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LAYOFF ANNOUNCEMENTS AND STOCK RETURNS: EMPIRICAL EVIDENCE WITH FINNISH DATA FROM 2003 TO 2006

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ABSTRACT

The purpose of this study is to find out whether announcements of cooperation negotiations and therefore possible layoffs have an impact on stock returns. Such announcements can be associated with either an increase or a decrease in firm value depending on the cited reason for starting the negotiations.

28 Finnish companies are divided into two subsamples according to the reason they cite for starting cooperation negotiations. Statistical procedures are conducted to find out whether the two-day, three-day and twelve-day abnormal returns are statistically negative or positive. Ordinary least squares procedure is used to test the relation between two-day cumulative abnormal return, possible layoff size and firm size.

According to the results, the abnormal returns are statistically negative on the two- and three-day periods for the firms that cite adverse market conditions as a reason for starting cooperation negotiations. The positive abnormal returns are not statistically different from zero. The results also show that the size of the firms in the efficiency-enhancing subsample may help investors to infer changes in firm values when they are announcing about cooperation negotiations.

KEYWORDS: Layoff announcement, abnormal return, event study

1. INTRODUCTION

The popular press and some policy groups are increasingly reporting stories of firms that fire thousands of workers only to see large increases in the firm stock price. These firms may announce layoffs because there is a declining product demand or when the production process changes in a way to increase work productivity and reduce firm's labor demand. Layoff announcements could be a signal from the firm that something needs to be done to fix its current situation, and in this case the layoffs are a positive sign of reorganization which will lead to a more successful firm. On the other hand, layoffs could be a sign that the firm is facing a downward trend. (Hallock 1998: 711-712.)

Almost every textbook in economics, especially in the past, assumes that a company's number one goal is to maximize profits. However, Brealey, Myers and Marcus (2001: 18) think that this term "maximize profits" is not a well-defined corporate objective. For example, the term leaves open the question of "which year's profits?" The company might be able to increase current profits by cutting back on staff training or maintenance. A firm could also be able to increase future profits by cutting this year's dividend and investing this money in the firm. On the other hand, these actions may not be welcomed by shareholders if profits are damaged in the future. Of course, shareholders want their company to be profitable. Brealey et al. (2001) continue in their book that a smart and especially effective financial manager makes decisions which increase the current value of the company's shares and the wealth of its stockholders.

Levy and Sarnat (1990: 3-4) find many alternate goals for companies. Their list includes such aims as, maximization of sales, survival of the firm, achieving a satisfactory level of profits and a target market share, some minimum level of employee turnover, and maximization of managerial salaries. Levy & Sarnat (1990) believe that the list is a never ending game and no single goal can express all of the complexities of the decision process.

There has been a persistent debate on the importance of shareholder value relative to other measures such as employment, social responsibility and the environment. Usually this debate takes the form of "shareholder versus stakeholder" (Copeland, Koller and Murrin 2000: 3). Copeland et al. (2000)

believe that managers should focus on value creation for two reasons. First reason is that in most developed countries, shareholder influence already dominates the philosophy of top management. Secondly, shareholder-oriented economies seem to perform better than other economic systems and other stakeholders do not suffer on behalf of shareholders. Nevertheless, Copeland et al. (2000) do not think that the shareholder value system is always perceived as fair. Job losses from restructuring are a good example of unfairness. Some say that a better measure of fairness is the economy's ability to create jobs, or its lack to do so.

The shareholder idea has been criticized for its singular purpose and focus, because there are other ways of investing in a business. Other stakeholders, such as suppliers, creditors, customers, employees, communities and so on, also invest their resources into to success of the firm. Although a company has a responsibility for economic success and to satisfy stockholders, it must also answer to these other stakeholders mentioned. (Ferrell, Fraedrich and Ferrell 2005: 84.)

1.1. Purpose of the study

Research on layoff announcements has mostly focused on the reactions of those who are laid off and those who remain in the organization after layoff announcements. As a result, there is a lot of information available about how members of these groups react to layoffs, especially their reactions to perceived injustice. Generally and especially in Finland, less information is available about how layoffs affect the firm value and how investors interpret the reasons behind layoff announcements. Therefore this thesis is to investigate the relation between layoffs and firm value with Finnish data.

Although the theoretical part keeps its main focus on actual layoff announcements, the point of this study is to examine whether announcements of starting *cooperation negotiations* have an impact on stock prices in Finnish market. Firms announce about cooperation negotiations in public and these negotiations often lead to laying off employees, so therefore the theoretical part can be assumed to support this aspect as well. The framework comes from the

study by Palmon, Sun and Tang (1997). They document an association between the cited reasons in layoff announcements and abnormal stock returns around layoff announcement dates. This association shows that investors view the reasons for layoff decisions as signals which can help them interpret the effect on layoff decisions on company values.

Reasons for possible layoff decisions are divided into two parts in this study, following the example set by Palmon et al. (1997). Layoff decisions induced by adverse market conditions, such as demand declines or input price increases, should be associated with declines in firm values. The second part reviews unexpected layoff decisions that result from unexpected efficiency gains or plans for efficiency improvements. These types of decisions should be associated with higher firm values. The hypotheses of this study are set as follows:

H1: The returns on equities should be abnormally negative (or positive) for those firms that cite an adverse market condition (or improving efficiency) as the reason for starting cooperation negotiations.

H2: The magnitude of the abnormal negative (positive) returns on equity is directly related to the magnitude of the possible layoffs for those firms that cite an adverse market condition (improving efficiency) as the reason for cooperation negotiations.

1.2. Structure of the study

Literature and previous studies about the matter are introduced in the first chapters to approach the problem. In some cases it is necessary to limit the topic to keep the actual matter of the subject under control. Some boundaries are to be set, for example in chapter four which concerns the company valuation. There are many other models for presenting stock valuation, but only the most common ones are presented here. Especially a number of performance measures are left out. In chapter five, the stakeholder idea plays the key role, leaving less interest to the shareholder concept, which is being briefly introduced also in the introduction part.

As a whole, chapter two covers previous researches and their results. Chapter three illustrates the market efficiency –setting. This chapter includes the three forms of market efficiency as well as the concepts of information asymmetry and agency problem. Ways for company and stock valuation are presented in chapter four and chapter five deals with a current topic, corporate social responsibility. Chapter six introduces the data and method of this study, and chapter seven presents and analyzes the results. Finally, chapter eight concludes this research.

2. LITERATURE REVIEW

Massive layoffs have been used as a popular restructuring and cost-cutting tool and the academic literature has also started to pay attention to layoffs. Previous studies examining the impact of layoff announcements (LAs) indicate that the announcement of a layoff has significant effect on a company's common stock price, but the evidence regarding the direction of the share price response and the information contained in such announcements is mixed.

Studies on LAs have shown that the market reaction depends on the type of the layoff announcement. Overall, LAs induce a negative reaction in the stock market but when investigated further, it has been shown that the market response depends on the financial condition of the firm and the reason for the announcement. When the announcement is made by a firm in an unfavorable financial situation or for reasons indicating something negative about the firm, the reaction is more negative than with announcements indicating something positive about the firm's reason for the layoff and the firm's financial health in general. Even positive returns can be resulted from an announcement based on reasons that aim to reduce the costs of the company.

2.1. Layoff announcements and stock returns

Layoffs are often associated with corporate restructuring, such as plant closing and plant relocation, and human resources management decisions. Some studies have examined layoffs from this perspective also. Abowd, Milkovich and Hannon (1990) examine "human resources" management decisions, including layoffs. They do not find a significant association between human resources management decisions and stock returns. Blackwell, Marr and Spivey (1990) find that plant closing announcements are usually associated with negative stock returns. Blackwell at al. (1990) show that when the stated reason for a plant closing is "operations not profitable" or "consolidation of facilities", the abnormal returns are more negative than the returns when the cited reason is " labor-management dispute". Chan, Gau and Wang (1995) find that the stock market reacts positively to business relocation decisions motivated by

improving efficiency, but negatively to relocation decisions motivated by capacity reduction due to a worsening business environment.

Davidson III, Worrell and Fox (1996) examine early retirement programs, which can be used as substitutes for layoffs. Davidson et al. (1996) segment their sample according to the abnormal returns prior to the announcement. Firms with positive abnormal returns prior to the announcement of the retirement plans have positive returns around the announcement date. On the other hand, firms with negative returns prior to the announcement have insignificant returns around the announcement date.

Hearth and Zaima (1984) investigate corporate divestment announcements. They find positive abnormal returns and an association between the abnormal returns and pre-announcement financial strength. Statman and Sepe (1989) find positive excess returns around announcement dates of project termination. They assume that investors know the reasons causing the termination decisions, and that the positive returns show up because investors are not sure that management will terminate unprofitable projects.

Filbeck and Webb (2001) test the impact of layoff announcements on share price returns with respect to the magnitude of the layoff on the total firm workforce, the level of inside ownership and the firm size. They find statistically significant negative share price responses associated with layoff announcements, and that layoff announcements involving a greater percentage of a firm's workers result in more negative share price responses. The study also discovers that the firm size is often used as a proxy for information asymmetry. Information asymmetry can be higher for small firms because of, for example, smaller firms receive less media attention and analyst coverage compared to larger companies. Less coverage may imply that less information is available on smaller firms. Filbeck and Webb (2001) confirm that the absolute value of the share price responses is negatively associated with firm size. This means that shareholders react more strongly to the announcements of layoffs coming from smaller firms, rather than larger ones.

This study's pattern is mostly based on the research conducted by Palmon, Sun and Tang (1997). They find that the reason stated by management for the layoff is the determining factor in the share price response to layoff announcements.

Statistically negative returns are associated with the declining-demand subsample and with firms not stating a reason for the layoff in their announcement. Statistically positive returns are associated with the efficiency-enhancing subsample.

2.2. Financial performance of layoff companies

Mirabal and DeYoung's (2005) article examines the findings of empirical research studies and other sources to determine the impact of downsizing as a strategic intervention on financial performance. One way of downsizing can be carried out by cutting down the number of employees. In their article, Mirabal & DeYoung (2005) state that management should be aware that large-scale downsizing may produce significant levels of under-performance. In contrast, smaller-scaled interventions have less of an impact on financial performance.

De Meuse, Bergmann, Vanderheiden and Roraff (2004) studied the long-term relationship between downsizing and financial performance. In comparing the companies which did or did not announce layoffs, the results show that companies which announced layoffs as a downsizing program performed significantly poorer up to two years following the announcement. Beginning of the third year made the difference statistically insignificant. De Meuse et al. (2004) also noticed that companies which had laid off a smaller amount of people performed better in the year of the announcement, but after this year there were no remarkable financial differences found. Companies laying off 10 per cent or more of the work force notably under-performed firms laying of less employees.

2.3. Other studies

Abraham (2004) examined the effect of layoff and employment guarantee announcements (EGA) on the shareholder returns of 154 firms that announced layoffs in 1993-1994. Conceptually, and EGA can be viewed as the opposite of layoff announcement, which means that the firm is reducing the size of its labor force. An EGA means that the firm will not be able to reduce the size of its

workforce or payroll for the term of the guarantee. Abraham's (2004) results show that the returns of his samples responded negatively to the both kinds of announcements. The results also show that investors do not perceive much of a signaling effect from and EGA, and that EGAs are not perceived by the market as signal that the firm's financial situation is identified as "healthy". Some might think that an EGA would send a signal to investors that the firm has sufficient financial health to ensure continued employment to its employees for the term of the guarantee.

Hallock's (1998) paper discusses the connection between layoffs, executive pay and stock prices. In general firms that announce layoffs in the previous year pay their chief executive officers (CEOs) more. Also, a small negative share price reaction to layoff announcements was discovered. Hallock's (1998) results suggest that CEOs who head firms with layoff announcements in the previous year are likely to have higher pay and larger percentage raises than CEOs who head firms that are not cutting jobs. On average, the share price reaction is negative but very small.

3. CAPITAL MARKET EFFICIENCY

The primary role of a capital market is allocation of ownership of the economy's capital stock. The ideal is a market in which prices provide accurate signals for resource allocation. This type of a market includes an assumption that security prices at all times fully reflect all available information (Fama 1970: 383). Brealey & Myers (1996: 323-324) state that when the market is efficient, all information is widely and cheaply available to investors and that all relevant and ascertainable information is already reflected in security prices.

According to Copeland, Weston and Shastri (2005: 372) capital market efficiency relies on the ability of arbitrageurs to recognize that prices are out of line and to make a profit by driving them back to an average value consistent with available information. Brealey & Myers (1996) mention a *true value* in their book, and by this definition they mean that the competition among investment analysts will lead to a stock market in which prices at any time reflect true value.

3.1. Perfect and efficient capital markets

Copeland et al. (2005: 353-354) find it important to contrast efficient capital markets with perfect capital markets, and the following conditions may be considered as necessary for perfect capital markets:

1. Markets are frictionless; there are no transaction costs or taxes, all assets are perfectly divisible and marketable and there are no constraining regulations.

2. There is perfect competition in securities markets, which means that in these securities markets all participants are price takers.

3. Markets are informationally efficient; information is costless and it is received simultaneously by all individuals.

4. All individuals are rational and want to maximize their expected utility.

When these conditions are given, product and securities markets will be both *allocationally* and *operationally* efficient. A market is said to be allocationally efficient when prices are determined in a way that equates the marginal rates of return for all producers and savers. Scarce savings are optimally allocated to productive investments in a way that benefits everyone. Operational efficiency deals with the cost of transferring funds. In the world of perfect capital markets transaction costs are assumed to be zero and markets are perfectly liquid.

Copeland et al. (2005) continue that some of the perfect market assumptions can be relaxed to show the differences between perfect markets and efficient capital markets. Capital market efficiency is much less restrictive conception than perfect capital markets. In an efficient capital market, prices fully and instantaneously reflect all available relevant information. This means that when assets are traded, prices are accurate signals for capital markets. By easing up some of the assumptions of perfect markets, efficient capital markets still can exist even if the markets are not frictionless. Prices will still reflect all available information if, for example, brokerage fees have to be paid by the securities traders. There can also be imperfect competition and allocative inefficiencies in product markets but still have efficient capital markets. If a firm can gain from monopoly profits in the product market, the efficient capital market will determine a security price that fully reflects the present value of the anticipated stream of monopoly profits.

3.1.1. Competition as the source of efficiency

Arbitrageurs trying to profit by recognizing when the prices are out of line is a behavioral paradigm, which might raise questions among people. Capital market efficiency implies that nobody can beat the market. Some might wonder that how can analysts be expected to exist since according to this implication they too cannot beat the market. The existence of a huge security analysis industry is also difficult to explain when markets are efficient. However, analysts are able to make profits by competing with each other. If the profit to analysis becomes abnormally large, then new individuals will enter the analysis business until, on average, the return from analysis equals the cost. (Copeland et al. 2005: 372.)

According to Bodie, Kane and Marcus (2005: 372) investors should not expect that all available information is being reflected on stock prices. There are a lot of investors who are willing to spend plenty of time and money on gathering information, and it might be reasonable that some of them would be able to come up with something that has been overlooked by the rest of the investment community. Bodie et al. continue that when information is costly to uncover and analyze, one would expect investment analysis calling for such expenditures to result in an increased expected return.

3.1.2. Three forms of market efficiency

When defining market efficiency, the attention is not paid to the form of the structural relationship between risk and expected return. More attention is paid to the precision with which the market prices securities in relation to its structure (Haugen 1997: 641). Haugen (1997) continues that if prices respond to all new relevant information in a rapid fashion, it can be said that the market is relatively efficient. Instead, if the information disseminates rather slowly throughout the market, and if investors take time in analyzing the information and maybe even overreacting to it, prices may deviate from values based on a careful analysis of all available information. This kind of a market could be characterized as being relatively inefficient.

One way to measure the efficiency of the market is to ask what types of information, encompassed by the total set of all available information, are reflected in securities prices (Haugen 1997: 642). In Figure 1 the outer circle represents all information relevant to the valuation of a particular stock which has come to one's knowledge, such as publicly available information about the company, its industry and the domestic and world economy. It also includes the information being privately held by select groups of individuals. The second circle represents the part of the information set that has been publicly announced and is therefore publicly available. Thus, the information outside of this set is inside or private information. The smallest circle represents the subset of the information that is publicly available. Any information relevant to the valuation of the stock which can be learned by analyzing the history of the

market price of the stock is represented in this third circle. (Haugen 1997: 642-643.)

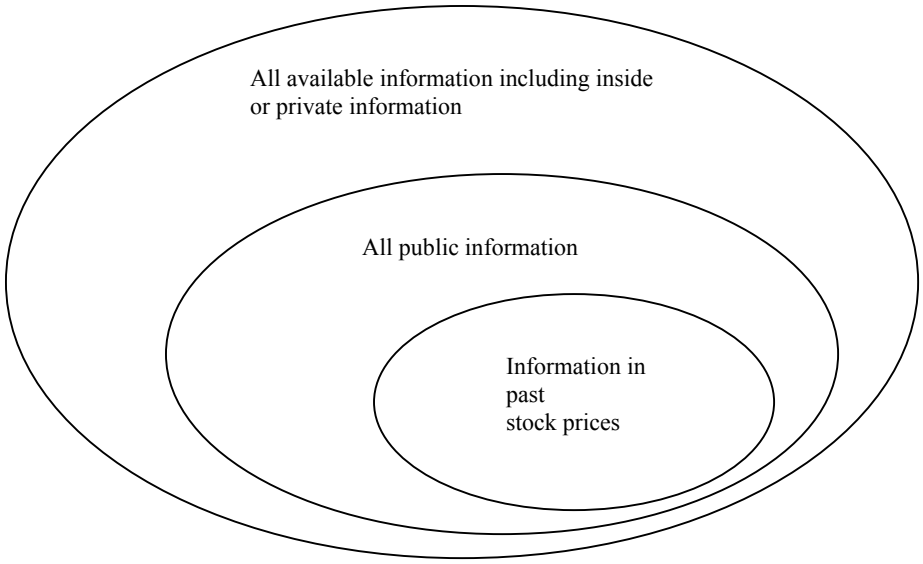

Figure 1. Subsets of available information for a given stock. (Haugen 1997: 643.)

Fama (1970: 383) has defined three types of efficiency. Bodie et al. (2005: 373) have also distinguished three forms of the efficient market hypothesis. These forms are the weak, semistrong and strong forms of efficiency, and they differ by their notions of what is meant by the phrase "all prices fully reflect all relevant information".

The *weak form* hypothesis suggests that stock prices already reflect all information that can be derived by examining market trading data such as the history of past prices, trading volume or short interest (Bodie et al. 2005: 373). Brealey, Myers & Marcus (2001: 360) write that the sequence of past price changes contains no information about future changes. They carry on that this is often expressed by economists by saying that "stock prices follow a random walk" or "the market has no memory". If the weak form is in effect, technical analysis or charting becomes ineffective. There is no information in the past series which is useful in predicting the future, because the information has been analyzed by thousands of watchful chartists everywhere. These chartists have acted on what they have found and the stock price has settled to a level which reflects all the useful information imbedded in past stock prices. (Haugen 1997: 644.)

Jarrett and Kyper (2005) examine the weak form of the market efficiency hypothesis in the United States. Their results indicate that this form of efficient markets hypothesis is questionable when one must make decisions concerning investing in stock market securities. Daily variation was not found to be either random or stochastic and it is possible to predict daily patterns with some degree of accuracy.

Under the *semistrong form* of the efficient market hypothesis no investor can earn excess returns from trading rules based on any publicly available information, for example annual reports of companies (Copeland et al. 2005: 355). Haugen (1997: 644) thinks that if this type of efficiency is valid, no form of analysis will help one to attain superior returns as long as the analysis is based on publicly available information. All sources of public information, such as accounting statements, have been analyzed by a number of analysts already and therefore the current stock price reflects all relevant information gathered from these accounting statements.

Bettis, Vickrey and Vickrey (1997) examine the possibility of outsiders to profit from mimicking the trades of insiders after having publicly reported their trades. Their study was conducted using data from the US market and the Securities and Exchange Commission (SEC) requires all insiders to register their trading activity. If it is possible for outsiders to benefit from mimicking insiders, this situation is inconsistent with the semistrong form of market efficiency hypothesis. In contrast, situation where insiders are not able to get abnormal returns by copying the acts of insiders is consistent with the semistrong efficiency. Evidence from both situations has been discovered. Bettis et al. (1997) paper's results suggest that outsiders are able to earn abnormal returns. The results claim that outside traders can profit from using publicly available information, in this case insider-trading data, and therefore the results imply that market is not efficient in the semistrong form.

Finally, Fama (1970: 383) defines the *strong form* version of the efficient market hypothesis. This type of form discusses whether investors or groups have a monopolistic access to any relevant information for stock price formation. Bodie et al. (2005: 373) say that this version of the hypothesis is quite extreme. Under this form, prices would fully reflect all information even though it might be

held exclusively by insiders. These corporate insiders might take advantage of this situation and try to profit from trading on the essential information before it is publicly released. However, Haugen (1997: 644) says that under this ultimate version of efficiency, the professional investor truly has a zero market value because no form of search or processing of information will consistently produce superior returns.

3.2. Information asymmetry and agency theory

Competitive market equilibrium should result when traders have differential information. However, in some cases *information asymmetry* may occur, especially when one group of participants has better or timelier information than other groups. There are several situations in which two groups of agents interact and in which the other group is imperfectly informed about the quality of products offered by the other group. Typically this imperfectly informed group is considered as outsiders, for example investors. A firm or its management is considered as insiders, and they have either perfect information about the product quality or at least superior information to outsiders. Therefore, there seems to be an information asymmetry between the insiders and the outsiders, and this asymmetry can cause markets to break down or even disappear altogether. (Strong & Walker 1987: 143.)

Copeland et al. (2005: 416) present Akerlof's (1970) framework where an information asymmetry exists in a general product market setting. In the setting, a market in which informed sellers offer cars of different quality differences to buyers, who while being aware that the quality differences exist are unable tell the quality of particular cars. Information asymmetry develops since the sellers have more knowledge about the cars than the buyers. Because the buyers cannot tell the difference between good and bad cars, they are willing to offer the same amount of for both. Thus, the good and the bad cars will be sold for the same price, and the sellers cannot receive the true value of the vehicles.

Asymmetric information in the sense of one group of individuals being better informed than another group is a pervasive phenomenon in real world's stock

markets (Strong & Walker 1987: 164). Milgrom and Roberts (1992) discuss the problematic issues of interpreting layoff announcements. Problems arise because of the cross-section of possibilities for layoffs purpose. They continue arguing that information asymmetries exist between managers and investors because managers, as insiders, only know how much effort they are willing to expend to enhance shareholder wealth. Insider managers have different kinds of costly or costless ways of reducing this asymmetry (Copeland et al. 2005: 438). The question is whether managers will have an appropriate incentive to truthfully reveal their private information to outside investors and whether any costs will be incurred in communicating this information.

Agency theory is also concerned with matters that arise when insider managers have an information advantage over the investors. Strong & Walker (1987: 92) highlight a question of how to motivate managers to take decisions consistent with the outside shareholders' interests. Models of agency theory show that managers have a number of decision variables under their control which are not directly observable by the outside shareholders. In some models managers even have access to additional private information at the time they make their decision choice.

Agency theory includes questions relating to the control of the behavior of the relatively well informed by the less informed. The simplest instance of an agency theory is on in which one party, *principal*, hires another party, *agent*, to undertake certain activities on behalf of the principal. Agency problems in firms arise because corporate decisions are made by managers (agents) on behalf of the firm's capital suppliers (principals). One example of an agency theory could be agent's compensation system which is chosen by principal. This compensation system depends on the performance measures that the principal specifies as well as the final outcome. After the agent has, for example, made a decision of financing and investment the final outcome is determined among some other random factors. Now the agent gets paid according to his compensation contract and the principal gets to keep the difference between the final outcome and the agent's compensation. (Copeland et al. 2005: 439, 449; Strong & Walker 1987: 166.)

Agency theory has been applied to number of different areas in finance. Mainly it has focused on the structure of managerial compensation contracts, but the

theory also analyzes the impact of the conflict between managers and a firm's shareholders. Filbeck & Webb (2001: 34) believe that higher level of insider ownership has a positive effect on the share price response to the layoff announcement. The fact that managers are owners means that the costs of false signals might result in negative personal economic consequences.

4. COMPANY AND STOCK VALUATION

The starting points for company valuation are presented in this chapter. The main emphasis is being put on stock valuation. There are a number of ways to valuate stocks, and just the basic models are introduced here. There are also plenty of performance measures that help valuating stocks. However, Fuller and Farrell's (1987) framework is used in this study. They showed the two basic approaches to determine the value of common stocks. One is to estimate the present value of the expected dividends associated with the stock. The other is a price per earnings ratio. Other ways to valuate stock are not discussed in this thesis.

Copeland et al. (2000: 3) believe that managers who focus on building shareholder value will create healthier companies than those who do not. They also believe that healthier companies will lead to stronger economies, higher living standards and more career and business opportunities for individuals.

There has always been a tough discussion about the importance of shareholder value relative to other measures such as employment, social responsibility and the environment. Especially in the United States and the United Kingdom, most weight is put on the idea that shareholders are the owners of the corporation. The board of directors acts as the shareholders' representative and is elected by them, and the objective function of a corporation is to maximize shareholder value. In Europe, a broader view of the objectives of business organizations has been more influential, and the weight is put on such matters as the continuity of the corporation. Shareholder value has become a trend in Europe also during the first years of the 21st century. (Copeland, Koller & Murrin 2000: 3.)

4.1. The starting points for valuing a company

According to Kallunki, Martikainen and Niemelä (1999: 22), as a decision-making process the definition of a company's value can be divided into three main sections and they are:

1. Strategic analysis
2. Analyzing the financial statement
3. Prediction of the development.

A company's value should be influenced by the firm itself, but also by the development of the surrounding society. Sufficient knowledge of the industry and the company's status at the market is needed to provide a comprehensive strategic analysis. The aim of a strategic analysis is to recognize the factors that affect company's financial success, such as the market size and the approximate growth rate.

Analyzing the financial statement aims to evaluate company's profitability, wealth and financial position. Companies are able to use some means to show a different sum of profit. This is also called as profit planning and one of the main focuses are point of views concerned with taxes. Profit planning makes it necessary for analysts to modify companies' financial statements so that they reflect the true financial standing of the company.

When defining a company's value, it is essential to estimate how the company will survive in the future. This estimation may be based on the company's own evaluations and predictions but using outside consults is also very common. Consults can gather information from for example the annual reports of the company or from financial statements. Bigger, usually listed companies are often analyzed by professionals and they can give a good comprehensive picture of the company's situation. (Kallunki et al. 1999: 22-28.)

4.2. Models for stock valuation

The return on common stock, dividends and capital gains, is very uncertain, and can change from period to period. The value of a share of stock to an investor is determined by *the size of the return* and the *degree of the risk* together. The return on the asset consists of three factors; the amount of money that the asset is expected to generate, the point in time when the money flows are expected to occur and finally, the effect of inflation. Risk, on the other hand, is a

measure of the estimated range within which future returns are likely to fall. (Levy & Sarnat 1988: 149; Barker 2001: 14.)

Fuller & Farrell Jr. (1987: 274) suggest that there are two basic approaches to determinate the value of a share of common stocks. One approach is to estimate the present value of the expected dividends associated with the stock. The other way is to determine an appropriate multiplier of the firm's earnings, which is also called a price per earnings ratio. The latter approach has been commonly used by security analysts for deciding whether stocks are under- or overpriced.

4.2.1. The dividend discount model

The value of a common stock is determined by the cash flow the stock provides to its owners. In the case of common stocks, the cash flow is the cash dividend stream, including any liquidating dividend when the firm ceases operations (Fuller & Farrell 1987: 275). The present value of the expected dividend stream can be written as:

(1) $$P_0 = \sum_{t=1}^{n} \frac{E(D_t)}{(1+r)^t}$$

where P_0 = current stock price
$E(D_t)$ = expected dividend in year t
n= number of years the firms operates
r = appropriate risk-adjusted discount rate

Barker (2001) regards *dividend discount model* (DDM) as the fundamental equity valuation model and therefore DDM is the basis for all theoretical valuation models. However, Bodie et al. (2005: 611) say that this equation is not very useful in valuing stocks because it requires dividend forecasts for every year into the indefinite future.

4.2.2. The constant growth dividend discount model

Equation (4-1) is not very practical since one is forced to estimate each dividend paid over the life of the firm (Fuller & Farrell 1987: 276). This creates a need for

a simplified model, *a constant growth dividend discount model*. Sometimes this approach is also referred as the Gordon model. This simplified model makes three extremely strong assumptions and because of this, the constant growth dividend discount model is not very useful for estimating particularly individual stock prices. On the other hand it helps to understand the primary determinants of stock prices, and it might be useful for estimating the price of large groups of stocks. Fuller & Farrell (1987) present these three assumptions as well as the whole model in their book. First of all, the assumptions are:

1. The stream of dividends is perpetual ($n \rightarrow \infty$).
2. Dividends grow at a constant rate of g forever.
3. The discount rate is greater than the growth rate ($r > g$).

The final form of the Gordon model can be written as

(2) $$P_0 = \frac{D_1}{r - g}$$

where D_1 = dividend to be received over next 12 months

Despite the fact that the first assumption is quite strong, equation (4-2) is still a useful model for analyzing the primary determinants of stock prices and returns. The equation (4-2) can also be rearranged as follows:

(3) $$r = \frac{D_1}{P_0} + g$$

In this case, the total return that investors receive from common stocks can be broken down into two components, the dividend yield D_1/P_0 and growth g. If the expected return rate r remains constant, the growth rate in the stock price will equal the growth rate of dividends. It is obvious that r does not remain constant over the time, but equation (4-3) is still a useful tool for analyzing long-run stock returns at least for large portfolios of stocks such as the market indexes. (Fuller & Farrell 1987: 277-288.)

4.2.3. The price per earnings ratio

Earnings are shareholders' profits and also the main output of a company's accounting system. Investors seek to establish a direct relationship between earnings and share prices in the form of *price per earnings* (P/E) ratio. The share price is the present value of all future earnings generated by a company, and therefore, the P/E ratio summarizes the value of all future earnings relative to current earnings. (Barker 2001: 55.)

Investors have traditionally utilized P/E ratio models more than dividend discount models. P/E ratio is not as accurate as dividend discount models, but it has plenty of attractive attributes. P/E ratio provides a convenient standard for comparing the prices of shares of stock which have different levels of earnings per share, because P/E ratio indicates the price per euro of earnings. One of the attractive attributes is also the fact, that for stocks which do not currently pay dividends, a P/E ratio might be easier to use than a dividend discount model. Third, the estimates used as inputs in P/E ratio may be easier to make than the estimates necessary for dividend discount models. (Fuller & Farrell 1987: 362-363.)

Fuller & Farrell (1987) use the equation (4-2) as a starting point for developing a framework for P/E ratio. The Gordon model was:

(4) $$P_0 = \frac{D_1}{r - g}$$

Now, the dividend can be written as earnings E multiplied by the dividend payout ratio b, and dropping the time subscript due to simplifying matters, the constant growth model can be shown as:

(5) $$P = \frac{Eb}{r - g}$$

Rearranging terms to solve for the P/E ratio, the general relationship can be written as:

(6) $$P / E = \frac{b}{r - g}$$

Therefore, the P/E ratio can be viewed as a function of three variables, which are the dividend payout ratio, the discount rate and the growth rate. According to the equation (4-6), the higher the payout ratio, the higher is the P/E ratio when everything else is held constant. The same relationship holds for P/E ratios and growth rates, but there is a negative relationship between P/E ratios and discount rates. Thus, the higher the discount rate, the lower the P/E ratio gets and the opposite. (Fuller & Farrell 1987: 363.)

4.3. Risk valuation with CAPM

According to Levy & Sarnat (1988) the value of a share of stock to an investor is determined by the size of the return and the degree of the risk together. In this section, risk is discussed using the capital asset pricing model, CAPM. Bodie et al. (2005: 281) state that CAPM is a centerpiece of modern financial economics, and with this model it is possible to get precise predictions of the relationships between the risk of an asset and its expected return. CAPM assumes that securities are traded in perfect capital market with the following assumptions:

1. *Risk aversion.* Investors are risk-averse.
2. *Information.* All relevant information is freely available to all investors.
3. *Investment horizon*. All investors' decisions are assumed to be made at specific point in time, and all investments are held for the same period.
4. *Costs.* CAPM assumes no transaction costs or taxes.
5. *Interest rate.* All investors can lend or borrow any amount of money without affecting the interest rate.

Using the CAPM, the riskiness of any individual security or asset can be divided into two parts, *systematic* and *nonsystematic* risk. Therefore, the total security risk is these two combined. Nonsystematic risk can be eliminated by combining it in a diversified portfolio. It is called nonsystematic because there is no systematic relationship between this portion of a security's risk and general market fluctuations. Systematic risk, on the other hand, is the part of a security's risk that cannot be eliminated by including it in a diversified portfolio. It is affected by the market fluctuations. In the CAPM, it is only the

systematic part of the risk that affects the expected return. Nonsystematic part can always be eliminated through diversification.

In case there is more than one security in a portfolio, the risk of each individual security depends on its correlation with all the others. The CAPM avoids this type of complication by providing a single measure of a security's risk, called beta, β. Beta can be calculated as follows:

(7) $$\beta_i = \frac{\sigma_{im}}{\sigma_m^2} = \frac{Cov(R_i, R_m)}{Var(R_m)}$$

where R_i = return of security i
R_m = return of market portfolio

Beta provides a measure of the very important systematic component of a security's risk. The higher a security's beta is, while other things are being constant, the higher is the systematic risk. When the presented assumptions take place, following market equilibrium can be seen according to the CAPM. (Levy & Sarnat 1988: 184-186.)

(8) $$E(R_i) = R_f + \beta_i (E(R_m) - R_f)$$

where $E(R_i)$ = expected return of security i
R_f = risk free return
β_i = the risk of security i
$E(R_m)$ = expected return of market portfolio

5. CORPORATE SOCIAL RESPONSIBILITY

In the 1970's theologians and philosophers started to suggest that certain principles could be applied to business activities. Using this foundation, business professors began to teach and write about social responsibility, which according to one definition is organization's obligation to maximize its positive impact on stakeholders and to minimize its negative impact. Ethical theory and philosophical analysis were applied to structure the discipline of business ethics. This caused companies to become more concerned about their public images and as the social demands grew, many businesses realized that they had to address ethical issues more directly. (Ferrell et al. 2005: 10.)

There are many ways for a company to take part in social responsibility. Companies can, for example, give grants and corporate sponsorships to arts, community improvement and educational causes. It is also possible to support employees with flexible work schedules, holiday daycare as well as daycare centers for new parents. New buildings can be built economically, conforming to environmental guidelines, energy sufficiency, water conservation and so on. (Ferrell et al. 2005: 47.)

5.1. Socially responsible behavior

There have been conflicting expectations of the nature of companies' responsibilities to society for a long time. It is difficult to define what socially responsible behavior actually is as opposed to management, corporate image management or other activities aimed mainly at business benefits. After all, the primary role of business is said to be providing goods and services that society wants and needs. The basic idea of corporate social responsibility is that businesses and societies are thought as combined rather than separate entities (Moir 2001: 1). Mohr, Webb and Harris (2001: 47) define CSR as "a company's commitment to minimizing or eliminating any harmful effects and maximizing its long-run beneficial impact on society".

Socially responsible behavior includes a wide collection of actions such as behaving ethically, supporting the work of nonprofit organizations, treating

employees fairly and minimizing damage to the environment. Socially responsible companies consider the effects of their actions whether they are directly related to the companies or not. A company can be managed using a stakeholder or a shareholder theory. A stakeholder theory is based on the assumption that companies must consider the effects of their actions on all constituencies, such as shareholders, customers, employees, suppliers, the environment and the community, even when profitability is reduced. According to a shareholder theory, the only responsibility of a company is to legally make profits for its shareholders. Mohr and Webb (2005: 122) suggest that socially responsible companies must be managed by using a stakeholder theory.

To remove the opportunity for employees to make unethical decisions, most companies have adopted formal systems accountability, oversight and control, known as *corporate governance*. Corporate governance is a part of company's culture. Having no governance system at all or having an unsatisfactory one, opportunities for top managers to put their own self-interests before those of important for stakeholders, are created. Some organizations take the view that as long as they are maximizing stockholder wealth and profitability, they are fulfilling their core responsibilities. Other firms believe that a business is an important member of society and therefore must assume broad responsibilities that include following the social norms and expectations. From these two assumptions, Ferrell et al. (2005: 83) derive two major approaches to corporate governance. The two approaches are the shareholder model and the stakeholder model.

Shareholder model of corporate governance

The shareholder model of corporate governance includes classic economic concepts, such as the goal of maximizing wealth for investors and owners. Especially for publicly traded firms, corporate governance focuses on developing and improving the formal system for maintaining performance accountability between top management and the firms' shareholders. Therefore, a shareholder orientation should force a firm's decisions toward serving the best interests of investors. An agency problem can be observed underlying these assumptions. Managers act as agents for investors, whose number one goal is to increase the value of their stocks. Managers, on the other hand, may

have motivations beyond stockholder value, such as market share, personal compensation or attachment to particular product or projects. Shareholder model is said to be a more restrictive antecedent to the stakeholder orientation.

Stakeholder model of corporate governance

The stakeholder model of corporate governance adopts a wide view of the purpose of business. A company has a responsibility for economic success to satisfy its stockholders but it must also take into consideration other stakeholders, including employees, suppliers, communities and other groups with which the company interacts. Companies' limited resources make it necessary to determine which of their stakeholders are primary. As soon as the primary groups have been determined, managers must then implement the appropriate corporate governance systems to promote the development of long-term relationships. The stakeholder approach involves creating governance systems that consider stakeholder welfare in concert with corporate needs and interests. Many businesses have evolved into this type of orientation as a result of government initiatives, consumer activism, industry activity and other external forces. (Ferrell et al. 2005: 83-84.)

5.2. The stakeholder idea

The dominant theme in the social responsibility research is the stakeholder theory of a corporation. In a business context, customers, investors and shareholders, employees, suppliers, government agencies, communities and many others who have a "stake" or claim in some aspect of a company's products, operations, markets, industry and outcomes are known as *stakeholders* (Ferrell et al. 2005: 26). These groups are influenced by business, but they also have the ability to affect businesses. Stakeholders provide resources that are more or less critical to a firm's long-term success. For example, shareholders provide capital, suppliers offer material resources and local communities supply infrastructure. Stakeholders' ability to even threaten to withdraw these resources gives them power over businesses.

Stakeholder orientation of a firm can be referred to the degree of which the company understands stakeholders' demands. According to Ferrell et al. (2005: 29), this orientation consists of three sets of activities:

1.) the organization-wide generation of data about stakeholder groups and assessment of the firm's effects on these groups.
2.) the distribution of this information throughout the firm
3.) the organization's responsiveness as a whole to this intelligence.

In the first step, it is important to start with identifying the stakeholders that are relevant to the firm. These relevant communities are to be analyzed on the basis of power each enjoys as well as the ties between them. After this, the firm should characterize the concerns about the business's plan of action that every relevant stakeholder group shares. This information can be obtained from formal research such as internet searches or press reviews. Another good way to gather this type of information is by following employees and managers carrying out their daily routines. Finally, the impact on the issues that are important to the various stakeholders should be evaluated by the company. The second step concerns about the distribution of this gathered information throughout the firm. This can be organized formally through activities such as newsletters and internal information forums. The third set of activity, organization's responsiveness to the first two steps, consists of the initiatives the firm adopts to ensure that it follows or exceeds stakeholders' expectations and has a positive impact on stakeholder issues. These initiatives are likely to be specific to a particular stakeholder group, for example family-friendly work schedules. Responsiveness processes may also involve the participation of the concerned stakeholder groups. (Ferrell et al. 2005: 29-31.)

5.3. Social responsibility – Economic issues

From the economical standpoint, companies have an economic responsibility to be profitable. This means that companies must provide a return on investment to their owners and investors, create jobs for the community and contribute goods and services to the community.

The economy is affected by the way companies relate to shareholders and other investors, employees, customers, competitors, the community and even the natural environment. When economic downturns or poor decisions lead companies to lay off people, communities often suffer as they attempt to absorb the displaced employees. Stock prices often decline when layoffs are announced, which affect the value of stockholders' investment portfolios. Product quality, customer service, employee rights and the natural environment may be affected by the poor decisions which are made by stressed-out employees facing demands to reduce costs. A balance must be found between society's demand for social responsibility and investors' desire for profits. (Ferrell et al. 2005: 50.)

As presented in chapter two, studies have shown that layoff announcements have a significant effect on stock prices but there are mixed results of the direction of the change. Stock prices often decline, when layoff announcements are made public, but in some cases the prices of stocks have also risen because of these announcements. Palmon et al. (1997) state that layoff decisions induced by unexpected adverse market conditions should be associated with declines in profitability measures and firm values, while unexpected layoff decisions resulting from improved efficiency should be associated with improved profitability measures and higher firm values. This implies that investors consider layoffs an effective cost-reduction tool that enhances firm value but layoffs induced by worsening market conditions connote negative information. Worrell, Davidson III and Sharma (1991) also investigated the strategic implications of layoffs. In their study they find that investors reacted negatively to announcements attributed to financial reasons. Worrell et al. (1991) also noticed that negative preannouncement reactions occurred when negative hints about firms preceded announcements. Large and permanent layoff announcements elicited stronger negative reactions than other announcements.

The manner in which a firm discloses a layoff announcement may impact the share price response. Therefore, the stated purpose for the layoff serves as a signal to the marketplace of the future prospects of the firm. However, in some cases the stated reason for layoffs may not reflect the true condition of the firm. Some firms could say that they are seeking enhanced efficiency by layoffs, but in fact they are facing a declining demand for their products. Investors should not blindly draw conclusions about the nature of layoff announcements.

Announcements should be carefully analyzed to find out the true meaning of the signals sent. Filbeck & Webb (2001) think that a control mechanism is necessary to control for the market reaction to stated rationales for layoff announcements from the market reaction to layoff announcements based on differences in informational asymmetries.

The purpose of Zyglidopolous' (2004) study was to investigate the impact of downsizing on a firm's reputation for corporate social performance (RCSP). Understanding the potential impact of downsizing on a firm's RCSP is important in two ways. First, corporate reputation of a firm can be a significant source of sustainable competitive advantage, and a better understanding of this may help managers to protect the firm's reputation. Secondly, the understanding of the impact of downsizing on a firm's RCSP can assist managers and public administrators to better determine the effectiveness of employment reorganization. The main findings of this research imply that downsizing has a negative impact on firms RCSP. High financial performance prior to the downsizing leads to more negative impact on the firm's RCSP.

Ferrell et al. (2005: 18) write in their book that adequate financial performance in terms of profits must be achieved until a company is able to develop an ethical climate. Businesses with greater resources have the ways to practice social responsibility while valuing their employees and establishing trust with the public. Ferrell et al. (2005) also state that being ethical pays off with better performance and such evidence already exists. Companies that are perceived by their employees as having a high degree of honesty and integrity had a much higher average total return to shareholders, compared to companies perceived as having a low degree of such matters.

It takes time for consumers to learn about companies' social programs and on the other hand, it takes time for companies to earn the trust of the community. This is one reason why companies with a short-term perspective are less likely to make CSR a central strategy. Many financial payoffs from CSR may take time to materialize, but companies with longer-term perspectives might be more willing to wait for the payoff than other companies with short-term views. (Mohr & Webb 2005: 122-123.)

5.4. Social responsibility in Finnish society

In Finnish society the forms of social responsibility come true in different ways. There are plenty of different types of firms with different possibilities, desires and ways to execute social responsibility. The largest companies in Finland are globalizing, and these companies following a global strategy usually have their own nationality. The national culture of the parent company commonly builds the ground for company's own culture and values. Managers of the large global enterprises often make decisions based on expected returns on stocks and strong profit maximization in general. This may lead to forgetting the ethical side of the decision making. Responsible entrepreneurship aims to fulfill its business operational objectives following the universal values of ethics as well as the ethics of the area where operating. (Takala 2004: 212.)

During the last few decades, Finnish way of thinking has moved strongly towards the Anglo-American way, which is more owner-centered. The latest trend in Finland seems to be that owners are starting to be active in the boards of directors. In the 1980's it was the management who controlled the company's operations and the owners were more on the side and just accepted the decisions made by management. However, in 2002, large Finnish companies made a record paying in dividends. The traditional northern way has so far been more stakeholder-oriented, but the concern it that now this owner-centered thinking is coming to replace it and leaving the ethics with less attention. (Takala 2004: 215.)

Panapanaan, Linnanen, Karvonen and Phan (2003) did a study on corporate social responsibility in Finland. According to their research, Finnish companies are aware that CSR is creating potential implications to their businesses and markets. Still, little is known about how Finnish companies are actually dealing with and managing social issues relating to their employees and other stakeholders. Finnish companies also hardly ever publish any reports on CSR. The results of this approach say that employee issues and management are well established in most companies, and most policies supporting the welfare of employees are in place and available. The most common community involvement forms seem to be support for educational activities and research, child and youth development and small amounts of grants, donations and sponsorship. It was also mentioned that 75 % of the interviewed companies can

be considered proactive and opportunity-driven, and therefore seek to enhance their policies and strategies towards a good image and better competitiveness.

6. DATA AND METHODOLOGY OF THE STUDY

In this chapter, the event study methodology is presented before the brief data introduction. Direct measures may require many months or even years of observation so this is why event study approach is perhaps the most commonly used by researchers.

6.1. Event study approach

Measuring the effects of economical events on the value of a firm can be easily constructed using an event study. This research methodology measures the effect of a specific event on the value of the firm by using data collected from financial markets. The usefulness of this method comes from the fact that when markets are informationally efficient, the effects of an event will be immediately reflected in security prices. The measure of the event's economic impact can be constructed using, for example, stock prices observed over a short period of time. In this paper, the event study method quantifies the relationship between layoff announcement dates and stock returns. (Bodie et al. 2005: 381; MacKinlay 1997: 13.)

The general applicability of the event-study approach has led to its wide use. In the academic accounting and finance field, event-study methodology has been applied to a variety of firm-specific and economy-wide events. Some examples include mergers and acquisitions, earnings announcements and announcements of macroeconomic variables. In most applications, the focus is the effect of an event on the price of a particular class of securities of the firm, most often common equity. (Campbell, Lo and MacKinlay 1997: 149.)

Bowman (1983) introduces the simplest form of event study model. This type of information and market efficiency test is also used in this paper, and it includes five steps:

1. *Identify the event of interest.* Many studies are investigations of a type of event, which occurs for different companied at a different calendar times. To make these events comparable, the calendar date or the event

becomes time zero in event time. After this, all time periods are described in event time relative to the zero time when the event occurred.

2. *Model the security price reaction.* This is the part where the hypotheses are to be made. In the simplest cases the estimation of security price reaction to an event is not a problem. But sometimes, for example, a model is developed to separate the firms into groups of expected positive and expected negative security price reactions.
3. *Estimate the excess returns.* In this step a method of estimating the excess returns for the firms under study is to be chosen. After this the residuals are calculated from the chosen model.
4. *Organize and group the excess returns.* After the excess returns have been calculated, they must be organized and grouped before the final analysis. Similar to step two, firms may be put into groups according to the expected security price reaction.
5. *Analyze the results.* Now the results are analyzed and interpreted. The data are presented in graphics and tables given an interpretation of the hypotheses.

6.2. Calculating cumulative abnormal returns

Cumulative abnormal returns (CARs) are calculated for three alternative announcement periods around the publication date of each announcement (which is denoted as day 0). The alternative announcement periods are a two-day period that includes days -1 and 0, a three-day period from day -1 through day 1 and a twelve-day period from day -1 through day 10. The 12-day CARs are computed to check the persistence of the abnormal returns. CARs are calculated by finding out the difference between the actual stock returns and the market returns. The OMX Helsinki index serves as a market return. Average cumulative abnormal returns (ACARs) are used in statistical tests, and the t-statistic determines the statistical significance of the ACARs.

Some nonparametric tests are used to assess whether any of the results are induced by a skewed distribution of returns. For example the kurtosis and skewness are reported for each alternative announcement periods. One highly

negative abnormal return may affect the results of these tests in the declining-demand subsample. However, this exceptionally negative CAR is left out from the OLS estimation to check whether it has any further effect.

6.3. Data of the study

The final sample includes 28 announcements of cooperation negotiations. OMX Helsinki, company disclosures and Reuters' database are used to collect all required data and other information about the companies. During the 2003 to the spring of 2006 sample period, only the latest announcements of each firm are used. Also, no other contaminating events such as stock repurchases or annual reports should not have been reported publicly during the 12-day period beginning at day t = -1 and ending on day t = +10. Day t = 0 is the announcement day.

Using the reason for the possible layoff decision, announcements are classified into two subsamples. Announcements of cooperation negotiations that state declining sales or low product prices as a reason for the possible layoff are included in the *declining-demand* subsample. Announcements indicating an intention to improve profitability or efficiency are assigned to the *efficiency-enhancing* subsample. Examples of quoted reasons for layoff decisions are presented in the Appendix.

Table 1 shows all 28 companies divided into two subsamples. Both subsamples consist of a total of 14 firms. Table 1 also shows the average number of employees per firm and the average fraction of employees who were under cooperation negotiations.

Table 2 provides descriptive statistics for the firms in the two subsamples. The total number of employees of each firm is taken from the companies' annual reports. Possible layoff ratio is the fraction of employees under cooperation negotiations. The average number of employees for the declining-demand subsample was 6.643 and for the efficiency-enhancing subsample 6.655. Therefore, the difference in the average firm size between the two subsamples is not significant even at the 0,10 level (the t-statistic equals -0,003). The possible

layoff ratios for the subsamples were 16,14 % and 12,11 %. This difference is not significant either (the t-statistic is 0,615).

Table 1. Sample firms divided into two subsamples.

Declining-Demand Subsample				
Firm	Number of employees	ln (empl)	Possible layoff ratio	CAR -1,0
Beltton-Group Plc	485	6.1841	21.44%	0.4835%
Comptel Plc	576	6.3561	1.74%	2.7300%
Efore Plc	512	6.2383	61.72%	-0.9322%
Finnair Plc	9,447	9.1535	7.09%	-6.8642%
Fiskars Corporation	3,448	8.1455	2.76%	-6.8252%
Orion Plc	4,534	8.4194	1.99%	0.0394%
Perlos Plc	7,679	8.9462	7.81%	-26.7567%
PKC Group Plc	2,742	7.9164	31.51%	0.3756%
Ramirent Plc	2,317	7.7480	25.90%	0.8926%
Raute Plc	539	6.2897	18.55%	-2.9260%
Scanfil Plc	2,354	7.7639	5.10%	-8.6327%
Stora Enso Plc	45,307	10.7212	4.41%	-1.0649%
Sysopen Digia Plc	288	5.6630	34.72%	2.2428%
Tietoenator Plc	12,773	9.4551	1.25%	0.1960%

Efficiency-Enhancing Subsample				
Firm	Number of employees	ln (empl)	Possible layoff ratio	CAR -1,0
Aspocomp Group Plc	3,377	8.1247	15.99%	2.0454%
Elcoteq SE Plc A	20,000	9.9035	4.35%	-0.4661%
eQ Plc	134	4.8978	6.72%	-1.3077%
Exel Plc	466	6.1442	36.48%	-6.4793%
HK Ruokatalo Group Plc	4,541	8.4209	7.05%	1.6621%
KCI Konecranes Plc	4,350	8.3779	1.95%	1.5496%
Kesko Corp.	17,528	9.7716	0.91%	-0.8801%
Kyrö Corporation	1,222	7.1082	2.70%	1.0246%
Lännen tehtaat Plc	1,033	6.9402	5.32%	-1.0682%
Nordic Aluminium Plc	314	5.7494	63.69%	5.1987%
OMX AB	1,355	7.2116	3.17%	-1.4537%
Salcomp Plc	6,305	8.7491	0.32%	4.4123%
UPM-Kymmene Plc	31,500	10.3577	9.37%	5.3537%
Vaisala Plc	1,042	6.9489	11.52%	0.0107%

Table 2. Descriptive statistics for firms that announce to start cooperation negotiations.

Descriptive Measure		Mean	Median	Std Deviation
Panel A. Declining-Demand Subsample				
Total Employees Per Firm (In Thousands)		6 643	2 548	11761,62
	(t Stat	-0,003)		
Possible Layoff Ratio		16,14 %	7,45 %	0,176
	(t Stat	0,615)		

Descriptive Measure	Mean	Median	Std Deviation
Panel B. Efficiency-Enhancing Subsample			
Total Employees Per Firm (In Thousands)	6 655	2 366	9511,90
Possible Layoff Ratio	12,11 %	6,02 %	0,175

7. EMPIRICAL RESULTS

In this section, the results of the tests of the two hypotheses are reported. It is being examined, whether the reasons cited in announcements of cooperation negotiations help investors to analyze the implications of possible layoff announcements as they affect the values of the announcing firms.

7.1. Cumulative abnormal returns

Next, the two-day, three-day and twelve-day abnormal returns for 14 firms citing declining demand and 14 firms citing efficiency enhancement as reason for cooperation negotiations are presented. In Tables three, four and five are the statistics on the CARs for the alternative announcement periods for each of the two subsamples. The two- and three-day CARs that are computed for the declining-demand subsample are negative and significantly different from zero at the 0,10 level, but not at the 0,05 level. $ACAR_{-1,0}$ and $ACAR_{-1,1}$ are -1,68 % (the t-statistic is -1,65) and -1,16 % (the t-statistic is -1,49). In contrast, the corresponding CARs for the firms in the efficiency-enhancing subsample are positive but not significantly different from zero. $ACAR_{-1,0}$ and $ACAR_{-1,1}$ are now 0,34 % (t-statistic = 0,82) and 0,02 % (t-statistic equals 0,05).

The persistence of the abnormal returns is checked by calculating the twelve-day CARs. As shown in Table 5, the 12-day average CAR for the firms in the declining-demand subsample is -0,33 % (the t-statistic is -1,34, which is not significantly different from zero at the 0,05 or even at the 0,10 level). The corresponding average cumulative abnormal return for the firms in the efficiency-enhancing subsample is -0,10 % (the t-statistic is -0,69, and therefore is not significantly different from zero). The results reported in Tables 3, 4 and 5 indicate that the returns on equity of firms that cite an adverse market condition (improving efficiency) as a reason for starting cooperation negotiations are *not* abnormally negative (positive). Thus, the first hypothesis is not supported by the results, except for the fact that the two- and three-day CARs of the declining-demand subsample are negative and significantly different from zero at the 0,10 level.

7.2. Ordinary least squares procedure

The impact of announcing cooperation negotiations on stock returns is further demonstrated by investigating the relation between the possible layoff ratio (denoted as LATER, Layoff-to-Employee Ratio) and the CARs. The LATER is calculated dividing the amount of employees under the cooperation negotiations by the total amount of employees in a firm. A negative impact of the possible layoff ratio on the CARs for the declining-demand subsample and a corresponding positive impact for the efficiency-enhancing subsample firms should support the second hypothesis. The logarithm of the number of employees is added as an explanatory variable (denoted as FSIZE, Firm Size), because firm size can affect abnormal returns.

An ordinary least squares (OLS) estimation procedure is used to test the relation between two-day cumulative abnormal return, possible layoff size and firm size in each subsample. The regression model is specified as follows:

$$(9) \qquad CAR_{(-1,0)i} = \alpha + \beta_1 LATER_i + \beta_2 FSIZE_i + u_i$$

The estimates of the regressions appear in Table 6. The estimated β_1 coefficient for the declining-demand subsample is -0,014 but it is not different from zero (the t-statistic is 0,298). In contrast, the estimated β_1 coefficient for the efficiency-enhancing subsample is 0,010, and this is not different from zero either with the t-statistic of 1,057. The estimated β_2 coefficient for the declining-demand subsample is 0,045 (the t-statistic is -0,795, which means that it is not different from zero significantly). Its counterpart in the efficiency-enhancing subsample is 0,058 and this is different from zero at the 0,10 significance level (the t-statistic = 1,645). The F-statistic and p-value are 0,737 and 50,1 % for the declining-demand subsample, and 1,400 and 28,7 % for the efficiency-enhancing subsample.

Table 3. Two-day average cumulative abnormal return.

	Declining-Demand Subsample	Efficiency-Enhancing Subsample
ACAR -1,0		
Mean	-1.68%	0.34%
Median	-0.22%	0.26%
Percent Negative	50.00%	42.86%
Min	-13.38%	-3.24%
Max	1.37%	2.68%
Skewness	-2.53	-0.43
Std deviation	0.04	0.02
Kurtosis	7.33	1.01
t-Statistics	-1.65	0.82

Table 4. Three-day average cumulative abnormal return.

	Declining-Demand Subsample	Efficiency-Enhancing Subsample
ACAR -1,1		
Mean	-1.16%	0.02%
Median	-0.21%	-0.13%
Percent Negative	57.14%	57.14%
Min	-9.85%	-2.24%
Max	1.24%	2.25%
Skewness	-2.37	0.08
Std deviation	0.03	0.01
Kurtosis	6.11	0.40
t-Statistics	-1.49	0.05

Table 5. Twelve-day average cumulative abnormal return.

	Declining-Demand Subsample	Efficiency-Enhancing Subsample
ACAR -1,10		
Mean	-0.33%	-0.10%
Median	-0.10%	-0.08%
Percent Negative	50.00%	50.00%
Min	-3.04%	-1.15%
Max	0.95%	0.86%
Skewness	-2.10	-0.43
Std deviation	0.01	0.01
Kurtosis	6.34	0.29
t-Statistics	-1.34	-0.69

Table 6. Ordinary-Least-Squares Regression.

	Independent Variables				
Declining-Demand Subsample					
Constant	**LATER**	**FSIZE**	**R Square**	**F-Statistics**	**p-Value**
0.068	-0.014	0.045	0.118	0.737	0.501
(t-stat 0.443)	(0.298)	(-0.795)			
Efficiency-Enhancing Subsample					
Constant	**LATER**	**FSIZE**	**R Square**	**F-Statistics**	**p-Value**
-0.076	0.010	0.058	0.203	1.400	0.287
(t-stat -1.511) *	(1.057)	(1.645) *			

Table 7. Ordinary-Least-Squares Regression (outliers excluded).

Independent Variables					
Declining-Demand Subsample					
Constant	**LATER**	**FSIZE**	**R Square**	**F-Statistics**	**p-Value**
0.013	0.040	-0.005	0.116	0.655	0.540
(t-stat 0.169)	(0.549)	(-0.523)			
Efficiency-Enhancing Subsample					
Constant	**LATER**	**FSIZE**	**R Square**	**F-Statistics**	**p-Value**
-0.076	0.010	0.058	0.203	1.400	0.287
(t-stat -1.511) *	(1.057)	(1.645) *			

In Table 7, one firm is left out from the declining-demand subsample because of its exceptionally negative two-day cumulative abnormal return. Therefore, the same coefficients β_1 and β_2 are now 0,040 and -0,005. No difference with the significances of these coefficients is notable.

Thus, the results presented in Tables six and seven indicate that the magnitude of the abnormal negative returns on equity is *not* directly related to the magnitude of the possible layoffs for those firms that cite an adverse market condition as the reason for starting cooperation negotiations. However, the results claim that the size of the firms in the efficiency-enhancing subsample may help investors to infer changes in firm values when they are announcing about cooperation negotiations.

8. CONCLUSIONS

When a company announces to start cooperation negotiations it often means that a layoff decision will follow. These layoff decisions can be associated with either an increase or a decrease in firm value. In most cases, investors among others may assume that layoff decisions induced by adverse market conditions such as demand declines or input price increases, should be associated with declines in sales and profitability measures and furthermore in firm values. On the other hand, layoff decisions resulting from unexpected efficiency gains or plans for efficiency improvements are assumed to be associated with increasing sales and firm values.

In this these examinations, negative abnormal returns are found for firms that belong to the declining-demand subsample, and this supports the first hypothesis. In this subsample it is typical that the announcement takes place due to declining sales or low product price. The persistence of the negative abnormal returns is tested by calculating the twelve-day cumulative abnormal returns. However, it can be inferred from the results that the twelve-day CARs are not significantly negative anymore.

The first hypothesis of this thesis continues that firms belonging to the efficiency-enhancing subsample should have positive abnormal returns. These companies usually announce about possibly upcoming layoffs because they need to improve efficiency or reduce costs. However, for the firms that cite an efficiency enhancement as a reason for starting cooperation negotiations, significantly positive abnormal returns are not found.

It is also examined, whether the magnitude of the abnormal negative or positive returns is directly related to the magnitude of the possible layoffs. The sample size is relatively small for this type of study in the first place, so this may be one reason why the results do not match the hypotheses as thought. It can still be concluded that in case of the efficiency-enhancing subsample, knowing the size of the firms may help investors to predict changes in firm values when the companies are announcing about cooperation negotiations. This type of relation cannot be seen within the declining-demand subsample.

Like it was already mentioned in chapter five that firms have an economic responsibility to be profitable. However, companies must remember that when announcing about upcoming layoffs, the manner in which a firm discloses the announcement may impact the share price. Of course every case is different and sometimes the cited reason or the manner of announcing may reflect the true condition of the firm but sometimes not. This is why investors should not blindly stare at only these aspects when drawing conclusions about the general state of a company.

Future research on layoff announcements especially in Finland could take into consideration firms' future profitability measures. If there occurs an association between the cited reasons for layoffs and companies' profitability measures, it might indicate that the cited reasons could actually reflect the true motivation for the layoffs. Palmon et al. (1997) wonder why firms announce a declining market condition as a reason for a layoff in the first place, because investors perceive such an announcement as a negative signal.

When a company starts cooperation negotiations, they usually announce the amount of employees who are under the risk of losing jobs. After the negotiations have been completed, the company discloses another announcement of the final outcome. In most cases the firms are able to reduce costs by laying off less people than they initially intended. It would be nice to know what is the impact of the actual layoff ratio on stock returns and perhaps compare these announcements' effect on firm value.

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Appendix 1. Examples of cooperation negotiation announcements by reasons.

1) **Declining sales or low product price:** This category generally includes announcements in which firms cite worsening market conditions, excess production capacity and lower product prices among the reasons for the possible layoff.

   Example: Perlos Plc. announces to start cooperation negotiations concerning approximately 7 700 employees due to lower demand.

2) **Improving efficiency or reducing costs:** This category generally includes layoffs that are announced as firms purposely attempt to reduce costs or improve efficiency.

   Example: Kesko Corp. discloses reorganization plans aimed at making business more efficient. These plans concern more than 17 000 employees.

Appendix 2. OLS-estimation, summary outputs

SUMMARY OUTPUT declining-demand subsample

Regression Statistics	
Multiple R	0.3437
R Square	0.1182
Adjusted R Square	-0.0422
Standard Error	0.0776
Observations	14

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.0089	0.0044	0.7369	0.5008
Residual	11	0.0662	0.0060		
Total	13	0.0750			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
CAR	0.0680	0.1534	0.4434	0.6660	-0.2696	0.4056
FSIZE	-0.0140	0.0176	-0.7948	0.4435	-0.0527	0.0247
LATER	0.0445	0.1494	0.2982	0.7711	-0.2842	0.3733

SUMMARY OUTPUT efficiency-enhancing subsample

Regression Statistics	
Multiple R	0.4504
R Square	0.2029
Adjusted R Square	0.0579
Standard Error	0.0303
Observations	14

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.0026	0.0013	1.3998	0.2873
Residual	11	0.0101	0.0009		
Total	13	0.0127			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
CAR	-0.0756	0.0500	-1.5106	0.1591	-0.1858	0.0346
FSIZE	0.0097	0.0059	1.6451	0.1282	-0.0033	0.0227
LATER	0.0579	0.0548	1.0566	0.3133	-0.0627	0.1785

SUMMARY OUTPUT declining-demand subsample (outliers excluded)

Regression Statistics	
Multiple R	0.3403
R Square	0.1158
Adjusted R Square	-0.0610
Standard Error	0.0377
Observations	13

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	0.0019	0.0009	0.6548	0.5404
Residual	10	0.0142	0.0014		
Total	12	0.0161			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
CAR	0.0127	0.0751	0.1690	0.8691	-0.1547	0.1801
FSIZE	-0.0045	0.0087	-0.5233	0.6122	-0.0239	0.0148
LATER	0.0399	0.0726	0.5493	0.5949	-0.1219	0.2017