

**UNIVERSITY OF VAASA**  
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**IMPACT OF SPECIAL DIVIDEND ANNOUNCEMENTS ON FINNISH  
STOCK MARKET**

Master's Thesis in Finance  
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**ABSTRACT**

The study examines the effect of special dividend announcements in Finnish stock markets. The effect is analysed in different event windows. The data is divided into different groups by industry and dividend yields. The study tries to give supporting evidence to the existing literature of special dividends. The data consists of 90 special dividend announcements from January 2010 to September 2019 in Finnish stock markets. The study applies event-study methodology to examine how investors interpret the new information.

According to previous studies special dividend announcements have a positive stock price reaction in the U.S. markets. This study finds positive abnormal returns around the special dividend announcements. The stock price reaction seems to be short-term and the study does not find strong evidence of long-term effects.

The study suggests that consumer and industrial firms have a positive stock price reaction, while technology firms have negative price reaction and financial firms none. The study finds that the announcements that results in high dividend yields have the largest impact on the stock markets. The study finds supporting evidence to information asymmetry. The announcements seem to signal market participations, which try to interpret the new information.

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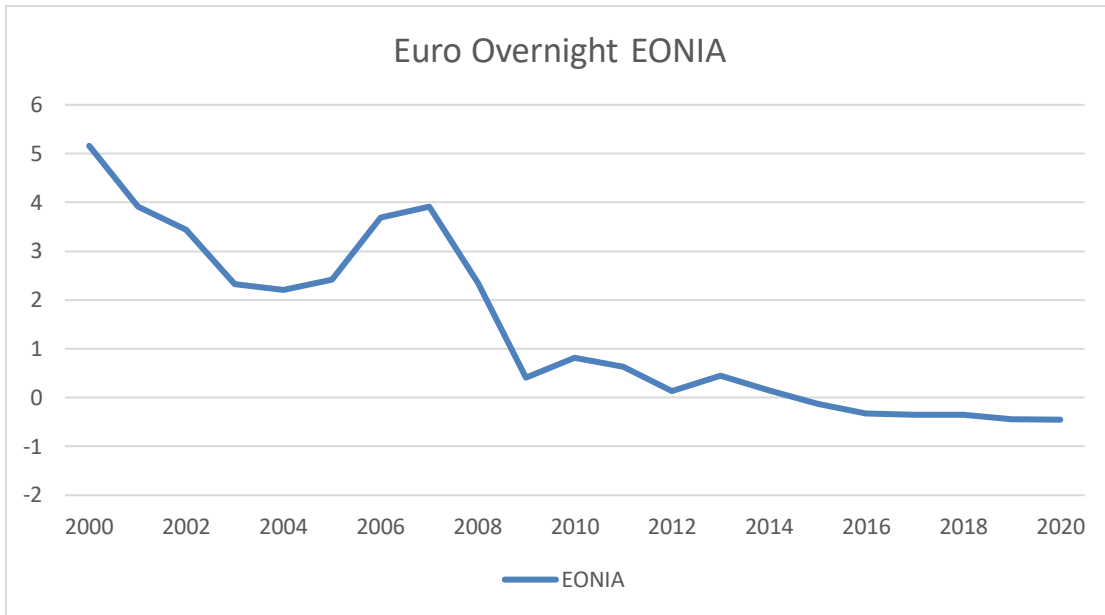
**KEYWORDS:** Special dividends, Payout policy, Signaling theory



## 1. INTRODUCTION

The payout policy of a company has been widely studied in the past decade. According to the irrelevancy theorem dividend policy should not have any effect to the stock price of a firm (Miller & Modigliani 1961). However, the change in payout policy can signal stakeholders. Special Dividend announcement can be seen as signals in stock markets where information asymmetry holds. Investors try to interpret the firm's current and future expectations based on the information available. Investors respond efficiently to new information and the new information is reflected to the stock's price instantly according to the efficient market theory. (Fama 1970.) In some cases announcements are able to generate huge reactions in the stock markets.

Special dividends are becoming an alternative to share repurchase and dividends. Most of the previous studies of payout policy are before the financial crisis in the U.S markets. The interest rates fell after the financial crisis in Euro Area and companies began struggling with their excess liquidity. The overnight interbank lending rates have been negative after 2014 in the Euro Area. In contradiction, the United States Fed Funds rate have been positive the whole time. Companies in the Euro Area that are not able to invest their excess liquidity profitably end up into a difficult situation, where they need to pay negative interest from excess liquidity. The figure 1 shows yearly Euro Overnight EONIA.



**Figure 1.** Euro Overnight EONIA from 2000 to 2020.

Managers can distribute excess liquidity to shareholders by repurchasing shares, regular dividends or special dividends. According to previous studies the dividend ratio is conservative and companies in the Euro Area pay dividends only once a year compared to U.S. companies, which pay quarterly dividends. Share repurchasing is considered to signal investors about the undervaluation of a stock. Special dividends are considered to be one-time extra dividends to distribute excess cash. Special dividends are non-recurring distribution of company cash and it's typically due to unusually strong earnings period or asset sale.

Previous research, such as Howe, He & Kao (1992), DeAngelo (2000), Gombola & Liu (1999) and Beladi, Chao & Hu (2016), measure the effect of special dividend announcements. According to the studies significant abnormal returns can be found. Large part of existing studies focuses on short-term effects in the U.S. markets. This study contributes new relevant information from the Euro Area,

by examining short-term and long-term special dividend announcements in Finland. This study examines Finnish stock markets, because the interest rate environment and regular dividend payout frequency is different compared to the U.S. markets. The regular dividends are normally paid annually in Finland, which makes it prone to forecasting errors that results in special dividend payments. The study contributes new supporting evidence to the existing literature by examining recent unique hand-picked data from Finland. In the past there have been relevant studies of dividends, such as Rantapuska (2008), in the Finnish stock markets. The difference between Finnish capital income taxation of capital gains and dividends make the expected magnitude of announcements larger in Finnish stock markets compared to other markets, where capital income taxation is equal.

### 1.1. Purpose of the study

The purpose of this study is to examine the effect of special dividend announcements. The study analyses stock market behaviour around special dividend announcements and tries to draw conclusions whether the announcements signal new information to the investors. The motivation of the study is to provide supporting proof to existing literature regarding payout policy. The study investigates short run and long run stock price reaction to find out if market efficiency holds.

The study examines if special dividend announcements that have a high yield have a more statistically significant stock price reaction than low yield special dividend announcements. The full data is grouped to four categories to find out if there are any industry specific stock market reactions. The study aims to

contribute new up to date evidence from Finnish stock markets to support the previous research in the U.S stock markets.

## 1.2. Structure of the study

The study consists of eight different sections. The first one proposes the topic and purpose. Second chapter consists of the theoretical part of the research. The theoretical part consists of irrelevancy theory and Fama (1970) efficient capital markets. The market efficiency is compared to dividend theory of Modigliani and Miller (1961). In addition, the chapter presents regular dividends and the most popular dividend-based models. The literature review consists of two parts. The first part presents previous literature of market anomalies, dividend policy and dividend investment strategies. The second part consists of relevant previous research of special dividend announcements. The fifth chapter presents the data. The chapter consists of data description and a break down of data distribution to different groups. The chapter six presents the methodology and event-study approach. The seventh chapter consists of the empirical analysis. The final chapter consists of the conclusions and proposal for further research.

## 1.3. Research hypotheses

The study examines if special dividend announcements has an impact on the stock price. More specifically, special dividend announcements are studied to find out whether they signal information to the markets. The hypotheses of this study are related to the Modigliani and Miller (1961) irrelevancy theory. Investors should not prefer dividends over capital gains. According to Fama

(1970) theory stock price should hold all information available. Hence, the market reaction should happen immediately after the announcement. According to previous research and the signalling theory the market should react positively to special dividends announcements. The first two hypotheses are as follows:

$H_0$  = Special dividend announcements do not have an effect on stock prices.

$H_1$  = Special dividend announcements have an effect on stock prices.

If the null hypothesis is rejected the special dividend announcements provide new information to the markets, which affects the value of the stock prices significantly. According to the signalling theory, the announcements are seen as signals in markets where information asymmetry holds. The markets try to interpret the firm's current and future expectations. The larger magnitude the announcement has on the firm's expectations the larger the market reaction should be. Hence, the announcements that results in high dividend yields have the largest impact on the stock markets. The second hypothesis considers whether the size of the announcements affect the significance of the abnormal returns. The large special dividends should have more significant market reaction due to the larger information content. Additional hypothesis can be drawn:

$H_2$  = High yield special dividend announcements experience more significant effect on the stock prices than low yield special dividend announcements.

In case the study rejects the null hypothesis, the third hypothesis considers duration of the effect. Fama (1970) efficient market hypothesis states that the asset price should react immediately to the new information available. Hence, The

stock market response to the stock exchange release should be different under short run and long run. However, according to post-announcement drift the stock can experience abnormal returns also in long-term. The final hypothesis can be found below:

$H_3$  = The effect of special dividend release is significant in short-term, but not in long-term.

## 2. THEORETICAL BACKGROUND

Firms typically invest their earnings to profitable projects or distribute them back to investors. Firms normally distribute earnings to their shareholders if they are not able to invest the earnings with a desired earning power or rate of return. Firms must decide a steady payout policy in advance, to avoid any disputes between management and investors. (Brealey, Myers & Allen 2011: 408–418.) This theoretical background will follow closely on Fama (1970) and Miller & Modigliani (1961) theories of market efficiency. Market efficiency relates closely to dividend anomalies and price behaviour around the stock exchange releases. Furthermore, dividend-based models are presented, which will help to understand the effects of dividends to stock prices.

### 2.1. Market efficiency

For a long time, people believed that stock prices were easy to predict. However, when statistical methods became more advanced it became clear that the price evolution is anything but predictable. These observations were the basis of the Fama (1970) efficient market hypothesis, which states that the markets are efficient and reflect all available information quickly. According to the theory, stock markets should adapt new information efficiently and quickly. Markets should have enough liquidity so that the transaction costs are bearable, and transactions are filled fast. (Fama 1970; Nikkinen, Rothovius & Sahlström 2002: 80-86.) Stock prices are unpredictable and follow the random walk. New information is unexpected and stock prices can't be predicted using historical data. (Fama 1965.)

The Fama (1970) study propose 3 separate levels of market efficiency. Weak form applies when all historical information is reflected to the price of the stock, such as historical stock prices. Semi-strong efficiency applies if security prices reflect all historical and publicly available information and it's impossible to make abnormal returns by financial analysis. Strong form means that security price reflects all historical, public and non-public insider information. Fama (1991) has later suggested that the market efficiency could be labelled also by price forecasting with historical data, event-studies and insider information testing.

Miller and Modigliani (1961) have presented also their view of the market efficiency. According to them, no single investors can manipulate the markets, which would result in stock price appreciation or wise versa. All market participants should have the same possibilities to perform transactions. Secondly, all market participants should try to maximize their profits and it's irrelevant how it's done. Lastly, the shareholder is sure that the firm makes the best decisions affecting future.

From the Miller and Modigliani (1961) efficient market theory it's possible to derive the assumption of the irrelevancy theory, which states that it's irrelevant how companies use their earnings or distribute their excess cash, when transaction and tax costs are not taken in account. Furthermore, it's possible to assume from the market efficiency that the rate of return of different investments are equal for the investor. This means that if one company is more expensive in the stock markets than the other with identical return profile, rational investor will sell the more expensive stock and buy the cheaper stock until they have the same return profiles.

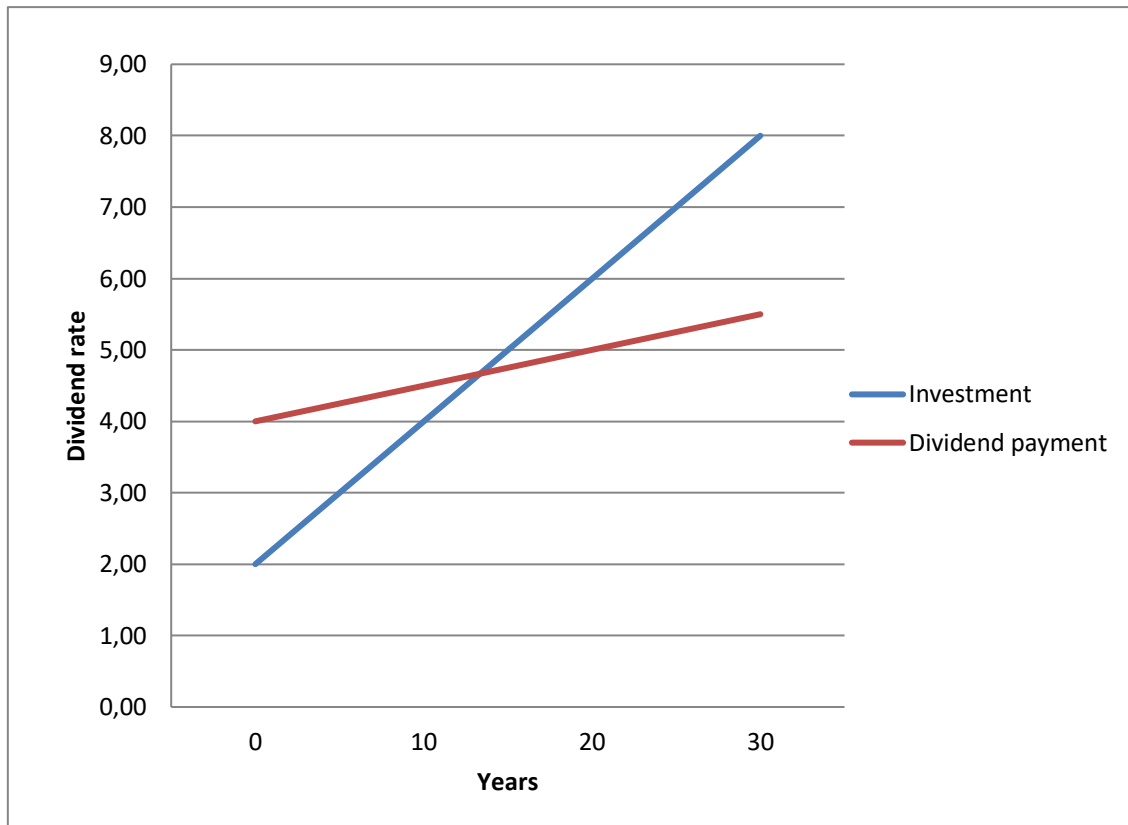
Miller & Modigliani (1961) also test the irrelevancy of payout policy in imperfect markets and find evidence that investors are rationally trying to maximise their profits. They suggest that the only thing affecting investors preference is taxation. However, some investor favour sales profits over dividends, which diminish the relevancy of the irrelevancy theorem.

It's widely known that the strong levels of market efficiency do not remain in force in the real world and the markets are inefficient. In real life, market participants have different information available and the information is not spread efficiently. For example, real-time stock-price data is not available for everyone. In addition, selling or buying an asset causes transaction costs. The difference between Finnish capital income taxation of capital gains and dividends make the market imperfect in Finland. The market participants have different tax arrangements. Typically, institutional investors receive tax-free dividends. In addition, investors are considered to be rational, which they usually are not. One can argue that second level of efficiency holds in Finnish stock exchange. The market is small compared to the U.S markets, which have more market participants. This can result in some cases to undervaluation of the small stocks.

## 2.1. Regular dividends

Firms normally pay earnings to shareholders by dividends. It's typical that the ex-dividend date is on fall after the annual report is released. Companies propose the dividend amount in their financial statements. The annual general meeting takes place around 1-2 months after the invitation to the meeting, where the amount is decided on. In addition, companies set a payment date, which determines the shareholders that are eligible to receive the dividend payment. The ex-dividend date is set according to the rules of the stock exchange. It's typical to pay dividends annually in Nordics, however in the United States dividends are paid on quarterly basis. (Brealey et al. 2011:392-393.)

Dividend ratio is determined on firms own investing potential. Small companies pay less dividends because they have more growth potential than value stocks. Figure 2 represents different investment policies of two companies. At the start, the companies have identical return profile. However, the first company will pay gradually increasing dividends from the start. In contradiction to the first, the other firm invests the excess cash profitably instead of distributing it back to the shareholders. Hence, the later one has more earnings to distribute in a later stage. (Bodie, Kane and Marcus 2014: 601.)



**Figure 2.** Dividend rate with two different investment policies. (Bodie, Kane and Marcus 2014: 601).

Compared to capital gains, dividends are the only concrete source of income for investors. Hence, market reacts strongly and swiftly to changes in payout policy. This in line with the market efficiency theory. Changes in the payment policy gives valuable information to the investors (Pettit 1972). In Finland it's typical to pay annually dividends and investors have challenges to predict the ratio. Hence, strong market reaction is the outcome of modifications in the dividend policy. According to post announcement drift, the stock price can have long-term abnormal returns after new information has been announced. However, in the U.S. markets the dividend policy is easier to predict, because the dividends are paid out more frequently. U.S. firms pay normally quarterly dividends. The

frequent dividend payments make it easier for investors to interpret the company's dividend policy and cash-flow expectations.

## 2.2. Dividend models

Dividends can be used to value the price of a stock by discounting future expected dividend. Dividends are one of the only cashflows during the holding period. The first model is Dividend Discount model, which is based on computing forecasted dividends to their present value using the same rate of return. Usually the required rate of return is calculated from Capital Asset Pricing model. (Barker 2001: 18-19).

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

Where:  $D_t$  = Expected dividend at year t

$r$  = rate of return

$t$  = time

$P_0$  = value of a stock today

Forecasting future dividends can be difficult. The second model is called Gordons Growth model, which assumes a steady dividend growth rate. In reality, it's unlikely that the dividends grow with constant rate. However, the magnitude of future error decreases with the discounting factor. The model does not fit for companies that are new and small, because they normally don't distribute dividends. (Gordon & Shapiro (1956); Nikkinen et al. 2002: 152-154).

$$(2) \quad P_0 = \frac{D_0}{r-g}$$

Where:  $g$  = Dividend growth rate  
 $P_0$  = Share price at the beginning of the year  
 $r$  = Expected rate of return  
 $D_0$  = Dividend at the beginning of the year

The dividend models assume future prediction accuracy, which is difficult in reality. However, they support other valuation models and are theoretically important. In addition, there is no relation between historical cash-flows and future. The firms ability to make return on investments should be one of the factors affecting the growth rate. (Barker 2001:29-32.) With Capital Asset Pricing Model (CAPM) it's possible to find out the expected return of an asset.

$$(3) \quad E(r_o) = r_f + \beta_o[r_m - r_f]$$

The risk-free rate  $r_f$  represents the systematic risk. The beta factor  $\beta_o$  measures the unsystematic risk of a stock. The market return  $r_m$  is the markets average return. The market risk-premium shows the expected market return compared to the risk free rate. (Bodie et al. 2014:295-297; Nikkinen et al. 2002: 68-74.)

### 3. LITERATURE REVIEW ON PAYOUT POLICY AND ANOMALIES

This chapter presents earlier studies of payout policy. Firms distribution of earnings is still a relevant topic. The chapter tries to study how and why companies distribute their earnings to shareholders and does it have any effect on the investment policies.

#### 3.1. Dividend anomalies

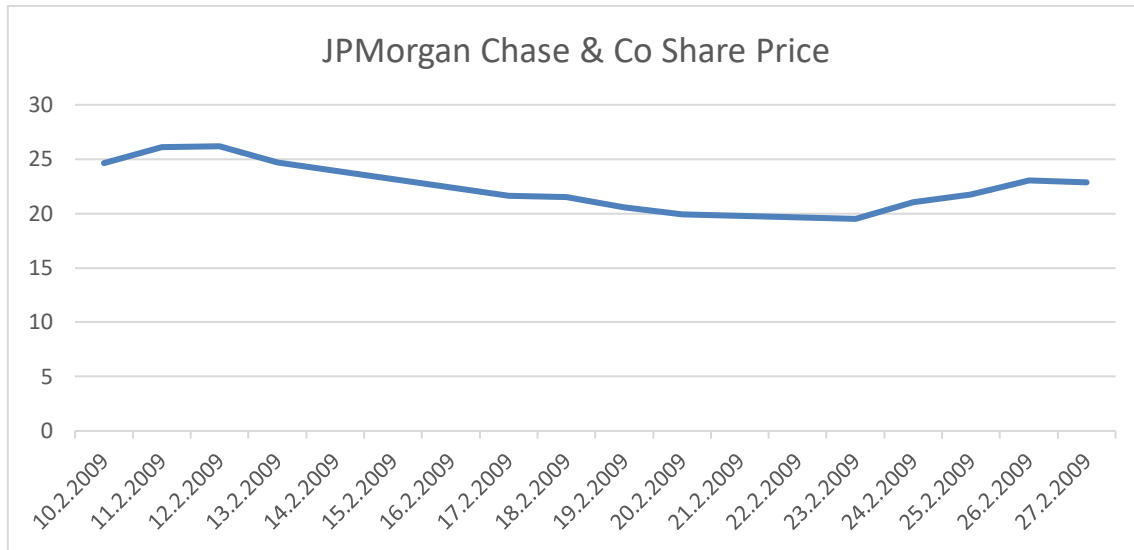
Modigliani and Miller (1961) irrelevancy theory is considered to be valid in perfect capital markets. However, previous studies present anomalies in contradiction to the presented theory. Dividend signalling theory, taxation and agency theory are such anomalies.

##### 3.1.1. Signalling theory

Modigliani and Miller (1961) propose that amendment in existing dividend policy signals investors of change in future earnings power of a company. In contradiction, theoretically the change in dividend policy should not affect the stock price. An increase in dividends signals investors that the future expectations of the firm has improved, and a decrease signals the opposite (Lintner 1956). Shift in dividend policy can be used to evaluate the earning power of a firm. Companies are careful to modify their dividend policy to a higher level, unless earnings are probable to increase based on historical information. The effect can be seen correlating positively. (Koch & Sun 2004.)

The dividends can be modified for other reasons as well. For example, taxation can drive companies to end dividend distribution. (Black 1976: 7). Grullon, Benartzi & Thaler (2005) finds that amendment in dividend policy is a result of changes in long term financial performance. They don't believe that the change happens because of future earnings expectations. Pettit (1972) finds that companies refuse to modify their dividend policy before they're almost certain of their improved future earnings. The change in dividend policy has a strong market reaction. Quarterly statements are more prone to changes compared to dividend policies. Modifying dividends policy for signalling purposes is inefficient and firms tend to have more modern ways of signalling the markets. Dividend aristocrats are in a way an anomaly to signalling theory.

Normally company's decision to reduce their dividends is seen as a negative signal and the stock price declines. Figure 3 shows J.P Morgan Chase & Co stock price in February 2009. J.P. Morgan reduced their quarterly dividend by over a half due to recession fears and the markets reacted positively. In 2010, BP decided to cut their dividends due to an accident. Stock markets priced the accident efficiently and the stock price did not decline. (Bodie et al. 2014: 602; Brealey et al. 2011: 397.)



**Figure 3.** JPMorgan Chase & Co share price around dividend announcement.

### 3.1.2. Agency Problem

Companies pay dividends to avoid conflict of interest with company's management and shareholders. With dividend distribution, the company does not have excess cash for low profit projects and they are forced to seek extra funding from the capital markets. Projects that are funded externally are easier to monitor and get information from. Shareholders restrict the amount of money to avoid bad managerial decision making and bad investments of excess cash. This enables clever decision making and profit maximisation. This relates strongly to the two different investment policies shown previously in figure 2. Firms distribute excess cash to shareholders, if they are not able to generate profitable projects with earning power in expected levels. Seeking funding from capital markets enables companies to leverage their capital. (Easterbrook 1984.) The observations are in line with Jensen's (1986) theory of free cash flow.

Managers can avoid risky projects to ensure their personal success, however the purpose of a company is to maximise profits for its owners. Dividend payments can avoid unprofitable investments and excess liquidity. (Jensen 1986.) Dividends ensure investors rights in geographical areas that don't have strong legislation. The law usually protects the dividend payments once they have been decided in the general meeting. (La Porta, Lopez-De-Silanes, Shleifer and Vishny 2000).

### 3.1.3. Clientele effect

Markets participants are rational in clientele theory. They will choose stocks into their portfolio, which have the best return distribution policy for them. Markets participants prefer dividends over capital gains if it's more cost-efficient due to taxation (Elton and Gruber 1970). Taxation affects investors decisions to buy a security. Institutional investors choose dividends over capital gains because of taxation benefits. Private investors tend to think that dividends are valuable compared to capital gains. (Feldstein & Green 1983: 20-21.) Taxation of capital loss enables to purchase the stock before the ex-dividend date and get rid of it after. The gain or loss is determined by transaction costs and invested capital. (Rantapuska 2008: 356-359). Firm can pay dividends if investors prefer dividends over capital gains. If investors preference changes the payout policy of company changes (Denis & Osobov 2008).

According to Finnish law dividend distribution is considered as profit distribution. In most cases receiving dividends can be considered as tax-free for public companies. For private investors stock listed firms' dividends are 85 % taxable income and 15 % tax-free income. Companies can deduct taxes, if the receiving counterparty considers the dividends as taxable income. In case the

receiver owns more than 10 % of the company the dividends can be considered tax-free. (Verohallinto 2017.) Tax legislation is prone to changes and it has changed multiple times during the decade.

### 3.2. Payout policy

Evidence suggest a connection between changes in dividend payout ratio, risk and capital gains. (Eldomiaty, Atia, Badawy & Hafez 2014). Nearly all firms adjust their payout policy based on historical information. Companies decide their payout ratio according to constant revenue (Brav, Graham, Harvey & Michaely 2005).

Fama and Babiak (1968) and Fama & French (2002) suggest that firms dividend distribution is less than the target payout ratio. Earnings volatility don't affect the payments. Steady dividend payments reflect signal and agency theory. Managers payout policy includes historical information and future expected returns. Ha, Im and Kang (2017) argue that steady dividend policy signals more information to stakeholders in the long-term. Managers should use historical data to reduce the volatility of the payout ratio. If companies would adjust their dividend policy with current earnings, it would result in more volatility with payout ratio. Firms try to keep a steady payout policy to reduce the gap between the market expectations and actual payments.

Brav et al. (2005) argues that institutions don't prefer dividends over share repurchase. However, majority of managers argue that institutional investors preferences affect their decision of dividend policy. Dividends can be seen as conservative and the dividend ratio can be hard to modify once it's decided on.

Share repurchase is important alternative option for companies to distribute excess cash. (Brav et al. 2005.)

### 3.3. Share repurchase

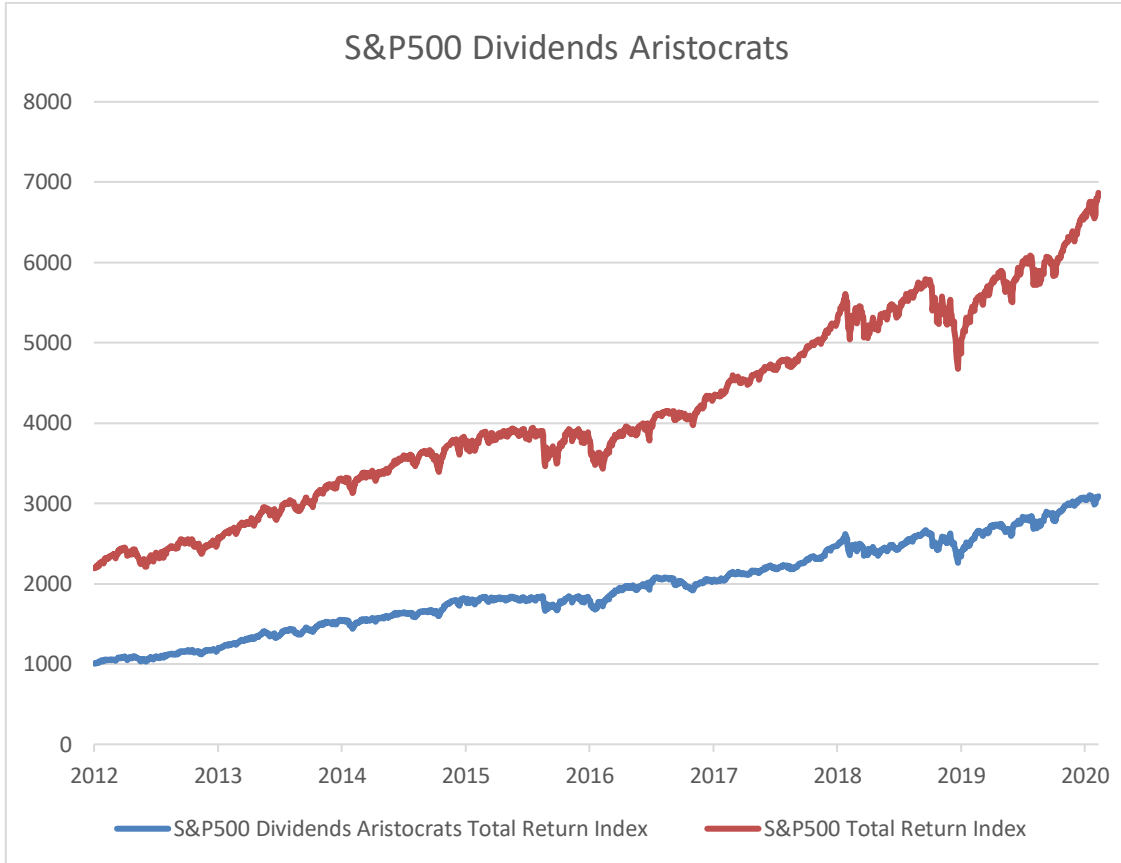
This chapter will examine company's share repurchases by analysing previous articles. Vermaelen (1981) argues that firms repurchase shares to signal stock markets of undervaluation. Ikenberry (1995) finds long term positive stock price effect. It seems that firms repurchase their stock back if they think it's undervalued. Stephens (1998) finds that companies share repurchase is negatively related to prior stock price performance. Companies buy 74-82 % of their repurchasing announcements. Dittmar (2000) studies the reasons behind repurchases and finds out that firms repurchase stocks, because of undervaluation, to alter leverage ratio or to fend off takeover attempts. According to the study, firms does not make repurchases to replace dividends.

### 3.4. Dividend investment strategies

There are numerous dividend investment strategies from day trading to long-term investing strategies. Depending on the strategy, investors pick stocks that are best fit to their portfolio. Typically, value stocks pay high dividend yield compared to growth stocks. This chapter presents one long-term dividend investment strategy and one short-term strategy.

### 3.4.1. Dividend Aristocrats

Profilet and Bacon (2013) study the relation between asset price and volatility. They find large dividends paying firms to be less risky than firms that pay small dividends. Dividend aristocrats are stocks in the S&P 500 index. The stocks have gradually increased the dividends in the past 25 years. These companies have increased their dividend payments during different market conditions. The stocks have experienced larger returns than their benchmarks. (Spaht & Rubin 2013.) However, markets learn to expect the increasing dividend payments and there seems to be no market reaction to announcements. (Michayluk, Neuhauser & Walker 2014). Rinne and Vähämaa (2011) investigate in their study a strategy named "Dogs of the Dow" with Finnish shares. It tries to invest in highest paying dividend stocks. However, the abnormal returns are relatively small after taxation and transaction costs. The figure 4 shows S&P500 Dividends Aristocrats Total Return Index and S&P500 Total Return index from 2012 to 2020 from Thomson Reuters database. According to the figure the normal index has outperformed the dividend aristocrats index.



**Figure 4.** Dividends Aristocrats performance against benchmark.

### 3.4.2. Ex-dividend day trading

Rantapuska (2008) examines the possibility of arbitrage in Finland during ex-dividend day. There is possibility to make 2 percentage abnormal returns during the event window. The data consist of 855 different investments during the ex-dividend day. Private market participants typically acquire stocks before the ex-dividend and get rid of them afterwards. Foreign investors do the opposite due to taxation purposes. Short-term investments are low in volume compared to the overall transactions around the date.

There can't be found subsequently more transactions, which is supported by Hietala and Keloharju (1995) findings. The price is not determined by the short-term investments around the event, rather by long-term investments. Around the dividend announcements stocks have been in some cases mispriced with positive abnormal returns. (Hartzmark & Solomon 2013.)

#### 4. LITERATURE REVIEW ON SPECIAL DIVIDENDS

Firms tend to pay their excess liquidity back to their shareholders by paying special dividends. They are considered as extra cash dividends that are occurring only once. Crutchley, Hudson, Jensen & Marshall (2003) finds that firms that announce special dividends have large earnings during the year but see a decline in their unexpected earnings after. The firms earn significantly positive returns also one year before the announcement. It seems that firms pay special dividends rather than increase their normal dividends if the temporary increase in their earnings is not constant.

Howe, He and Kao (1992) finds statistically significant at 1 % level average abnormal returns for specially designated dividend announcements. The returns are approximately 3.44 % for the announcements. Nevertheless, they don't report significant diverse findings for low Tobin Q and high Tobin Q samples. Brickley (1983) presents positive market response to special dividend announcements. Findings suggest that the announcements signal positive information regarding future earnings beyond current period.

Shareholders of a stock can receive excess cash distributions via share repurchases, regular cash dividends and special dividends. Managers tend to repurchase their firms stocks if they think it's undervalued. Strong earnings and cash flow justify both regular dividends increase and special dividends, but special dividends should always be considered as temporary. Special dividends should signal positive expectations of current performance instead of longer term. Special dividends may signal positive current performance rather than long-run performance. According to empirical studies markets typically reacts

more positively to large one-time special dividend announcements than small regular special dividend announcements. However, top executives don't consider a negative relationship between them. (Baker, Mukherjee and Powell: 2005.)

The large special dividends have increased after 2000. For example, Microsoft Corporation announced in 2004 a one-time dividend distribution of 3 dollars per share, which sums up to about 32 billion dollars of excess cash to their shareholders. The special dividend payment was concluded to satisfy increased pressure from investors to distribute increasing excess cash. (Baker et al. 2005.)

According to the previous studies special dividends should experience positive excess returns in the short-term. Gombola & Liu (1999) find evidence for signalling hypothesis in the content of the announcements. They find significant positive market reaction to the stock release with a 3 days event window of -1 to 1. The study finds significant positive average abnormal returns of 2.66% with a data sample that consisting of 196 special dividend announcements during 1977-1989 in the United States. Chou, Liu and Zantout (2009) find significant excess returns of 1.83% for two-day declaration-period by studying 2238 observations from January 1926 to December 2001. However, by using the three-factor model they are not able to find any long-term returns after the announcements.

Balachandran, Faff & Nguyen (2004) examine industry wide impact of special dividend announcements in Australia. They find that non-financial firms announcements have larger magnitude of effect on the stock prices than resource and financial companies. They find at 1% level significant highly positive excess returns in all event windows. However, they don't find any significant returns for non-financial firm rivals but finds them for resource firms. The study gives

support to contagion effects for resources firms and competitive shift for financial firms.

Mitra (1999) suggests that the initial special dividend announcement has the biggest market reaction. The study also argues that the insignificance of long-term event window provides evidence that there was no other confounding event during the period.

Shih (1991) studies special dividends announcements in bear markets and bull markets. Special dividends have significantly higher positive returns effects on markets during bull markets than bear markets. The research finds statistically significant positive average abnormal returns for days surrounding the event. They find positive abnormal returns consistent with the full sample for both bear markets and bull markets by dividing the sample. However, the magnitude of positive market reaction is higher in bull markets. There are no significant returns on day -1 and day 2 for the bear markets. The study uses cumulative average abnormal returns to find any differences in bull markets and bear markets over different days surrounding the event. Cumulative average abnormal returns are significantly larger for bull market regardless of the event window. The hypothesis of the study considers stock price reaction to special dividends in different circumstances.

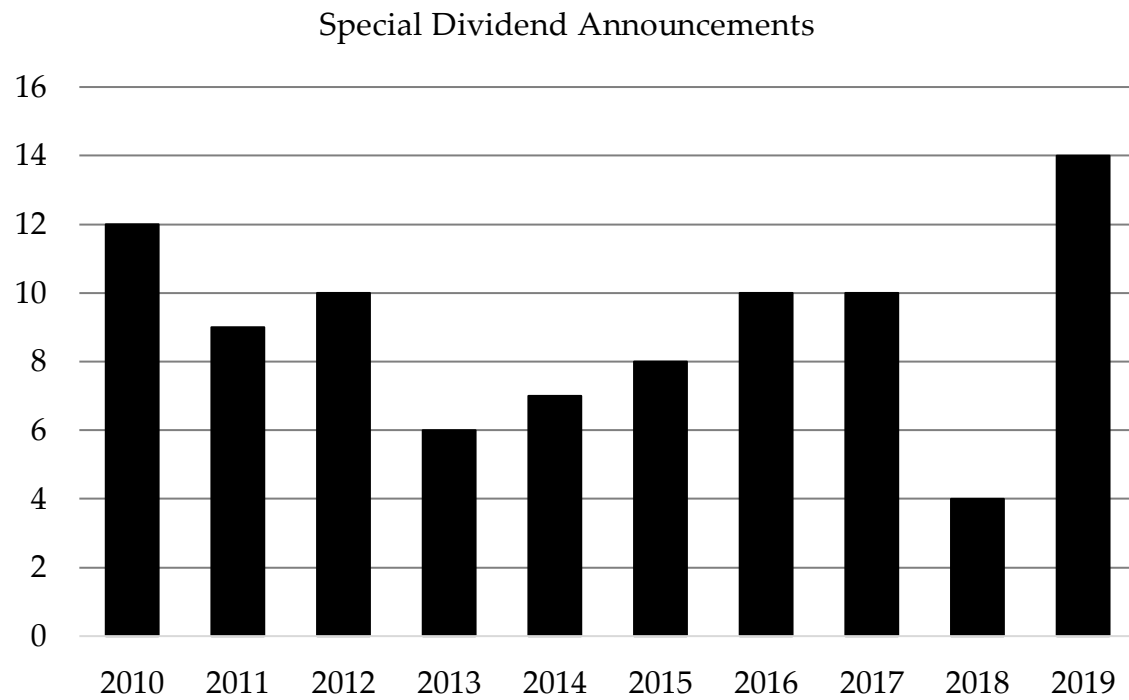
DeAngelo (2000) finds that stock price reacts positively to special dividend announcements even when the special dividend is smaller than before. They report significant abnormal stock returns of around one percentage in their study of special dividend announcements.

Beladi, Chao and May (2016) finds that companies typically declare special dividends from November until April. Companies distribute extra dividends around Christmas. Authors find abnormal returns from special dividends during the period.

## 5. DATA

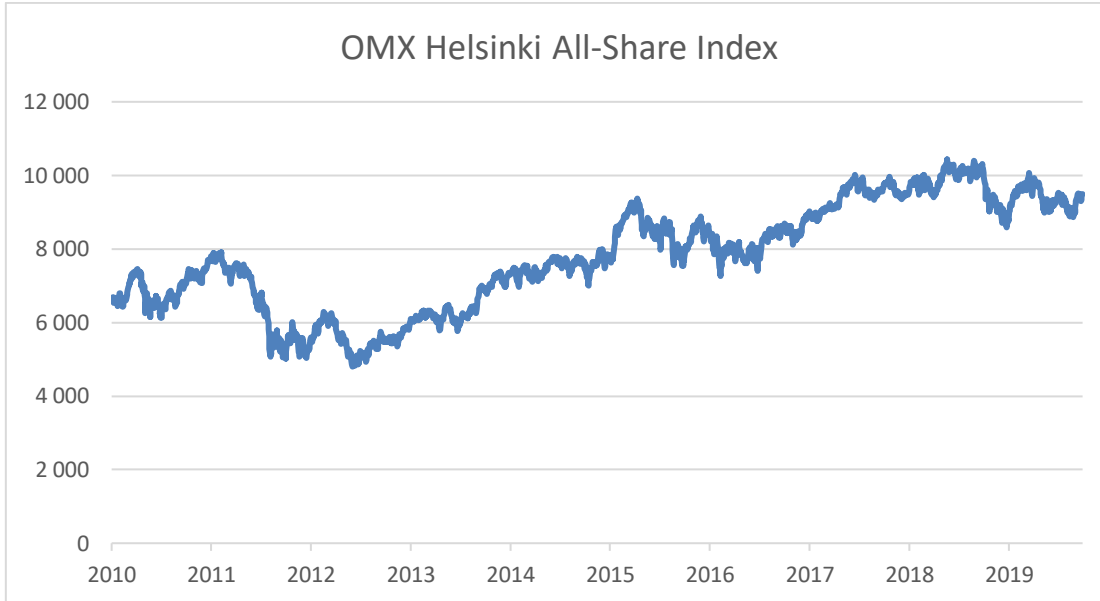
The data consist of shares listed on the Helsinki Stock Exchange that have announced special dividends from January 2010 to September 2019. OMX Helsinki All-Share index includes all shares that are included in Helsinki Stock Exchange. One share can have maximum weight of 10% compared to the market value. Daily closing prices of the index and individual stock prices are used. Logarithmic values are utilised to find out the daily returns. The special dividend announcements were retrieved from Thomson Reuters database and later manually checked from individual stock exchange releases from NASDAQ online services. The service has stock announcements of all listed companies in Finland. Companies propose special dividends in their invitation to the extraordinary or annual general meeting. After manually checking the announcements, the data of this study consists in total of 90 special dividend announcements.

Recent popularity of special dividend announcements supports the relevancy of the study. There have been more special dividend announcements in 2019 than any other year. The figure 5 shows the special dividend announcements divided into years.



**Figure 5.** Special dividend announcements divided to years.

According to Shih (1991) findings special dividends announced in bull markets have significantly higher positive market reaction than in bear markets. The stock markets have risen significantly after the financial crisis. The recent bull markets in Finland can result in stronger effect of special dividend announcements. Figure 6 shows OMX Helsinki All-Share index performance from January 2010 to September 2020.



**Figure 6.** Stock market performance in Finland from January 2010 to September 2019.

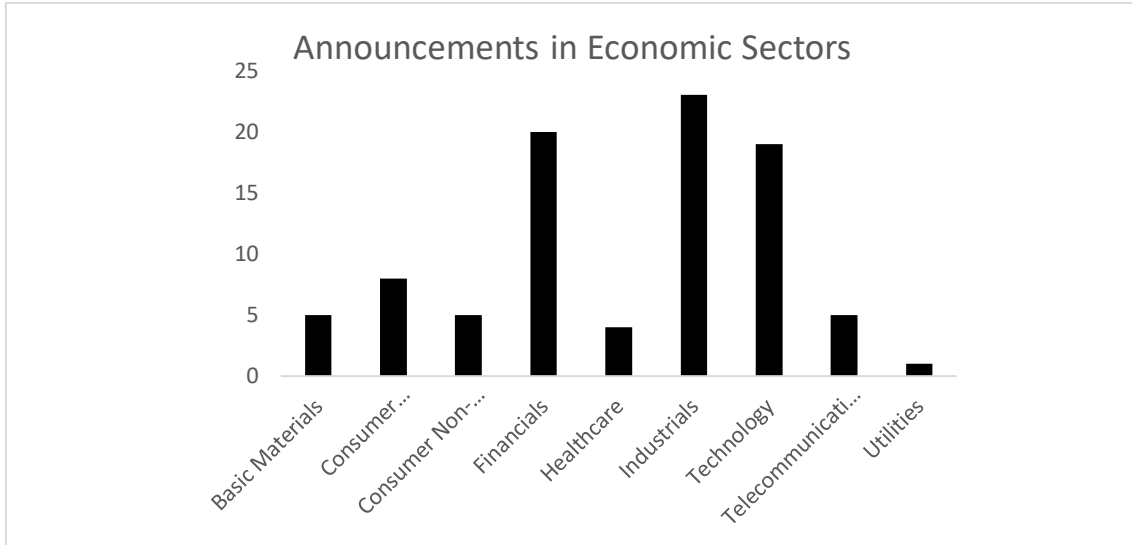
The sample contains dividend announcements that are infrequent and not declared on frequent basis since the market reaction can vary from announcements that markets begin to expect. This study acknowledges that presented findings may be affected by other events, for example firm acquisitions and earnings announcements. Events that are occurring during the event window are taken into account. The closing prices of small stocks that are not liquid can be traded with a lag of hours or days, which could affect the abnormal returns. In addition, the announcements may occur same day as macro economical announcements or news affecting directly to the stocks. Companies that had no data available to calculate the estimation window were excluded from the study. However, distribution from companies invested unrestricted equity are included in the data. The sample excludes also payments in foreign currencies and considers only one share class if a company included in the study has many of them.

The data is split into categories according to the special dividends yield, which is calculated by dividing the special dividend amount with the announcement days stock price. Table 1 shows the different groups that consist of dividend yield under 2 %, dividend yield between 2 % to 3 % and finally dividend yield above 4 %.

**Table 1.** Special dividend announcements grouped by dividend yields.

| Group              | Announcements | Propotion |
|--------------------|---------------|-----------|
| Div. Yield > 2 %   | 30            | 33%       |
| Div. Yield 2 - 3 % | 28            | 31%       |
| Div. Yield < 4 %   | 32            | 36%       |
| Total              | 90            |           |

The data is also divided into industries by Thomson Reuters Economic Sector classification. The figure 7 shows that there are in total nine different sectors according to the sector classification.



**Figure 7.** Special dividend announcements divided to economic sectors.

The sector classification shows that most of the special dividend announcements are from the industrials sector, financials sector, technology sector and consumer sector. Hence, the small sectors are combined to meaningful sectors by industry characterises. This results in four different industry groups. The table 2 shows the four different industry groups and their proportion of the full sample. The largest group called industrials consist of 29 observations. The group includes industrials sector, utilities sector and basic materials sectors. The second largest group is called technology with 24 special dividend announcements. The group is a sum of technology sector and telecommunications services sector. The third group is financials with 20 observations consisting of only announcements from the financial sector. The final group is called consumer and has 17 observations that consists of healthcare, consumer cyclicals and consumer non-cyclicals sectors.

**Table 2.** Number of Special dividend announcements by industry groups.

| Group             | Announcements | Proportion |
|-------------------|---------------|------------|
| Consumer Cyclical | 17            | 19%        |
| Financials        | 20            | 22%        |
| Industrials       | 29            | 32%        |
| Technology        | 24            | 27%        |
| Total             | 90            |            |

## 6. METHODOLOGY

The study applies event study methodology to measure the effects of the special dividend announcement. Fama (1970) efficient market hypothesis states that new information should be reflected efficiently to the underlying stock price. One of the first event studies was concluded by Dolley (1933) by examining stock splits. The methodology that is still used nowadays was introduced by Fama, Fisher, Jensen & Roll (1969) and Ball & Brown (1968). (Mackinlay 1997: 13-14.) This study follows the seven event study steps determined by Campbell, Lo & Mackinlay (1997):

1. Identifying the event and event windows
2. Define sample selection criteria
3. Decide a measure to calculate abnormal and normal returns
4. Define the estimation window
5. Test hypothesis by calculating abnormal returns
6. Presentation of empirical results
7. Conclusions based on the event study

The first step to conduct an event study is to decide the event of interest. In this study the event is special dividend announcement. In more detail, the event consists of stock's exchange release of special dividend announcement. The data section describes the event and criteria in more detail. To conduct the study an event window needs to be decided. This means deciding the time frame which the companies' stock prices are calculated. Balachandran et al. (2004) study has four different short-term event windows. The event window of this study contains also four different periods. However, the event windows are divided to

two short run and two long run event windows. Short-term event windows are -5 to 5 and -1 to 1 and long-term event windows are -20 to 20 and -10 to 10. (Mackinlay 1997:14.) Figure 8 shows the difference between the estimation and the longest event window. All other event windows are between -20 to 20 days.



**Figure 8.** Event-study windows (Mackinlay 1997).

The second step is to select which companies are included in the study and what selection criteria is used. This study contains firms that have paid special dividends in Finland from January 2000 to September 2019. More specified selection criteria are described in the data section.

The third phase is to define the measure of abnormal returns. The abnormal returns are actual returns over the window, which expected returns have been deducted from. Gombola and Liu (1999), Shih (1992) and Balachandran et al. (2004) compute abnormal returns by utilising the market model in their studies of special dividends. Similar to previous research expected returns are calculated using market model. The model assumes a stable linear relation between the market return and underlying stock's return. Other way of calculating the normal returns would have been the constant-mean-return model. Market model is a

modification of the Capital Asset Pricing – model which has been described in the theoretical part of the study. (Mackinlay 1997: 18-19; Campbell et al 1997: 151-155.) Market model is as follows:

$$(4) \quad R_{it} = a_i + \beta_i R_{mt} + \varepsilon_{it}$$

From the market model formula we are able to modify the abnormal return formula. (Mackinlay 1997).

$$(5) \quad AR_{it} = R_{it} - (\alpha_i + \beta_i \cdot R_{mt})$$

Where:  $AR_{it}$  = stock's  $i$  abnormal return at the time  $t$

$R_{it}$  = stock's  $i$  return at the time  $t$

$\alpha_i$  = market portfolio's risk-free return

$\beta_i$  = stock's  $i$  estimated beta factor

$R_{mt}$  = Market's return over a specific period

Next the estimation window needs to be defined. The parameters of the formulas are estimated using subset prior to the event. Gombola and Liu (1999) use an estimation period that begins 260 days before the event and ends 61 days before the announcement. Shih (1992) estimates market model parameters over a 140 trading day estimation period beginning 200 days before the announcement. Balachandran et al. (2004) utilises 200 logarithmic return observations starting from 260 days before the event date. The estimation period used in this study is 90 days. The estimation period begins 120 days before the event and ends 30 days before. The shorter period is chosen based on data availability of daily closing prices of the stocks. After this the event hypotheses are tested by calculating the abnormal returns. (Mackinlay 1997; Campbell et al. 1997.) In case there can be

found statistically significant results the null hypothesis is rejected. Shih (1992) and DeAngelo (2000) use z-test to determine whether the daily average abnormal returns are different from zero. Gombola and Liu (1999) uses t-test to determine the significance of the returns. Results significance are tested by Adjusted Patell Z –test which was proposed by Kolari and Pynnönen (2010). The test statistic alters the standardised cross-sectional t-test proposed by Boehmer, Musumeci & Poulsen (1991), which is utilised for example in Balachandran, Faff and Nguyen (2004) study of special dividends in the Australian market.

The abnormal returns are combined to make conclusions for the event of interest. Cumulative abnormal returns (CAR) are calculated for single stocks to be able to measure the impact of the event period. CAR formula can be found below. (Mackinlay 1997, Campbell et al 1997.)

$$(6) \quad CAR_i(t_1, t_2) = \frac{1}{N} \sum_{t=t_1}^{t_2} AR_{it}$$

$CAR_i(t_1, t_2)$  is the stock's  $i$  cumulative abnormal returns from  $t_1$  to  $t_2$ ,  $N$  is the number of observations and  $AR_{it}$  is stock's  $i$  abnormal returns at the time of  $t$ . The CAR from  $t_1$  to  $t_2$  is the sum of the event periods abnormal returns. (Mackinlay 1997.)

Aggregating all stocks from the sample enables examining the affect more widely from whole markets point of view. Thus, average abnormal returns (AAR) and cumulative average abnormal returns (CAAR) are studied for all firms. Formula for AAR can be found below. (Mackinlay 1997.)

$$(7) \quad AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it}$$

Where  $AAR_t$  is the average abnormal returns at the time  $t$ ,  $N$  is the number of observations and  $AR_{it}$  is the abnormal returns of stock's  $i$  at the time  $t$ . Aggregating the stocks and calculating cumulative average abnormal returns enables to draw conclusions on the impact of the event during the event period. Cumulative average abnormal returns (CAAR) formula is as follows. (Mackinlay 1997.)

$$(8) \quad CAAR(t_1, t_2) = \frac{1}{N} \sum_{i=1}^N CAR_i(t_1, t_2)$$

Where,  $CAAR(t_1, t_2)$  is the cumulative average abnormal returns during the event period.

## 7. EMPIRICAL ANALYSIS

This part of the study presents the empirical findings. First the whole sample of special dividend announcements is analysed. After this the announcements are analysed based on their special dividends yields. Lastly, the special dividends are divided into four industry-based categories.

The first two hypothesis are tested against the whole sample. The data consist in total of 90 special dividend announcements. Table 3 shows the cumulative average abnormal returns for different event windows. Short term windows are -1 to 1 and -5 to 5 days and long term are -10 to 10 and -20 to 20 days.

**Table 3.** Cumulative average abnormal returns for different event windows.

| Interval  | Special Dividend Announcements |               |
|-----------|--------------------------------|---------------|
|           | CAAR                           | Adj. Patell Z |
| (-1, 1)   | 0,006**                        | (2,029)       |
| (-5, 5)   | 0,009*                         | (1,652)       |
| (-10, 10) | 0,016**                        | (2,032)       |
| (-20, 20) | 0,016                          | (1,309)       |
| Nb. Obs.  | 90                             |               |

\* Statistically significant at 10 % level

\*\* Statistically significant at 5 % level

\*\*\* Statistically significant at 1 % level

The cumulative average abnormal returns are statistically different from zero for special dividend announcements and the null hypothesis can be rejected. Special dividend announcements affect the stock price in every event window except the 41-days window. This means that the special dividend announcements have a positive stock price reaction up to 10 days surrounding the event. Mitra (1999) argues that the insignificance of long run event window provides evidence that there is no confounding event during the period.

The findings suggest that special dividend announcement have a positive signalling reaction towards investors, who seem to value the distribution of earnings. The returns increase from first window to later event windows. The

announcements have positive stock price reaction up to 1 %. The first interval from -1 to 1 days is the most statistically significant at 1 % level. Stock price won't drift to a considerably higher level in the long-term suggesting that the price drop of a special dividend payment is not visible. This suggest that the investor has not received the special dividend yet or the value of the stock is higher after the announcement.

**Table 4.** AARs for Special Dividend Announcements in the 11-day window.

| Days     | Special Dividend Announcements |                |
|----------|--------------------------------|----------------|
|          | AAR                            | Adj. Patell Z  |
| -5       | 0,001                          | (0,533)        |
| -4       | 0,003                          | (1,755)        |
| -3       | -0,002                         | (-1,117)       |
| -2       | 0,002                          | (1,431)        |
| -1       | 0,004**                        | (2,08)         |
| <b>0</b> | <b>0,006***</b>                | <b>(3,331)</b> |
| 1        | -0,004*                        | (-1,755)       |
| 2        | 0,000                          | (-0,048)       |
| 3        | 0,001                          | (0,025)        |
| 4        | 0,002                          | (1,496)        |
| 5        | -0,004**                       | (-2,031)       |
| Nb. Obs. | 90                             |                |

\* Statistically significant at 10 % level

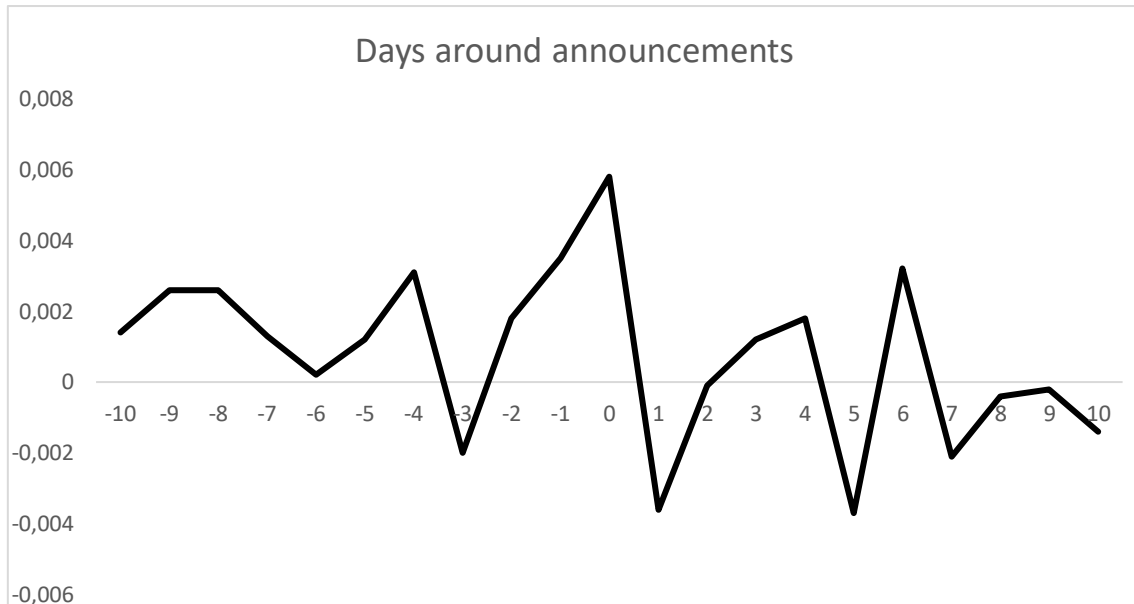
\*\* Statistically significant at 5 % level

\*\*\* Statistically significant at 1 % level

The table 4 shows average abnormal returns for the 11-day interval with full sample of 90 observations. There can be found statistically significant results for one day surrounding the announcements. The average abnormal returns for the announcement day are highly significant with positive average abnormal returns of 0.6%. The average abnormal returns are highest on the announcement day. The markets seem to react quickly and efficiently to the announcements, which is in line with the efficient market hypothesis. However, the average abnormal returns are relatively small compared to Howe, He and Kao (1992) study, where they find average abnormal returns of approximately 3.44 % for special dividend announcements.

The average abnormal returns are one day before the event statistically significantly positive, but slightly less than on the announcement day. It seems that the markets are already pricing in the announcement one day before the new information is available, which can be a signal of insider information and information asymmetry. Interestingly one day after the event stock prices decline. The announcement can send a negative signal towards investors. Investors may sell of the stock, because they don't believe the firm can generate positive cash flow from their excess cash in the future. The price decline can be also a result of preference in taxation. Investors may sell the stock, because they don't want to receive the special dividend. There are no significant returns after the first days, however it seems that the stocks react five day after and four day before the event. Typically, firms pay their special dividends soon after the announcement, which could explain the price decline on day 5 and the positive reaction after that shown in the figure 9. It seems that market participants prefer to sell the stock before receiving the dividend payment due to various reasons such as taxation. Figure 5 shows average abnormal returns for 21 -day event

window. The average abnormal returns seem to vary from positive to negative, which means that the market interprets the announcements with contradiction.



**Figure 9.** Average abnormal returns in 21 -day event window.

The table no. 5 presents the cumulative average abnormal returns in 3 different yield categories. The first group consists of 30 announcements that have under 2 % dividend yield. Secondly, dividend yield group between 2 to 3 % have 30 observations. The final group consists in total of 32 announcements that are over 4 % dividend yield.

**Table 5.** Cumulative average abnormal returns grouped by dividend yields.

| Interval      | Div. Yield > 2 % | Div. Yield 2 - 3 % | Div. Yield < 4 % |
|---------------|------------------|--------------------|------------------|
|               | CAAR             | CAAR               | CAAR             |
| (-1, 1)       | 0,001            | 0,000              | 0,015***         |
| Adj. Patell Z | (0,754)          | (0,029)            | (2,717)          |
| (-5, 5)       | 0,0125*          | 0,005              | 0,009            |
| Adj. Patell Z | (1,754)          | (0,287)            | (0,92)           |
| (-10, 10)     | 0,012*           | 0,013              | 0,015            |
| Adj. Patell Z | (1,952)          | (0,569)            | (1,114)          |
| (-20, 20)     | 0,019            | 0,003              | 0,024            |
| Adj. Patell Z | (1,488)          | (0,298)            | (0,093)          |
| Nb. Obs.      | 30               | 28                 | 32               |

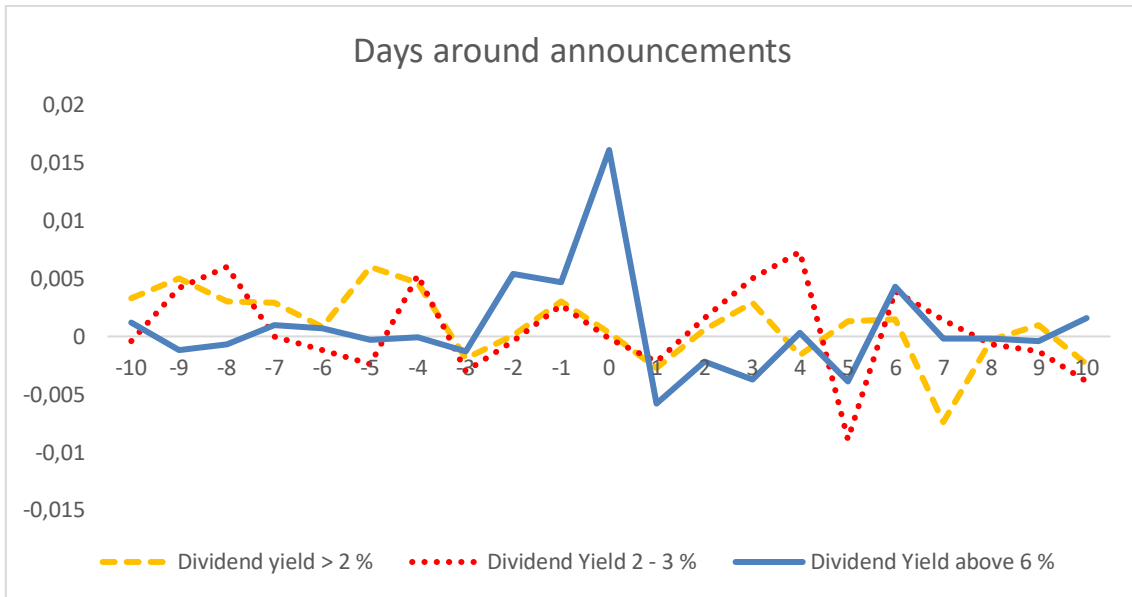
\*\*\* Statistically Significant at 1 % level

\*\* Statistically Significant at 5 % level

\* Statistically Significant at 10 % level

According to Baker, Mukherjee and Powell (2005) special dividends should signal positive information positive current performance rather than long-run performance. Previous studies find more positive reaction to large non-recurring dividend announcements than small announcements. Consistent with the previous studies, table 5 shows that dividend yields above 4 % have the largest cumulative average abnormal returns. The test results show a statistically significant at 1 % level cumulative average abnormal returns of 1.5 % for the 3-days event window. The price reaction seems to be efficient and the new information is quickly adopted for the large special dividend announcements. After the first days surrounding the event the impact of the announcement does not generate any notable returns.

Surprisingly, there seems to be no impact of the special dividend announcement for the second group with dividend yield between 2 – 3%. The last group with dividend yields below 2 % does not experience any statistically significant cumulative average abnormal returns on the 3-day event window. Interestingly the 11-day and 21-day event windows generate positive cumulative average abnormal returns with 10 % statistical significance. The result can be partly explained by the fact that investors associate the small special dividend announcements as an increase in normal dividends instead of considering them as a one-time special dividend with a purpose to contribute excess cash. The dividends could be distributed from 5 to 10 days after the announcements, which could explain the cumulative average abnormal returns in the 11 days and 21 days event window in the low dividend yield group. It seems that in contradiction to the irrelevancy theory, according to the findings the ex-dividend day price drop is not undoubtedly equal to zero. This would be in line with the recent studies regarding ex-dividend day. The figure 10 shows the average abnormal returns of the different yield groups.



**Figure 10.** Average abnormal returns for different dividend yield groups.

The table 6 shows the cumulative average abnormal returns for four different industry groups. The special dividend announcements are divided into four different industry groups. The groups are called consumer, financials, industrials and technology. The consumer group consist of 18 announcements, financials 20 announcements, industrials 28 announcements and technology 24 announcements.

**Table 6.** Cumulative average abnormal returns grouped by industries.

|               | Consumer | Financials | Industrials | Technology |
|---------------|----------|------------|-------------|------------|
| Interval      | CAAR     | CAAR       | CAAR        | CAAR       |
| (-1, 1)       | 0,02***  | 0,002      | 0,014***    | -0,012**   |
| Adj. Patell Z | (3,162)  | (0,293)    | (3,194)     | (-2,002)   |
| (-5, 5)       | 0,022**  | 0,002      | 0,022       | -0,011     |
| Adj. Patell Z | (2,019)  | (0,11)     | (0,255)     | (-0,943)   |
| (-10, 10)     | 0,051*** | 0,012      | 0,026       | -0,018     |
| Adj. Patell Z | (3,373)  | (0,778)    | (1,899)     | (-1,32)    |
| Nb. Obs.      | 18       | 20         | 28          | 24         |

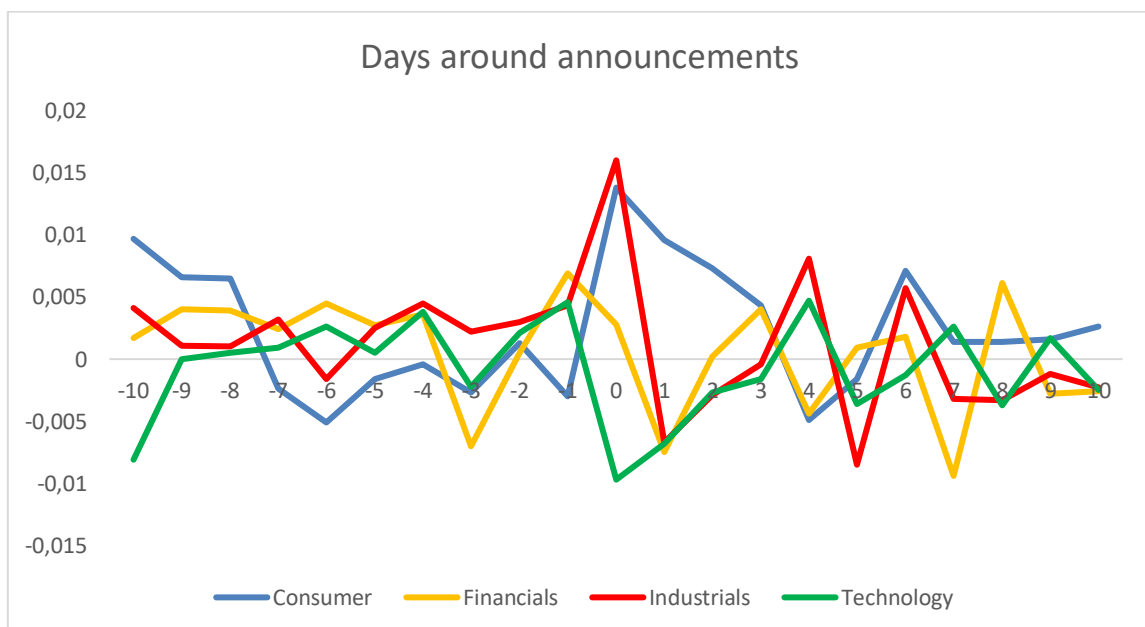
\*\*\* Statistically Significant at 1 % level

\*\* Statistically Significant at 5 % level

\* Statistically Significant at 10 % level

Balachandran, Faff and Nguyen (2004) study special dividend effects on different industries. According to the findings, non-financial firms have stronger market price reactions than resource and financial firms. Consistent with the previous studies, the table 6 shows that the consumer group have statistically significant large positive cumulative average abnormal returns above 2 % in all event windows surrounding the event. The stock price seems to surge with a strong and increasing magnitude towards the long-term event windows. The special dividend announcement has a positive market reaction and the effect seems to be long-term. Investors seem to interpret the announcement as a positive signal. The long-term returns support the theory of post announcement drift. Similar to the consumer group, industrial firms stock prices react positively surrounding the event. However, the stock price has only statistically significant returns of 1.4

% in the 3-day event window. The markets seem to react efficiently to the new information. In contradiction to the consumer and industrial group, the announcements have no impact on financial stocks. There can be found no statistically significant returns. Interestingly the technology stocks decline surrounding the special dividend announcements. There can be found statistically significant negative cumulative average abnormal returns of 1.2 % on the 3-day event window. Results suggest that investors don't want to receive the special dividend. The announcements send negative signals that results in stock price declines. This can be due to expectation decrease to the firms ability to invest to profitable projects and generate positive cash-flow in the future. Figure 11 shows average abnormal returns for the different industry groups in 21-day event window. The figure shows that the largest average abnormal returns are in the short-term.



**Figure 11.** Average abnormal returns grouped by industries

## 8. CONCLUSIONS

The study examines if markets reacts to the special dividend announcements. The changing interest rate environment drive managers to find new solutions to deal with excess liquidity. Most traditional ways to distribute earnings to shareholders is by dividends or share repurchasing. Special dividends provide an agile way to distribute non-recurring earnings after an unusually strong earnings period or asset sale. According to the previous research the special dividend announcements convey information to investors resulting in a positive market reaction. Most of the past research have been conducted in the U.S. stock markets. Hence, to give new supporting evidence the data consists of 90 individual special dividend announcements in Finnish stock markets from January 2010 to September 2019.

The full data is analysed and according to the findings investors react positively to the special dividend announcements and the null hypothesis can be rejected. The cumulative average abnormal returns are statistically significant in all event-windows except the 41-day window. The stock market reaction is statistically significant in the short-term, but the effect seems to disappear in the long term. The evidence supports the third hypothesis, which states that the special dividend announcements affect only short-term, but does not exist in long-term. The results suggest that semi-strong level of efficiency does not hold in the Finnish stock market.

The sample is divided into three groups based on their dividend yields. The high dividend yield group has the most statistically significant stock price reaction in

short-term, which is in line with the second hypothesis. Surprisingly the announcements that have the lowest dividend yields experience positive cumulative average abnormal returns in two different event windows. The results suggest that a small increase in regular dividends could be labelled as special dividends. The timing of the reaction could mean that the dividend is paid soon after the announcements.

The sample is divided to four industry groups to determine if there are any industry specific market reactions to special dividend announcements. The findings show statistically significant reaction in the 3-day event window for all industry groups except financials. The results show that consumer group has statistically significant large positive cumulative average abnormal returns for all event-windows. The magnitude of the reaction seems to increase in the long-term. The 21-day event-window has highly statistically significant cumulative average abnormal returns of 5.1 %. In contradiction, financial group does not experience any significant returns. The difference can be due to the different payout policies between the two industries. Financial firms usually pay regularly large dividends and thus the special dividend announcements are irrelevant for investors. On the other hand, the results suggest that the market reaction for technology group is negative. Technology firms don't usually pay large dividends. The investors seem to interpret the special dividend announcement as a negative signal of future earning power in the technology industry.

To conclude, special dividend announcements signals new information to the investors. The market reaction is positive for all groups except the technology industry. The effect of the announcements seems to exist in the short-term but disappear in the long term. The magnitude seems to increase with the size of the special dividends announced.

Many further aspects could be investigated to improve the study. The number of observations could be extended to consists data before the financial crisis to find out if investors preference has changed after the crisis. In addition, the larger sample would improve the credibility of the results especially with the different industry groups. This study gives some evidence of industry differences, but more studies are needed to make relevant conclusions. For further research, the special dividends could be compared in different geographical areas.

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