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MARKET REACTION TO OPEN MARKET SHARE REPURCHASES WITH INTRA-INDUSTRY COMPARISON, EVIDENCE FROM FINLAND

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ABSTRACT

Purpose of this study is to examine how companies in Finland perform at the presence of share repurchase announcements. First purpose of the study was to investigate if Finnish companies experience any positive abnormal returns around the share repurchase announcement. Second research question was to examine if repurchasing companies experience negative abnormal returns prior the announcement, which would give support to the signalling hypothesis. In addition intra-industry comparison will be made in order to see if repurchase announcements have contagious or competitive effect on rival firms or whether the information in repurchase announcements is mainly firm-specific. Also it is investigated whether there are differences between different industries on how markets react to repurchase announcements.

Research was done for the companies which made a share repurchase announcement during years 1998 to 2005 in the Helsinki stock exchange. Study included 161 samples and 59 clean samples. Standard Event Study method was used when estimating abnormal returns and statistical significance was observed with the help of *t*-test. Event window ranged from twenty days before to ten days after the announcement. HEX-portfolio index was used as a benchmark when investigating abnormal returns for the announcing firms and for the reference portfolio of rival firms.

Results indicate that abnormal return for the five-day event window around the share repurchase announcement for the clean samples was 2.26 % and on day zero it was 1.30 %, with same time periods for all the samples results were 0.93 % and 0.62 % respectively. Also negative abnormal returns were observed ranging from twenty to six days prior the announcement which gives support for the signalling hypothesis. In the intra-industry comparison there were not observed any competitive effect for rival firms and evidence for contagious effect was quite weak as well so conclusion was that positive market reaction from share repurchases is mainly firm-specific. In addition, there were not observed any differences between different industries on the reactions to repurchase announcements.

KEYWORDS: Share repurchase, abnormal return, intra-industry comparison

1. INTRODUCTION

Purpose of this thesis is to shed some more light to the ongoing scientific conversation around share repurchases. This thesis brings new evidence from Finnish markets and gives some support to previous findings from Finnish markets as well. Thesis will be investigating how share prices are reacting to the share repurchase announcements, and also intra-industry comparison will be made.

Stock repurchases are still somewhat young phenomenon in Finland, because corporations have not been able to buy back their own shares not until the reform of Companies Act in 1997. Since then amount of repurchase programs have steadily increased and nowadays it is quite common that companies are applying for permissions to start repurchases from shareholders meeting. For example in the year 2005 two thirds of the big companies in Helsinki Stock Exchange applied authorization for share repurchases and those authorizations aggregated together for over 8.4 billion euros (Pohjola 2005). Though, in quite many cases companies don't even use authorization to repurchase shares even if they would have been granted to do so. For example in the year 2006 there were 40 repurchase authorizations in total and only one third of these authorizations were actually used. This indicates that companies tend to apply share repurchase authorizations for just in case they would want use that option.

From the beginning of 1990 stock repurchases have increased heavily all over the world. For example in the United States, corporations have repurchased more stocks than they have sold in past few years. Grullon and Michaely (2002) resulted in their study that expenditures on share repurchase programs (relative to total earnings) increased from 4.8 % to 50.1 % in the year 1998. These figures clearly illustrate how the popularity of share repurchases has increased over the years. What are the reasons then, why corporations have started to use share repurchases more and more? Answer is not that clear as there might be lot of reasons why companies are using repurchases as a way to share profits and those motives will be presented in chapter three with more detail. Especially in the United States taxation is something that have been recognized as on of the main reasons why companies might prefer share repurchases over dividend payments.

Companies' main purpose according to the general finance theory is to increase the value of their shareholders. Therefore when company is functioning profitably shareholders are eager to get part of that profit so that they would keep investing their money to that company in the future as well. Normal and commonly known method for profit sharing is naturally dividend payments, but since 1998 share repurchases have become another alternative for Finnish companies. Stock repurchases are basically just another way to share profits. Sometimes firm may think that better option is to buy back their own shares rather than for example raise dividends or make new investments. In theory if we ignore taxes and other imperfections stock holder's wealth stays the same whether company shares profits through dividends or by using stock repurchasing. Even though shareholder loses the possible extra dividend still consequence from repurchase is that stock's value and shareholder's voting right in the company increases. (Brealey & Myers 1991: 374-380.)

Repurchases is a very topical issue at the moment especially in Finland because more and more companies have started to use repurchases as an alternative way to share profits. Also the law regarding share repurchases changed recently. Finnish government proposed in the year 2005 that companies should be able to buy back 10 % of their shares outstanding instead of the former 5 % (Government proposal 109/2005). This Act was accepted in July 2006 at the same time as the whole Companies Act was renewed. This renewal is line with other EU countries where 10 % is considered as the standard amount how much companies can buy back its shares. Idea behind this Act was to keep Finland up to date with international standards and to keep Finnish companies competitive against foreign companies. For example to Nokia this is very important as large part of its owners are foreign based and therefore it's very important that it has the same opportunities for profit sharing as for example American companies have. Nokia recently announced that it's going to continue share repurchases as the board applied for authorization of buying back 380 million of its own shares, which is in total the maximum amount of 10% of the shares outstanding (Nokia 2007). In addition now that the imputation system of corporation tax has been removed, profit sharing through share repurchases is becoming more attractive opportunity for Finnish companies as well.

1.1 Research problems and hypotheses

The objective of this research is to examine whether companies experience abnormal returns at the presence of share buyback announcements. This thesis's research problem will be examined from two different angles and totally there will be three different research questions. At first it will be investigated how stock price behaves around the days surrounding stock repurchase announcements. Also it will be investigated whether share performance of companies making these announcement have been negative prior the announcement. In other words plan is to investigate whether the signalling or undervaluation hypothesis holds. Undervaluation hypothesis suggests that companies carry out stock repurchases to give signal to the markets that stock is undervalued at the moment. Also it will be examined how companies making buybacks perform compared to its' rivals. It will be interesting to see whether repurchase announcement have contagion or competitive effect on company's rivals. Finally comparison between companies from different industries will be made, in order to see if share repurchasing companies perform differently in different industries. This comparison between different industries will not be included as one of the research questions because do to the lack of data results wouldn't be reliable. Hypotheses for this study will be presented next among with the contributions they will bring to this are of research.

H1. Companies making share repurchases experience positive abnormal returns in the days surrounding the announcement.

Plan is to investigate if companies making share repurchases experience abnormal returns at the event window of two days before and two days after the repurchase announcement. Many studies which have investigated this problem previously such as Comment and Jarrell (1991), Ikenberry, Lakonishok and Vermaelen (1995), (2000), and Liano, Huang and Manakyan (2003) have discovered approximately three percent abnormal returns around the five-day event period around repurchase announcement. These results have been observed from the Canadian and the United States markets. On the other hand results from the Finnish markets have mainly studied how markets react around the days when the board announces of its repurchase authorization application. For example, Karhunen (2000) and Ihantola (2003) studied market reaction around the authorization application for share repurchases and they observed little less than three percent abnormal returns around the event period. So the contribution of this study

compared to earlier researches in Finland will come from the fact that the actual announcement day will be used as the event. Though Hyypiä (2005) and Karhunen (2002) researched in their study market reactions around the actual announcement day, but still their findings reached only to year 2002, while this thesis provides new results with improved data and three additional years.

H2. Companies experience negative abnormal returns prior to the repurchase announcement.

Point is to find out how share price behaves from 20 to 3 days before the repurchase announcement. Theory behind this hypothesis is that before the positive market reaction which comes from the repurchase announcement, share has had negative price performance. This means that managers try to time the repurchase announcement or the actual repurchase to a time when share price has had a negative price performance for a while. With repurchase announcement or with actual buybacks managers try to change the course of share price movement and also give signal to the markets that share price is undervalued at the moment. Studies made from the United States for example Stephens and Weisbach (1998) and Liano et.al. (2003) have observed statistically significant negative share price performance prior the repurchase announcement. From the Finnish markets Tomperi (2004) studied managerial timing ability for actual share repurchases in his dissertation. He used actual repurchases as an event and his founding indicated that managers are interested in supporting their share price during periods of major changes in market valuations. This thesis will use different approach than Tomperi (2004) by examining whether there are negative abnormal returns in the case of buyback announcement like it has been observed in the United States.

H3. Share repurchasing company's industry peers also experience positive abnormal returns in the days surrounding the repurchase announcement.

Third research question of this paper is similar as the first one, but it is done from a different angle. Interesting change to first hypothesis will be to study how companies' making share buyback announcements perform against their industry peers or how the generally observed positive market reaction for announcing firms affects its industry peers. This kind of research problem has not been studied that much internationally and

it has not been studied at all in the Finnish markets. So it'll bring some new contribution to the scientific conversation surrounding share buybacks. International studies for this intra-industry comparison have so far been a bit mixed. Main objective is to find out whether the repurchase announcement has a contagion or a competitive effect on rival firms' share price. Earlier studies on this matter are inconclusive as the results have been mixed. While some studies e.g. Erwin and Miller (1998) find that around the announcement of share buybacks competitive effect dominates rival firms, other studies like the one from Taiwan made by Chang Shao-Chi, Lai Jung-Ho and Yu Chen-Hsiang (2005) indicate that rival firms experience contagion effect. Also share repurchase announcement can contain mainly firm-specific information like Hertzel (1991) observed. Results from the Finnish markets on this matter will be unique and therefore interesting to examine. Object is to find out if there are any significant differences between stock repurchasing firms' performance compared to same industry's rivals.

Finally, a comparison between different industries will be made in order to see if there are any differences on how share repurchasing firms perform when compared industry by industry. There can be some industry specific factors and also there may be some regulatory differences between industries that may influence the way that repurchasing firms perform inside different industries. Liano et.al. (2003) argue in their research that inter-industry comparison of open market common stock repurchases is a relevant factor when investigated share buybacks. Justification for this argument is that each industry has a unique beta and hence unique cost of capital. Therefore the benefit of stock buybacks may vary from industry to industry. Management always has to compare the benefit of buying back shares to the cost of equity and as different industries have different betas therefore the cost of equity changes from industry to industry.

1.2 Earlier research

This area has been studied a lot especially in the United States where stock buybacks have been a common way to share profits for a long time. There have been several studies on how share prices perform around the announcement of buybacks. So far results have been consistent. These results have usually indicated that companies making share repurchases experience positive abnormal returns after the announcement of buybacks. Some studies have investigated how share prices react to actual buybacks but this thesis will focus on abnormal returns around the repurchase announcement.

Theo Vermaelen's publication from the year 1981 was one of the first studies that handled this area of research. He examined share price behaviour around share buyback announcements and came to conclusion that repurchase announcements are surrounded by positive abnormal returns. Ikenberry and Vermaelen (1996) examined the returns of open market share repurchases from US data with a time period of 1980-1990. Results indicated 3,42 % abnormal return around the announcement of share buybacks. It's consistent with Vermaelen's (1981) earlier research which indicated the same kind of results on the behalf of open market share repurchase announcement, time period being of course 10 years earlier. Liano, Huang & Manakyan (2003) noted in their studies approximately 3% excess return over the five-day event window. In this study event will be the day when company publicly informs that they are going to use shareholders meeting approval and actually start buying back their own shares. Though the market reactions for repurchase announcements have mainly been studied from the United States markets, still there are some international results as well. Studies from Asian markets support the positive market reaction what is observed around repurchase announcement in the United States as well. Chang et.al. (2005) findings from Taiwan, as well as Park and Jung (2005) findings from Korea are in line with the results observed from the United States.

Results from the Finnish markets have been somewhat similar compared to ones in the USA. Though studies concerning buybacks have been quite modest due to the short lifespan of share repurchases in Finland. Karhunen (2000) observed positive abnormal returns of 2.70% for the days surrounding the announcement, where authorization application was used as the event. Ihantola (2003) findings were almost identical as he observed 2.73% abnormal returns for time period of two days before and two days after the announcement. Hyypiä (2005) had data from years 1998 to 2002 and he found 1.79% cumulative abnormal returns for the five-day event window.

Results for the actual announcements with same five-day event window have been observed by Hyypiä (2005) and Karhunen (2002) with abnormal returns of 1.22% and 0.56% respectively, though both of those results were statistically weak. These previously observed statistically weak results for the five-day event window makes it interesting that both of these studies found statistically very strong abnormal returns of approximately 1% for the event day solely. This would indicate that market reaction from the actual announcement is very quick as positive market reaction is included to the share price on a same day.

Previous studies which have examined the signalling hypothesis have found proof that share price performance prior to the announcement day has been noticed to be negative. Comment et.al. (1991) suggested that signalling theory was one explanation for share repurchases and they also found empirical support for that. They examined this hypothesis for various forms of stock repurchases and results were similar for all each form and for fixed price offers results were the strongest in the case of negative price performance prior the announcement. Liano et.al. (2003) observed approximately -3% cumulative abnormal returns for twenty to three days before the announcement. Park et.al. (2005) findings from Korean market noted about 6% negative abnormal returns for two months before the announcement of share repurchases. Stephen et.al (1998) found evidence in the case of actual share repurchases that there is a negative correlation between actual share repurchase and share's preceding performance. Tomperi (2004) found similar results from the Finnish markets, which indicated that managers try to time the actual repurchases to a place when share is undervalued. This hypothesis is actually quite easy to study in Finland compared to how it is in the United States, because do to the strict legislation in Finland companies has to make a public announcement every time they'll make repurchases. Undervaluation hypothesis will be discussed with more detail in chapter 3.2.

Overall when company announces about increases in corporate payouts that usually means increases in share price performance. Whether it is question of raising dividends or making share repurchases, markets tend to interpret these events as a positive signal about company's earnings prospects. Depending upon the reason for company's improved earnings prospects, corporate payouts may affect the valuation of competing firms in the same industry. For example firm's enhanced earnings potential may reflect positive signal for the whole industry and therefore positive announcement effect is contagious within an industry. On the other hand if company's announcements reflect improvement in its competitive position compared to its rivals, then the payout announcement could have negative effect on rival firms (i.e. competitive effect). Also payout announcements may reflect only company-specific information and therefore it has no effect on rival firms.

Chang et.al. (2005) brings some contribution to this area of research from international markets, as they studied the intra-industry effect of share repurchase announcements from Taiwan. They suggested that the environment in Taiwan's market is unique in a way that buybacks are primarily motivated by market undervaluation. Their findings

from Taiwan markets were that both the announcing and rival firms experience significant market undervaluation before the announcements of share repurchases. They also found that both of these groups received significant wealth gains upon the repurchase announcements, which indicates that contagion effect dominates the competitive effect.

Hertzel (1991) studied how share repurchase announcements of tender offers affected rival firms share prices. He found no strong evidence for contagious or competitive effect. Though over longer intervals surrounding the announcement period he found some weak evidence for negative rival stock price performance, but overall his conclusions were that the information in share repurchase announcements is mainly firm-specific.

Erwin et.al. (1998) found in their study that open market share repurchases had competitive effect on rival firms. While share repurchasing firms experienced statistically significant positive stock price reaction of 3.35 % percent, rival firms in the same industry was associated with -0.25 % significant negative stock price reaction. Results indicated that good news for repurchasing firms was at the expense of its rivals. They also noticed in their study that even though most of the share repurchasing firm's rivals was associated with competitive effect. Still in quite many industries contagion effect was observed. Their findings suggested that whether rival firms experience competitive or contagious effect was depended on the industry characteristics. For instance, industries with low level of competition and cash-flow characteristics differing substantially from those of the repurchasing firms experienced significant competitive effect of -0.42 percent. On the other hand in the industries where competition level was high and cash-flow characteristics quite similar to those of the repurchasing firms experienced a small contagion effect of 0.09 %.

Liano et.al. (2003) short-term results were similar with Ikenberry et.al (1996) as companies experienced positive abnormal returns of approximately 3 percent around repurchase announcements. When comparing how buybacks making companies performed in different industries they found significant differences. For example In the five-day event window construction & contracting companies experienced 6.2 % abnormal return as food companies experienced only 1.3 % positive abnormal return. Their findings also indicated that in the long run share repurchasing companies did not outperform their rivals, though there were also significant differences how repurchasing companies performed against their industry peers. This would indicate that industry

affiliation is important factor when analysing stock buybacks.

Even though the effects of share repurchases have been studied a lot, still the effect what repurchases have on rival firms have not been researched that much. Similar studies have been done where area of interest have been how some new information for example raise of dividends affects its industry rivals. Especially in Finland due to the short history what share repurchases have, intra-industry comparison has not been researched at all and therefore it will be interesting to see the results.

1.3 Structure of the study

Master's thesis started with an introduction to stock repurchases, where the history and the presence state of repurchases was presented. Next the research questions of this thesis were presented as well as the results from earlier researches. Second chapter focuses on the institutional characteristics of the Finnish markets. Law and regulations regarding share repurchases will be presented and one subchapter will explain issues around market efficiency as well. Also important issues from companies' payout policies in general will be discussed. Third chapter gives a general view on the factors which may have influence why corporations begin share repurchase programs. Previous studies have concluded many different motives which drives companies to start repurchases and the most common reasons will be introduced. Fourth chapter begins with a description of data. Clarification will be given about the reasons why this data was chosen and what were the reasons why some samples were cut off from the data. Event study will be used as the research method and it will be presented with more detail in chapter four. In chapter five the empirical results will be presented and interpreted, in order to see whether the hypothesis proposed in the first chapter holds or not. Final chapter will consists of conclusions about the whole thesis and further recommendations will be presented as well.

2. ISSUES RELATED TO PAYOUT POLICY AND CHARACTERISTICS OF FINNISH MARKETS

Every company's aim is to make profitable business. After profit has been made company have to make decisions how to share its' profits to shareholders. Shareholders who have invested money to company will want to get some compensation for their investment in order to be willing to invest their money to that specific company in the future as well. Therefore management have to figure out the best possible way to share company's profits back to its shareholders. There are many things which management has to think about when deciding what to do with company's profits. Simply one could say that companies' choices are basically narrowed to two options: dividend payments and share repurchases. Third option would be to allocate excess cash to some profitable investment that company has in mind. Reasons why companies decide to use certain form of profit sharing will be discussed next.

2.1 Payout policy

This payout policy dilemma has pondered researchers for many decades now. Besides the numerous studies investigating companies' payout policy, still there doesn't exist any standard reasons why management makes certain decisions regarding payout policy. All the way to the mid 1980's dividends were by far the most popular method to share profits. Nowadays share repurchases and dividends are almost equal ways to share profits, especially in the United States. Finnish markets posses so short history on share repurchases that in Finland dividends are considered to be still the most important way to share profits. Nowadays question is basically whether to use dividends or repurchases for profit sharing and how large proportion of the profits should be paid back to shareholders. There are basically three different groups with each possessing slightly different point of view on how payout policy affects share price. One group of researchers believe that by raising dividends it will follow with an increase in firm value. Another point of view is that higher dividend payout actually reduces the value of a company. Final group follows up the famous study by Miller & Modigliani (1961) which indicates that in a world with no transaction costs, taxes or other market imperfections dividend policy (i.e. payout policy) doesn't affect firm's value.

Payout policy is one of the most important decisions that companies make not only

because of the amount of money involved and the long term effects these decisions might have but also because it is closely related to most of the financial decisions that companies make. Management and the board of directors have to make decisions on the level of dividend payments, amount of shares to be repurchased, investments in real assets, mergers and acquisitions, and debt issuance. All of these decisions have an effect to each other, because theories from capital structure, mergers and acquisitions, asset pricing, and capital budgeting all are dependent on the view how and why firms pay out cash. These six empirical observations play an important role in the discussions of payout policies. (Allen & Michaely 2002.)

1. Large, established corporations typically pay out a significant percentage of their earnings in the form of dividends and repurchases.

2. Historically, dividends have been the predominant form of payout. Share repurchases were relatively unimportant until the mid 1980's, but since then have become an important form of payment.

3. Among firms traded on organized exchanges in the U.S., the proportion of dividend-paying firms has been steadily declining. Since the beginning of the 1980's, most firms have initiated their cash payment to shareholders in the form of repurchases rather than dividends.

4. Individuals in high tax brackets receive large amounts in cash dividends and pay substantial amounts of taxes on these dividends.

5. Corporations smooth dividends relative to earnings. Repurchases are more volatile than dividends.

6. The market reacts positively to announcements of repurchase and dividend increases, and negatively to announcements of dividend decreases.

2.1.1. Role of dividends in payout policy

Lintner (1956) was one of the first researchers to address this problematic from dividend point of view solely and his research reviled few findings which influenced corporate management on how to do dividend payments. Firms tend to use dividend

payout ratios which are designated for a long run. Also mature and stable companies pay out high proportion of earnings compared to growth companies whose dividend payouts are very low and sometimes there weren't any dividend payments at all. Lintner's findings also suggested that managers goal is to keep dividends at the same level rather than changing dividend ratio on a yearly basis and if dividends are to be raised it is done steadily over time. Support for Lintner's (1956) results was provided by Brav, Graham, Campbell and Michaely (2004) as they interviewed 384 financial executives in order to determine the factors that drive dividend and share repurchase decisions. Interviews resulted that management are very reluctant to cut down dividend-levels and that dividends increases are tied to long-run sustainable earnings but not so much as in the past.

Markets usually react positively to dividend raises and dividend cut off results in a fall in price. But overall when it comes to the level of dividends, investors do not tend to care so much about that, what they do care about is the change of dividends and that is something that worries them. Unexpected changes in dividends might cause stock price to bounce back and forth as investors are wondering the significance of the change. (Brealy, Myers & Allen 2006: 420.)

Allen et.al. (2002) gave few suggestions based on their empirical studies, what companies might to think about when deciding on dividend policy. First, firms that have high degree of information asymmetry and large growth opportunities should avoid paying dividends. Meaning that times when company faces many good investment opportunities, reduction on dividends might become profitable in the long run. Second, when firms interact with bondholders, the use of dividends to extract wealth from bondholders should be avoided as in the long run results might be harmful to equity holders. Third, annually paid dividends would be more reasonable solution than quarterly paid dividends. Longer intervals between payments would allow investors that are interested in long-term capital gains to sell the stock before dividends are paid and therefore avoid the taxation of dividends payments. Also if someone is interested in dividend income, annually paid dividends would minimize their transaction costs. Finally company paying dividends would save administrative and mailing costs by choosing to pay dividends on a yearly basis.

Basically the amount of profit company makes defines how much it can share dividends and how high its share will be valued in the markets. Also when analyzing company's possibilities and future, one has to think about many different things. Common things

investor needs to think are the general situation in the world, overall situation in the industry where company is functioning as well as the company specific factors.

2.1.2. Role of share repurchase in payout policy

Jagannathan, Stephens and Weisbach (2000) investigated why some companies tend to use repurchases as a method for profit sharing and why some companies preferred dividends. They found out that dividends were paid by firms with high "permanent" operating cash flow while repurchases were used if company had higher "temporary", non-operating cash flow. Also share repurchasing firms had more volatile cash flows and distributions. This would support Lintner's (1956) findings that companies want to keep their dividends at the same level. As companies are willing to keep the dividend level constant, the residual cash flow after investments are therefore used for share repurchases. Nowadays repurchases are also favoured by management because they are viewed being more flexible than dividends and repurchases can also be timed to a place what is the most suitable for the company.

Share repurchase differ from dividend payments in a way that former is often considered as a one-off event. Meaning that companies making share repurchase announcements are not making a long-term commitment to earn and distribute more cash. Therefore the information in share repurchase announcements and the information in a dividend payment is slightly different. Companies buy back their shares usually because they have accumulated more cash than they can profitably invest or when they wish to increase their debt levels. Neither of this news contains anything special to shareholders itself but usually investors are relieved to hear that companies are paying out the excess cash rather than spending it on unprofitable investments. (Brealy et.al. 2006: 420.)

Allen et.al. (2002) suggested in their study that companies should follow the example of the last decade and use repurchases more often than they have been doing so far. Their conclusion also was that investment and repurchase policies should be coordinated to avoid the transaction costs of financing. In addition whenever positive NPV (net present value) investments are available repurchases should be avoided and on the contrary when positive NPV investment opportunities do not exist unneeded cash should be paid out by repurchasing shares.

2.1.3. Choice between dividends and repurchases

If the choice between repurchases and dividend payments is related to the amount that can be distributed then there are basically three different categories. The smallest distribution is usually done via dividends alone, while tender offer premiums will dominate for very large distributions. Finally if distributed profit is in an intermediate level then open market share repurchases are favoured. Shareholders with sufficiently low ownership on holdings and whose tax rate on dividends is not too high will prefer dividends, whereas those with sufficiently high ownership will prefer repurchases. (Brennan & Thakor 1990.)

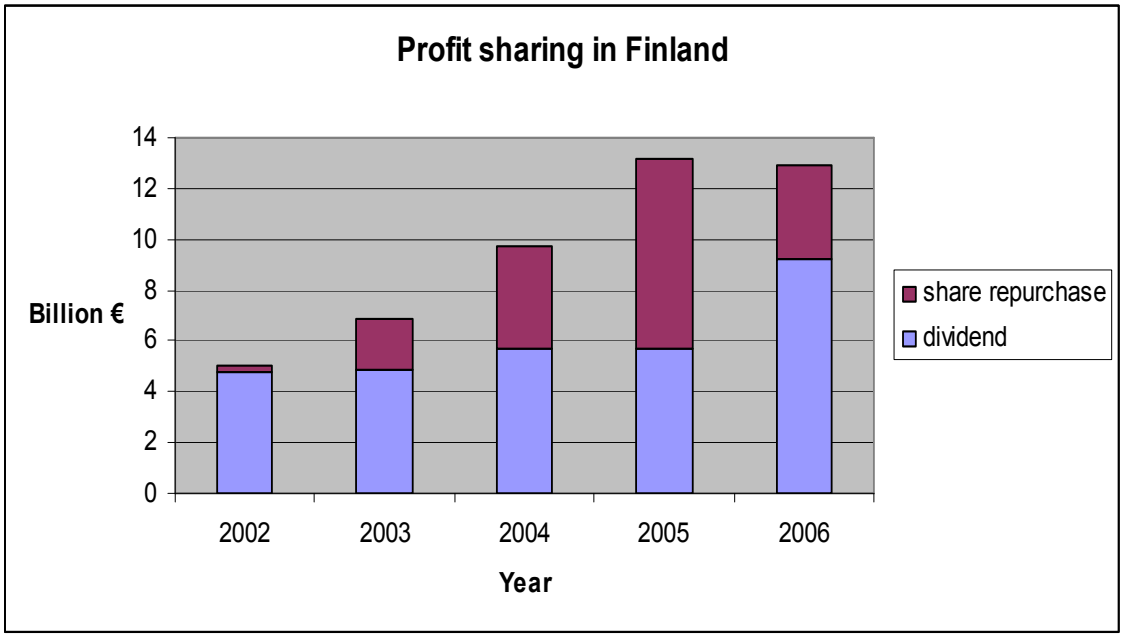
In practice companies just have to think about what decision in payout policy will increase shareholder's value at the most. There are many variables which managers need to think about before making decisions on payout policy. For example structure of the shareholders is something that needs to be taken into consideration. In Finland Liljeblom & Pasternack (2002) found out in their research that foreign ownership was a relevant factor why Finnish companies did share repurchases, and that was because dividends and capital gains are taxed differently in different countries. There might be many other reasons why companies make repurchases and those motives will be addressed later on in chapter 3. Overall dividends are considered to be more stable and it is preferred to keep the payout ratio at the same level throughout time. At the same time share repurchases are considered to be more unstable in a way that shareholders do not expect repurchases to happen in a same stable manner as dividend payments. Factors that affect payout decisions depend on the characteristics of the company in hand as well as the characteristics of the shareholders.

Table 1 illustrates what has been the relation between share repurchases and dividends for the main list companies in Helsinki Stock Exchange through years 2002 to 2006. It shows how the amount of dividends have increased steadily and also how suddenly amount of share repurchases decreased between the years 2005 to 2006. Sudden drop of repurchases is considered to be quite strange because generally it is thought that the increased taxation for dividends would result as an increase in share repurchase programs. One explanation could be that markets did generally quite well in the year 2006 as Helsinki OMX Capped –index rose up approximately one quarter and therefore companies weren't that eager to buy back its own shares (Taloussanomat 2007: 24.)

Overall the trend in Finland has been that companies have favoured dividend payments

over repurchases. In the past this was the case mainly because the imputation system of corporate tax meant that Finnish shareholders did not have to pay any taxes from dividends, and nowadays the effective taxation is still lower for dividends as it is for capital gains. So therefore dividends are more preferred way to share profits, especially if majority of shareholders are Finnish.

Table 1. Relation between dividend payments and share repurchases in Finland. (Taloussanomat 2007: 24).



2.2 Market efficiency

Market efficiency is one of the key assumptions to recognize when examining market behaviour. According to market efficiency share prices reflect the information which is available for every market participant and investor (Bodie, Kane & Marcus 2002:342). Therefore market efficiency could be described as information efficiency as well. Markets is said to be efficient when the change of a share price is quick and correct whenever some new information arises. This is an area of interest which has been studied a lot. Studies have examined how fast and how well the new information is actually reflected into share prices. Efficient market hypothesis contains three main assumptions:

1. Markets have large amount of independent participants who are concerned with the analysis and valuation of securities and their main goal is to maximize their profit.

2. New information about securities arrives in a random fashion.

3. When new information comes along, it is rapidly reflected into the share prices. While the price adjustments are not always perfect still it happens in an unbiased way. (Buckley 1986:90.)

Classically market efficiency has been divided into three different categories: weak form of efficiency, semi-strong form of efficiency and strong form of efficiency. Differences between these form of efficiencies is defined how well they reflect the available information. At the weak form of efficiency share prices reflect all the information what is in the past. If markets are efficient in the weak sense, then it is impossible to make consistently superior profits by studying past returns. When markets are associated with semi-strong form of efficiency then prices will reflect addition to past prices also all the information what is publicly available. Prices will also adjust immediately to public information such as a new issue of stock, earnings announcement and so on. At the level of strong form of efficiency besides the publicly available information also the private information is contained into share prices. At this form of efficiency there wouldn't be any investment managers who could consistently beat the markets. (Brealy, Myers & Allen 2006: 337.)

2.3 Legal and tax issues around share repurchases

One thing that affects corporate payout decisions is of course the environment and the legislative surroundings it has to operate in. One good example is for instance taxation. Management have to take into consideration how different payout methods affect shareholders' taxation. Some investors might prefer capital gains over dividends because of the different tax treatment that these forms of profit sharing have. Before Finnish markets used to differ a lot from the ones in the USA for example, but nowadays legislative characteristics are a bit more close to each other. Nevertheless there are still some characteristic differences that need to be presented in order to better understand reasons behind repurchases in Finland.

Most of the studies concerning share repurchases are done in the United States. Because

of the different nature of these two markets it's necessary to present how Finnish markets are influenced by taxation and legislation. There have been and there still are few special characteristics in the Finnish markets that need to be point out. Before the beginning of the year 2005 biggest difference between Finnish markets and most of the other markets in the world was the imputation system of corporation tax. It prevented the double taxation of dividends as shareholders did not have to pay any tax for the dividends they received. This system was removed mainly because other countries in EU did not have this kind of system and therefore authorities wanted to bring Finnish legislation closer to EU standards. Now that it has been removed, Finnish markets are more similar with the ones in Europe and the United States. Other major difference between Finland and EU has been the percentage of shares companies can buy back from the markets. Before July 2006 Finnish companies were restricted to buy back only 5 % of the shares outstanding, but because of the renewal of Companies Act (21.7.2006/624) the amount of buybacks allowed has changed. This change is more in line with EU standards as companies can now buyback 10 % of its own shares outstanding compared to the 5 % it was before. As Companies Act was renewed recently it also brought some other changes to share repurchases as well. Next the legislation and taxation concerning share repurchases will be presented as it is in its' new form. Because this thesis' empirical part uses data before recent renewal of Companies Act, significant changes between old and new Act will be presented as well.

2.3.1 Legislation about share repurchases

Buying back shares is just another way for companies to share profits. Most of the legislation surrounding share repurchases comes from Companies Act, Securities Act and the rules and regulations of OMX. Legislation around share buybacks is pretty strict in Finland compared to one in the USA. In Finland companies have to make a public announcement about pretty much everything concerning share repurchases. Starting from the beginning when companies make the authorization application to the time when actual repurchases occur, all these events need to be publicly announced. For example actual share repurchases have to be publicly announced and this is opposite to the practice in the United States. That partially makes it difficult to investigate how markets react to actual buybacks in the USA and therefore there are not that many studies in the USA that would focus on the abnormal reactions around the actual share buybacks.

Before companies can start their share repurchase programs they need to get an authorization. First board makes a proposal to the shareholders' meeting that company should start buying back its own shares. This application has to be publicly announced and usually it's done at the same time as board's other proposals for shareholders' meeting. Board's proposal and shareholders' decision about buybacks have to include certain issues:

1. Amount of shares intended to be repurchased in a sub-share level.
2. From where and from whom shares are to be repurchased, and also in which order shares are to be repurchased.
3. Time period when repurchases can be made.
4. Compensation given for shares repurchased or how the compensation is evaluated.
5. How this procedure affects company's capital. (Companies Act 15:7§.)

When 2/3 of the stakeholders have accepted board's proposal, then company is able to use the authorization whenever they wish, though it has to be used within 18 months from the initiation of the program, this rule has changed a bit as before repurchases were valid for 12 months. This legislative feature differs from the one in the USA as there is no 'deadline' when announced repurchases have to be made. Stephens and Weisbach (1998) points out in their study that it is not unusual for U.S. companies that repurchase programs go on for several years. The public announcement for using shareholders' authorization has to be made one week before actual acquisitions start. This makes sure that company cannot make repurchases just from certain shareholders. Share buybacks also have to be made in a way that company does not try to affect share's performance too much. This means that company can only repurchase certain amount of shares each day. That amount is restricted to 50% of the average daily trades made in past four weeks before the actual repurchase. (Companies Act 21.7.2006/624).

In addition to Companies Act, OMX has its own rules and regulations regarding share repurchases. Share repurchases must be carried out in a way that actual buybacks aren't too large compared to the general level to what share is usually traded. The public notices which have to be made from actual repurchase must also contain certain

features: (OMX 2007.)

- Name of the company
- Date of repurchase
- Share's gender, for example is it A- or B-share
- Number of shares
- Unit price, usually average price, the highest and lowest price needs to be announced
- Total price
- Date of the announcement
- Signature

Possibility for insider trading is also something that has to be taken into consideration in the share repurchase process. General laws concerning insider trading applies to share repurchases as well. Meaning that person or company is breaking the law if it takes advantage of the insider information in order to achieve financial benefit to itself or to somebody else. To avoid situations where company could be interpreted taking advantage of the insider information illegally it's good to follow certain principles when carrying out share repurchases. It is recommended that repurchases won't be executed in 14 days preceding any financial statements. All the necessary information from repurchases are documented and sent to all the necessary authorities. If changes are made to original repurchase mandate then it should be handled as a new repurchase mandate and it should follow same procedure as repurchases do in the beginning of their issuance. (OMX-Group 2007.)

2.3.2 Tax issues around share buybacks

Taxation for capital gains and dividends changed quite much at the beginning of year 2005. Biggest change was the removal of imputation system of corporation tax like it was mentioned earlier. Law has changed in a way that nowadays tax rate for capital gains is 28 % and for corporate tax it is 26%. Though dividends received from publicly listed company are partially still tax-free. 30% of the dividends what shareholders

receive are tax-free and the rest of the 70% are taxed with 28% tax rate (Valli 2004). This means that company's shared profit is double taxed as first company has to pay 26% tax for its profits and after that shareholder still pays tax for his capital gains. Overall taxation in Finland is harder for capital gains than what it is for dividends, as the effective taxation is 28% and 19,6% respectively.

Specific issue surrounding taxation of share repurchases comes from drawing the line between share repurchase and hidden distribution of dividends. VML 18.12.1995/1558 is a law about taxation in Finland and according to that if share repurchases are made in order to avoid taxation of dividends then those shared profits must be taxed at a same way as normal dividend payments would be. Due to the strict legislation around share repurchases, in Finland hidden distribution of dividends via buybacks is quite hard to make.

One change that was made in Finnish legislation could also have some affect how popular repurchases will become in the future. According to the new deal made between Finland and the United States dividends received by American pension companies will no longer be taxed with 15% source tax. Affects of this change can be seen for example in Nokia, which increased the amount of dividends from last year and applied repurchase authorizations for smaller amounts. (Taloussanomat 2007: 24.)

3. SHARE REPURCHASES IN PRACTICE AND MOTIVES BEHIND IT

As it was mentioned earlier if we ignore taxation and transaction costs it is irrelevant to shareholder whether excess cash is allocated to him via dividends or via share repurchases. For example if company's value is 100 euros and it has 10 shares. First, in the case of dividend payments, if company's dividend payments are in total 10 euros, that means 1 euro dividend payment for each share. This means that after dividend payments, company's value diminishes to 90 euros, shareholder receives 1 euro worth of dividends and he is holding a share worth of 9 euros, which is in total of 10 euros. Second, in the case of share repurchases, company buys back its' own shares worth of ten euros which means that company can buy back one share. Again value of the company diminishes to 90 but now share price still remains as ten euros because shares outstanding have reduced to nine. This results that shareholder wealth stays the same in both of these cases, and this example is illustrated in table 2. (Brealy et.al. 2003: 442-446.)

Table 2. Example of the theoretical irrelevance between dividends and repurchases.

	Dividend Payment		**Share Repurchase**
Company's Value	100 €	Company's Value	100 €
number of shares	10	number of shares	10
Value of a share	10€/share	Value of a share	10€/share
Shareholder's wealth	**10 €**	**Shareholder's wealth**	**10 €**
Dividend payments	10 €	Share repurchase	10 €
Company's Value	**100 €**	**Company's Value**	**100 €**
	-10 €		**-10 €**
	90 €		**90 €**
number of shares	10	number of shares	9
Value of a share	9€/share	Value of a share	10 €
Cash	1 €		
Shareholder's wealth	**10 €**	**Shareholder's wealth**	**10 €**

In the real world it is not that simple and there can be many factors which management have to take into consideration before deciding which way to share company's profits. Good example for instance is taxation, because taxation for dividends and taxation for capital gains can be different. Therefore management motives for repurchases can

sometimes be avoiding taxation.

As all the decisions that management makes are all aimed that share price would increase and that the value of the company would rise. Share repurchases final motive is of course the one mentioned earlier. But if you look at more specifically what the motives are behind repurchases then you'll find that there are lot of different motives what drives management to share profits through share repurchases. Those motives will be examined more closely at the chapters ahead. Lot of studies, which mostly comes from the United States, are focused on the reasons why companies make share repurchases. The main motives, which always arise in scientific discussions, are signalling hypothesis, taxation, EPS enhancement, employees' stock options etc. These motives will be presented in theory and also one of the research questions of this thesis is to examine empirically how the signalling or undervaluation hypothesis holds in the Finnish markets.

Picture one describes announced motives behind share repurchase in Finland from years 1998 to 2001 (Karhunen 2002: 24). Acquisition was mentioned as the number one reason why companies' start repurchases. Idea behind that is to use corporation's own shares as a medium of exchange when making acquisitions. Management often justify this procedure by saying that it's a handy way to make acquisitions as companies don't have to issue more shares if possible merger comes into reality.

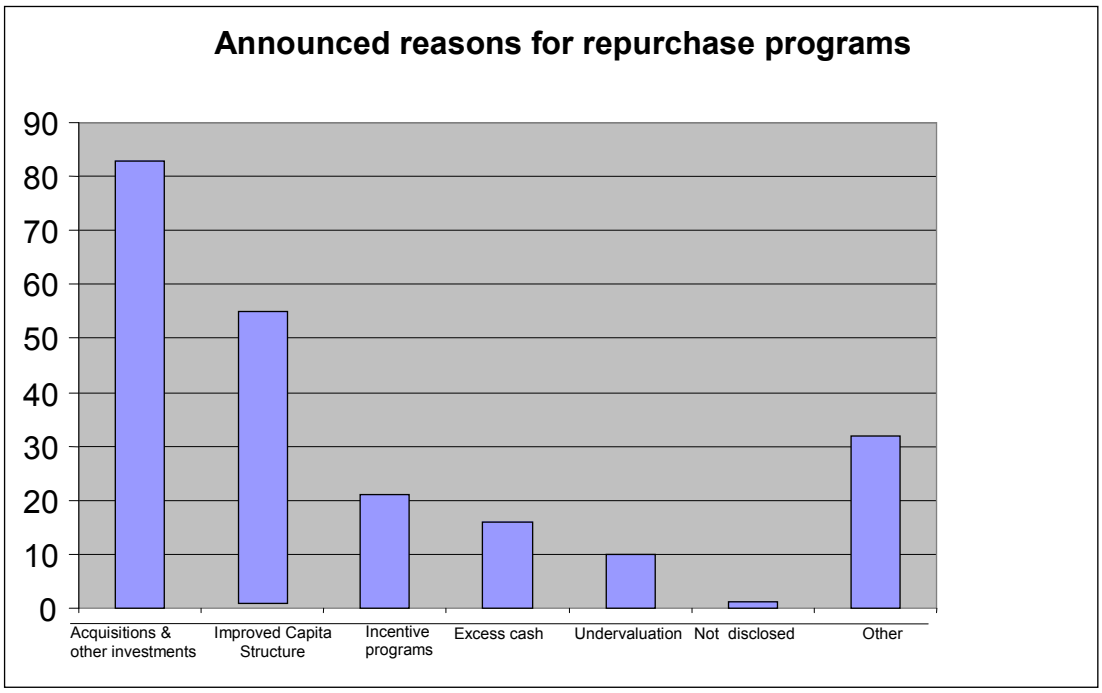


Figure 1. Announced reasons for repurchase programs. (Karhunen 2002: 24).

In the United States emphasis around the motives for share repurchases are a bit different compared to the ones in Finland. This is because repurchases have been only a while a common way of sharing profits here in Finland and also the taxation for buying back shares has been different throughout the time in these two countries. In the United States you don't have to announce any reasons for buybacks and therefore there is not same kind of statistics about the reasons as there are in Finland. In the scientific literature which is found from the United States there is often mentioned that enhancing the capital structure would be the most common reason for share repurchases. Also many companies mention they will use share repurchases for covering employee's stock options. However undervaluation of current share price and excess cash was not mentioned so often as a reason for share buybacks. (Wansley, Lane & Sarkar 1990).

3.1 Practical methods for share repurchases

Open market share repurchases are by far the most popular method to execute share repurchases and this research will investigate the effects of open market share repurchases. Still there are few other ways company can buy back its shares from the markets and it is necessary to present these other methods as well. There are basically three different ways to carry out repurchases, which are open market share repurchases,

tender offers, and private negotiations. In open market share repurchases companies' buy back its own shares directly from stock exchanges. In Finland this is practically the only way share repurchases are made and also in the United States this method is by far the most common way to execute buybacks.

For tender offers there are two different formations: fixed price tender offer and Dutch auction. In fixed price tender offers company commits itself for buying back stocks from shareholders to a fixed price for a certain period of time. Price of the share that companies are willing to repurchase in these fixed tender offers is usually a bit above the price that shares have on the markets. This is usually a very 'fair' offer for shareholders and therefore the probability that company is able to buy back its shares increases. Another formation of tender offer is Dutch Auction. It differs from fixed price tender offer in a way that the price what company is willing to pay for its shares is not fixed but instead it is set between a certain range of share prices. This gives companies possibilities and it removes the risk that company would pay more than the price that shareholders are willing to sell. (Stern & Chew 1998: 132–136). Advantage of this method is also that it reduces the number of shareholders who are willing to sell their share for too small price and therefore the price for possible takeover rises. Usage of the Dutch Auction method has increased in recent times.

Third choice for management to execute repurchases is private negotiations. This is usually done so that offer for share buybacks is made to certain group or to certain shareholder who owns considerable amount of company's shares. For example if some investment group has acquired itself large amount of company's shares in order to eventually get the majority of shares for the company. In this kind of situation company can make an offer of its shares to this investment group who tries to make a takeover and through this get rid off the takeover attempt. This kind of takeover attempt is called greenmail, in that kind of situation firm has to make extremely fair offer so that it could acquire back its own shares. After share repurchases have been done in any of these three cases mentioned, then company is left with the decision what to do with the shares acquired. Options are to annul those shares or keep them in the treasury for possible reissuing. Quite often latter option is the most common and reasonable solution. (Brealey ym. 1991: 374.)

3.2 Undervaluation hypothesis

Theoretically very common reason for share buybacks is that stock price at the moment is undervalued. Idea behind this theory is that management starts buying back its own shares when they feel that stock is being undervalued. Through buybacks management wants to give a signal to the markets that share price is undervalued at the moment and therefore a good investment. Management believes that share price is not at the level as it should be and therefore company itself wants to investment to its' own shares. It is observed in a questionnaire made to corporate executives that companies indeed wants to give positive signal to the markets about company's share price. (Wansley, Lane & Sarkar 1990).

Undervaluation hypothesis is also based on an assumption that information asymmetry between insiders and shareholders may cause the share price to be undervalued. As repurchases are executed markets tend to interpret this information as a positive signal. Logic behind this is that the insiders have more information than normal shareholders and if insiders think that buying back its own share is a better use of profits rather than for example new investment then the stock must be undervalued. (Dittmar 2000: 334; Lee, Mikkelson & Partch 1992.)

In the USA there has been observed negative correlation between the stock prices before and after share repurchase announcement. These results implicate that as share price decreases below a certain level then management knows that now stock price is undervalued and therefore a good investment. (Stephens ja Weisbach 1998). Liano et al. (2003) also found support for this undervaluation hypothesis in short-term. When examined this hypothesis with a long period of time they did not find any support for the signalling hypothesis. Their findings were consistent with Ikenberry et al. (1995,2000). Same kinds of results have been observed in Finland as well. If a Finnish company has stated undervaluation as a reason for buybacks then the stock price has had negative price performance before share repurchase announcement. (Karhunen 2002).

3.3 Taxation

There are few differences between Finland and the United States when it comes to corporate and capital taxation. Biggest difference has been the imputation system of

corporate tax. Before year 2005 Finnish shareholders didn't have to pay any tax for the dividends they received from the company. Companies paid tax from the winnings they made and the dividends what companies paid to share holders were tax-free. This was because in this imputation system government compensated the tax what otherwise shareholder would have had to pay. Naturally after this old system was removed there have not yet been any researches if this dividend taxation has had any effects on companies' intentions to buyback their own shares. Also it's good to remember that researches of Finnish share repurchase programs have been done at the time when imputation system still existed.

One common reason especially in the United States that leads to these share buybacks is the different tax treatment that dividends and capital gains have. In the United States taxation for dividends is bigger than what tax treatment for profits you get from selling a share is. One could think that why not then transfer all the winnings to shareholders by share buybacks? Reason why companies don't make all of its profit distribution via buybacks is that local authority monitors that dividend payments won't be disguised to share buybacks. If companies' repurchase programs are out of proportion or those happens regularly then Internal Revenue Service can decide to use same taxation for sales profits and dividends. Due to this monitoring companies don't announce avoiding taxation as an official reason for buybacks. For official reason company may say that share is a good investment at the moment or that they want to buy back shares in case of possible acquisitions. (Brealy & Myers 2004: 440-441.)

Rau & Vermaelen (2002) investigated share repurchases in the United Kingdom and especially whether taxation had an effect on the start for repurchase programs. They found out that tax system is an important determinant in the choice of payout mechanism. Every time tax system changed so that repurchases wasn't that attempting from tax perspective, the amount of repurchase programs diminished. Also their study concluded that the tax treatment of important investors, such as pension funds, determines the payout policy.

Naturally situation in Finland has been opposite to one in the USA. In Finland taxation for dividends has been smaller than taxation for the profits of selling a stock have been, as dividend taxation has not existed. Therefore avoiding taxation has not been a reason for share repurchases in Finland, unless foreign investors are the vast majority of company's owners. Foreign ownership is an effective reason why companies start share buyback programs in Finland and it has been observed that it's the most important

individual reason what differs the companies who does repurchases and who doesn't. It will be interesting to follow how the situation will develop in the future due to the changes in taxation. Even though taxation for dividends has tightened in Finland still Finnish shareholder doesn't benefit from share repurchases in the sense of smaller taxation as the taxation for capital gains remains higher than dividend taxation. (Karhunen 2002; Liljeblom & Pasternack 2002; Kulmala 2005.)

3.4 Earnings per share enhancement

When company buys back its own shares from the markets, number of shares outstanding diminishes and in an addition relatively earnings per share increases. This is considered to be one motivation why company would want to start repurchase programs. This is not usually said to be the main motivation in repurchases but in some cases purpose to increase EPS-figure might explain the start of share repurchases.

Reasons why companies would want to influence the EPS-figure can be numerous. One reason might be that compensation structure for executives provides incentives to manage earnings and EPS. If executives' bonuses are tied to the EPS-figure then management would want to increase earnings per share and that could be done via buybacks. Another reason is that EPS-figure is considered to be a key statistic when evaluating company's performance and valuation. EPS can be quite important to many different groups such as investors, financial advisors and managers. Firms tend to care about what their EPS-figure look like when compared to last year's benchmark, because usually it is considered as a bad signal if earnings per share decrease from last year. Also analysts' expectations for EPS might be something that management are trying to aim at when doing repurchases. (Weisbenner 2002.)

Hribar, Jenkins and Johnson (2006) investigated in their study whether companies use share repurchases in order to achieve the targeted EPS-figures. They found evidence that disproportionately large number of firms have EPS increasing repurchases when they would have marginally missed analyst forecasts without repurchases and disproportionately small number of firms have EPS decreasing repurchases when they were close to analyst forecasts. Another finding from their study was that companies who "beat or meet" analysts' earnings forecasts as a consequence from repurchases experience approximately 60% less valuation premium for doing so when compared to companies who met or over achieved analysts' forecasts without a repurchase. This

indicated that markets tend to see when EPS-figures are manipulated by share repurchases.

3.5 Employee stock options

Lately stock option programs have received lot of publicity in Finland. Reason for this is big corporations' incentives programs, which have given executives noticeable rewards through options. For example Fortum Corporation's Chief Executive Officer Mikael Lilius received huge profits from his option programs and his rewards were vastly discussed in the Finnish news papers, most people thoughts were that the amount of money he received from these option programs were just too much. These managements' option programs may be one reason why companies decide to begin share repurchases. As company's executives posses large amounts of options to company's shares and when it's quite likely that they'll use their options. Then company can prepare in advance for this situation by buying back shares. This is good in a sense that if and when companies' executives decide to use their options company do not have a need for issuing new shares.

One reason why share buybacks have increased massively in the 1990's is increased amount of executives' and other employees' stock option programs. It has been noticed that option programs is a good way to reward management and employees for a job well done and also at the same time options work as a good incentive for employees to work harder. It has been noticed in the United States that when corporations' have stock option programs for their management then it's usually quite likely that repurchase programs will be issued. First of all buying back own shares increases share price and at the same time management's wealth increases as well, because their option programs value goes up through increased share prices. Unlike if company would share its profits in the form of dividends, because most of the option programs in the United States are not dividend protected. (Kahle 2002.)

If company's employees have large amount of option programs and those are to be executed then consequence may be dilution of EPS-figure. This happens if large amounts of shares have to be issued because of the option programs. Moreover this means that earnings per share diminishes and because EPS is a very important indicator to investors companies are eager to prevent EPS from weakening. If option programs are directed only to a few people e.g. top management then it has different kind of effect

on the start of option programs rather than if option programs include larger part of employees. (Weisbenner 2002; Kahle 2002.)

Most of the corporations in the United States do not use dividend protection in their option programs, therefore management might be tempted to make share repurchases instead of paying dividends. Via repurchases management could add the value of their option programs as share price rises. Dividend protection in option programs means that paid dividends are connected to option programs and thus risk that management would try to affect share price at the cost of dividends is removed. For example in the United States it is noticed that management option-programs and company's practice to raise dividends has negative correlation (Brown, Liam & Weisbenner 2004). This is in line with the hypothesis that management personal motives due have some affect to decisions to start repurchases. In Finland it is noticed that dividend protected option programs have positive affect on the practice how companies pay dividends and on the contrary non-protected option programs has negative affect to dividend payments. Result is that by using dividend-protection in option programs companies can prevent situation where management motive to maximize their own wealth would affect repurchase decisions. (Liljeblom & Pasternack 2002: 17–18.)

3.6 Optimal capital structure

In the scientific literature change of a capital structure is something that might have affect why companies' start share repurchase programs. Basically it means that company reduces its equity and increases its leverage ratio. Company may have a certain leverage ratio that it's aiming at and one way to achieve this specific leverage ratio is to buy back own shares. Benefits to companies for changing leverage and increasing debt comes from the fact that interest payments on debt are tax deductible. This means that the after-tax cost of debt is well below the shareholders' expected return on equity and therefore it reduces company's average cost of capital. Debt finance is handy only in situations where there are taxable profits that deduction of interests can be used for and that debt financing will not bring too much risk for the company. It is quite likely that company starts repurchase programs if its leverage ratio is not at the level it wishes it to be. It was examined in the United States that if companies had net leverage ratio lower than what it is targeted then companies' tend to use share repurchases in order to increase leverage. This means that firms' capital structure has affect on its decisions to start repurchases. (Dittmar 2000: 335.)

Survey evidence from the United States made by Wansley, Lane and Sarkar (1990) illustrated, that firms often (55%) state "improving capital structure as a motive for repurchases. Same kind of results has been observed from the Finnish markets as well and this can be seen from figure 1. It shows that 54 % of the stated reasons for buybacks are related to changing capital structure. Bagwell and Shoven (1988) suggested in their study that firms who had quite modest debt ratios made share repurchases in order to move towards some higher target level of debt. Also on the contrary, firms that have high level of debt might not be so eager to repurchase. Consistent with these suggestions, Karhunen (2002) findings from the Finnish markets showed that repurchasing companies had relatively low debt ratios and that firms which announced their repurchase reason as "alter capital structure" were significantly less levered than other repurchasing firms.

3.7 Other motives

In the earlier chapters all the common and most usual motives have been presented and this chapter handles a bit more unusual motives, which have not been presented as much as those common reasons for share repurchases. Even though these motives can be a bit more rare but still its might play a part in company's decisions to initiate repurchase programs.

When a company has *Excess cash* that gives company an option to pay extra dividends, find new investment opportunities or buy back their own shares from the market. This free cash flow –hypothesis basically focuses on the agency problem between managers and shareholders on the distribution of free cash flows. Park et.al. (2005) suggested that stock repurchases avoids making investments in unprofitable projects, thereby resulting in significant positive valuation effects. Guffey and Schnider (2004) examined the financial characteristics for firms making share repurchases and for companies who didn't make any repurchases. When examining the variables of each company from these two different groups they found that free cash flow is the relatively most important explanation for share repurchases.

Reason how excess cash has effect on share repurchase decisions is that rather than temporarily raising dividends, company wants to share its profits through share buybacks. Because in the times when business is not going so well and company should

then reduce the raised dividend and that could have bad effect on share price. Therefore keeping dividend on a same level is more secure option due to the fact that too large fluctuation of dividend causes uncertainty. This making share repurchases better option to extra dividends if there aren't any good investment opportunities available. (Dittmar 2000: 333-334.)

Excess cash can bring also other kinds of problems such as risk that management will invest excess cash to poor investments what will not increase shareholders wealth but will benefit management itself. In other words this is as a typical agency problem as corporation management and shareholders have conflicting interests. Shareholders want to increase the value of their shares and management wants to maximize company's wealth. By maximizing company's wealth management increases its own influence on the company and its possibility to carry out different kinds of investments. Using excess cash to buying back its own shares it's a good way to prevent the situation where management would make an investment that didn't bring any extra value to shareholders. (Jensen 1986: 323-324.)

One good thing about buybacks compared to dividends is the *flexibility* that repurchases give. Companies may try to affect share price simply by just announcing that they are going to start buying back their own shares. Even though this kind of announcement is published, still it does not obligate companies to make actual buybacks. When it comes to share repurchases it is good to keep in mind that due to the strict legislation in Finland it is harder to achieve same kind of flexibility than it is in the USA. In Finland for instance there is a certain time period when companies are able to buyback its own shares and that is 18 months starting from the time when repurchase programs were accepted in the shareholder meeting. In the United States this is a bit different as the actual share repurchases can happen even after few years after the announcement and therefore this kind of opportunity gives companies a lot of flexibility for the timing of actual buybacks. Reason why companies might wait for few years before carrying out actual buybacks is that they are hoping that investors' trust towards their share would rise automatically and share price would increase without having to execute actual buybacks. In addition management has time to wait if share price would happen to decrease even more and so carry out repurchases in a more appropriate time.

Besides the timing ability flexibility is gained in way that companies can change the amount of the shares what they planned to repurchase. Different situations may occur and sometimes it might make sense to buy back more or less shares that was originally

planned (Stephens & Weisbach 1998: 313-333). One feature which makes repurchases more flexible compared to dividends is that repurchases can be done during the whole period when authorization is valid. While dividends are paid in one specific occasion, share repurchases is a good way to share profits throughout the year and steadily adjust the liquidity reserves (Elo 2004: 5).

Own shares can be used in situations where company wants to acquire some other company. In addition repurchases can be justified if company fears that it will be a target of an *acquisition*. If a firm is being as a takeover target, then management have to act if they want to keep their jobs. In addition to that they have to think about retaining the value of company's share. Therefore if preventing the takeover attempt is not going to be too costly management will most likely prevent takeover by buying back its shares from the company that is seeking for the takeover. Like it was mentioned before this kind of situation is also called as a greenmail. Share repurchases also have a preventive affect as the proportion of shares diminishes and share prices increases making takeover more expensive for other corporations. Another good thing about share repurchases is that they tend to cut out shareholders who are willing to sell their possessions with a low price and thus leaving only shareholders who aren't willing to give up their share for "free". This is the case especially when repurchases are carried out via tender offers. (Bagwell 1991: 72; Bagnoli, Gordon & Lipman 1989.)

4. METHODS AND DATA

Data which create the foundation for the empirical part is presented in this chapter with detail and also the methods used for hypotheses testing will be illustrated. The effect that certain event has for the share price performance can be studied by calculating the average abnormal return at the presence of the event in question. After that abnormal returns are calculated it will be tested whether those results are in line with thesis's hypotheses. In this thesis Event Study method will be used to examine the abnormal returns around open market share repurchases. Event Study method is a good way to measure abnormal returns around share buyback announcements and it has been widely used in similar studies examining share repurchases. This method will be presented in chapter 4.3 with more detail.

4.1 Data presentation

This study is based on data which cover all listed Finnish firms that announced open-market share repurchase programs during the period from beginning of January 1998 to the end of December 2005. Data in this study include total of seven years worth of open-market share repurchase announcements and overall it covers 160 samples. Most of the samples are from Helsinki Stock Exchange main list but there are also companies from I-list and NM-list. Previous similar studies from the Finnish markets have at the most used data from beginning of 1998 to the end of 2002. In this study as three extra years are added the number of samples will naturally increase and overall it will bring lot of new information about the effects what repurchase announcements have in Finland. This study covers also year 2000 when technology bubble burst and the markets crashed, but overall the crash should not have that much effect on the results in this study, except when examining companies from telecommunications & technology industry.

Share repurchases usually proceed so that first board proposes that company would start repurchase programs. This is described as the authorization application and that is usually made at the same context as other proposals for the shareholders' meeting e.g. announcement of dividends and proxy statements. At the shareholders meeting authorization application for the start of share repurchases is accepted and according to the Finnish law, authorization is valid for only 18 months. Actual announcement for the

start of share buybacks has to be announced publicly as well and that date is used as the announcement date in this study. Whether or not company actually made any buybacks or not will not be taken into the consideration as the focus will be on how the markets react to the announcement where company confirms that its going to start share repurchases. Announcement itself does not obligate firms to do any actual repurchases.

In Finland is rather easy to find out data for actual share repurchase transactions as the law obligates companies to make a public announcement of pretty much everything related to share repurchases. All the data for this thesis was gotten from the database of University of Vaasa, which includes press releases, daily share prices and performance of different indices. The announcement dates for share buybacks were picked up by scanning through the press releases of all the companies from year 1998 through 2005. Usually repurchase authorization application was released at the same time as other board's proposals for shareholders' meeting. The announcement for the start of share repurchases was given as a separate press release. Actual buyback press release includes information about the quantity of shares purchased during the day, the average price of acquired shares and the amount of shares held by the company.

Data have been divided into two different groups, to normal and 'clean' samples. Normal samples include all the share repurchase announcements that were made during the seven years. 'Clean' ones include samples where announcement of buybacks is made and similarly there is not any other confounding news at the same time or at the days surrounding this event. More accurately if company had any other publicly announced news in the event window of two days before to two days after the announcement, then these samples were rejected from the 'clean' ones. By taking into consideration only the announcements with no other news around it should help to identify markets reactions to share repurchase announcements particularly, and result that examined reactions from the market will be more reliable and valid. Table 3 presents the number of buyback announcements that were made and it has been sorted to year by year. It can be seen that after the two first years when companies were able to buy back its own shares the number of repurchase announcements have stabilised into level of little over 20 announcements per year. From the 160 announcements only in 16 cases companies did not make actual repurchases even though they announced to do so. HEX-portfolio index was used as a benchmark when measuring abnormal returns. Portfolio index limits the weight of one security to 10% and therefore it was chosen

instead of HEX-index. This seems reasonable because Nokia's weight in normal HEX-index is way too big as it presents roughly 60% of the total weight.

Table 3. Number of share repurchase announcements and actual buybacks.

	Share repurchase announcements	Actual share repurchases made	Share repurchase announcements, clean samples	Actual share repurchases made, clean samples
1998	11	11	8	8
1999	16	15	3	3
2000	24	22	8	7
2001	23	22	14	14
2002	25	20	6	4
2003	20	16	5	3
2004	16	15	7	6
2005	25	23	8	7
Overall	**160**	**144**	**59**	**52**

Third research question of this study examines how repurchasing firms are doing compared to its industry peers. Do to the lack of firms in the Helsinki stock exchange, this intra-industry comparison could only be made within certain industry groups. Industry segments for telecommunications & electronics, metal & engineering, forest industry, banks & finance, food industry and investment were included in the intra-industry comparison. These industries contained enough rival firms in order to see whether repurchase announcements had any effect on the reference portfolio. By using samples from the industries mentioned earlier it totalled overall 79 samples. 27 of those observations were 'clean' ones, and criteria for 'clean' samples was the same as it was explained earlier. Table four presents the number of observations in each of the industry segments, for both all and 'clean' samples.

Table 4. Share repurchase announcements inside the industries.

All Samples	1998	1999	2000	2001	2002	2003	2004	2005	Total
Telecommunications & Electronics		1	3	4	4	1	2		18
Metal & Engineering	1	3	3	3	2	4	2	3	18
Forest Industry	1	1	3	3	2	2	2	4	15
Investment		2	3	1	4	1	1		12
Banks & Finance					2	1	2	3	8
Food Industry	2	1	1	1	1			2	8
Total	4	8	13	12	15	9	9	12	79
Clean Samples	1998	1999	2000	2001	2002	2003	2004	2005	Total
Telecommunications & Electronics		1	2	1			2		6
Metal & Engineering	1		2	1					4
Forest Industry			1						1
Investment		3	2	1	1		1		8
Banks & Finance					1		1	1	3
Food Industry	2		1	1	1				5
Total	3	4	8	4	3	0	4	1	27

Inter-industry comparison will be also illustrated in this study. Unfortunately number of share repurchase announcements was too little inside the industries and therefore results are not that reliable. For example, industry segment for banking and finance would have been interesting to examine but because there were only eight share repurchase announcement between years 1998 to 2005 therefore results would not have been significant. Inter-industry comparison was therefore made for the three largest industry segments in Finnish markets: telecommunications & electronics, metal & engineering and forest industry. From table four can be seen the number of share repurchase announcements in each industry segments. Those were the industries, which contained the largest amount of repurchase announcements. Nevertheless number of samples was still a bit too modest in order to make certain conclusions for the different behaviour between different industries especially when there are only three industries under observation. In addition forest industry included only approximately 6 rivals and that is something that has to be taken into consideration when observing the results from forest industry. Reason why it was selected as one of the industry groups was because it included vast amount of repurchase announcements. When investigating the inter-industry effect, HEX-portfolio index was used as a benchmark just like it was done when testing the first research question.

4.2 Defining the time period for actual event and the event window

Like it was mentioned earlier, event in this study is the time when company makes announcement that it is going to use shareholders meeting authorization and initiate repurchase program. Defining the precise moment when actual event happen is very important in studies which are made on a daily basis (Brown & Warner 1980). Therefore it had to be well thought what would be the exact time for the actual event in order to get the most accurate results. In this thesis 0-day was the day when company makes a public announcement (press release) of its intentions to start repurchase programs. Press releases were gotten from University of Vaasa database and by scanning through the press releases repurchase announcements were picked up. If companies made this announcement after 18:00 o'clock then the next day was used as the 0-day.

Event periods were divided into three different groups: prior the announcement, around the announcement and after the announcement. Event window before the announcement was from twenty to three days before repurchase announcement. Event window around the repurchase announcement was chosen as two days before and two days after the event. These days was chosen mainly because market reaction may not always occur that quickly, so by adding two days after day 0 gives more accurate results. Also there is always chance for insider trading and therefore two days before the announcement was included in this study. Market reactions after the announcement were examined by using time period of three to ten days afterwards. All of these time periods were chosen mainly because these event periods have been used quite a lot in previous studies from different countries such as Ikenberry et.al. (1981) and Liano et.al (2003). By using same time periods as previous studies it shows more precisely the similarities or differences between the market reactions for repurchase announcements in different countries.

4.3 Event study method

Event study is one of the most used methods in financial researching. It is a very common way to analyze how some specific event affects company's share price. Using financial market data, an event study measures the impact of a specific event on the value of a firm (MacKinlay 1997). Point is to find out what part of company's price

change is because of the general fluctuation in the markets and what part is due to some company related event. After that it's statistically investigated whether company's share price differs significantly from its general performance at the presence of some specific announcement like for example announcement of share buybacks. Because the investigated event might have an effect on share price it is necessary to estimate normal return for the event window. Scientific literature has presented three different methods for estimating normal return of a share: mean-adjusted return model, market model and market-adjusted return model. Even though there is no specific structure for event study method but still there are few common guidelines, which are repeated in researches. Campbell, Lo & MacKinlay (1997) defined seven different steps, which are common for event studies.

Event definition. First step is to define the event that will be investigated and also the event period where the effect for share price will be examined. The period of interest is often expanded to several days including at least the days before and after the announcement. This captures the price effects for announcements, which occur after the stock market closes on the announcement day.

Event in this study will be the announcement of open market share repurchases and abnormal returns around the event will be calculated in three different time periods: [-20,-3];[-2,+2];[+3,+10]. Reason why event window from two days before and two days after the announcement are used in the first research question is because usually some abnormal returns are discovered on the days surrounding the announcement as well. Abnormal returns appearing after the announcement day may be because it takes a while before new information is reflected into the share price. Other reason might be due to the fact that the announcement is made so late in day zero, sometimes even after the markets are closed and therefore effect from the announcement will be reflected in prices on the day which follow the announcement. On the other hand abnormal returns prior the announcement may come from a leakage of the information from people who has access to it, also known as inside trading.

Selection criteria. After the event of interest has been identified then criteria why some firms are included has to be defined. Also this means that some of the firms are excluded because including them would cause biases in results. For example in this research as intra-industry comparison is made, specific industry will function as the selection criteria.

Normal and abnormal returns. Abnormal returns are examined for finding out impact that the event has on share price. Abnormal returns are calculated by deducting the estimated normal returns from the realized returns around the time of event window. Counting the abnormal returns is essential part of event study method. Normal return would be the one that stock price would experience without the specific event. Therefore normal return must be estimated. Scientific literature uses basically three different methods for estimation of normal returns: Mean-adjusted return model, Market-adjusted return model and Market model.

Mean-adjusted model assumes that the average return for shares stays constant over time, so expected return for each share stays the same. According to mean-adjusted return model expected return for share i at time t is then K_i. Abnormal return is calculated by deducting expected return from realized return. The Mean Adjusted Returns model is similar with the Capital Asset Pricing Model. Both assume that security's expected return is constant and that security has also constant systematic risk. (Brown & Warner 1980: 207-208.)

(1) $$AR_{it} = R_{it} - K_i$$

AR_{it} = Abnormal return for share i at time t
R_{it} = Realized return for share i at time t
K_i = Expected return for share i, remains constant over time

Market-adjusted model is based on an assumption that all shares experience pretty much the same reaction on the markets. As the market portfolio is a linear combination for all the shares in the market it is assumed that expected return for a share is the same as for the markets overall. Abnormal returns are then simply calculated by deducting general return of stock markets from share's return. (Brown et al. 1980: 208.)

(2) $$AR_{it} = R_{it} - R_{mt}$$

AR_{it} = Abnormal return for share i at time t
R_{it} = Realized return for share i at time t
R_{mt} = Realized return for the markets at time t

Market model is a statistical model which takes into consideration share price return and market portfolio's return in the past. This method is quite easy to use and straight

forward. Therefore it has been used quite a lot in scientific literature. Model is based on the assumption of normal distributed share price fluctuations. Market model gives return for any specific share *i*:

(3) $R_{it} = \alpha_i - \beta_i R_{mt} + \varepsilon_{it}$, where $E(\varepsilon_{it}) = 0$; Var = δ'^2

R_{it} = Realized return for share *i* at time *t*
α_i = Constant term for share i in the regression model for return
β_i = Beta for share *i* in the regression model for return
R_{mt} = Realized return for the markets at time *t*
ε_{it} = Residual term for share *i* at time *t* in the regression model

Market model is a potential improvement for the constant mean return model. By removing the portion of the return what is related to variation in the market's return, therefore variation for the abnormal return is reduced. (Brown et al. 1980: 208.) Market model will be used in this thesis for the estimation of normal returns. It is better choice especially for Finnish markets where shares are thinly traded.

Estimation procedure. Once a normal performance model has been selected the parameters of the model must be estimated using data prior the actual event. That period is called estimation window. Usually the event period is excluded from the estimation period so it won't influence parameters estimates. Better estimation of normal returns will be achieved when using sufficient estimation window. This thesis will follow previous studies about share repurchases and use estimation window from -220 to -11 days.

Testing procedure. When parameter estimates for normal performance model has been done then the abnormal returns can be calculated. Next the testing framework for abnormal returns has to be designed. Significant things are also defining the null hypotheses and determining the techniques for summing up the abnormal returns of individual companies. Now that normal returns are going to be estimated with the help of market model next step is to estimate abnormal returns on day *t* for a given security. The residual term from the market model will help to determine the risk-adjusted abnormal return.

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

In formula 4, R_{it} is the return for security *i* on day *t* and α and β -values are calculated for share *i* at time *t*. For all companies making share repurchases the average abnormal return on time *t* can be calculated with formula:

(5) $$\overline{AR}_t = \sum_{n=1}^{n} \frac{1}{n} e_{it}$$

where *n* is the number of samples and ε_{it} is the daily abnormal return for share *i* at time *t*. Cumulative average abnormal return (CAR) for time period from t_1 to t_2 is calculated as the sum of average abnormal returns and it can be computed from a formula:

(6) $$\sum_{t1}^{t2} \overline{AR}_t = CAR_{t1}^{t2}$$

Statistical significance for cumulative abnormal returns can be examined with the help of t-test. Assumption in the t-test is that security daily abnormal returns are independently and identically distributed in the event period. When investigating whether the cumulative average abnormal return in the event window differs significantly from 0, a *t*-statistic is computed:

(7) $$t = \frac{CAR_t^{t+n}}{\delta\sqrt{n}} \sim t(n-1)$$

Observations are share repurchasing companies' abnormal returns in a time period from *t* to *t*+*n* (CAR), standard deviation for the whole sample (δ) and the number of days in the event window (*n*). Standard deviations for abnormal returns are calculated from estimation window of -220 to -21 days on each share.

Empirical results. These results are effect of performing phases described earlier. From there we can see which hypotheses held and which were scientifically significant. Also it has to keep in mind that empirical results may be heavily influenced by one or two firms. So that is something that has to take into consideration as well. Empirical results leads to last phase which is *interpretation and conclusions.* Results must be analyzed and investigated why and why not hypotheses held or didn't.

5. EMPIRICAL EVIDENCE

This chapter presents the empirical evidence for the hypotheses presented earlier. Results will be presented in the same order as hypotheses were presented in chapter one. Scientific literature focused on share repurchases e.g. Stephens et.al. (1998) and Ikenberry et.al. (1995) have generally made conclusions that announcements of share repurchase programs are preceded by poor performance, greeted positively by the markets and followed with positive reaction. Same kinds of results have been observed from Finnish markets as well by Tomperi (2004) and Hyypiä (2005). This thesis will participate to the scientific debate about share repurchases by strengthening previous conclusions with newer data and also by making some new contribution with improved data and with inter-industry comparison.

5.1 Market reaction around the event period

This thesis will present empirical evidence on how markets react to the share repurchase announcements by studying whether there are any abnormal returns surrounding the event. Procedure for share repurchases from the beginning to the end can be divided in to four different stages. First step is the board's application for shareholders meeting for the start of buybacks, then in the shareholders meeting board's application will be approved. Third stage is when company makes the actual announcement that it will use the shareholders meeting approval for buybacks and final phase is when the actual repurchase occurs.

Earlier researches from Finnish markets have mostly used the authorization application as the announcement date for buybacks. Board's application for share repurchases is usually contained in the invitation for shareholder meeting and this invitation contains all the issues that will be handled at the shareholder's meeting e.g. amount of dividends that will be paid to shareholders etc. That's why it might not be that reliable to use authorization application as the event day if the aim is to solely distinguish how markets interpret company's intentions to buy back its own shares. Invitation to shareholder's meeting contains too much confounding news and that's why this thesis will solely investigate market reactions around the actual announcement day. Appendix 2 contains an example of the actual announcement what companies have to publicly make when they have decided to use shareholders meeting's approval for share repurchases. Some

studies have used also shareholders meeting's approval for buybacks as the event day, but again usually there are lot of other things decided in those meetings and that's why it's hard to specify what is the issue where markets are reacting.

Samples used in this thesis were divided into normal samples and 'clean' samples. Clean samples didn't include any confounding news at the presence of repurchase announcement, meaning that from two days before and two days after the event day there weren't any other news announced by the company in question. Typically at the presence of normal samples there might have been some other announcements made by the company, days before or after the event day and that might have had effect on the market reactions.

Figure 2 will present how the cumulative abnormal return has developed from day -20 to day +10 around the share repurchase announcement. Figure includes all the samples from the beginning of year 1998 to the end of year 2005, also clean samples are presented separately in order to illustrate the differences between all- and clean samples. It can clearly be seen from the figure that share prices tend to perform negatively or not so well before the actual announcement and around the event day and afterwards there are positive abnormal returns for share repurchasing firms. Noticeable is also that abnormal returns are much more modest to samples where all the announcements are included and group of clean samples experience stronger effect of abnormal returns around the event day. The way CAR-line behaves in figure 2 is in line with previous studies on how share price moves before and after repurchase announcement and it also gives some evidence to the theoretical reasons behind share repurchases and those will be presented next.

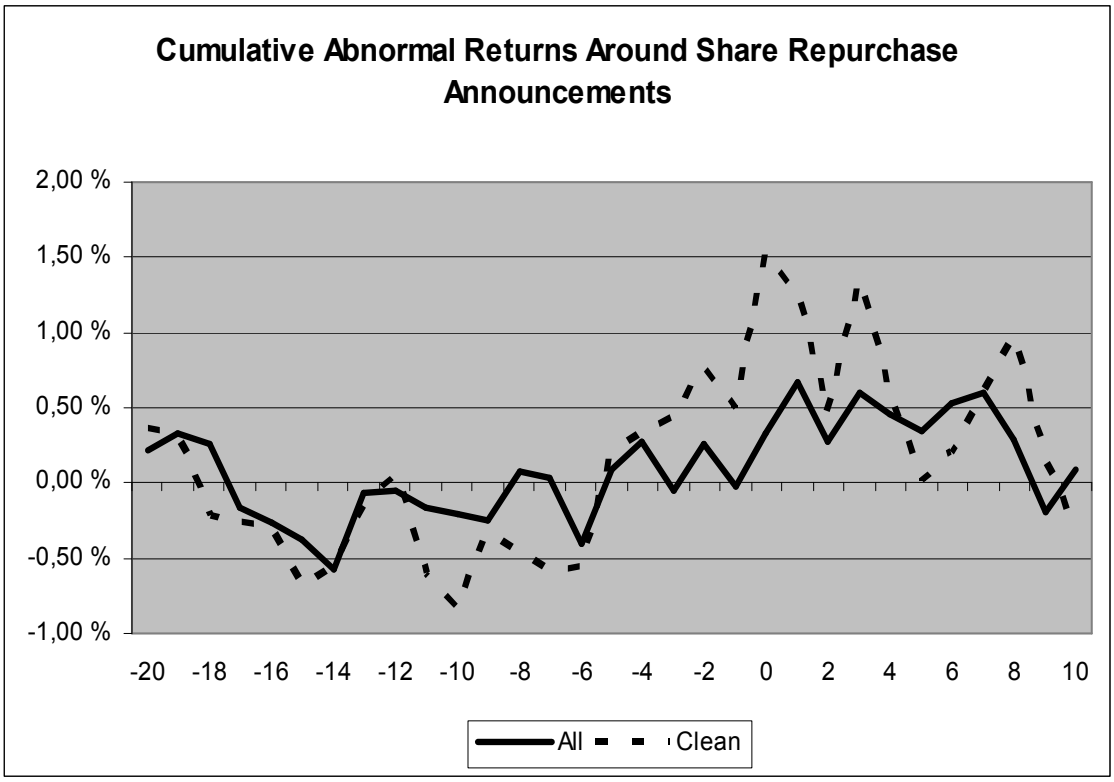


Figure 2. Cumulative Abnormal Returns Around Share Repurchase Announcements.

Table five shows the results that were gotten from investigating the statistical significance of cumulative abnormal returns around the event day from years 1998 to 2005. Abnormal returns were estimated by using market model. Statistical significance for abnormal returns was studied with the help of Student's *t*-test, like it was described in the previous chapter. Cumulative abnormal returns were calculated from time period of 20 days before and 10 days after the event. First column in table 2 tells the event period and the second column shows the cumulative abnormal return, third column presents the *t*-value and the third one indicates the statistical significance of the *t*-test.

Table 5. Market reaction around the event day.

All samples	**N=160**		
Event period	**CAR**	**t-statistics**	**Statistical Significance**
Event day [0]	0,62 %	3,01	***
[-20;-3]	-0,70 %	-0,80	-
[-2;+2]	0,93 %	2,00	**
[+3;+10]	1,30 %	2,22	**

Clean samples	**N=58**		
Event period	**CAR**	**t-statistics**	**Statistical Significance**
Event day [0]	1,31 %	3,77	***
[-20;-3]	-1,70 %	-1,15	-
[-2;+2]	2,26 %	2,91	***
[+3;+10]	1,45 %	1,48	-
Statistical significance refers to the confidence level for t-test: ***=1%, **=5%, *=10%.			

First hypothesis was that companies making share repurchases experience positive abnormal returns around the repurchase announcement. This hypothesis holds as null-hypothesis has to be rejected. In other words companies' abnormal returns around the event day deviate significantly from zero. When studying group of all samples 0.93% abnormal return was observed for five days surrounding the event. Also for days following the event from third to tenth day afterwards, 1.30% abnormal return was observed. This would indicate that the information from the share repurchase announcements takes a while before it is contained to the share price. Both of the results for these two event periods were statistically significant with 5% confidence level.

Results from the clean samples were somewhat similar with the ones from all samples. Difference was that for the five day event period abnormal returns were stronger as the cumulative abnormal return was 2.26% with 1% confidence level. In the days following the announcement 1.45% cumulative abnormal returns was observed, but results weren't statistically significant. Samples where there weren't any confounding news around the event experienced quicker and stronger positive reaction from the markets for the repurchase announcement. Conclusion can be drawn that markets tend to react quickly to the positive signal what repurchase announcements represents. Reaction is much quicker in the case of clean samples than what it was when all samples was used. Nevertheless results for clean samples are more reliable and therefore it can be stated

that markets tend to react positively and quickly to repurchase announcements.

Noticeable is also that results for the zero day were statistically significant with 1% confidence level for both all- and clean samples, with 0.62% and 1.31% abnormal returns respectively, and these findings are in line with findings from Hyypiä (2005) and Karhunen (2002) who found abnormal returns worth of 1.01% and 1.08% respectively, for day zero as well. This would indicate that especially in the case of clean samples the event in question is greeted with strong positive reaction by the markets on the event day. Further it supports the views that markets are acting efficiently as the information content about the announcement is partly implemented to share price on a same day.

Overall this study indicates that markets tend to react positively to company's intentions to start buying back its own shares. This reaction is in line with finance theory which indicates that as number of shares outstanding diminishes via repurchases the value for each share should increase (Brealey & Myers 1991: 374-380). Also these results are similar with other studies investigating market reactions to buyback announcements. Ikenberry et.al. (1995) studied the effect what share repurchase announcement had on company's share price in the United States and they found approximately 3% positive abnormal returns from two days before to two days after the announcement, results were similar with Ikenberry et.al. (2000) when they investigated the effect from Canadian markets. Liano et.al. (2003) also found about 3% cumulative abnormal returns inside the same five-day event period that Ikenberry et.al. (1995) used and what is used in this study as well. Like it was mentioned earlier, studies from Finnish markets have used authorization application as an event when studying share repurchases and those studies e.g. Karhunen (2002) and Ihantola (2003) have found approximately 2.80% cumulative abnormal return around the five-day event window. However Hyypiä (2005) used actual announcement as an event in his studies and he found statistically significant cumulative abnormal returns of 1.22% for years 1998 to 2002, when five-day event window was used.

Table 6. Market reactions to share repurchase announcements year by year.

	Event window	[-20;-3]	[-2;+2]	[+3;+10]
1998	CAR	1,35 %	2,85 %	-0,97 %
	t-statistics	0,38	1,32	-0,33
1999	CAR	0,43 %	1,16 %	0,91 %
	t-statistics	0,15	0,78	0,49
2000	CAR	-2,82 %	1,45 %	0,22 %
	t-statistics	-1,09	1,06	0,13
2001	CAR	-2,04 %	1,40 %	4,76 %
	t-statistics	-0,74	0,97	2,59 **
2002	CAR	-1,63 %	-2,17 %	0,60 %
	t-statistics	-0,75	-1,91 *	0,42
2003	CAR	3,10 %	1,24 %	3,49 %
	t-statistics	1,33	1,01	2,25 **
2004	CAR	-1,03 %	2,21 %	0,41 %
	t-statistics	-0,56	2,30 **	0,34
2005	CAR	2,53 %	0,29 %	0,33 %
	t-statistics	1,75 *	0,39	0,34
Statistical significance refers to the confidence level for t-test: ***=1%, **=5%, *=10%.				

Table six illustrates market reactions for share repurchase announcements for different years for all the samples. Because each year includes only a few samples, results were not statistically significant on a yearly basis. Only in years 2001, 2003 and 2004 there were positive market reactions around or after the repurchase announcements with five percent confidence level. Number of repurchase announcements is so small in each year that it is quite hard to observe any statistically significant returns and therefore only when adding the years together number of samples increases and then results get powerful enough.

5.2 Market reaction prior to the repurchase announcement

Second hypothesis of this thesis was to investigate if share prices experience negative abnormal returns prior to the announcement of share repurchases. Same time it is studied if the signalling hypothesis holds in the Finnish markets. Signalling hypothesis or undervaluation hypothesis is something that has been studied in scientific literature and it is speculated as one of the reasons why companies initiate share repurchase programs in the first place - to show to the general public that at the moment company's

share is undervalued. Undervaluation hypothesis also means that share price performance before the repurchase announcement has been negative and the actual announcement or buyback is greeted positively by the markets as it signals that company is worth more than it is valued at the moment.

Second hypothesis was tested by using event period of 20 to 3 days before the actual announcement. For the all-samples a cumulative abnormal return of -0.70% was observed but it was not statistically significant. Clean samples on the other hand indicated a bit stronger negative cumulative abnormal returns with -1.70% figure, but still it gave only weak support as results were not statistically significant. When event window of 17 to 6 days prior the announcement was used in the case of clean samples -2.67% negative cumulative abnormal returns with 5% significance level was observed. That is in line with findings from Karhunen (2002) where he also found negative CAR of -3.10% over the days -17 to -6, with same level of significance. Previous studies have found negative abnormal returns prior the share repurchase announcement e.g. Liano et.al. (2003), Ikenberry et.al. (1995) and Comment & Jarrell (1991). From the Finnish markets besides Karhunen (2002) also Tomperi (2004) found support for signalling hypothesis in the case of actual share repurchases as he found that managers are timing actual buybacks to a time-period when share has performed badly for a while.

All in all this study gives support for the signalling hypothesis that share prices are performing negatively before the buyback announcement. For the clean samples CAR is negative through days -19 to -6 before the actual announcement with 5% significance level, this can clearly be seen from figure one as well. Interestingly after sixth day prior to the announcement CAR turns to positive, but before that there is statistically significant evidence about the negative cumulative abnormal returns. When CAR turns to positive on day -5 that might indicate that information about companies' intentions of announcing the start of share repurchase programs might be leaking to the public. Leakage of insider information has been speculated to be one reason why share price has started to behave like assumed before the actual event. Table seven shows CAR before the share repurchase announcement and also the significance levels.

Table 7. Cumulative abnormal returns prior the share repurchase announcements.

Clean samples	**N=58**		
Event period	**CAR**	**t-statistics**	**Statistical Significance**
[-20;-6]	-2,53 %	-1,88	*
[-19;-6]	-2,88 %	-2,22	**
[-18;-6]	-2,84 %	-2,27	**
[-17;-6]	-2,66 %	-2,21	**
[-16;-6]	-2,57 %	-2,24	**
[-15;-6]	-2,37 %	-2,16	**
[-14;-6]	-1,89 %	-1,81	*
[-13;-6]	-1,80 %	-1,84	*
[-12;-6]	-1,73 %	-1,89	*
[-11;-6]	-1,86 %	-2,19	**
Statistical significance refers to the confidence level for t-test: ***=1%, **=5%, *=10%.			

5.3 Intra-industry comparison

Intra-industry comparison was done for six different industry segments: telecommunications & electronics, metal & engineering, forest industry, banks & finance, food industry and investment. Decision to include only these six industry segments was due to the lack of data regarding other industries and those issues that were discussed in chapter 4.1 with more detail. Third hypothesis of this thesis was to investigate how companies who are making announcements about share repurchases perform against their industry peers around the event. Research was done so that for each of the industry segments relevant industry index was used as a reference portfolio. Each industry index included enough companies in order to see if one company's announcement would have any effect on rival companies in the same industry. Number of companies in each industry index generally ranged from five to seven, except metal & engineering and telecommunications & electronics which had 14 and 26 companies respectively. Also intra-industry comparison was done for only to clean sample companies, meaning that there were not any other confounding news at the presence of share repurchases. Other news announcement might have had influence on the results so therefore there were only 27 observations included. It is better to use only clean samples so that the effect of repurchase announcement to other companies is better established. Table eight presents the results how reference portfolio (industry index) performed against the HEX-portfolio index around the share repurchase announcement. For measuring these excess returns in comparison to peer firms, the abnormal returns were

calculated from 20 days before to 10 days after the announcement relative to HEX-portfolio index.

Table 8. Intra-industry comparison with clean samples.

Intra-industry comparison with clean samples			**N=27**
Event period	**CAR**	**t-statistics**	**Statistical Significance**
Event day [0]	-0,11 %	-0,41	**-**
[-20;-3]	-1,99 %	-1,74	*****
[-2;+2]	-0,61 %	-1,01	**-**
[+3;+10]	-0,45 %	-0,59	**-**

Results presented in table eight do not give any support for contagious or competitive effect. Even though around the event day there seems to be negative CAR worth of -0.61% for the reference portfolio, but still results aren't statistically significant. Although for the days before the announcement reference portfolio experienced approximately two percent negative cumulative abnormal returns for twenty to three days before the announcement. CAR prior the announcement was only supported with 10% confidence level, which is quite weak. Like it was illustrated in chapter 5.2 repurchasing companies experienced negative abnormal returns prior the announcement and these findings give support to undervaluation hypothesis what was examined previously. It seems that besides the poor share price performance what announcing companies have prior to the repurchase announcement, announcing company's industry overall performs poorly prior the announcement.

All together these findings indicate that reference portfolio for the announcing company is not affected by share repurchase intentions of a one company. These findings are similar with previous studies regarding intra-industry comparison around share repurchase announcements. Chang et.al. (2005) also found that both the announcing and rival firms experience significant undervaluation before the announcement of share buyback. This thesis's findings are similar with Hertzel's (1991) results as it can be summarized that reaction from the repurchase announcements are mainly firm specific and in the short term there are not any competitive or contagious effects.

As it was presented in table eight how reference portfolio made out of rival firms performed against the HEX-portfolio index around the event. Table nine presents the

results for the same samples as in table eight, but only how companies making share repurchases performed against HEX-portfolio index. Even though results for the market reaction around share repurchases were presented previously in chapter 5.1 when thesis's first research question was examined. Still it was reasonable to examine how only these 27 announcing companies performed around the event. This was because it was interesting to compare what were the reactions around the event for announcing companies and for the reference portfolio as well. By using the same 27 companies sample in both of these cases the different reaction from the markets could be illustrated more clearly.

Table 9. Market reaction around share repurchase announcement.

Market reaction around share repurchase announcement			**N=27**
Event period	**CAR**	**t-statistics**	**Statistical Significance**
Event day [0]	1,24 %	2,52	**
[-20;+3]	-3,00 %	-1,44	-
[-2;+2]	3,08 %	2,80	***
[+3;+10]	1,40 %	1,01	-
Statistical significance refers to the confidence level for t-test: ***=1%, **=5%, *=10%.			

Table nine presents results which are similar with the ones that were gotten when examining the first hypothesis. CAR is positive on the event day and in the five-day event window with positive abnormal returns of 1.24% and 3.08% respectively. While announcing companies experience significantly positive CAR around the event there is no statistically significant returns for reference portfolio, though returns for the reference portfolio seems to be a bit negative. Figure three also illustrates the behaviour of CAR for both of these samples. Before the announcement both reference portfolio and announcing firms experience negative price performance, but around and after the announcement announcing companies market reaction turns significantly positive.

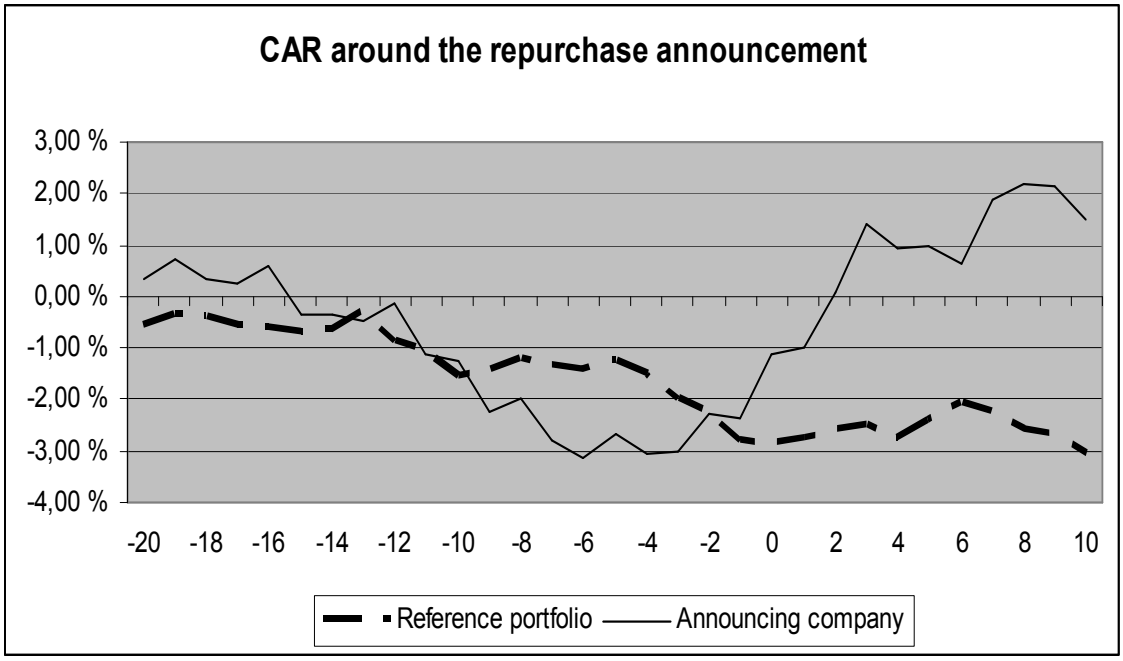


Figure 3. Comparison between reference portfolio and announcing company.

Previously it was examined how repurchasing companies and how reference portfolio (industry index) reacts around repurchase announcements relative to the general market index. Also it was interesting to investigate how repurchasing companies perform relative to the industry index in question. This was done by using simple market model in the estimation of abnormal returns and industry index was used as a benchmark instead of HEX-portfolio index. Same six industries were used here for the same reasons what was presented earlier. For measuring these excess returns in comparison to industry index, abnormal returns were calculated from 20 days before to 10 days after the announcement just like it was done previously. Table 4 summarizes the results for abnormal returns relative to an industry index.

Table 10. Cumulative abnormal returns relative to industry index.

All Samples	**N=79**		
Event period	**CAR**	**t-statistics**	**Statistical Significance**
Event day [0]	-0,27 %	-1,230	-
[-20;+3]	-1,49 %	-1,564	-
[-2;+2]	0,44 %	0,880	-
[+3;+10]	1,41 %	2,825	***
Statistical significance refers to the confidence level for t-test: ***=1%, **=5%, *=10%.			

Results from this intra-industry comparison shows that the null hypothesis is accepted at the presence of share repurchase announcement. Cumulative abnormal returns for day zero and the five-day event window are 0.27% and 0.44% respectively, and these results are not statistically significant. Therefore findings from this study don't give any support that repurchasing companies would experience any abnormal returns relative to the industry index. In the days following the announcement from three to ten days afterwards CAR was 1.41% with 1% confidence level, which gives strong statistical evidence that repurchasing companies experience positive abnormal returns after the repurchase announcement.

When investigating these results in more detail conclusions can be made that share repurchasing companies don't outperform their industry peers and hypothesis of competitive effect can be rejected. If looking back to chapter 5.1, results in the five-day event window for all the clean samples were 2.26% CAR with 1% confidence level, which were very strong and significant. On the other hand when industry index was used as a benchmark CAR was only 0.45% and there weren't any signs of statistical significance for the event window in question. These results could be interpreted that in the five-day event window share repurchasing firms' returns compared to applicable industry index does not significantly differ from zero and null hypothesis can be accepted.

When the announcing firms are compared to markets overall (HEX-portfolio index) they clearly outperform the markets around the event day and five-day event window like it was presented in chapter 5.1. As a matter of fact conclusions could be made that when the announcing firms significantly outperform HEX-portfolio index and yet there is no signs of abnormal return when announcing firms are compared to the industry index, it can be concluded that returns for share repurchasing firms and for the industry index are somewhat similar around the event day. Further these findings could be interpreted in a way that rival firms experience positive market reactions together with the announcing company and therefore it would give small support for the contagion hypothesis that industry overall benefits from repurchasing company's positive market reaction. Markets are interpreting announcing companies' positive price increases around the five-day event window as a positive signal to the whole industry. Chang et.al. (2005) received same kind of results from Taiwan markets. While Liano et.al. (2003) and Hertzel (1991) didn't find any evidence for contagious nor competitive effect from the US markets.

Statistically significant positive market reaction what was gotten for the days after the announcement could then be interpreted that the positive signal what repurchase announcements give is included into the share price only in the days following the event. But when taking into consideration the fact that when HEX-portfolio index was used as a benchmark market reacted quickly into the new information what was gotten and therefore more accurate interpretation would be that industry index reacts positively to one company's share repurchase announcements and reaction lasts only for the five days and after that repurchasing companies still experience positive abnormal returns relative to the industry index. In other words industry index and therefore rival companies benefit from one company's repurchase announcement in the five-day event window and announcing companies positive market reaction just lasts longer.

Overall results are somewhat similar before the actual event whether HEX-portfolio index or applicable industry index was used as a benchmark. Difference was that abnormal returns are considerably modest in the case of industry index and like it was mentioned earlier there weren't observed any statistical significance CAR. In both cases abnormal returns followed same pattern in way that before the announcement share price performed negatively and at the presence and after the event share price performed positively. Figure four illustrates these findings. Nevertheless the most interesting part is around the five day event window where CAR starts to differ a lot between samples where HEX-index is used and when industry index is used as a benchmark or reference portfolio. This clearly rejects the competitive effect hypothesis as the curve mildly supports contagious effect hypothesis as industry index experience same kind of market movements as companies making share repurchase announcements. Nevertheless support for the contagious hypothesis should be interpreted quite carefully.

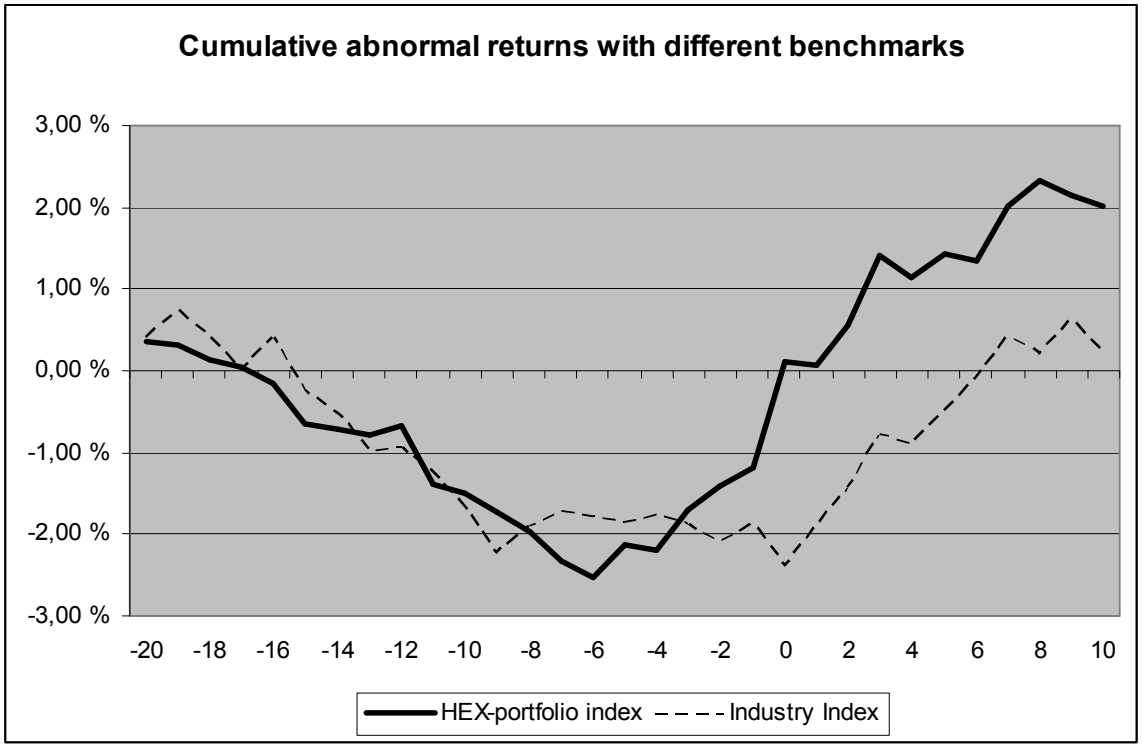


Figure 4. Cumulative abnormal returns in the case of different benchmarks.

One area of interest in this study was also to see if there were any differences between different industry segments on how they react around share repurchase announcements. Liano et.al. (2003) resulted in their study that there were large differences between industries reactions to share repurchase announcements. Same kind of results from Finnish markets was quite hard to observe, mainly due to the lack of data. Also there are only few industries where there are enough companies and enough repurchase announcements to make results reliable. Therefore data in this study is limited to three different industries. Table ten presents results for the different industries what was used in this study. Data comes from all the share repurchase announcements which were observed and compared against HEX-portfolio index. Then samples were divided into three different industry segments in order to see whether there were any differences how companies reacted in different industries.

Table 10. Cumulative abnormal results from different industries.

Telecommunications & Electronics	**N=18**		
Event period	**CAR**	**t-statistics**	**Statistical Significance**
Event day [0]	-1,05 %	-1,512	-
[-20;+3]	-0,63 %	-0,215	-
[-2;+2]	-3,59 %	-2,313	**
[+3;+10]	3,36 %	1,712	-
Metal & Engineering	**N=18**		
Event period	**CAR**	**t-statistics**	**Statistical Significance**
Event day [0]	0,26 %	0,481	-
[-20;+3]	-4,20 %	-1,826	*
[-2;+2]	0,87 %	0,721	-
[+3;+10]	2,23 %	1,455	-
Forest Industry	**N=18**		
Event period	**CAR**	**t-statistics**	**Statistical Significance**
Event day [0]	-0,66 %	-1,262	-
[-20;+3]	0,17 %	0,078	-
[-2;+2]	0,57 %	0,487	-
[+3;+10]	1,41 %	0,955	-
Statistical significance refers to the confidence level for t-test: ***=1%, **=5%, *=10%.			

First two industries follows again same pattern in a way that prior the announcement there is negative price performance and after the announcement companies experience positive abnormal returns. Difference is only that reaction is quicker with metal & engineering companies and with telecommunications & electronics positive abnormal returns starts to cumulate only after third day. Companies in forest industries experience quite modest price fluctuations and results aren't statistically significant. Interestingly companies in telecommunications and electronics experience statistically significant negative returns of -3.59% during the five-day event window, while if taking into consideration all the samples results are significantly positive on the same event window. This indicates that positive reaction from the markets towards companies in the telecommunications and electronics industry is contained into share prices not until a few days after the announcement. Also is good to keep in mind that industry segment for Telecommunications & Electronics was very volatile especially during years 1999-2001, because of the technology bubble bursting. So that might have effect on these results especially in the part of technology firms. Overall sample in this thesis in order

to compare how companies are reacting from different industries is too small in order to get strong results to one way or the other. So therefore this comparison is just more of an illustration of the events rather than a strong scientific contribution. Figure five illustrates how differently announcing firms performed from different industries.

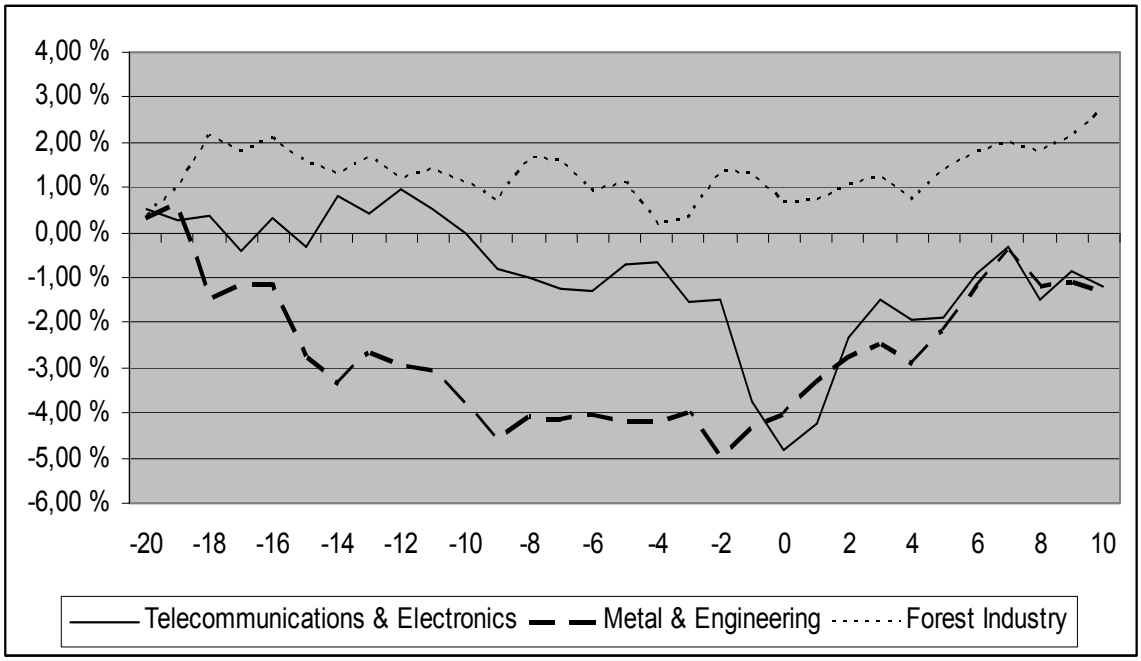


Figure 5. Cumulative abnormal returns from different industries.

6. CONCLUSION

Purpose of this study was to investigate how Finnish markets react to companies' share repurchase announcements. History of share repurchases is still somewhat short in Finland as repurchases have been legal only after the year 1998. Since then amount of repurchases have steadily increased over years. The number of share repurchases has actually increased all over the world in recent decade, besides Finland lot of other European countries have legalized share repurchases at the end of the 90's. In the United States repurchases have been very popular for quite many years now and lot of studies have been made from this area of research. In the 90's amount of share repurchases passed dividend payments as the most popular method for profit sharing in the United States.

Nowadays it is very common that Finnish companies apply for permission from shareholders meeting to start share repurchases. Meaning that lot of companies in Helsinki stock exchange has the authorization to start share repurchases but in practice only minority of those authorizations is used. Companies tend to apply for the authorization for just in case they want to use it. If company decides to utilize shareholders meeting's authorization then actual announcement for the start of share repurchases has to be made. That is the actual share repurchase announcement and it was used as the event in this study as well. Finnish legislation requires that companies inform investors publicly about every step regarding share repurchases, authorization application, approval for authorization, announcement for the start of share repurchases and actual repurchases as well. None of these phases obligates companies to move to the next phase. Most of the companies in this study were from Helsinki stock exchange main list but there were also some companies from NM- and I-lists. Samples included 161 observations of repurchase announcements in total, where 59 of them were 'clean' samples, which meant that during the five-day event window there weren't any other confounding news at the presence of share repurchase announcement.

First purpose of this study was to examine whether companies announcing repurchases experience any positive abnormal returns at time of the announcement. Study was carried out for both all samples and clean samples. Results were similar in both of these cases and like it could be predicted in the case of clean samples results were much stronger. For all of the 161 observations positive cumulative abnormal return of 1.41% was observed in the five-day event window and on the event day abnormal return was

0.63%. In the case of 59 repurchase announcement where there weren't any other confounding news around the event CAR was 2.24% at the time period from two days before to two days after the announcement and on day zero positive abnormal return worth of 1.23% was observed. Empirical results give strong evidence that when companies announces that they are going to initiate share repurchase program markets tend to react positively to that announcement. Especially the results from clean samples can be interpreted as reliable because around the announcement there weren't any other important news announced which might have affected share prices. These findings are in line with other international studies where positive abnormal returns have been observed for the announcement day and for the five-day event period around the event.

Second research question was to examine if signaling hypothesis holds in the Finnish markets. Many studies especially the ones coming from the United States suggests that companies use repurchases to give signal to the markets that share is undervalued at the moment. Empirical evidence for this hypothesis has been observed as there have been noticed to be negative abnormal returns prior the announcements and then positive abnormal returns following the announcements. This thesis gives support for signaling hypothesis as well with empirical results from Finnish markets. Interestingly abnormal returns were negative until the sixth day before the event and after that returns slowly started to turn in to positive. Statistically significant negative CAR was observed from event periods of [-20;-6] to [-11;-6] and in the event window [-19;-6] negative CAR was -2.88% which was the highest observation. Overall when also combining results from the first research question it can be concluded that before the repurchase announcement there were negative abnormal returns and announcement was followed with positive abnormal returns. These findings gave strong support for the signaling hypothesis that before repurchases, company's share is undervalued.

Intra-industry comparison was done for specific industries only, telecommunications & electronics, metal & engineering, forest industry, banks & finance, food industry and investment were the industry segments which were chosen. This was mainly because there were only few industries where there were enough rivals and enough repurchase announcements in order to make reliable comparisons. Industry index itself was used as a reference portfolio and its performance was compared against HEX-portfolio index, and therefore it was interesting to see if there were any abnormal returns to the reference portfolio at the same time when one of its companies made repurchase announcements. International studies for this area of interest have yet been inconclusive, but most of the studies have not found any strong evidence that

repurchase announcement would have competitive or contagious effect on the rival firms. This thesis's results are similar and conclusion is that positive market reaction what repurchase announcement brings to company is mainly firm specific. Though negative abnormal return was observed for the whole industry prior the announcement and this indicates that before the announcement as well as the repurchasing company also the industry overall performs quite poorly. Inter-industry comparison was also conducted between different industries, but mainly due to the lack of data there weren't observed any significant differences how repurchases are welcomed by the markets for different industries.

For conclusion it can be said that this thesis's contribution is three-fold. First this thesis gives strong evidence on how markets welcome companies' intentions to start repurchases. Earlier studies from Finland have used authorization application or approval as the event day and by using the actual announcement as event this thesis gives stronger results about market reactions to repurchases. Authorization application or approval is usually released to the public at the same time as other news from the shareholders meeting so therefore market's reactions for companies' repurchase intentions solely is hard to point out. So as this study uses actual repurchase announcements and also when samples are thinned out to clean samples so that there are not any confounding news on the days surrounding the event. It's safe to say that companies repurchase announcements are greeted quickly and positively by the markets. Second undervaluation hypothesis gets support from this thesis. Market reactions being negative before the announcement and then turning into positive, it proves that management intention to give positive signal to markets is successful. Third it can be concluded that the information from share repurchases is mainly firm-specific, though mild support for contagious effect was observed.

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APPENDIX 1

Finnish Share Repurchase Programs in 1998-2005

Company	Authorisation application	Authorisation starts	Authorisation ends	Announcement date	First actual repurchase
Cultor I	98/10/01	98/11/17	99/11/17	98/11/20	98/04/12
Cultor II	98/10/01	98/11/17	99/11/17	98/11/20	98/04/12
Finvest A	98/03/17	98/04/07	99/04/07	98/05/12	98/11/17
FInvest B	98/03/17	98/04/07	99/04/07	98/05/12	98/05/25
Jaakko Pöyry	98/02/26	98/03/31	99/03/31	98/05/14	98/07/03
Lännen Tehtaat	98/03/03	98/04/02	99/04/02	98/09/14	98/09/23
Rocla	98/03/16	98/04/01	99/04/01	98/09/01	98/09/10
Tamro	98/05/22	98/06/17	99/06/17	98/06/26	98/07/13
Tieto Corporation	98/02/26	98/03/13	99/03/13	98/08/26	98/09/07
UPM-Kymmene	97/12/19	98/03/25	99/03/25	98/03/26	98/04/03
Uponor	98/02/18	98/03/18	99/03/18	98/06/24	98/03/08
Citycon	99/09/24	99/11/04	00/03/30	99/11/17	99/11/25
Interavanti	99/03/24	99/04/09	99/04/09	99/05/12	99/05/31
Jaakko Pöyry	99/02/18	99/03/19	00/03/19	99/06/24	
KCI Konecranes international	99/02/11	99/03/11	00/03/11	99/09/30	99/10/07
Kemira	99/02/19	99/04/07	00/04/07	99/06/08	99/06/15
Lännen Tehtaat	99/03/02	99/04/15	00/04/15	99/05/10	99/10/15
Metso	99/07/01	99/08/18	00/08/18	99/09/30	99/10/12
Nokia	99/10/21	99/12/13	00/12/13	00/02/01	00/02/21
Rocla	99/03/08	99/03/26	00/03/26	99/04/16	99/06/08
Sampo A	99/03/04	99/04/28	00/04/28	99/12/22	00/01/03
Sponda	99/02/17	99/03/10	00/03/10	99/08/28	99/09/06
Talentum	99/03/05	99/03/29	00/03/29	99/05/18	99/05/26
Tamro	99/03/25	99/04/28	00/04/28	99/05/07	99/06/18
UPM-Kymmene	99/02/12	99/03/24	00/03/24	99/08/23	99/08/30
Uponor	99/02/16	99/03/17	00/03/17	99/03/30	99/04/07
YIT-Yhtymä	99/02/17	99/03/09	00/03/09	99/03/12	99/03/18
Amer A	00/02/09	00/03/08	01/03/08	00/11/02	00/11/10
Aspo	00/03/03	00/03/13	01/03/13	00/05/29	00/06/07
Citycon	00/02/29	00/03/30	01/03/30	00/04/27	00/05/09
Efore A	00/02/29	00/03/17	01/03/17	00/08/03	00/08/24
Instrumentarium	00/02/23	00/03/23	01/03/23	00/06/29	
Kemira	00/03/14	00/04/11	01/04/11	00/05/09	00/05/23
Kone	00/01/11	00/02/25	01/02/25	00/03/08	00/03/16
Lännen Tehtaat	00/03/07	00/04/13	01/04/13	00/05/15	00/06/22
Martela A	00/02/18	00/03/21	01/03/21	00/11/29	00/12/20
Nokia	00/02/01	00/03/22	01/03/22	00/07/28	
Rautaruukki	00/02/10	00/03/28	01/03/28	00/03/31	00/04/10
Rocla	00/05/29	00/06/15	01/06/15	00/06/21	00/07/13
Soltec/TH tiedonhallinta	00/03/16	00/03/31	01/03/31	00/08/15	00/09/06
Sonera	00/02/16	00/03/22	01/03/22	00/04/26	00/06/09
Sponda	00/03/14	00/03/27	01/03/27	00/05/03	00/05/11
Sponda	00/11/29	00/12/14	01/12/14	00/12/22	01/01/04

Stockmann A	00/03/15	00/04/11	01/04/11	00/05/17	00/05/24
Stockmann B	00/03/15	00/04/11	01/04/11	00/05/17	00/05/24
Stora Enso A	99/08/20	00/03/20	01/03/20	00/08/18	00/09/14
Stora Enso R	99/08/20	00/03/20	01/03/20	00/08/18	00/09/14
SysOpen	00/11/02	00/11/23	01/11/23	00/11/30	01/02/12
Tulikivi	00/03/17	00/04/26	01/04/26	00/05/04	00/11/01
UPM-Kymmene	00/05/16	00/06/13	01/06/13	00/06/13	00/06/21
Uponor	00/02/16	00/03/21	01/03/21	00/08/01	00/12/13
Amer A	01/02/07	01/03/07	02/03/07	01/04/05	01/04/17
Aspo	01/02/15	01/04/26	02/04/26	01/10/26	01/11/02
Aspocomp Group	01/02/19	01/03/23	02/03/23	01/07/16	01/07/30
Citycon	01/02/23	01/03/29	02/03/29	01/04/23	
Etteplan	01/02/22	01/03/28	02/03/28	01/09/10	01/09/19
Huhtamäki	01/02/13	01/04/03	02/04/03	01/04/03	01/04/11
Jaakko Pöyry	01/02/13	01/03/08	02/03/08	01/03/09	01/08/23
Kemira	01/02/12	01/04/03	02/04/03	01/04/24	01/05/02
Kone	01/01/10	01/02/23	02/02/23	01/03/07	01/03/29
Kyro	01/05/15	01/06/12	02/06/12	01/08/17	01/08/30
Martela A	01/02/20	01/03/21	02/03/21	01/10/30	01/11/14
Neomarkka	01/02/08	01/03/20	02/03/19	01/04/02	01/04/11
Outokumpu	01/01/31	01/03/21	02/03/21	01/03/22	01/04/09
Perlos	01/03/30	01/04/19	02/04/19	01/09/07	01/09/14
Rautaruukki	01/02/06	01/03/29	02/03/29	01/04/03	01/04/11
Stora Enso A	01/02/07	01/03/20	02/03/19	01/03/29	01/03/28
Stora Enso R	01/02/07	01/03/20	02/03/19	01/03/29	01/03/28
Tekla	01/03/15	01/04/05	02/04/05	01/09/17	01/09/26
Teleste	01/03/01	01/04/06	02/04/06	01/06/18	01/06/27
TietoEnator	01/02/15	01/03/22	02/03/22	01/09/19	01/10/02
Tieto-X	01/03/22	01/04/10	02/04/10	01/08/28	01/09/05
UPM-Kymmene	01/02/21	01/03/22	02/03/22	01/03/22	01/03/29
Uponor	01/02/08	01/03/13	02/03/13	01/04/02	01/04/24
Aspocomp Group	02/02/15	02/04/05	03/04/05	02/05/07	02/05/14
CapMan B	02/02/26	02/04/03	03/04/03	02/08/19	02/08/27
Citycon	02/02/28	02/03/26	03/03/26	02/04/03	
Etteplan	02/03/06	02/03/26	03/03/26	02/05/15	02/05/23
Finnlines	02/02/25	02/03/15	03/03/15	02/03/15	02/10/25
Honkarakenne B	02/03/28	02/04/19	03/04/19	02/06/20	02/06/27
Huhtamäki	02/02/25	02/03/25	03/03/25	02/09/04	02/09/12
Interavanti	02/01/31	02/02/22	03/02/22	02/02/28	02/03/15
Jaakko Pöyry	02/02/08	02/03/06	03/03/06	02/03/06	02/09/30
KCI Konecranes international	02/03/13	02/03/07	03/03/06	02/08/14	02/08/22
Kekkilä	02/03/22	02/04/09	02/04/09	02/06/24	02/10/02
Kone	02/01/08	02/02/22	03/02/22	02/05/22	02/05/31
Kyro	02/02/28	02/03/20	03/03/20	02/08/15	
Martela A	02/02/18	02/03/19	03/03/19	02/04/30	02/05/29
Norvestia	02/02/18	02/03/20	03/03/19	02/03/20	
Orion-Yhtymä	02/03/04	02/04/15	03/04/15	02/10/11	03/01/02
Perlos	02/03/19	02/04/11	03/04/11	02/05/03	02/11/08
Sampo A	02/02/27	02/04/10	03/04/10	02/08/14	02/08/29
Sponda	02/03/01	02/03/27	03/03/27	02/04/25	
Stora Enso A	02/01/30	02/03/19	03/03/18	02/03/19	02/06/05
Stora Enso R	02/01/30	02/03/19	03/03/18	02/03/19	02/05/24

Tecnomen	02/03/12	02/04/11	03/04/11	02/05/15	02/05/22
Teleste	02/03/08	02/04/08	03/04/08	02/05/06	02/05/15
Tulikivi	02/02/20	02/04/04	03/04/04	02/08/26	
Uponor	02/02/05	02/03/13	03/03/13	02/04/23	02/06/12
Aspo	02/03/25	02/04/25	03/04/25	03/01/08	
Etteplan	03/02/25	03/03/26	04/03/26	03/05/12	03/05/21
Finnlines	03/02/24	03/03/17	04/03/17	03/03/17	
Fiskars A	03/01/28	03/03/13	04/03/13	03/11/11	03/12/10
Fiskars K	03/01/28	03/03/13	04/03/13	03/11/11	03/12/15
Honkarakenne B	03/03/21	04/04/11	04/04/11	03/05/22	03/05/30
Interavanti	03/01/30	03/02/21	04/02/21	03/02/28	03/03/17
Jaakko Pöyry Group	03/02/07	03/03/05	04/03/05	03/03/05	03/03/20
KCI Konecranes International	02/11/26	03/02/20	03/03/05	03/02/12	03/02/20
Kesla	03/02/10	03/02/28	04/02/28	03/10/22	03/11/03
Kone	03/02/01	03/02/21	04/02/21	03/04/23	
Kyro	03/02/20	03/03/19	04/03/19	03/03/24	
Nokia	03/01/23	03/03/04	04/03/27	03/03/27	03/04/22
Nordea	03/03/20	03/04/24	04/04/24	03/10/29	03/11/04
Panostaja A	03/01/16	03/02/17	04/02/17	03/09/18	03/09/26
Panostaja B	03/01/16	03/02/17	04/02/17	03/09/18	03/09/26
Stora Enso A	03/01/30	03/03/20	04/03/19	03/03/20	03/05/13
Stora Enso R	03/01/30	03/03/20	04/03/19	03/03/20	03/03/27
Tieto-X	03/03/05	03/03/25	04/03/25	03/04/08	03/04/23
Uponor	03/02/12	03/03/17	04/03/17	03/03/18	03/03/26
Aspo	04/02/27	04/04/01	05/04/01	04/05/11	04/05/18
CapMan B	04/03/11	04/04/01	05/03/31	04/05/27	
Finnair	04/03/09	04/04/07	05/04/06	04/06/18	04/07/01
Finnlines	04/02/23	04/03/17	05/03/17	04/04/29	04/05/12
Interavanti	04/01/30	04/02/23	05/02/23	04/03/01	04/03/15
Kasola	04/03/19	04/04/23	05/04/23	04/06/16	04/08/12
Kone	04/01/30	04/02/27	05/02/27	04/03/22	04/03/29
Nokia	04/01/22	04/03/25	05/03/25	04/03/25	04/04/19
Nordea Bank Ab	04/02/25	04/03/31	05/03/31	04/10/27	04/10/29
Panostaja	04/01/15	04/02/19	05/02/19	04/03/23	04/03/31
Perlos	04/03/05	04/03/29	05/03/29	04/11/16	04/11/23
Stora Enso A	04/02/04	04/03/18	05/03/18	04/03/18	04/04/13
Stora Enso R	04/02/04	04/03/18	05/03/18	04/03/18	04/03/31
TietoEnator	04/02/12	04/03/21	05/03/21	04/09/22	04/09/29
Uponor	04/02/03	04/03/17	05/03/17	04/12/08	04/12/16
Vacon	04/03/03	04/03/25	05/03/25	04/12/20	04/12/27
Aspo	05/02/09	05/03/31	06/03/31	05/05/11	05/06/06
CapMan	05/03/02	05/03/31	06/03/31	05/04/13	
Cargotec	05/05/2	05/07/12	06/07/12	05/07/12	05/10/26
Finnair	05/03/01	05/03/23	06/03/23	05/08/23	05/09/01
Honkarakenne B	05/03/08	05/04/08	06/04/08	05/09/15	05/09/29
Kasola	05/03/11	05/04/08	06/04/08	05/06/17	
Kemira Growhow	05/03/15	05/04/06	06/04/06	05/12/19	05/12/28
Kone	05/03/18	05/06/17	05/06/17	05/06/17	05/09/05
Leo Longlife	05/04/11	05/04/28	06/04/28	05/11/04	05/11/22
Nokia	05/01/27	05/04/07	06/04/07	05/04/07	05/05/04
Nordea Bank AB	05/02/23	05/08/04	06/04/04	05/10/26	05/10/31
Pohjola Yhtymä	04/08/12	04/09/22	05/04/07	05/01/03	05/01/11

Pohjola Yhtymä	05/02/09	05/03/17	06/03/17	05/05/04	05/05/11
Raisio K	05/02/16	05/03/31	06/03/31	05/08/02	05/08/15
Raisio V	05/02/16	05/03/31	06/03/31	05/08/02	05/10/08
Sampo	05/03/02	05/04/11	06/04/11	05/06/22	05/06/29
Satama Interactive	05/03/07	05/03/30	06/03/30	05/04/28	05/05/06
Scanfil	05/03/17	05/04/07	06/04/07	05/05/24	05/06/01
Sentera	05/03/03	05/03/23	06/03/23	05/08/25	05/09/21
Stora Enso A	05/02/03	05/03/22	06/03/21	05/03/22	05/03/31
Stora Enso R	05/02/03	05/03/22	06/03/21	05/03/22	05/03/30
TietoEnator	05/02/11	05/03/17	06/03/17	05/07/22	05/09/01
UPM-Kymmene	04/01/29	04/03/24	05/03/21	05/02/01	05/02/09
UPM-Kymmene	05/02/01	05/03/31	06/03/31	05/03/31	05/04/28
Uponor	05/02/09	05/03/15	06/03/15	05/03/15	05/03/29
YIT-Yhtymä	05/02/15	05/03/16	06/03/16	05/03/16	05/12/16

APPENDIX 2

Share repurchase announcement

FINNAIR OYJ STOCK EXCHANGE RELEASE 23 AUGUST 2005 AT 14:15

THE BOARD OF DIRECTORS OF FINNAIR PLC APPROVED ACQUISITION OF ITS OWN
SHARES

The Board of Directors of Finnair Plc has decided to acquire the Company's own shares through public trading in the Helsinki Exchanges. A maximum of 500,000 Finnair shares will be acquired. The acquisition will commence on 1 September 2005, at the earliest.

The shares will be acquired in accordance with the authorization given to the Board of Directors at the Annual Meeting of Shareholders on 23 March 2005. The authorization will be effective until 22 March 2006.

Finnair Plc
Communications
August 23, 2005

APPENDIX 3

Example of actual share repuchase announcement

Finnair Corporation STOCK-EXCHANGE ANNOUNCEMENT
1.9.2005

SHARE REPURCHASE 1.9.2005

In the Helsinki Stock Exhange

Trade date	1.9.2005	
Bourse trade	Buy	
Share	FIA1S	
Amount	40.000	shares
Total cost	371.490,00	EUR
Average price / share	9,2873	EUR
Highest price / share	9,32	EUR
Lowest price / share	9,24	EUR

Finnair Corporation now holds a total of 425.000 shares including
the shares repurchased on 1.9.2005