic Exchange: Domestic by Segment

Market Capitalization

2% 1%

10%

87%

Number of Companies

17%

33%

28%

22%

Trading Value

1% 0%

4%

95%

Number of Domestic Equity Trades

4% 4%

12%

80%

- Large Cap
- Mid Cap
- Small Cap
- Micro Cap
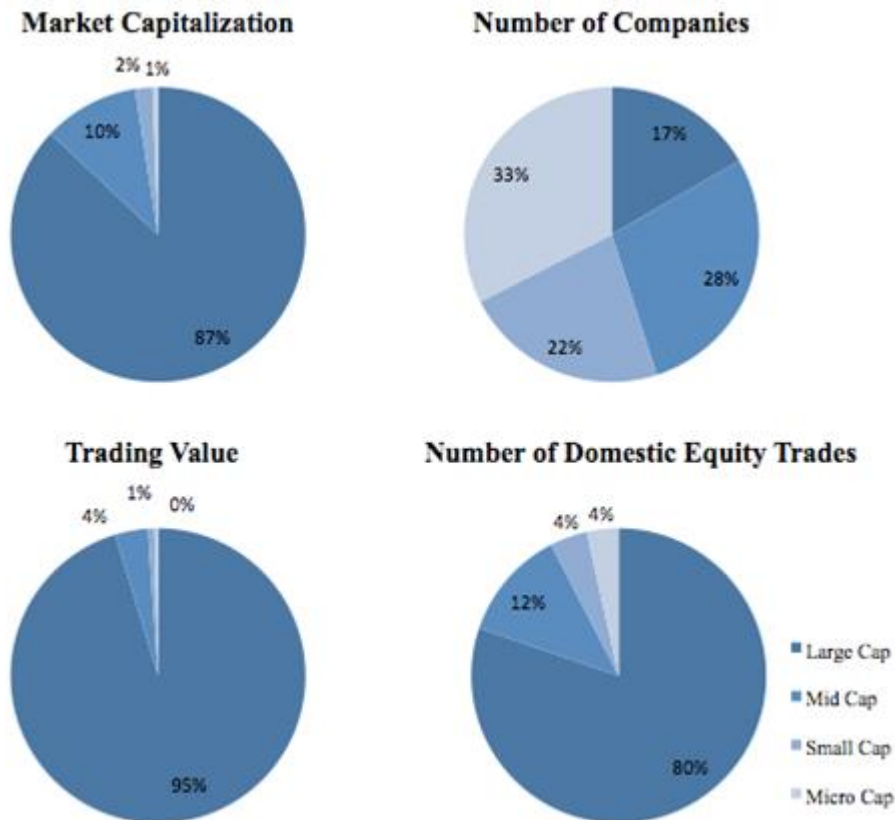
Source: WFE 2007 Market Segmentation Survey

Exhibit 1 above present an overview of the OMXN market, Large Cap and Mid Cap account for 97% of domestic market capitalization, 99% share trading volume and 92% of domestic equity.

1.3.2   Comparison with Other Major Stock Markets

A lot of research on this topic had already been conducted on the major markets, especially NYSE and London Stock Exchange (LSE). NYSE is the largest and most liquid cash equities exchanges in the world. It has a domestic market capitalization of US$15.7 trillion. LSE is the fifth largest stock exchange in the world with a market capitalization of US$3.852 trillion. OMXN in comparison has a market capitalization of US$1.242 trillion as of the end of 2007.

Table 2: Comparison of Major Stock Markets

Exchange	World Rank (Market Capitalization)	Domestic Market Capitalization (USD bn)	Number of listed companies	Total Value of Share Trading (USD mn)
NYSE (US)	1	15,650,833	2,273	2,157,971
Tokyo SE	2	4,330,922	2,414	440,587
Euronext (Europe)	3	4,222,680	1,155	340,045
NASDAQ OMX	4	4,013,650	3,069	2,227,032
London SE	5	3,851,706	3,307	441,380
OMXN	16	1,242,578	851	96,978

Source: WFE 2007 Market Segmentation Survey

1.4 Purpose

The purpose of this study is to investigate to what extent the information content in the joint dividend and earnings announcement affect share price reactions in the OMXN. Further, this paper intends to examine the financial performance of the companies in subsequent period to the announcement, to investigate the information conveyed in the announcement and its relation to future performance.

1.5 Delimitation

This study focuses on the joint announcement effect of the dividend and earnings. It does not isolate the announcement effect of the two components but instead intends to capture the interaction between them. This study disregards any other published information releases around the joint dividend and earnings announcement date.

1.6 Thesis Outline

Chapter two comprises theories that support this study and elaboration of previous journals relevant to the topic. Further, the hypotheses to this research are introduced.

Chapter three describes I/B/E/S the research approach and data collection. This would include aspects on how the research is constructed and its detailed process to arrive at the result. It also illustrates research problems concerning the validity and reliability. Chapter four presents empirical findings and the results from the regressions models. Chapter five presents conclusions and proposals for further research.

1.7   Audience

This study would be of interest for academics interested in corporate finance, investors active in the stock market, practitioners in the financial community or other individuals interested in learning the stock behavior in the OMXN.

II.   THEORETICAL FRAMEWORK

This chapter presents the following theories: Behavioral models of dividend, Dividend growth model, Dividend irrelevancy proposition, Efficient market hypothesis, Signaling theory and Information asymmetry as well as previous studies of the subject.

2.1   Theories

2.1.1 Behavioral of Dividend

John Lintner (1956) proposed that dividend policy has two variables: the target dividend to earnings payout ratio and the speed of adjustment which current dividends adjust toward the new target. His attempt to explain dividend behavior of companies was achieved by observing company's financial data as well as through conducting interviews with 28 managers of selected American companies in the middle of 1950s. Lintner's findings from the interviews showed that management perceived dividend policy as a main corporate financial decision and tended to set the dividend policy first, then adjust other cash related decision accordingly. Furthermore, instead of determining the dividend amount for each year, management tended to set target long-term payout ratios and tend to maintain that level. The study discussed that management would increase dividend only when they are confident that the change in company's performance would be sustainable in the long-run while they showed reluctance in the choice of decreasing dividend. As a result, to stabilize the dividend payout pattern, management tended to gradually change dividends by the partial amounts indicated by changes in current financial figures until they achieve the dividend target. The managers believed that this practice would help to minimize adverse stockholder reactions. Fama and Babiak (1968) investigated different models

for explaining dividend behavior and found that Litner's model is one of the best models that can explain the behavior of dividend stabilization as well as the prediction of the next year dividend payment. Brav, Graham, Harvey, and Michaely (2003) surveyed CFOs and treasurers to discover the key factors that influences dividend and stock repurchase policy. Their finding is in line with Lintner (1956) that management will increase the payout only if the new policy is sustainable. Given this management behavior, it is likely to assume that the investors will interpret an increase in dividend as a signal that the increase in cash flow would be permanent.

2.1.2 Dividend Growth Model

Myron J. Gordon (1959) introduced the dividend growth model which illustrates the relationship between expected share price and dividend policy. The model is presented below:

Equation 1: $\quad E(P_0) = \frac{D_1}{k-g}$

$E(P_0)$ is the expected share price, D_1 is the next year dividend, k is defined as shareholders expected return and g is identified as the long-term growth rate of dividends.

According to this model, an increase in dividend would stimulate an increase in share price. However, a dividend payment would also result in less cash for reinvestment in the company. This would lead to a decline in expected growth rate which in turn would negatively affect the share price. The conclusion of the dividend growth model is that a change in policy would have an impact on the share price in two different directions. Brigham and Ehrhardt (2002) hold the opinion that in order to maximize the current share price, an optimum dividend policy could be achieved by balancing the two aspects of current dividends and future growth. This notion provides a direct link between dividend and stock price. Hence, the choice of increasing, decreasing or

maintaining dividend payment would be reflected in market price and should be considered as a method to monitor management performance.

2.1.3 Dividend Irrelevancy Proposition

Miller and Modigliani (1961) published a study on "Dividend policy, growth and the valuation of shares". The paper examined the dividend policy and their effects on share price by evaluating the relationship in an ideal economy. This is characterized by perfect capital markets that it does not exist any participants that have any extensive impact on the share price as well as it does not exist any transaction costs or tax differentials, and that traders have equal, costless and all relevant information regarding shares. It also assumes rational behavior that investors are focusing on maximizing wealth and that they are indifferent whether the wealth is made by an increase in market value or from a dividend payout as well as perfect certainty. By investigating under these conditions, dividend affects neither the current price of the shares nor the total return to its shareholder. In other words, in the ideal economy dividend policy is irrelevant to shareholders' wealth. Challenges to this dividend irrelevance proposition stemmed from market imperfections. Miller and Modigliani admitted that:

"*where a firm has adopted a policy of dividend stabilization with a long- established and generally appreciated "target payout ratio," investors are likely to (and have good reason to) interpret a change in the dividend rate as a change in management's views of future profit prospects for the firm.*" (Miller and Modigliani 1961, p.430)

This quote revealed the perception that dividends contain information and was later utilized in the signaling theory of dividends (Jensen and Johnson 1995).

2.1.4 Efficient Market Hypothesis (EMH)

Fama (1970) presented a theory that described the level of information efficiency of the financial markets. It is divided into three categories depending on how accurate the stock price reflects the available information:

- *Weak efficiency*: Asserts that the past stock prices and data are incorporated in current stock price without any delays

- *Semi-strong efficiency*: Asserts that all publicly available information is reflected in the current stock price

- *Strong efficiency*: Asserts that all information, both inside and published information, is reflected into the current stock price

If the strong market efficiency phenomenon exists, then both the investors and managements could not exploit any information asymmetry in the stock markets and no abnormal returns could be obtained in trading stocks. The semi-strong form efficient markets hypothesis the can be seen as a test of the speed of adjustment of prices to new information. Ball and Brown (1968) event study provides evidence on the reaction of share prices to earnings announcements. The result shows that the information was partially anticipated by the market, most of the price adjustment had started before the event was revealed to the market. However, when the new information reached the market, the remaining price adjustments took place rapidly. One way of testing the validity of strong-form market efficiency is to evaluate if insiders, who have access to non-public available information, could outperform the market. The results from Jaffe (1974) and Finnerty (1976) suggest that insiders earned abnormal returns hence the strong market efficiency does not hold. Fama (1998) published a following up study to clarify the theory. The study concluded that market efficiency does exist in the long run and that any types of anomalies are chance results. Hence, if the market has semi-strong form of efficiency, anomalies on stock price

should be observable on the date that the new information is made public.

2.1.5 Signaling Theory and Information Asymmetry

Information asymmetry is defined as a situation when one party has an information advantage over the other. Managers as insiders have access to detailed internal reports and better insights of the condition of the firm than the investors. In general, firms demonstrate constant dividend payouts. Managements would only adjust the policy if they are certain that this change in dividend could be sustained. Due to this behavior, an alteration of the dividend policy is likely to be interpreted as that the managements anticipate a permanent change in future cash flow of the firm (Lintner 1956). Several studies regarding the topic of dividend signaling have been published. Fama, Fisher, Jensen, and Roll (1969) studied stock split and its signaling to the investors. The results showed that splits together with a positive change in dividend announcement would lead to an increase in share price while a decrease in dividend would impact the share price negatively. Ross (1977) study also supported the signaling theory. It concluded that the market contains full information about the activities of firms that give the information to the investors concerning firm's performance efficiency and potential achievements in the future. In other words, the managers send messages to their investors by using their financial decision as a tool. Dividend payout could therefore be regarded as a signaling device that indicates that the expected future cash flow is sufficient to distribute dividend to the investors without increasing the probability for bankruptcy (Copeland *et al.* 2005). As a result, the market should expect improvements in firm performance in subsequent periods of the event.

2.2   Empirical Findings of Previous Researches

Ball and Brown (1968) study provided evidence of post-earnings announcement stock anomalies in the direction denoted by an earnings surprise. Later, Ball (1978) summarized twenty literatures on earnings-related anomalies and concluded that the

collective evidence was strong.

The information content in dividend announcement is a popular topic examined by academics. Aharony and Swary (1980) investigated the information content of dividend by applying the market model (see equation 2) on the stock where quarterly cash dividends are announced at least eleven trading days apart from earnings announcement of the same period. The findings from the dividend expectation model showed that the stockholders realized abnormal returns (see equation 3) in the twenty-day period surrounding these dividend announcements. In particular, stockholders obtain normal return when firms maintain dividend, enjoy positive abnormal return when firms increase of dividend and vice versa. The direction and magnitude of the result are true regardless of the sequence of the earnings and dividend announcement. Further, naive expectation model (see equation 4) was applied to examine stock performance surrounding the date of earnings announcement in the quarter where both dividend and earnings changes provided positive signals. The findings indicated that stockholders realized significant positive abnormal returns at the earnings announcement date whether these earnings announcement preceded or followed dividend announcement. In other words, when a dividend increase was announced, the stockholders realized abnormal returns in the days surrounding both dividend and earnings announcement dates. This supports the hypothesis that quarterly cash dividend announcement contains useful information beyond what had already been provided in quarterly earnings announcement. The study then concluded that changes in quarterly dividends provide a signaling device that is at least as effective as quarterly earnings numbers.

Asquith and Mullins, Jr. (1983) tried to capture the full effect of dividend announcement by using the naive expectation model to investigate the abnormal return on stock price surrounding the date of initial dividend announcement and then compare the results with subsequent dividend announcements. To capture the pure

effect of the initial dividend announcement, they collected data on other announcements (such as earnings, merger negotiation, spin-off) surrounding the twenty-one-day period of the initial dividend announcement date and reclassified their sample data into three groups: Initial dividend announcement with no other events, Initial dividend with earning announcement in the surrounding period and Initial dividend with other announcement in the surrounding period. The excess return of subsamples of initial dividend announcement with no other announcements in surrounding period was still positive. This indicated that the market's positive reaction was due to the information in the dividend announcement itself instead of other events. The study further explored the relation between the wealth effect and the size of dividend by regressing market excess return on initial dividend announcement against the annualized change in yield and repeated the process with the subsequent dividend announcement. The results indicated that larger dividends are associated with larger returns. Their results support the hypothesis that dividend announcement contains additional information than those already presented in other announcement (mainly earnings announcement). The study then suggests that dividend and earnings announcements are partially substitutes.

Pettit (1972) carried through a study to investigate the dividend and earnings announcement impact on stock price. The study focused on the event when the information on dividend and earnings were released on different dates. It isolated the dividend announcements into analogous groups, depending on whether the announced figures exceeded market expectations or not. The market model was then used to calculate abnormal performance index for each group. The study came to the conclusion that:

"market participants make considerable use of the information implicit in announcements of changes in dividend payments". (Pettit 1972, p.1000 – 1001)

Pettit (1976) elaborated his opinion further by stating that the difference between reported earnings and actual real earning power could explain why dividend announcement would work as a messenger to mediate information to the public, as all information might not be communicated through reported earnings.

Jensen and Johnson (1995) studied listed companies on the New York Stock Exchange (NYSE) and the American Stock Exchange (AMEX) that reduced their established dividend policy. The financial condition of the companies were analyzed both in the prior and post announcement periods. The study indicated that a company with a dividend drop would experience a declining performance in profitability, share price as well as an increase in operating costs in the period prior to the announcement. However, the study concluded that the dividend cut would represent a turning point for the companies as the financial profile significantly improved afterwards.

Gunasekarage and Power (2002; 2006) recently published a paper that examined the joint dividend and earnings announcement effect and its relation with the long-run post financial performance for the companies that announced a change in dividend in the UK market. The study was conducted by grouping companies according to the changes in dividend and earnings components. The data was evaluated using the market model to capture any behavior of abnormal return. The study then investigated the subsequent five years in financial performance by analyzing financial perspectives of profitability, leverage, liquidity and activity as well as the return performance of the shares. The conclusion of the study was that positive news in dividend and earnings led to a positive abnormal return as the opposite led to a negative abnormal return. In terms of financial performance, the study concluded that the companies that reported a negative dividend and earnings change was the group that had better financial performance in the subsequent years of the announcement. The return performance of the shares of this group outperformed all the other groups in the following five years from the announcement date. The authors debated that a

reduction in dividend was to overcome its current financial difficulties for better future performance rather than to convey a negative signal about future results.

III. METHODOLOGY AND DATA

In this chapter the hypotheses are formulated. Research approach and data collection will be thoroughly described. This would include aspects on how the research is constructed and its detailed process to arrive at the result. It would also illustrate the research problems concerning the validity and reliability.

3.1 Hypothesis

Based on the theories presented in Chapter II, the following hypothesis can be formulated:

Table 3: Hypotheses

	Hypothesis	Theory	Author
H1	The joint dividend and earnings announcement will generate daily stock abnormal return on the announcement date	Behavioral of Dividend, Dividend Growth Model, EMH, Signaling Theory and Information Asymmetry,	Lintner (1956), Gordon (1959), Fama (1970), Ross (1977)
H2a	The effect on share abnormal return would be positively related to the dividend and earnings surprise component of the joint announcement if both dividend and earnings surprises increase.	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner (1956), Asquith and Mullins,Jr. (1983), Ross (1977)
H2b	The effect on share abnormal return would be negatively related to the of the dividend and earnings surprise component of the joint announcement if both dividend and earnings surprises decrease.	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner (1956), Asquith and Mullins,Jr. (1983), Ross (1977), Jensen and Johnson (1995)
H3a	A positive surprise joint announcement would indicate an improvement of return on invested capital for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006)

H3b	A negative surprise joint announcement would indicate a decline in return on invested capital for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006), Jensen and Johnson (1995)
H4a	A positive surprise joint announcement would indicate an improvement in return on equity for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006)
H4b	A negative surprise joint announcement would indicate a decline in return on equity for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006), Jensen and Johnson (1995)
H5a	A positive surprise joint announcement would indicate an improvement in net margin for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006)
H5b	A negative surprise joint announcement would indicate a decline in net margin for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006), Jensen and Johnson (1995)
H6a	A positive surprise joint announcement would indicate an improvement in fixed charge coverage ratio for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006)
H6b	A negative surprise joint announcement would indicate a decline in fixed charge coverage ratio for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006), Jensen and Johnson (1995)
H7a	A positive surprise joint announcement would indicate an improvement in cash dividend coverage ratio for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006)
H7b	A negative surprise joint announcement would indicate a decline in cash dividend coverage ratio for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006), Jensen and Johnson (1995)
H8a	A positive surprise joint announcement would indicate an improvement in quick ratio for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006)
H8b	A negative surprise joint announcement would indicate a decline in quick ratio for the company in the subsequent years	Behavioral of Dividend, Signaling Theory and Information Asymmetry	Lintner(1956), Gunasekarage and Power(2006), Jensen and Johnson (1995)

3.2   Research Approach

The entire study is based on a hypothetical-deductive approach. This paper investigates Large Cap and Mid Cap securities listed at OMXN to determine to what extent the management's signal addressed on the joint dividend and earnings announcement effect on the share price. Further, the financial performances of the companies in the subsequent periods are analyzed. To conduct this study, quantitative methods are implemented to arrive at the result.

3.3   Research Method

The research relies on the quantitative approach. Since all listed companies are required to release their financial information and make it available to the public, secondary data is chosen to be the most suitable.

3.3.1   Data Collection

The study is based on a cross-sectional data set. It is conducted on the sample of Large Cap and Mid Cap securities listed on OMXN in the period of 2006-2008. During 2004-2005, it was the transition period from GAAP to IFRS. To avoid any influences of accounting restatements on the findings, the selection of the study period in 2006-2008 is justifiable as the accounting regulations would be fully synchronized and comparable. The full OMXN securities list was obtained from www.nasdaqomxnordic.com on 22nd April 2009. The process described in the Sample and Excluded Observation Section is then used to get a justifiable sample. When more than one type of shares (common and preferred stocks) of the same company exists, the one with the highest average trading volume during the study period is selected. The liquidity of the stock is important in ensuring that the stock will have functioned price mechanism; thereby, allowing the stock price to fluctuate and fully capture the information content in the announcements.

To capture market reactions to information content of the announcement, it is crucial to obtain the date when the information was initially available to the market. To achieve that, press release date of the joint announcement is manually gathered from the company websites. Financial and accounting data such as historical closing stock prices and financial ratios are collected from Thomson DataStream. In order to capture the market expectations, Thomson Reuters Institutional Brokerage Estimates System (I/B/E/S) consensus estimates are acquired. I/B/E/S is a system that provides real time data following a particular instrument. The system also provides Global Aggregates of analyst's consensus estimates that reflect the general view of the stock analysts on the future earnings for the publicly traded companies. I/B/E/S aggregates are global, updated monthly. The reliability of the estimates is proved by I/B/E/S monthly audits which show accuracy levels of more than 99.9%.[1] This source is widely used in other financial related researches as its frequent updates should reflect markets expectations at that time.

3.3.2   The Sample & Excluded Observations

The preliminary sample of this study is based on the full OMXN list. It consists of 651 listed stocks, of which 143 are Large Cap stocks, 191 are Mid Cap and 317 are Small Cap. The Small Cap is excluded from the sample because it could distort the trustworthiness of the OLS model (Ahern 2006). The financial industry is also excluded from the observations due to the restricted regulations in the industry; thereby it would not be likely to give a justifiable supposition to the hypothesis. As this study is analyzing post-announcement performance, delisted companies are not taken into account as the information would not be feasible. This may lead to a survivorship bias; as a result, the performance of the sample may be overestimated (Brown *et al* 1992). Furthermore companies that have separate announcement date for dividend and earnings are excluded as this study focus on the interaction effects of the

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[1] Thomson Datastream, I/B/E/S

joint announcement. For each variable, 1% extreme values are eliminated to reduce the bias that those outliners might cause. This resulted in 477 observations in the sample set.

3.4   Cross-Sectional Regression Method

In order to test for the effects of dividend and earnings on stock returns behavior, Ordinary Least Square (OLS) regression analysis is applied. It is widely used in financial and economic studies. In the cross-sectional regression mechanism, subsequent measurements are used.

w   The Dependent Variables

Eight dependent variables are tested in the regression models to investigate the relationship of the surprise components with stock abnormal returns and the companies' actual growth performance in the post announcement period.

Table 4: Description of Dependent Variables

Variables	Description
AR	Market Adjusted Abnormal Return
CAR	Market Adjusted Cumulative Abnormal Return
GROEA	Growth of Return on Equity After the Announcement
GROICA	Growth of Return on Invested Capital After the Announcement
GNETMARGINA	Growth of Net Margin After the Announcement
GFCCA	Growth of Fixed Charge Coverage Ratio After the Announcement
GCDCA	Growth of Cash Dividend Coverage Ratio After the Announcement
GQUICKRA	Growth of Quick Ratio After the Announcement

Market Adjusted Abnormal Return (AR)

Daily normal return is defined by Brown & Warner (1985) in the market model as:

Equation 2: $R_{j,t} = \alpha_j + \beta_j R_{m,t} + \varepsilon_{j,t}$

where $R_{j,t}$ and $R_{m,t}$ represent the returns on stock j and the market portfolio on day t, respectively. In OLS regression, the residual $\varepsilon_{j,t}$ is regarded as the term of abnormal return. The equation can be derived as (Gunasekarage 2006):

Equation 3: $AR_{j,t} = R_{j,t} - [\alpha_j + \beta_j(R_{m,t})]$

Market Adjusted Cumulative Abnormal Return (CAR)

To evaluate the full information content in the announcement of dividend, CAR for the announcement period is calculated by accumulating the daily stock abnormal returns of the announcement date (d_0) and the day after (d_1). The two-day abnormal return is used to mitigate the problem that some companies released the information late in the day or after the stock market was closed hence the adjustment of the stock prices would occur in the next trading day. Market adjusted cumulative abnormal return is then calculated (Barber and Lyon 1997):

Equation 4: $CAR_{j\tau} = \sum_{t=1}^{\tau} AR_{j,t}$

where τ defines time period (announcement date and the day after). CAR will be set as the dependent variable in the regression and is regressed on the interaction effects between dividend and earnings surprises. The surprise component is the percentage difference between managements´ proposal and the I/B/E/S forecast of the period.

As one dimension of this research is to investigate the relationship between the dividend and earnings surprises and the actual performance of the company in the

periods after the joint announcement date, the average growth of financial ratios after the announcement are then applied as dependent variables in the regression models.

The mean financial growth ratios can be derived from:

$$\text{Mean Financial Ratio Growth after Announcement Period}$$
$$= \frac{\text{Mean Financial Ratio of 2007 and 2008} - \text{Financial Ratio announcement year } (2006)}{\text{Mean Financial Ratio announcement year } (2006)}$$

Financial performance measurements[2] are defined below:

Profitability Ratios

Profitability ratios are accounting based measurements that estimate the company's ability to generate profit during a specific period of time. Profitability ratios that would be investigated in the research are return on equity, return on invested capital and net margin.

Return On Equity (ROE) - Assesses the level of profit a company generates with the money shareholders have invested. ROE also considers the degree to which a company uses leveraging, as interest expense paid to creditors is generally deducted from earnings to arrive at net income.

$$ROE = \frac{\text{Company's Net Income}}{\text{Total Equity of Common Shares}}$$

Return On Invested Capital (ROIC) - Assesses the level of company's efficiency in allocating their capital to profitable investments. ROIC can be improved by an increase in net profit, a decrease in capital employed (working capital and fixed asset) or a combination of both. The higher ROIC implies that the company is more efficient and can generate more return for each unit of money invested. Interpretations of

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[2] The financial data on the ratios and the descriptive formulas are collected from Thomson DataStream I/B/E/S. The detailed explanations of the ratios are referred from Bragg (2003) and Walsh (2006).

ROIC can be made by comparing ROIC across the year, its peers and its cost of capital. When ROIC is greater than their weighted average cost of capital (WACC), the company is creating value by investing in their projects.

$$ROIC = \frac{\begin{array}{c}\text{Net Income before Preferred Dividends}\\+(\text{Interest Expense on Debt}-\text{Interest Capitalized})*(1-\text{Tax Rate})\end{array}}{\begin{array}{c}\text{Average of Last Year's and Current Years's}\\(\text{Total Capital}+\text{Last Year's Short Term Debt \& Current Portion of Long Term Debt})*100\end{array}}$$

Note: This calculation I/B/E/S uses restated data for last year's values where available.

Net Margin - Assesses how effective a company is in translating each unit of revenue earned into actual profits. The higher ratio indicates that the company is more profitable. Net margin can be used in comparing companies in the same industry as they encounter similar industry specific conditions. However, comparison across different industries can demonstrate which industries are relatively more profitable than the others.

$$\text{Net Margin} = \frac{\text{Net Income before Preferred Dividends}}{\text{Net Sales or Revenues}} * 100$$

Note: If Net Income before Preferred Dividends is not available, I/B/E/S uses Policyholder's Surplus as a substitute.

Leverage Ratios

Leverage ratios are accounting based measurements that estimate a company's ability to meet financial obligations.

Fixed Charge Coverage Ratio (FCC) – assesses the company's ability to meet fixed obligation from gross earnings. A high ratio indicates that the company has low level of leverage.

$$FCC = \frac{\text{Earnings before Interest and Taxes}}{(\text{Interest Expense on Debt} + \text{ Preferred Dividends (Cash)})/(1-\left(\frac{\text{Tax Rate}}{100}\right))} * 100$$

If the Tax rate is negative or not available or if preferred dividends are 0 the following model would be applied:

$$FCC = \frac{\text{Earnings before Interest and Taxes}}{\text{Interest Expense on Debt + Preferred Dividends (Cash)}}$$

Cash Dividend Coverage Ratio (CDC) – assesses the company's ability to meet dividends obligation from operating cash flow. A ratio of less than 100 % (1:1) indicates that the company is paying dividends more than what the company is currently generating.

$$CDC = \frac{\text{Funds from Operations}}{\text{Common Dividends (Cash)}}$$

Liquidity Ratios

Liquidity ratios are accounting based measurements that estimate a company's ability to meet its short-terms debts obligations. The higher the ratio, the larger the margin of safety the company possesses to cover short-term debts. The relation between liquidity ratio and dividend and earnings surprise will be examined by quick ratio.

Quick Ratio - Assesses the ability of the company to fulfil its current liabilities. Generally, a higher quick ratio implies a more liquid current position. The quick ratio of 1:1 is acceptable by most creditors however this varies across different industry.

$$\text{Quick Ratio} = \frac{\text{Cash \& equivalents + Receivables (Net)}}{\text{Total Current Liabilities}}$$

w   **The Explanatory Variables**

Eight independent variables will be used in groups and separately in the regression models to investigate the relationship with stock and financial performance.

Table 5: Description of Independent Variables

Variables	Description
DPSS	Dividend per Share Surprise
EPSS	Earnings per Share Surprise
DIEI	Dividend Increase, Earnings Increase
DIED	Dividend Increase, Earnings Decrease
DDEI	Dividend Decrease, Earnings Increase
DDED	Dividend Decrease, Earnings Decrease
DNCEI	Dividend None Change, Earnings Increase
DNCED	Dividend None Change, Earnings Decrease

Detailed explanations of the explanatory variables are presented below:

DPSS, EPSS

Dividends and earnings surprises are defined as the percentage of the announced amount subtracted by the market´s expectations. Market expectation can be captured either by the naive expectation model or the market forecast model.

Naive expectation model is built on the assumption that the market expects earnings and dividend to be equivalent to last year figures (Brown 1968). Surprise according to the naive expectation model can be derived as followed:

Equation 4:

$$Surprise = \frac{Announced\ amount\ (t_0) -\ Actual\ amount\ (t_{-1})}{Actual\ amount\ (t_{-1})} * 100$$

Surprise according to the market forecast model is the deviation between the announced amount and the I/B/E/S estimates on the joint announcement date.

Equation 5:

$$Surprise = \frac{Announced\ amount\ (t_0) - IBES\ estimates\ (t_0)}{IBES\ estimates\ (t_0)} * 100$$

The joint announcement surprises are separated into six groups depended on the trend of the surprise components. This would mitigate the problem of having extreme values that might lead to bias results. The range of 10% deviation from market expectation is created to reflect a considerable change that would represent a notable signal. A smaller variation range would provide a larger sample but the signal would be weaker.

The groupings are defined as following:

1.   Companies which propose an increase in dividends and earnings with more than 10 % from the market's expectations (DIEI)

DPSS > 10% & EPSS > 10%

2. Companies which propose an increase in dividend of more than 10% when earnings decrease more than 10% from market`s expectations (DIED)

DPSS > 10% & EPSS < -10%

3. Companies which propose a decrease in their dividend of more than 10% when earnings increase more than 10% from the market`s expectations (DDEI)

DPSS < -10% & EPSS > 10%

4. Companies which propose a decrease in dividend and earnings of more than 10% from the market`s expectations (DDED)

DPSS < -10% & EPSS < -10%

5. Companies which propose a dividend in the range of ±10% or equal from the market`s expectations despite more than 10% increase surprise in earnings (DNCEI)

-10% ≤ DPSS ≤ 10% & EPSS > 10%

6. Companies which propose a dividend in the range of ±10% or equal from the market`s expectations despite more than 10% negative surprise in earnings (DNCED)

-10% ≤ DPSS ≤ 10% & EPSS < -10%

These six groupings mentioned above are treated as dummy variables in the regression models. They can be used as either dummy variables or conditions for separation of earnings and dividends groups. In each observation, when both DPSS and EPSS meet the predefined requirements, then the variable is regarded as 1, otherwise it is defined as 0.

As a result, the samples of this study display the following composition:

Exhibit 2: Portfolio composition by fiscal year
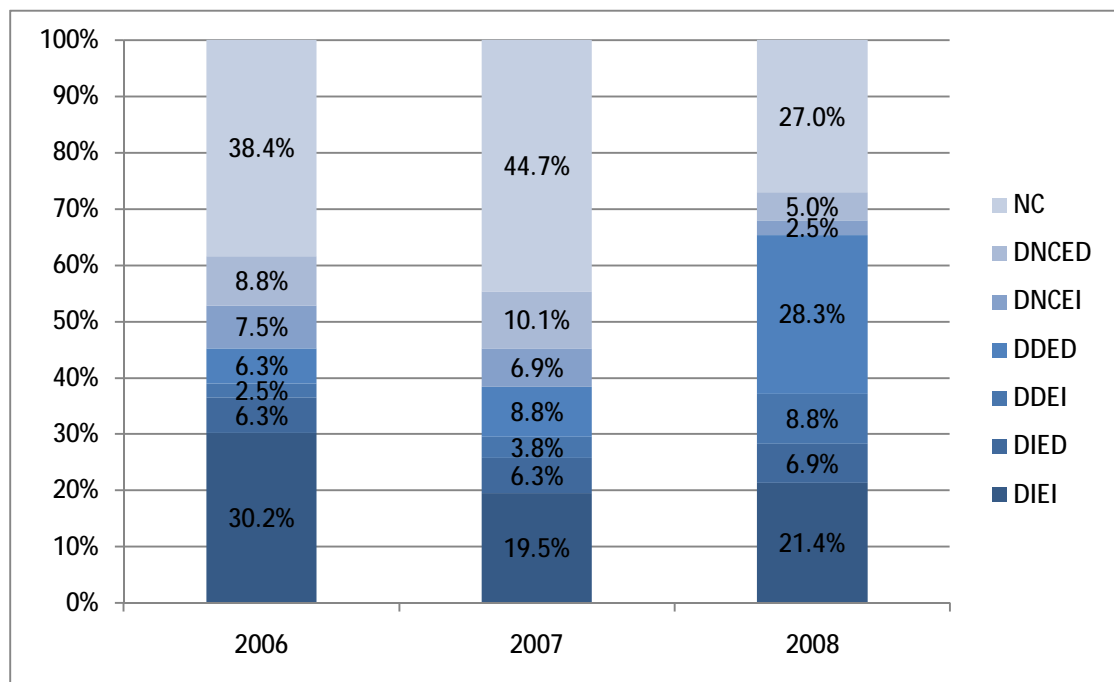
The full portfolio of this study consisted of 159 securities from the Large Cap and Mid Cap of the OMXN. The table presents the composition of the portfolio for each year of the study. For most of the years, the majority of the securities are categorized in the non-change group. For year 2006 and 2007, the DIEI dominated the other group. However, the composition structure is different in 2008, the non-change group decreased to 27.0% accompanied by an increased of DDED group to 28.3%. This change in the grouping composition can be explained by the current economic situation.

Exhibit 3: Historical GDP Growth
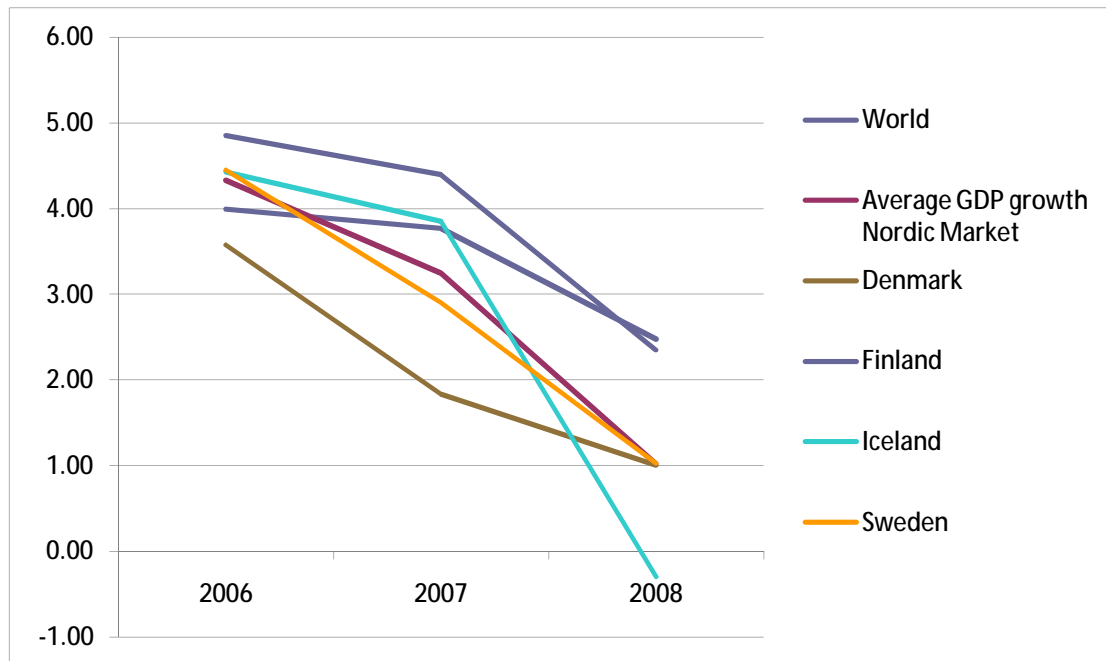
Source: World Bank World Development Indicators[3]

The graph presents the historical GDP growth for the period of 2006-2008. The GDP over the period show a diminishing pattern. In year 2008, Iceland GDP growth turned negative.

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[3] World Bank World Development Indicators, International Financial Statistics of the IMF, Global Insight, and Oxford Economic Forecasting, as well as estimated and projected values developed by the Economic Research Service all converted to a 2005 base year

The explanatory variables are expected to have the following influences on the dependent variable for a positive surprise in the joint announcement.

Table 6: Expectation of the Explanatory Variables

Variables	Expectation for a positive surprise
DPSS	+
EPSS	+
DIEI	+
DIED	0
DDEI	0
DDED	-
DNCEI	+
DNCED	-

According to the notion of signaling theory and information asymmetry, the signs of the coefficients are expected to follow the pattern in table 6. As presented in Gunasekerage and Power (2006), the interaction effect of the group with opposite surprise directions is likely to cancel out.

3.4.1 Regression Models

According to the hypotheses, the empirical model is formulated as:

$$CAR_i = \alpha + \beta_1 DPSS_i + \beta_2 EPSS_i + \beta_3 DIEI + \beta_4 DIED + \beta_5 DDEI + \beta_6 DDED + \beta_7 DNCEI + \beta_8 DNCED + \varepsilon_i$$

Firstly, this model is tested on the full sample of the period 2006 to 2008.

Furthermore, to investigate the effects of different dividend and earnings directions to CAR, the regression is tested six times according to the different groupings.

$$CAR_i = \alpha + \beta_1 DPSS_i + \beta_2 EPSS_i + \varepsilon_i$$

In the hypotheses testing for the relationship between the surprise components and the subsequent financial performance, the regressions use year 2006 data as a base for the DPSS, EPSS and dummy variables while Y_i represents different financial growth ratios. The empirical regression model is as following.

$$Y_i = \alpha + \beta_1 DPSS_i + \beta_2 EPSS_i + \beta_3 DIEI + \beta_4 DIED + \beta_5 DDEI + \beta_6 DDED + \beta_7 DNCEI + \beta_8 DNCED + \varepsilon_i,$$

3.5   Research Concerns

There are several aspects that could impact the result of the study. Statistical models or any other models can hardly be perfect in the world. In this study, the primary problem is the difficulty in data collection, as all dividend and earnings announcement dates are manually collected from companies' websites. During the research process, problems such as data unavailability and deviation of data from difference sources are encountered. More importantly is the ability of method measure which should be in line with what it is set out to measure. In addition, the result has to be interpreted accurately, reliably and trustworthily.

3.5.1   Validity

The validity represents the issue whether the framework applied in this study captures the interaction effects of information content of dividend and earnings surprises on share abnormal return. The strength of the research findings rely on trustworthy data and methods.

Since this study intend to measure the information content of the joint announcement of dividend and earnings, it is important to consider if the data collected are valid for measuring the surprise components. This market reaction to the surprise should be

captured on period surrounding the first time those information were released to the public. Hence, the firstly publicly available information should be used even though they are unaudited.

The approach of using stock return as a measurement of the information content of the announcement has been widely applied by many famous researchers in this area (Pettit 1972; Aharony and Swary 1980; Asquit and Mullins,Jr. 1983). Furthermore, the relationship between the company's subsequent financial performance and the information content has also been presented in the studies of Jenson and Jonson (1995), Conroy *et al*. (2000) and Gunasekerage and Power (2006). Most of the researches had been done in major stock exchanges such as NYSE and LSE. Since the logics behind those relationships are well recognized in the academic arena, the regression models of this study are developed in accordance with their logic.

3.5.2 Reliability & Replicability

Besides having a valid method, reliable and truthful data collection and results interpretation are of importance in the research. The reliability of the result is a measure whether the similar result would be obtained if the research is replicated. Throughout this paper, detailed description of each process is provided for the audience to ensure that it can be replicated (Bryman *et al*. 2003).

In terms of data collection, the joint announcement date is manually extracted from preliminary financial report on each company's websites, DataStream and Reuters.

In the previous researches, they are deemed to be reliable, trustworthy and the best information proxies for external investors. Moreover, in order to minimize the manual error, the collected information of all observations are double checked and cross referenced among the sources. Taking the transfer of GAAP into IFRS into

consideration, only the companies using IFRS from fiscal year 2006 are regarded as samples in the study. Thus, the collected data are judged to be reliable.

All regression models in this research had been tested for OLS assumptions. White's test was performed and the residuals appeared to be homoscedastic in all models. Ramsey's RESET test indicated no specification errors in the models. Variance Inflation Factor (VIF) showed that none of the auxiliary regression's R-squared exceeded 0.9 of the regressions. However, some of them slightly exceed the model's R-squared; we assume that this was not because of multicollinearity problem but rather the low R-squared of the model itself. Furthermore, it is recommended in Brooks (2002) to employ OLS if possible as *"its behavior in a variety of circumstances has been well researched"* and that *"appealing to Central limit theorem"* certain violation of the assumptions is *"virtually inconsequential"* for *"sufficiently large"* samples (Brooks 2002, p182). As a result, this study applies OLS for all eight regressions.

IV.   EMPIRICAL FINDINGS AND ANALYSIS

This chapter illustrates the empirical findings from the market-based and accounting data and the regressions models in the research. Further, a detailed analysis of the findings is presented.

4.1   Empirical Findings

4.1.1   Descriptive Statistics

For the samples applied in the research, the descriptive statistics is illustrated as followed:

Table 7: Descriptive Statistics for the Full Sample (Fiscal year 2006-2008)

Variable	#Obs.	Mean	Std. Dev.	Min	Max
CAR	380	0	0.06	-0.23	0.18
DPSS	380	0.14	1.05	-1	7.82
EPSS	380	0.07	1.26	-5.33	13.25
DIEI	380	0.24	0.43	0	1
DIED	380	0.06	0.25	0	1
DDEI	380	0.05	0.22	0	1
DDED	380	0.14	0.35	0	1
DNCEI	380	0.06	0.23	0	1
DNCED	380	0.08	0.27	0	1

The table above displays data in absolute amount. CAR, DPSS and EPSS are measured in percentage. The table shows that, on average, this sample set does not experiences any CAR in the research period of 2006 to 2008. However, when interpreting the raw data, the table states that the lowest CAR is -0.23%. On the other

hand, the highest CAR is 0.18%. In conclusion, the table indicates that the dividend and earnings announcements effect to the CAR is presence, but the magnitude is negligible. For the independent variables, the average of each dividend and earnings surprise is positive. During the timeframe of the study, the mean of DPSS and EPSS is 0.14% and 0.7%, respectively.

Table 8: Descriptive Statistics for Fiscal Year 2006

Variable	#Obs.	Mean	Std. Dev.	Min	Max
CAR01_2006	149	-0.01	0.05	-0.1	0.11
DPSS_2006	124	0.55	1.27	-0.52	7.82
EPSS_2006	136	0.3	0.85	-0.98	4.71
GROICA	143	-0.12	0.47	-1.38	1.22
GNETMARGINA	135	0.06	0.13	-0.14	0.55
GQUICKRA	145	-0.03	0.24	-0.54	0.71
GFCCA	144	-0.13	0.63	-1.34	2.47
GROEA	134	0.09	0.41	-0.85	1.61
GCDCA	107	0.14	0.79	-0.83	3.33
DIEI_2006	159	0.3	0.46	0	1
DIED_2006	159	0.06	0.24	0	1
DDEI_2006	159	0.03	0.16	0	1
DDED_2006	159	0.06	0.24	0	1
DNCEI_2006	159	0.08	0.26	0	1
DNCED_2006	159	0.09	0.28	0	1

Table 8 shows that the mean CAR can be regarded as nonexistent (-0.01%). Dividend surprise and earnings surprise are comparatively larger to the average amount presented in the table 7. For the dependent variables, the table shows that the growths of ROIC, Quick Ratio and Fix Charge Coverage were declining while Net Margin, ROE and Cash Dividend Coverage were increasing during the subsequent years.

4.1.2 Regression Results

The table below presents the average CAR for each grouping in absolute amount of the periods around the joint dividend and earnings announcement date of fiscal year 2006. This is done in order to observe if CAR presents any trends in the market.

Table 9: Mean CAR around Announcement Date of Fiscal Year 2006

CAR	DIEI	DIED	DDEI	DDED	DNCEI	DNCED
Y-1	-5.36%	-7.13%	-10.24%	-63.98%	-4.16%	185.69%
M-1	-1.18%	-3.02%	2.16%	0.02%	-1.09%	-12.02%
Announcement Period (d_0 and d_1)	-1.17%	0.03%	-0.38%	-1.34%	-0.48%	-3.23%
M+1	-0.42%	-1.87%	2.05%	-3.09%	-0.90%	-25.31%
M+6	-8.45%	6.01%	4.95%	-4.17%	-3.46%	-153.55%
Y+1	-13.16%	-12.05%	9.03%	-18.86%	-8.97%	-188.82%
Y+2	-27.82%	-33.03%	6.15%	-35.78%	-38.41%	-207.76%

In the year prior to the announcement date of fiscal year 2006, The DDED group experienced the worse CAR of -63.98% while the DNCED group experienced the best CAR of 185.69%. In the month prior to the announcement date, DDEI is the only group that had a positive CAR of 2.16% while DDED performed slightly above zero. DNCED group had the worse CAR of -12.02%. At the announcement period (d_0 and d_1), most of the group experienced CAR near to zero regardless of the direction of the announcement surprises. In other words, the results indicate that the announcement has trivial or no effect on the share price. In the subsequent periods to the announcement, only DDEI is able to maintain the positive CAR. However, it is difficult to draw any conclusion on the stock price performance in a broad time horizon as the stock prices would be affected by other noises in the market.

To examine whether the preliminary results, presented above, have any relations with the actual announcement surprises, the following regressions would investigate if the hypothesis holds.

In the short run window, two day surrounding the announcement date, abnormal returns of the full portfolio (159 companies, including companies in none change category) for each day were regressed with their surprise components. R-squared represents the extent the dependent variable can be explained by the independent variables of the dividend and earnings surprise of the separate groupings. The R-squared is a general measurement of the regression and does not conclude each variables magnitude to the abnormal return. Whenever an independent variable shows significance in the regressions, it would then be retested in isolation to confirm its relation with the dependent variable. Each coefficient explains the directionality and magnitude of the independent variable with abnormal return.

Table 10: Regression of Abnormal Return for the Full Sample

Announcement Period		Constant	DPSS	EPSS	F	R^2
Day-1		-0.00043	-0.00097	-0.00054	0.84	0.0049
	t	-0.42	-0.95	-0.64		
Announcement Date		-0.0049	0.002181	0.002002	0.3889	0.0055
	t	-1.67	0.73	0.86		
Day+1		0.00113	0.003008	-0.00133	2.06	0.0119
	t	0.72	1.97	-1.08		

The entries are regression coefficients and t statistics at 95% confidence interval. The regressions were also tested at 90% and 99% levels; however, the statistical results

show that, in general, there is no relationship between the abnormal return and the surprise announced.

Further investigations, focusing on the relation of CAR and the surprise factors for each group, are shown in the following table:

Table 11: Regression of Cumulative Abnormal Returns on the Joint Dividend and Earnings Announcement by Surprise Group

Regression	CAR		Constant	DPSS	EPSS	F	R^2
1	DIEI		-0.02227	0.0116046 **	0.002486	3.14*	0.1388
		t	-1.75	2.04	0.61		
2	DIED		-0.00963	0.006183	0.01096	0.83	0.142
		t	-0.5	0.93	0.82		
3	DDEI		0.03169	0.0628227*	-0.00696	3.23	0.2539
		t	1.57	2.13	-1.09		
4	DDED		0.006916	0.00736	-0.00234	0.07	0.0024
		t	0.48	0.32	-0.28		
5	DNCEI		0.006765	0.8039858***	0.016907	6.76***	0.3805
		t	0.5	3.28	1.52		
6	DNCED		-0.03229	-0.05962	-0.01027	0.2	0.0119
		t	-2.03	-0.25	-0.56		

Note: Statistically significant at *90%, **95% and ***99% confidence interval

Table 12: Regression (Rerun) of Cumulative Abnormal Return by Group

Regression	CAR		Constant	DPSS	R^2
1	DIEI		-0.0211	0.0128211**	0.1298
		t	-1.77	2.5	
5	DNCEI		0.016813	0.8188402**	0.3156
		t	1.39	3.26	

Note: Statistically significant at *90%, **95% and ***99% confidence interval

The regressions show significance relationship between CAR and the surprise components in only two groups: DIEI and DNCED.

In the scenario with DNCEI, which shows significance at the 99% level, R-squared indicates that the independent variables in the regression could explain 38.05 % of the variance in CAR. It can be interpreted that the non-changed dividend has positive significance to the CAR while the earnings surprises do not show any impact. In the regression for DIEI, the market response to the joint announcement is significant at 90% level. The dividend surprise component itself shows positively significance at 90% and 95% level while the earnings do not show any significant relationship. Overall, there are only two regressions that support the hypothesis that the joint announcement would create abnormal return around the announcement date; hence H1 cannot be rejected. Additionally, regression one in table 11 supports the hypothesis that the effect on stock abnormal return would be positively related to the direction of the surprise components; thus, H2a cannot be rejected. However, the regressions number four in table 11 rejects the H2b hypothesis.

The regressions were also tested with a naive expectation model as the base for defining the surprise components. This model is built on the assumption that the market expects dividend and earnings to be equivalent to last year figures. However, the regressions did not display significance in any of the six groupings; thereby, the naive expectation model is not applicable in calculating the surprise components to measure the relation of the joint announcement effect and share performance on the OMXN.

To validate the information signal sent by the manager, financial ratios of the subsequent periods are then observed.

Table 13: Mean Financial Ratio Announcement (2006)

	DIEI	DIED	DDEI	DDED	DNCEI	DNCED
Profitability Ratios						
NetMargin	27.43	28.11	29.96	24.94	29.27	30.77
ROE	18.05	28.8	25.2	14.93	20.02	17.91
ROIC	15	14.24	22.3	12.71	17.71	16.96
Leverage Ratios						
CDC	5.15	3.13	2.22	4.04	4.98	3.51
FCC	25.21	35.38	78.99	53.38	20.8	45.96
Liquidity Ratio						
QuickRatio	1.01	1.14	0.96	1.41	1.18	1.57

The table displays the mean financial ratio for the fiscal year of 2006, separated by the different surprise groupings. The numbers show that there is no obvious difference among the groups. In the profitability perspective, the DDED group had relatively low figures from other groups. In the liquidity perspective, the DDEI was experiencing a lower than 1:1 quick ratio.

Table 14: Mean Financial Ratio Growth after Announcement (2007-2008)

	DIEI	DIED	DDEI	DDED	DNCEI	DNCED
Profitability Ratios						
NetMargin	2.91%	11.87%	9.24%	18.30%	10.22%	11.37%
ROE	10.50%	-15.30%	25.36%	20.02%	-0.59%	38.43%
ROIC	-6.01%	-18.81%	1.93%	-8.72%	-24.03%	13.63%
Leverage Ratios						
CDC	18.43%	-0.26%	53.24%	4.28%	32.47%	9.67%
FCC	-15.69%	-14.33%	-46.38%	-24.81%	-13.62%	3.51%
Liquidity Ratio						
QuickRatio	-5.84%	-6.71%	-3.44%	-9.66%	4.24%	-7.10%

The table above presents the mean financial ratio growth from fiscal year 2006 for each separated groups. In the profitability perspective, the DNCED group outperformed other groups. However, DDED had the highest growth in net margin. In the leverage perspective, the groups with positive earnings surprise of fiscal year 2006 tended to outperform the others in the improvement of CDC. All groups except for the DNCED group showed deteriorating performance in the FCC. In the liquidity perspective, DNCEI is the only group that showed improvement in the ability to meet its short-term obligations while DDED liquidity decreased by almost 10%.

To see whether these changes have any relations with the actual announcement surprises the following regressions would investigate if the hypothesis holds.

Table 15: Regression of Post Announcement Financial Ratios Growth

Regression	Profitability Ratios			Leverage Ratios		Liquidity Ratio
	1	2	3	4	5	6
	Net Margin	**ROE**	**ROIC**	**CDC**	**FCC**	**QuickRatio**
DPSS	0.0039617	-0.050496	-0.058089	0.217397	-0.0665422	-0.003959
t	0.3	-1.24	-1.34	1.71	-1.1	-0.19
EPSS	0.0129846	0.0167334	0.0126045	-0.031689	-0.0232498	0.0384684
t	0.55	0.2	0.16	-0.17	-0.21	1.02
DIEI	-0.0280363 *	0.0257915	0.1736625	-0.1509211	0.1068672	-0.136667 **
t	-0.65	0.17	1.17	-0.53	0.51	-2.01
DIED	0.195749 **	-0.1022693	-0.162233	0.184118	-0.1507099	-0.076423
t	2.35	-0.39	-0.66	0.32	-0.44	-0.67
DDEI	0.0258755	0.1266164	0.1784336	0.6243055	-0.2953227	-0.136252
t	0.28	0.36	0.58	1.08	-0.68	-0.94
DDED	0.1601031 **	0.1261674	0.1328578	0.3326225	-0.1006185	0.1088622
t	2.02	0.57	0.62	0.71	-0.3	0.86
DNCEI	0.057962	-0.0724244	-0.037405	0.3150724	0.0124711	0.0148752
t	1.15	-0.51	-0.24	0.99	0.06	0.2
DNCED	0.0865224 *	0.3227524 **	0.317336 **	0.2143847	0.0585241	-0.049111
t	1.92	2.1	2	0.7	0.26	-0.66
F	1.85 *	1.11	1.2	0.62	0.37	0.95
R^2	0.1397	0.088	0.0883	0.0662	0.0296	0.0735

Note: Statistically significant at *90%, **95% and ***99% confidence interval.

The table above presents the joint announcement surprises and its relation to subsequent financial performance. The result shows that at 90% confidence interval, the average growth of net margin of the subsequent years can be affected by the independent variables. For DNCED group the ROIC is positively significant whereas the group of DIED, DDED, DNCED show positive significance for the ratios of net margin at 95% level. The DNCED show a significantly positive trend in the ROE and ROIC whereas the leverage ratios and liquidity cannot be explained by the surprise

and grouping components as their regressions is not significant. Whenever an independent variable shows significance in the regressions, it would then be retested in isolation to confirm its relation with the dependent variable.

Table 16: Regression (Rerun) of Financial Ratios Post Announcement

Financial Ratios	DIEI	DIED	DDED	DNCED
ROIC				0.2768709**
t				1.99
R^2				0.0272
Net Margin		0.063394	0.1292106**	0.061015
t		1.28	2.25	1.65
R^2		0.0122	0.0368	0.02
Quick Ratio	-0.04359			
t	-1.03			
R^2	0.0074			
ROE				0.317217
t				2.49
R^2				0.0449

Note: Statistically significant at *90%, **95% and ***99% confidence interval.

After rerunning the significant independent variables at 95% to confirm its relationship with the financial ratios, DNCED remains significant for ROIC and DDED remains significant for net margin. The result of the regression of net margin and DDED shows a positive relation. This is contradictory to H5b; hence, the H5b is rejected. DIEI shows negative response direction to H8a however the result is insignificant. According the results presented above, other hypotheses investigating the information content and the financial performance in the subsequent period (H3a-H5a and H6a-H8b) cannot be accepted, as they cannot be statistically confirmed that the surprise components have any relations to the future development of the financial profiles of the company.

In the regressions with the naive expectation model, the result displayed significance in two groups on a 90% confidence interval. It showed a positive relation of 0.1441889 for net margin in DNCEI and a relation of 1.353285 with cash dividend coverage ratio for the DDEI.

4.2   Analysis

As this research is composed by evaluating the joint announcement effect of dividend and earnings, the results in this paper would convey a distinguishing angle into the subject. The study brings contemporary relevance to the discussion around joint announcements effect on shareholder value.

In the descriptive statistics for the full sample (see table 7) the DIED group represents 6% of the total observations. In this group, the management proposed a higher amount of dividend than that expected by the market even though their earnings are below expectations. This could be interpreted as the management used dividends as tool to persuade the investors that the managements are confident in the company's future cash flows (Lintner 1956; Ross 1977). As presented in the regression for CAR (see table 12), the results of the DIEI and DNCEI group provide statistically significant evidences of their effects on CAR on the OMXN during the event study period of fiscal year 2006-2008. For both of these two groups, the coefficient for dividend surprise is positively significant while the earnings surprise does not show any impact on the CAR. However, the magnitude of the dividend surprise for the DIEI group is relatively small, a coefficient of 0.0116046 per unit. It seems to have no amplified impact on the CAR as in comparison to DNCEI that has a coefficient of 0.8039858 per unit. The common factor of these two groups is that both display a positive surprise in earnings. This might indicate that the market would value the companies with a positive surprise in earnings that decide to maintain or increase their dividend. However, other results of the regressions for CAR (see table 11) do not follow the

traditional pattern of theoretical reasoning regarding joint announcement effect of dividend and earnings. If that should be the case, then a negative dividend-earnings announcement (DDED) should arouse a negative abnormal return (Conroy *et al.* 2000).

In the regressions where the trends of the dividend and earning components display contrary surprises (+,-), the results are in general insignificance. It might be interpreted as the opposite effects of the surprises components canceled out each other (Gunasekarage *et al.* 2006). Overall, the coefficients are miniscule for all the components. The rather low R-squared (with the highest R-squared of 38.05% of DNCEI group) suggests poor explanatory power of the independent variables. Hence, there are other independent variables beside those already expressed in the regression that would affect the movement of share price. Additionally, this could be interpreted as the market might not be able to capture the full value of the deviation from the I/B/E/S forecast. Thus, it cannot be concluded that the signaling effect and the information content of dividend and earnings prevail in the OMXN. This discovery thereby support the original theory from Miller & Modigliani (1961) around dividend irrelevancy proposition as the findings present that a change in dividend policy has diminutive effect on the share price. However, regarding the efficient market hypothesis, the statistical results of the joint announcement effects on the OMXN is inconclusive. The regressions on the full sample (see table 10) present that there is no relationship between abnormal return and the surprise components while the regressions on different groupings (see table 11) show significant result for DIEI group at 90% level and for DNCEI at 99% level. As a result, this study provides no congruent evidences to conclude that the market is fully efficient.

The post announcement performance of the six dividend and earnings groups are examined to test whether the predictions of the joint announcement signaling hypotheses are accurate. The financial performances of the two subsequent years to

the announcement are observed. The proposed logical pattern is build under the assumptions of information asymmetry and that dividend could convey information by signaling managers' anticipation about the company's future performance; therefore, it should be feasible to investigate the development of the company's financial profile to extend the understanding regarding the actual information content of the signal. The results of regressions of post announcement financial ratios growth (see table 16) are partially consistent with what previous researches had concluded. The groups that present negative earnings announcement surprises to the market expectation display significant improvement in profitability in the subsequent years. The pattern of dividend reduction and the improvement of the subsequent financial performance of the DDED can be described as a turning point for the company (Jenson and Johnson 1995). It could be explained as the company that reduced its dividend did so in order to resolve its current financial difficulty instead of signaling to the market that the inferior performance would be permanent. This conclusion does not support the signaling theory (Gunasekarage and Power 2006). Furthermore, in relation with the dividend growth model, it is possible to argue that a dividend decrease could indicate that the company might be focusing on reinvestments. As a result, those groupings show improvement in the financial profile in the subsequent years. The dividend growth model has the expected share prices as the dependent variable; the theory discusses the tradeoff between dividend payout and the level of retained earnings that would impact the expectations of share price (Gordon 1956). Yet, in the study conducted the statistical insignificance of the CAR and its relation with DDED does not give this paper any further insight into this issue. The pattern of DNCED can be explained by the behavioral of dividend that managements tend to maintain the dividend if they perceived the weakening performance as temporary (Lintner 1956). This explanation supports the notion of information asymmetry and signaling theory. However, this study attempts to see if the pattern can be related to any specific segmentation by evaluating table 17 below.

Table 17: The Composition of the Joint Dividend and Earnings Surprises Group by Industry

INDUSTRIES	DIEI	DIED	DDEI	DDED	DNCEI	DNCED	NC
Consumer Discretionary	10.42%	30.00%	0.00%	0.00%	25.00%	21.43%	16.39%
Consumer Staples	14.58%	10.00%	0.00%	10.00%	8.33%	0.00%	8.20%
Energy	8.33%	0.00%	0.00%	0.00%	0.00%	0.00%	1.64%
Health Care	12.50%	0.00%	0.00%	10.00%	16.67%	0.00%	13.11%
Materials	4.17%	10.00%	0.00%	0.00%	0.00%	7.14%	16.39%
Tele Services	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%	1.64%
Information Technology	8.33%	20.00%	25.00%	20.00%	0.00%	21.43%	4.92%
Industrials	41.67%	30.00%	50.00%	60.00%	41.67%	42.86%	37.70%
Utilities	0.00%	0.00%	0.00%	0.00%	8.33%	7.14%	0.00%

The evidence in this study displays that there are no obvious differences in the characteristics of the composition across the dividend and earnings surprises group. Thereby, it is not possible to explain the behavior of those earning decrease groups by its segment specific factors.

Exhibit 2 shows an interesting aspect of the development in the compositions of the groupings during the selected time frame. It cannot be disregarded that the unexpected scale of the financial crisis has had an impact on the transformation of the grouping. Additionally, it is very likely that it has impacted the probabilities for the market to make accurate predictions about earnings and dividends. As a result, this has to be taken into consideration as this study was conducted in the time when irrational behavior and uncertainty factors due to the economic crisis could proceed into illogical stock price movements. Furthermore, this might partially explain why the regression of CAR does not follow the traditional pattern of the signaling theory.

Several previous studies reached different results on the topic. Our interpretation to this phenomenon could be separated into three aspects:

1. Methodology: The different methodology approaches that are used to examine the announcement affect are one of these factors. As different numerical models, sample size and regressions are structured in diverse ways and does not follow the same outline, the result would be affected by these parameters.

2. Markets: The studies are constructed on different stock exchange markets which have different weight of industry composition to its market, tax regime, and legislative regulation thereby having different presumptions both for the investor as for a comparable study.

3. Exogenous factors: As researches were conducted in different time frames, exogenous variables such as unexpected strength of economical cycles and other external factors might impact the interpretation of the result.

V.   CONCLUSION AND PROPOSAL FOR FURTHER RESEARCH

This chapter concludes the complete study and suggests potential topics for further research.

5.1   Conclusion

The purpose of this study is to investigate to what extent the information content in the joint dividend and earnings announcement affect share price reactions in the OMXN and to examine the financial performance of the companies in subsequent period to the announcement. By examining these aspects, the study wants to shed a light on the topic of the information conveyed in the announcements and its relation to future performance.

The majority of the companies listed on the OMXN publish the information of dividend and earnings simultaneously. This gives this study a comprehensive edge to investigate the joint announcement of the dividend and earnings.

The results from this study show that surprises in the joint announcement of dividend and earnings do not have an impact on share price. This discovery thereby support the original theory from Miller & Modigliani (1961) around dividend irrelevancy proposition as the findings present that a change in dividend policy has diminutive effect on the share price. However, regarding the efficient market hypothesis, the statistical result of the joint announcement effects on the OMXN is inconclusive. As a result, this study provides no congruent evidences to conclude that the market is fully efficient.

The findings of the regressions on the post announcement financial ratio growth were statistically insignificant. However, there is an observable pattern for the earning decrease groups. In the post announcement period, the DDED and DNCED showed an improvement in the profitability ratios growth. The pattern of dividend reduction and the improvement of the subsequent financial performance of the DDED can be explained as the company that reduced its dividend did so in order to resolve its current financial difficulty instead of signaling to the market that the inferior performance would be permanent. Furthermore, in relation with the dividend growth model, it is possible to argue that a dividend decrease could indicate that the company might be focusing on reinvestments (Gordon 1956). The pattern of DNCED can be explained by the behavioral of dividend that managements tend to maintain the dividend if they perceived the weakening performance as temporary (Lintner 1956).

5.2   Further Research

Suggestions for further researcher which has been initiated as interesting aspects during the process of this thesis: Our R-Squared is fairly low, which open up for other hypothesis of potential factors and events that could further describe share price movements. It would also be interesting to investigate:

l   Investigate the full dividend effect on shareholders' wealth by capturing the effects on both dividend announcement and ex-dividend date
l   Announcement effect of dividend and earnings in emerging markets
l   Dividend policy among separate markets, its relation with corporate governance and the effects on share price

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