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Russia related corporate announcements' effect on share prices of Finnish and Swedish companies

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Author: Lauri Kumpulainen

Supervisor: Maija Hujala

ABSTRACT

Author:	Lauri Kumpulainen
Title:	Russia related corporate announcements' effect on share prices of Finnish and Swedish companies
Faculty:	LUT, School of Business and Management
Major:	Financial Management
Supervisor:	Maija Hujala

In this bachelor's thesis, the effect of Russia related corporate announcements on Finnish and Swedish companies is studied. The research methodology which is used is event study with following parameters: 11 day event window from T-5 to T+5 and estimation window of 100 days from T-105 to T-6. The thesis tries to capture the impact of different kind of events and also the differences of the two markets. Research period is from year 2000 to 2015.

To observe the events they are categorized based on increased or decreased involvement in Russia as good events and bad events respectively. Events are plotted against Russian GDP growth to see if economic situation has impact on event types. For example are there bad events on times when GDP has declined or are those events distributed evenly. All the returns from good events in Finland are aggregated and cumulated to get the impact of all good events to Finnish stocks. Same is done for events which are categorized as bad. Similar process is conducted for Swedish events. Both Swedish and Finnish returns on good events are plotted against each other to see the differences in reactions. For bad events same procedure is applied.

Results suggest that Russia related corporate announcements have effect on share prices on both markets. Effect is positive in all cases except for bad news in the Swedish market where small negative yields were noted. Positive abnormal returns were more than 1 percent which indicates that the announcements did contain valuable information. Bad events tend to cluster to times when Russian economy has been in decline, more precisely to years 2009 and 2015. Finnish stock market was also found to be more vulnerable to Russian market which can be explained by more intensive involvement in only few countries. Similarly Swedish companies typically are more diversified than Finnish ones.

TIIVISTELMÄ

Tekijä:	Lauri Kumpulainen
Tutkielman nimi:	Venäjä-aiheisten yritysilmoitusten vaikutus suomalaisiin ja ruotsalaisiin pörssiyhtiöihin
Akateeminen yksikkö:	LUT, School of Business and Management
Koulutusohjelma:	Talousjohtaminen
Ohjaaja:	Maija Hujala

Tämän kandidaatintutkielman tarkoituksena on tutkia Venäjään liittyvien yritysilmoitusten vaikutusta suomalaisiin ja ruotsalaisiin pörssiyhtiöihin. Tutkimusmenetelmänä käytetään tapahtumatutkimusta 11 päivän tapahtumaikkunalla ja 100 päivän estimaatioperiodilla. Tapahtumaikkuna on viisi päivää ennen ja jälkeen tapahtuman ja estimaatio 100 päivää ennen tapahtumaikkunan alkamista. Tutkimuksen aineisto koostuu Helsingin ja Tukholman pörsseissä julkisesti noteerattujen yritysten osakkeiden tuottoaikasarjasta tammikuusta 2000 joulukuuhun 2015.

Havaintojen tekemiseksi ilmoitukset on jaettu positiivisiin ja negatiivisiin ilmoituksiin sen perusteella, lisätäänkö vai vähennetäänkö liiketoiminnan laajuutta Venäjällä. Tapahtumat ja Venäjän BKT:n muutos piirretään kuvaajaan, josta nähdään, keskittyvätkö tietynlaiset tapahtumat jollekin ajalle. Positiiviset ja negatiiviset tapahtumat Suomesta ja Ruotsista lasketaan yhteen ja kumuloidaan, jotta nähdään positiivisten ja negatiivisten tapahtumien vaikutukset pörssikursseihin. Menetelmän tuloksena saadaan selville markkinoiden reaktiot ilmoituksiin sekä kuinka herkkiä markkinat ovat kyseisille ilmoituksille.

Tulosten perusteella Venäjä-aiheisilla ilmoituksilla on vaikutusta suomalaisiin ja ruotsalaisiin pörssiyhtiöihin. Epänormaalit tuotot ovat positiivisia kaikissa muissa tapauksissa paitsi Ruotsissa negatiivisten ilmoitusten seurauksena. Ruotsissa negatiiviset ilmoitukset johtavat pieneen negatiiviseen tuottoon, kun muissa tapauksissa ylituotto on noin prosentin luokkaa. Negatiiviset tapahtumat keskittyvät selvästi ajanjaksoille, jolloin Venäjän talous on laskusuhdanteessa, eli vuosille 2009 ja 2015. Suomalaisten yhtiöiden huomattiin myös olevan haavoittuvaisempia Venäjältä tuleviin ilmoituksiin. Syy tähän voi olla suomalaisten yhtiöiden suurempi keskittyminen Venäjälle verrattuna ruotsalaisiin yhtiöihin.

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1. INTRODUCTION

Recently Russia has been widely in the global news, mostly however in negative view, due to major changes in their policies and economic situation. These changes have not only had impact on Russia but also countries conducting business with them. The increased volatility of the business environment has encouraged some companies to end their operations in the market, while some believe problems are only temporary and not decreased their presence in the country. The author of this thesis realizes the fact that Russia or Russians will never disappear from the global economy and it continues to offer vast possibilities with ever changing environment. The only question is the ability to adapt.

This thesis uses quantitative data from stock markets, more precisely closing prices of selected companies which are presented later. Research period is from the year 2000 to year 2015. Method of research is event study which tries to capture abnormal returns announcements yield. Abnormal returns are then cumulated and aggregated to derive total return of specific type of events.

1.1 Research questions

This thesis tries to capture the excess return of Finnish and Swedish listed companies which have reduced or increased their presence in Russia. Thesis utilizes method of event study for corporate announcements. The main research question is *“How corporate announcements about Russia affect the stock prices?”*. It is likely that announcements have impact on stock prices as new information about the company is released. There might however be announcements which do not have clear impact on share prices which can be explained by their minor role to the whole business of the company or due to the fact that this information is already discounted to share prices.

Secondary questions are more related to differences between the Finnish and Swedish market and event types.

“Is there difference between event types and returns”, this means that events which increase the potential to earn greater profits should have positive impact on returns as events where plants are closed should, in theory, yield negative returns.

"Is there difference between returns in Finland and Sweden?" and *"Which one, Finland or Sweden, is more vulnerable to Russian market"*, these questions are based on the assumption that Swedish companies are more international and more diversified which leads to fact that one specific market should not have such a great share of the company's operations. Contrarily Finnish companies which are heavily involved in Russia have fewer markets where they are present and Russia brings major share of operations to many Finnish companies. Finnish companies are assumed to be more vulnerable to new information from Russia.

"Does the timing of the event have effect on event type", this question is based on the assumption that during good times companies are more actively looking for investment opportunities and thus expanding their businesses. During bad times companies are more worried about staying alive and this struggle for survival may even lead to withdrawing from some markets.

When researched and interpreted properly the finding can provide valuable insight for companies and investors.

1.2 Limitations

The study is limited to a portfolio of Finnish and Swedish companies which have had operations in Russia within the research period of 1.1.2000 to 31.12.2015. When the stock market reaction for corporate announcement is calculated, the actual impact of the announcement to the revenues, margins, profits or the overall company's exposure to Russia is ignored. This is done because it would complicate the research and take it beyond the level of bachelor thesis. Also many companies do not disclose the percentage of revenues that are coming from each and every country or the exposure of one specific market if it is not a major one. Companies are also selected regardless of industry which generalizes the results. It could provide more accurate results to study difference of similar companies listed in different exchanges. This, however, provides interesting topic for further research in order to challenge or strengthen the results this thesis presents.

1.3 Structure of the thesis

This thesis is divided into five chapters. The first chapter introduces the thesis and discusses about research questions and restrictions imposed on the study. Second chapter presents main theories which this thesis relies upon and views what other researches have studied previously with event study methodology. After the theoretical framework the event study methodology, data gathering and data processing is reveled in chapter three. In this chapter descriptive analysis is used to show how specific kind of events clusters to certain years. Fourth chapter presents the results of the study and answers to research questions. Finally the thesis is concluded in chapter five where conclusions and further research topics are discussed.

2. THEORETICAL FRAMEWORK

Theoretical framework part complies the main theories on which the study relies upon. The main theoretical framework is to find out whether new information affects stock prices and thus returns. This is in form of efficient market hypothesis (EMH) which is major assumption to many studies over the field of finance. Secondary is the signaling theory which is trying to explain the leakage of information and why the share prices are rising or declining before the corporate announcement.

2.1. Efficient market hypothesis

Efficient markets are such where all available relevant information in the market is reflected to stock prices. According to efficient market hypothesis, after company gives an announcement the price of the stock is immediately adjusted to new level to represent better the fair value of the company. The efficient market hypothesis has three different types of efficiency, the weak form, the semi strong form and strong form. Markets are weak form efficient if the historical prices hold all the information about future stock prices. (Ross, Westerfield, Jaffe 2008) This suggests that investors cannot make excess returns based on information contained in the past returns, technique which is also known as technical analysis (Ardalan, 1996). Semi strong efficiency holds when all publicly available information is incorporated to stock prices. Publicly available information includes information that can be acquired from the company's web pages and various other sources. It also includes information that can have an effect on company's valuation, for example information about currencies and political situation in countries where company is conducting business. Strong form efficiency is applied when all, including insider information, is reflected to stock prices. As literally all information would be freely available to investors it would be impossible to trade based on insider information, as everyone would have had discounted that information to prices (Ardalan, 1996). According to this, corporate announcements, on the announcement time, have significant impact, as that information would already be in the markets. The strong form efficiency is such an extreme model of the financial markets that it is mainly used as a contrast to see how the other forms are differing from strong form efficiency (Fama, 1970). As Malkiel (2003) puts it, the efficient markets are affiliated with the term “random walk”. Random walk is defined to represent stock price movement where the yesterday’s information has no influence where the price is moving today and today's price is only affected by today's news. As this thesis studies information that has been published in company's web pages it assumes that markets are at least semi strong efficient. Thus we should see the reflection of new information to the stock prices and measure the difference form expected return. However, in some cases it can be possible that the information has leaked out or insiders have traded based on their better knowledge, and thus the impact on published announcement is diminished.

There is criticism to efficient market hypothesis, which says that markets are not at all efficient and that behavioral aspects of human beings have much larger impact on share prices than expected. Anomalies which have been found suggest markets not to be efficient. For example studies by Lo and MacKinlay (1999) find that in the short run some momentum in stock prices appear. According to Shiller (2000) psychological contagion had impact on US stock market in late 1990's. Also in order for markets being effective there should not be any taxes, transaction fees and all information should be freely available and analyzed to interpret fair value. Some investors, like Warren Buffett, have constantly been able to over perform the market which should not be possible according to efficient market hypothesis. (Malkiel, 2003) However the discussion whether the markets are efficient or not is beyond the scope of this thesis and in order to make assumptions at least some efficiency is expected to hold.

2.2 Signaling theory

Whenever there is information asymmetry in the market, signaling effect can have impact on the share performance. Signaling happens when one party with better information, usually the insiders of a company and the company itself, releases announcements about some company specific news. In large public companies the agency problem is inevitable due to separation of owners and managers creating information gap between those parties (Goins & Gruca, 2008). The announcements have information content, as managers of the company can show that they are on top of things and the investment is in safe hands. Cai, Duxbury and Keasey (2007) found out that companies which signal more and better tend to be successful over companies which do not signal as much. The wide public also lacks the information about the plans of the company and announcements give peek on where the company is going and how it plans to earn more money. As with all information, whether it is a good news or bad news depends on the receiver of the news. In the market news for example about a new joint-venture has different weight on each investor's value model and the true impact is left for markets to decide by combining the valuations. (Connelly, Certo, Ireland & Reutzel, 2011) How the announcement is taken on the market is dependent on the signaling environment and this is one aspect this thesis tries to capture, whether the situation in Russia has effect on announcements. For example when times were good plant closure could be interpreted negatively but during tough times such an announcement would be a celebrated news and stock price would soar. Similar kind of announcements to different firms might have different impacts on share prices, as depending on the specific situation of the company such news can indicate positive outlook and for other company the signal may be negative. Savov (2006) studied dividend announcements and found out that dividend increases did not lead to better valuations on the market. This may first seem weird as basic valuation models are based on dividends but as Savov (2006) noted the dividend increases do not contain information about future operation and ability to keep paying such dividend. Thus the signal must be carefully assessed to capture the true meaning of it. Announcement's impact on the share price should be to opposite direction than the current trend, as for example negative mood is already discounted to share prices and the news would wholly or partly relieve company from risks involved within that business segment. It is important to notice that the company is not the only party that may signal about their operations. Other investors and intermediaries, for example banks and trading platforms, can also provide information about the company (Miglo, 2010).

2.3. Previous studies using event study methodology and literature review

In their 1969 study Fama, Fisher, Jensen and Roll studied how stock prices are affected by new information and specifically do stock splits lead to unusual rates of returns. Their findings include that new information is fully reflected to the share prices by end of the month. Their study was among the first event studies out there. Similarly Kadiyala and Rau (2004) studied investor reactions to corporate event announcements, more accurately to share repurchases, seasoned equity offerings and acquisitions and whether investors' reactions are under or over reactions. They found out that events which were released prior to good news had positive abnormal returns compared to those events which were released prior to bad news. In Italy Ianniello and Galloppo (2015) studied the market reaction to auditor opinions. This was not a corporate event as such but rather a company related news, which might have impact on share prices. Their findings include that when auditors have given an opinion it has real value to investors because, depending on the seriousness of opinion, share prices decline or increase in value. Changes in revenues due to changes in accounting principles have not had an effect on share prices according to study conducted by Ball (1997). Ball's findings abolish common belief that the stock market is not correctly valued due to some changes in accounting techniques. Bengali (2015) studied the impact of mergers and acquisitions and found that performing such activities has positive return for the shareholders of the target firm. He found leakage of information prior the announcement but noted that in most cases post announcement excess returns were positive, which reinforce that the deal has economic viability. More recently signaling effect of dividend announcements on Karachi Stock Exchange in Pakistan was studied by Chauhary, Hashmi and Younis (2016). Their founding's strengthening the previous studies on the topic which indicate dividend announcements having positive effect on share prices. According to Binder (1998) the event study method has become industry standard for measuring impacts on share prices after an event or an announcement. Binder came to such conclusions after he studied what other authors have written ever since 1969. Major foundations to event studies have been made by Brown and Warner (1980 & 1985) who utilized the method to various research topics. They are referenced in nearly every event study out there. The event study methodology is even used to estimate the value of super bosses, namely Steve Jobs, to the company's share price. Jiraporn, Jiraporn, Chatjuthamard and Tong (2016) found out that Jobs was valued to 20 billion dollars to the company, or at least that was the amount Apple declined in value after his death.

The Russian market as such is widely researched by various researchers, for example Saleem (2008a & 2008b) and many authors under the Bank of Finland, for example Godlewski, Fungacova and Weill (2011) and Korhonen and Peresetsky (2016) to name few. To the knowledge of the author of this thesis there are no such previous studies made within this framework and the Russian market.

3. RESEARCH METHODS

Research methods chapter describes the methodology of this event study. The chapter also tells and describes the steps which were used to conduct the study. The method to select suitable companies and how their price data was processed is presented also in this chapter.

3.1. Event study

As stated earlier, event study method has become a standard method when measuring effects on prices after an event, policy change or market wide news. Another name for event study is abnormal performance index test which well describes the purpose of the study, to test for abnormal returns within the market or stock. There is a wide variety of different techniques which can be used to perform the study. However, sometimes the context of the study will determine which technique to use. As in this thesis information content of corporate announcements is tested. According to Bowman (1983) information content tests involve five step. The steps are:

Step 1: Identify the event of interest.

Identifying the event or events of interest is essential part of conducting an event study as it determines the hypothesis that can possibly be drawn from the study. Event of interest can be market wide event, such as policy change or change in GDP growth, or it can be company specific event or events, depending on the interest of the researcher. Company specific events happen at a different time for each companies, this requires precise timing of the events and determining the event window when it happened. Studies that involve multiple events tend to be more robust compared to single event as noise of the market is distributed more evenly and chance problem of systematic experimental error is reduced. (Bowman, 1983) In this thesis the event of interest is Russia related announcement in the company's web pages.

For events it is crucial to identify the timing of the event to the point when the news of the event became public instead of the time when the event actually happened, for example dividend announcement versus the pay date of the dividend. As Brown and Warner (1980) noted the robustness of the study relies heavily on preciseness of timing the events. They suggested that researchers should go through the issues of The Wall Street Journal to specify precisely the event announcement dates. However, as we are now living in the information age, it is much easier to get event dates from companies' web pages and from public directories, thus making event studies much more effective and simpler. Timing of the events can be narrowed precisely within a day as the date of announcement release is known.

Further problems may arise when events are confounding and cannot be controlled. Confounding might happen when studying an effect of one event there is another event at the same date or close to it and that event is not in our interest, but it might have an impact on the share price of the asset under our study. Success of the study relies heavily on researcher's possibility to control confounding events. (Bowman, 1983) Company level confounding events are especially hard to control as noted by Watts (1973), who studied the dividend announcements and tried to control the earnings announcement that practically came at the same time.

Step 2: Model the security price reaction.

The impact of similar events for different companies may yield different results as for one company the market deems one action positive and as for the other company it reacts negatively to the news. However, in order to study the impact of the event to the company's share price an event window is to be determined. Event window is the time period in which the effect is expected to be seen. Event window is typically from one day before the event to one to three days after the event, it must however be long enough to measure the effect of the event but it cannot be too long because of the risks that confounding events and other factors start to affect the stock price too much. Preceding days are often taken in to the event window in order to capture any possible information leakage and usage of insider information before the event is announced to the general public. When the event window is determined one must calculate what the expected return would be if there had not been any event. This is done by calculating the average return from period before the event and thus the expected return for event window is derived. (Wells, 2004) The methods to calculate expected returns are described in the following section. This thesis uses event window of 11 days, five days to both sides of the announcement date. Timeline of event window, according to MacKinlay (1997), is presented below.

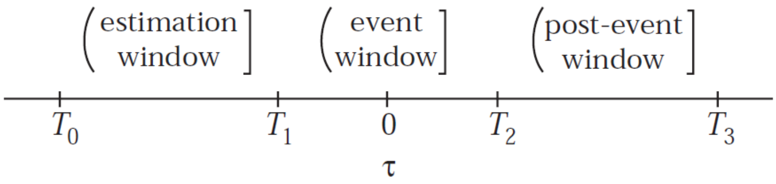

Figure 1. Time line for an event study (MacKinlay, 1997).

Time zero, or event date is the date when the event was announced and T_1 and T_2 are five days apart from that. Estimation window, which will be discussed in more detail later, is 100 days prior the event window, which will say that when T_1 is five days before the announcement T_0, the start of the estimation period, is 105 days before the announcement was made public.

Step 3: Estimate the abnormal returns

In order to measure the event's effect on the security price one must calculate abnormal return over the normal return that would have been expected over the period in question. Abnormal return is calculated by subtracting the actual return from the normal or expected return for that date. (MacKinlay, 1997)

$$AR_{it} = R_{it} - E(R_{it}|X_t), \tag{1}$$

where

AR_{it} = abnormal return of *i* on time period *t,*

R_{it} = actual return of *i* on time period *t,*

X_t = normal return on time period *t*,

$E(R_{it}|X_t)$ = expected normal return on time period *t*.

Normal return can be modelled with different models, which can be separated into two categories; economic and statistical models. As the names of the models say, the other bases its results on statistical assumptions and the other tries to benefit from understanding the behavior of investors. Thus the models pose different restrictions for modelling the security price movement. Next, three different models will be presented, their advantages and disadvantages, and discussion on which model is chosen for this thesis.

Constant Mean Return Model is one of the simplest models, yet it has been found to be almost as effective as more complicated models as Brown and Warner in their 1980 study pointed out.

$$R_{it} = \mu_i + \zeta_{it}, \tag{2}$$

$$E(\zeta_{it}) = 0,$$

$$var(\zeta_{it}) = \sigma^2_{\zeta_i},$$

where

R_{it}	= return on security *i* for period *t,*
$E(\zeta_{it})$	= expected residuals of *i* for period *t*,
$var(\zeta_{it})$	= variance of expected residuals of *i* for period *t,*
$\sigma^2_{\zeta_i}$	= standard deviation of *i*.

(MacKinlay, 1997).

As the model is fairly simple it poses restriction on attributes which can be taken into consideration. Also as in this thesis daily data is used, and generally with Constant Mean Return Model nominal returns are utilized.

Market Model, as the name imposes, compares security returns to the market return assuming normality for given returns. The market model is one example of models called factor models as it takes the market return factor in consideration.

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \tag{3}$$
$$\mathrm{E}(\varepsilon_{it}) = 0,$$
$$var(\varepsilon_{it}) = \delta^2_{\varepsilon i},$$

where

R_{it}	= return on security *i* for period *t*,
ε_{it}	= zero mean disturbance term,
α_i	= intercept coefficient of *i*,
β_i	= slope of *i,*
R_{mt}	= return on market for time *t.*

(MacKinlay, 1997).

The market model has ability to expose abnormal returns more precisely thus improving results on event effects. Ability to do so comes from restricting the market variance from the security variances and therefore market model is that much more powerful than Constant Mean Return Model.

The two models presented above were statistical ones. Capital asset pricing model (CAPM) is more of an economic model. CAPM as presented by Sharpe (1964) is common method to determine asset prices by their relation to the covariance of market portfolio. CAPM was earlier used widely as the main model for event studies but after 1970s the market model started to be used more often. Problems with using CAPM lay within the restrictions on its market modelling due to anomalies which Fama and French (2003) pointed out.

In this thesis the market model is used because it is more sophisticated model and it also includes the risk adjustment to the estimated returns. Also, when comparing the above presented methods it is the most suitable for the purposes of this thesis where two different markets are used in comparing the effects.

First the betas (β_i) for each company under the study were estimated using regression analysis. The specific stock's performance is compared against the market performance. β_i can get values from -1 to 1, where -1 means when the market moves up by 1 percent the stock of the company moves down by 1 percent and similarly if β_i is 1 when markets move up by 1 percent the company moves up 1 percent. At value of zero the company is said to be risk free as it does not move anywhere when the market moves. The time period before the event is used in the normal return estimations and the longer the period is, the better estimations one should derive. However, as stated already earlier, the problem of other events affecting the market and the stock might be present with long estimation periods. Therefore, tradeoff is made between long period, which might have abnormal instances occurring, and shorter period, where such instances can be controlled better. (Wells, 2004) Estimation period of 100 days prior the event is used in this thesis.

Step 4: Organize and group the abnormal returns.

After the abnormal returns are calculated for each event within the event window the cumulative abnormal returns (CAR) are calculated from T_1 to T_2 by summing them up with following formula:

$$\widehat{CAR}_i(T_1, T_2) = \sum_{T=T_1}^{T_2} \widehat{AR}_{it}, \quad (4)$$

where

$\widehat{CAR}_i(T_1, T_2)$ = the cumulative abnormal return of *i* from T_1 to T_2,

$\widehat{AR}_{it}$ = abnormal returns of *i* from time *t*,

(MacKinlay, 1997).

This gives total abnormal return on one specific event on one specific security. In order to capture the effect of multiple events on securities CAR's need to be aggregated to cumulative aggregated abnormal returns (CAAR). Aggregation requires that no estimation period or event window is overlapping. This can lead to exclusion of some events but grants the independence of events and their effect. In practice this means that if company has announced multiple events within the estimation period for the event of interest, estimation is biased due to non-normal returns within estimation period. This may have meaningful effect on the estimation. Aggregation calculates the average of cumulative abnormal return for each time period in the event window as presented below:

$$\overline{CAR}(T_1, T_2) = \frac{1}{N}\sum_{T=T_1}^{T_2}(\overline{AR}_T), \qquad (5)$$

where

$\overline{CAR}(T_1, T_2)$ = the cumulative average aggregated returns from T_1 to T_2,

$(\overline{AR}_T)$ = average abnormal returns of time *t*,

N = the sample size.

After the aggregation the impact of the event under study, if there is any, can be seen. (MacKinlay, 1997)

Step 5: Analyze the results.

To analyze and interpret the results their statistical significance must be calculated. There are two types of significance tests, parametric and nonparametric ones. Brown and Warner discussed the difference of the tests in their 1980 paper and note that t-tests are well-specified and often the nonparametric tests, such as Wilcoxon test, will not reject the null hypothesis often enough due to asymmetry in the distributions of the security returns. However Fama et.al (1969), in their ground laying study of stock price adjustment to new information, did not use any statistical test to test the results. But as Bowman (1983) notes, due to their large sample size, results would be hard to prove faulty.

This thesis uses the student's t-test to test the significance of the aggregated abnormal returns.

$$t_{AR} = \frac{\overline{AR}_t}{\sigma_{AR}/\sqrt{N}}, \qquad (6)$$

where

t_{AR} = the t-statistic,

$\overline{AR}_t$ = the average abnormal return for time *t*,

σ_{AR} = the standard deviation of abnormal returns at time *t*,

N = the sample size.

(Barber & Lyon, 1997)

3.2. Data

All the listed companies from Helsinki stock exchange and from Stockholm stock exchange were given a random value and then according to those values they were sorted from the highest to the lowest. This procedure gave randomized list of stocks and thus the stock selection is not biased due to researcher. After stock were sorted based on their assigned random value Kauppalehti database and companies' websites were used to gather the events. If company did not have any Russia related event, or the announcement was unclear for research purposes, for example opening a plant in St. Petersburg and closing plant in Moscow, company was excluded. Companies which did not have Russia related news at time period from 1.1.2000 till 31.12.2015 were excluded as were also companies which are listed to both exchanges. Fifteen companies from each exchange, thirty companies in total, were finally selected for the study. Then the events are sorted to "good" events and "bad" events. "Good" events are such where the company is investing in Russia, forming joint ventures, purchasing companies and increasing its involvement in the country. "Bad" events on the contrary are such where company is selling its assets in Russia, closing its factories or decreasing involvement in Russia. The categorization had nothing to do with the real impact for the company as sometimes closing a factory can be economically wise move and vice versa.

Selected companies are presented in Table 1 below. Companies are not in any specific order and their share class is also presented.

Table 1. Randomly selected companies.

Helsinki	**Stockholm**
Nokian Renkaat	Tele2 A
Atria A	NIBE Industrier B
Sanoma	Lundin Petroleum
Oriola-KD A	SWECO A
SRV Yhtiöt	Lindab International
CapMan B	Volvo A
Ponsse	SECTRA B
UPM-Kymmene	Oasmia Pharmaceutical
PKC Group	Electrolux A
Solteq	New Wave B
Kesla A	Beijer Alma B
Wärtsilä	Hexagon B
Technopolis	SKF A
Neste	Trelleborg B
Digia	Modern Times Group B

This gave us 57 events from the Finnish companies and 51 events from the Swedish companies. Before the exclusion process events were calculated per year and plotted against the Russian GDP growth. This basic plot analysis (see Figure 2.) shows that most of the bad events were close to years when Russia has had negative growth. However other things, such as political situation can encourage companies to withdraw their businesses or plans of investments, so the GDP growth may not be the main driver behind their actions. The one bad event in 2005 was by the Finnish company Neste and it included selling their Russian operations because their renewed strategy to stop such operations in production and it was not due to negative outlook in the market.

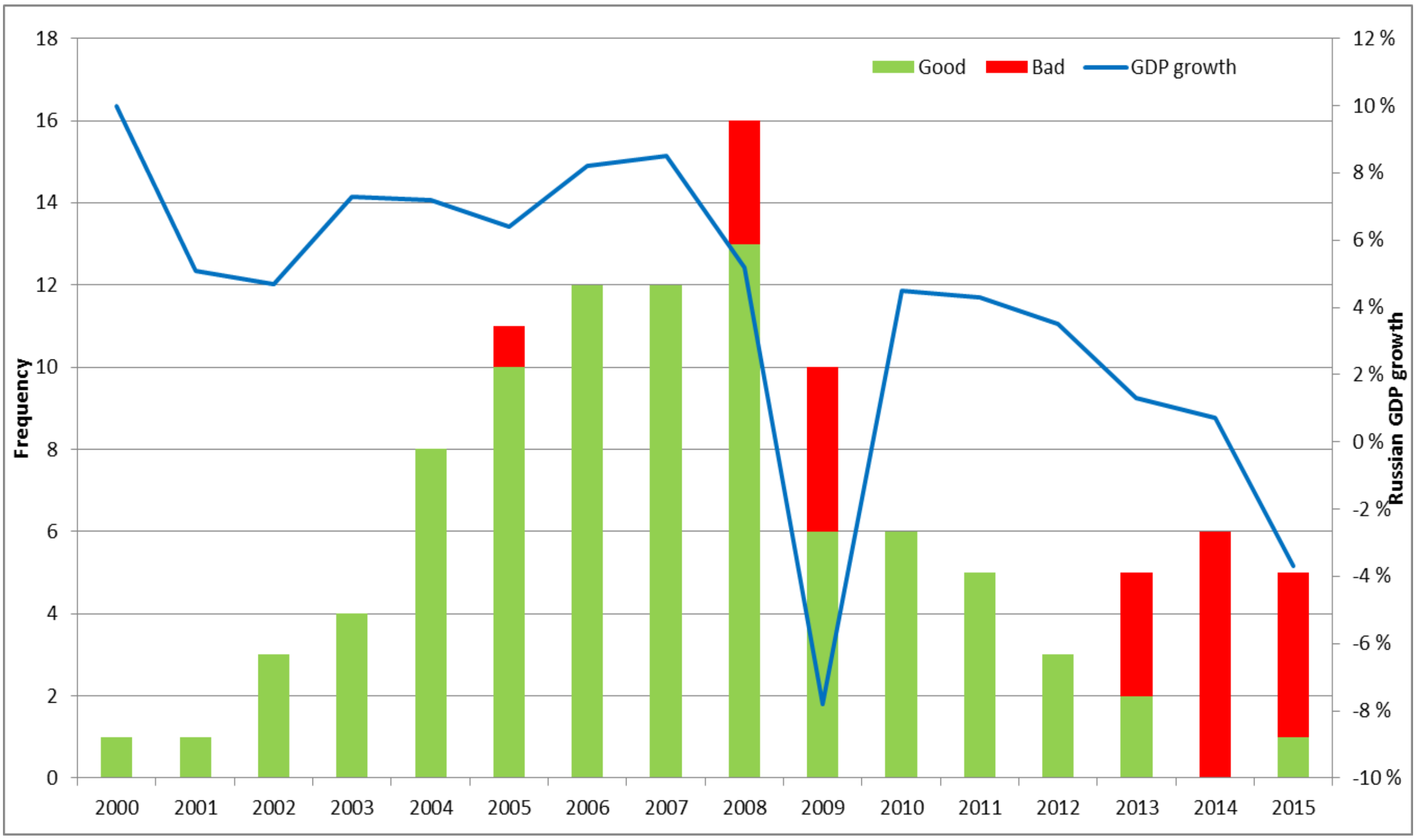

Figure 2. Distribution of events (left axis) and Russian GDP growth (right axis).

After excluding events which could not be categorized to either "good" or "bad" and events which were too close to each other's that the estimation period of following event would include the previous event, we were left with 40 Swedish events and 45 Finnish events. 8 of the Finnish events were categorized as "bad" and 37 as "good" and of the Swedish events 9 were "bad" and 31 were "good". This is presented in the Figure 3 below:

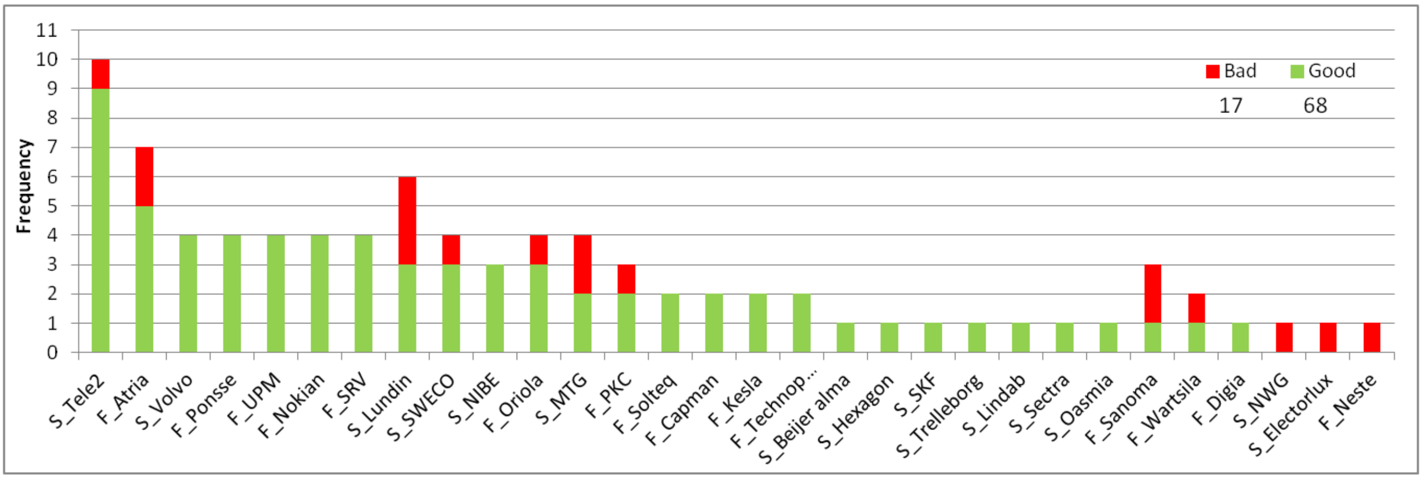

Figure 3. Distribution of events to companies after exclusions. (S=Sweden, F=Finland)

After the companies and events were determined level data of the stock prices was gathered from Thomson Reuter's DataStream. Closing prices of stocks were used. Market indices which were selected were the OMX Helsinki and OMX Stockholm to represent the Finnish and Swedish market respectively. It is important to notice that the indices constitute of all the stocks listed in respective markets. This can be problematic as the weights of some of the stocks under study are different and can have different impact on market estimations. However, these indexes were the only logical option to use. Data ranged from 1.1.2000 till 31.12.2015. Seiler (2004) provides comprehensive and clear steps how to perform event study with Microsoft Excel. From level data natural logarithm returns were calculated with formula:

$$R_{it} = \ln \frac{P_t}{P_{t-1}}, \tag{7}$$

where

R_{it} = the return of *i* at time *t*,

$\ln \frac{P_t}{P_{T-1}}$ = the natural logarithm of P_t divided by P_{t-1},

P_t = Price at time *t*,

P_{t-1} = Price at time *t-1*.

For each event 11 day event window was used in order to capture any information leakage and slow reaction to events. Estimation for the expected returns were calculated using 100 days prior the start of the event window and estimation method was market model as stated earlier. Abnormal returns were calculated subtracting return of the day from the expected return of that day. Then the abnormal returns were cumulated in order to capture any information leakage and if the event was announced after the exchange had closed.

After the cumulative abnormal returns for each stock and event were calculated, cumulative abnormal returns were aggregated. Events with different category, good or bad, were aggregated to their own returns according to their respective categories. This will say that all the good and bad events from Stockholm were aggregated to their own return as were events in both categories from the Helsinki Stock market. Results for the aggregation are presented in the following chapter.

Finally the statistical significance of the aggregated abnormal returns were calculated to see whether they are statistically significant and thus generalizable to the whole market. Even if some individual events had statistical significance it might not apply for the whole data, as aggregation process can eliminate few significant returns. As noted earlier student's t-test was used for significance testing.

4. RESULTS
4.1 The effect of the good announcements

When comparing the CAAR's results between Swedish and Finnish stocks reaction to good events we find that in both countries some leakage of the information as stocks gain value before the event date. The Swedish stocks tend to fall prior the announcement in event days -5 to -2 but after that start to rise up until the end of event window. The cumulative return rises to positive only 2 days after the event with the Swedish stocks and the Finnish stocks stay to their newly gained level. This would indicate that the new information is valued faster to the Finnish than to the Swedish stocks. The Finnish line (see Figure 3.) looks distinctly like theoretical efficient market reaction to new information but one must note that the gain in share price started to realize before the information was made publicly available. The Swedish stock's decline in value prior the announcement could be due to expectations which were not valued correctly. This could also explain Swedish stocks cumulative aggregated abnormal return goes positive only after 3 days from the announcement, as expectations of negative impact loom still in investors' minds.

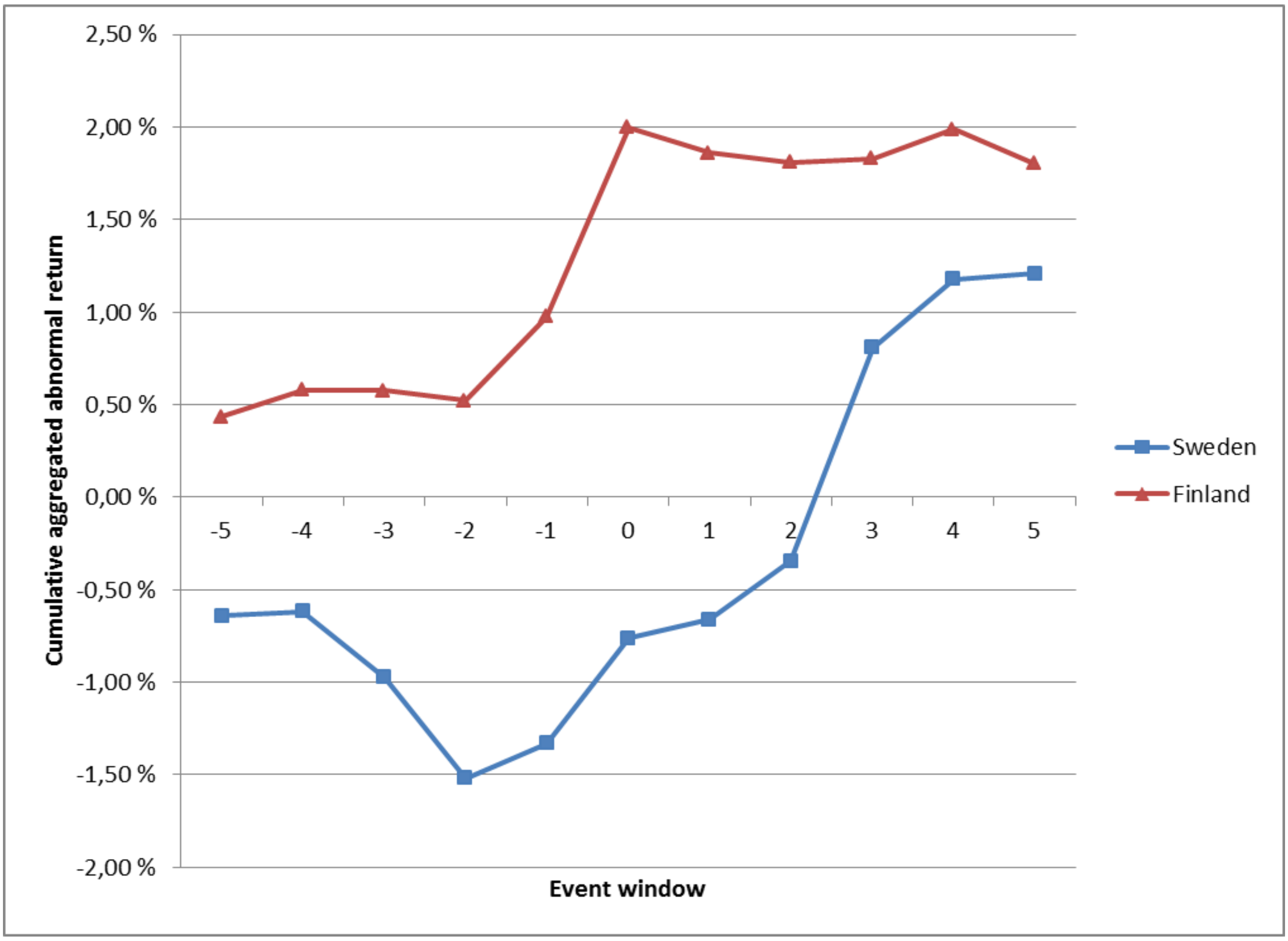

Figure 4. Cumulative aggregated abnormal return on good announcements.

However the results from good news can't be generalized to the whole markets because they fail to achieve statistical significance at 10% level in all cases except for the Finnish stocks on event date 0. Their aggregated abnormal return on the date when the event was announced was at 1 percent as can be seen from the table 2 below. When looking at events as their own, many of them have statistically significant abnormal returns near to event date. For example Lundin Petroleum's event on date 29.5.2006 had over 5 percent abnormal positive return on event date which was statistically significant. On that event window only one other return was statistically significant. Similarly Ponsse had 4 percent abnormal return on its event date 15.6.2006, which was also statistically significant.

Table 2. The effect of good announcements in Swedish and Finnish stocks.

	Swedish stocks				Finnish stocks			
T(day)	AAR	CAAR	T-stat	P-value	AAR	CAAR	T-stat	P-value
-5	-0,64 %	-0,64 %	-1,09	0,28	0,43 %	0,43 %	1,07	0,29
-4	0,02 %	-0,62 %	0,06	0,95	0,14 %	0,58 %	0,42	0,68
-3	-0,36 %	-0,98 %	-0,76	0,45	0,00 %	0,57 %	-0,02	0,99
-2	-0,54 %	-1,52 %	-0,86	0,39	-0,05 %	0,52 %	-0,20	0,85
-1	0,19 %	-1,33 %	0,65	0,52	0,45 %	0,98 %	1,39	0,17
0	0,57 %	-0,76 %	1,15	0,26	**1,02 %**	**2,00 %**	**1,90**	**0,07**
1	0,10 %	-0,66 %	0,25	0,81	-0,14 %	1,86 %	-0,40	0,69
2	0,32 %	-0,35 %	1,17	0,25	-0,05 %	1,81 %	-0,16	0,87
3	1,16 %	0,81 %	1,53	0,14	0,02 %	1,83 %	0,08	0,94
4	0,37 %	1,18 %	1,01	0,32	0,16 %	1,99 %	0,61	0,55
5	0,03 %	1,21 %	0,10	0,92	-0,19 %	1,80 %	-0,81	0,42

The good news, or announcements telling new investments to Russia can be considered to have gotten positive welcome from the investors and harsh conclusion could be made that companies should invest more to Russia. However one should not draw such conclusions as "good" news should have such a positive reaction because generally it is good for companies to open new factories etc. instead of closing them. And as could be seen from the Figure 2 were the events were plotted with the Russian GDP growth most of the bad events were close to years when Russia has had negative GDP growth. However GDP growth, as such, probably is not the driver behind any managerial investment or divestment decision but rather other measures have bigger impact. These measures then have their impact on GDP.

To answer the research questions, *“How corporate announcements about Russia affect the stock prices?”* and *“Is there difference between returns in Finland and Sweden?”* it seems that the reaction is positive since the cumulative aggregated abnormal returns are above 1 percent. The only difference in returns, as both are positive in Finland and Sweden is that Finnish market yields roughly half a percent better. These results are in line with our predictions earlier.

4.2. The effect of bad announcements

As shown in Figure 5, the effect on divesting from Russia seems to have positive impact on Finnish stocks. The CAAR starts from negative 1,5 percent and rises to zero by event time t-3. Afterwards, prior to the announcement the cumulative return is fluctuating between -0,5 and 0,5 percent. On the announcement date average abnormal return is positive 2,7 percent. Cumulative return reaches 3,2 percent on event date t+3 but falls to 2 percent in the end of the event window. AAR’s are statistically significant on event dates t-5, t-4, t+3 and t+4 (see Table 3). However on the announcement date the AAR is close to being significant on 10% significance level.

The Swedish stocks seem to have positive abnormal return on the announcement day but their cumulative aggregate abnormal return stays negative during the whole event window. No clear direction on the CAAR’s can be seen even though the positive tick of 0,7 percent the day after the announcement. It even seems that the divestment news have no real effect on the Swedish stocks. This can derive from many reasons and part of them could be the restrictions imposed on this study. None of the aggregated returns were statistically significant on the Swedish stocks. Similarly as with good events, there are events which have statistical significant abnormal returns. For example New Wave Group had statistically significant positive abnormal return of 8 percent the day after the announcement on 22.12.2009. Tele 2 also had statistically significant positive abnormal return of 4 percent the day after announcement on 27.3.2013 was made.

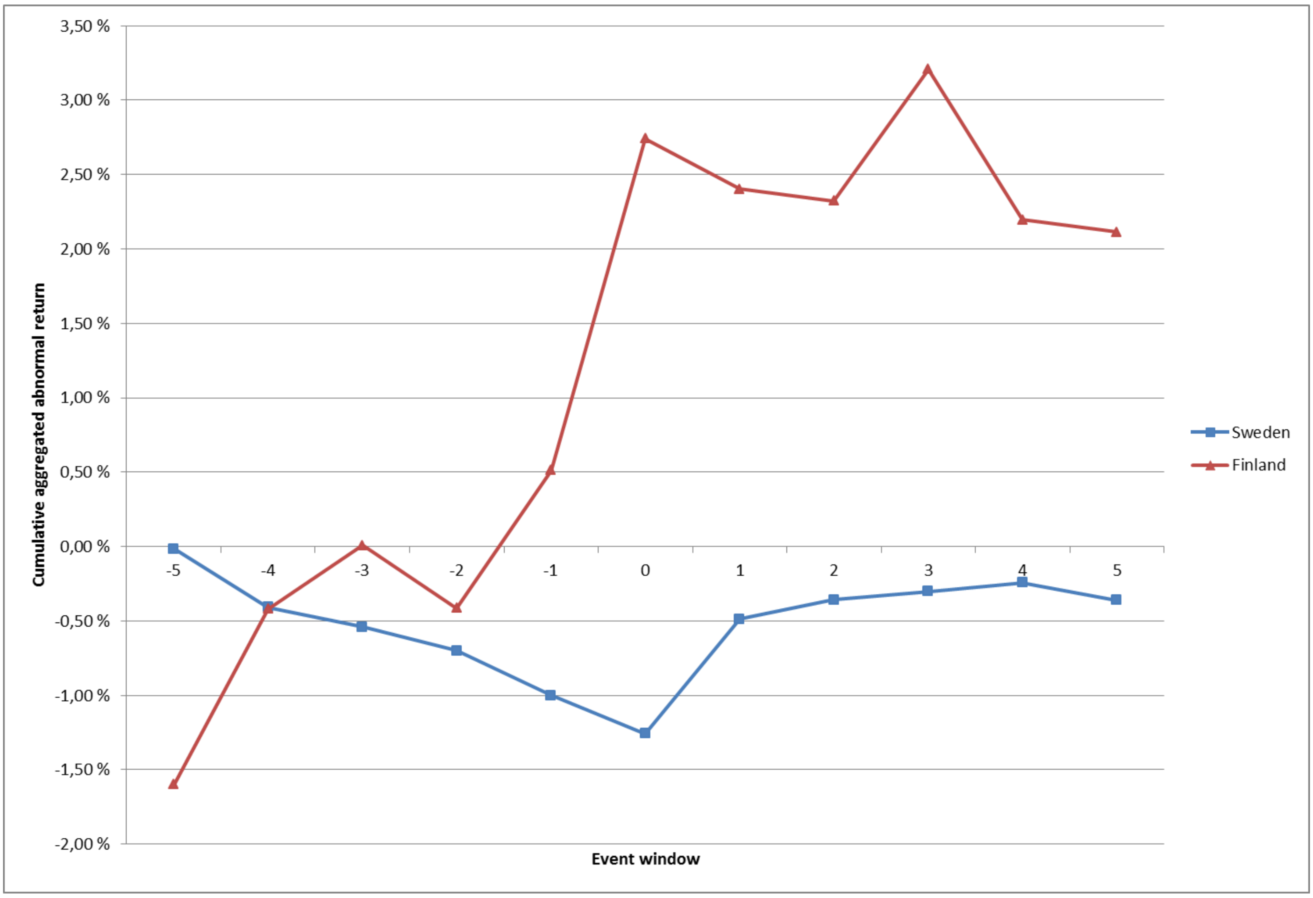

Figure 5. Cumulative aggregated abnormal return on bad announcements.

It also seems, like with the good announcement graph, that Finnish market it adapting to the new information but yet again there is some information leakage as the CAAR is increasing prior the announcement is made public.

Table 3. The effect of bad announcements in Swedish and Finnish stocks.

	Swedish stocks				Finnish stocks			
T(day)	AAR	CAAR	T-stat	P-value	AAR	CAAR	T-stat	P-value
-5	-0,02 %	-0,02 %	-0,02	0,99	**-1,60 %**	**-1,60 %**	**-2,53**	**0,04**
-4	-0,39 %	-0,41 %	-0,62	0,55	**1,18 %**	**-0,42 %**	**3,27**	**0,01**
-3	-0,13 %	-0,54 %	-0,45	0,66	0,43 %	0,01 %	0,90	0,40
-2	-0,16 %	-0,70 %	-0,36	0,73	-0,42 %	-0,41 %	-1,05	0,33
-1	-0,30 %	-1,00 %	-0,48	0,65	0,93 %	0,51 %	1,18	0,28
0	-0,26 %	-1,26 %	-0,28	0,79	2,23 %	2,74 %	1,68	0,14
1	0,77 %	-0,49 %	0,71	0,50	-0,34 %	2,40 %	-0,66	0,53
2	0,13 %	-0,36 %	0,14	0,89	-0,08 %	2,32 %	-0,13	0,90
3	0,06 %	-0,30 %	0,11	0,91	**0,88 %**	**3,21 %**	**2,66**	**0,03**
4	0,06 %	-0,24 %	0,12	0,91	**-1,01 %**	**2,20 %**	**-2,30**	**0,05**
5	-0,12 %	-0,36 %	-0,27	0,79	-0,09 %	2,11 %	-0,37	0,72

The results suggest us that the Swedish stocks are less vulnerable and exposed to Russia. This suggestion supports the assumption that the Swedish companies are more diversified globally and the importance of one specific country is not as significant as for the Finnish ones. The Finnish stocks are impacted more intensively on the news than the Swedish ones. With bad events corporate announcements had great positive return for Finnish stocks as they cumulated over 2 percent returns. Swedish stocks did not yield positive return, thus there is vast difference in returns between the two markets.

5. CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

In this thesis Russia related corporate announcements effect on share prices in Finland and Sweden was studied. The study included 15 randomly selected companies from both markets and time period of the research was 16 years from 1.1.2000 to 31.12.2015. Method of research was event study with market model as expected return estimator.

As our results have shown corporate announcements regarding Russia have effect on share prices in Finnish and Swedish exchanges. As were predicted, the bad events were clustered to times when Russian economy has been in downturn, more precisely years 2009 and 2015. Good events were scattered more evenly to all years within the research period. Finnish stocks were more volatile towards events than Swedish ones which can be explained by lesser concentration to Russian market by Swedish companies. In the Finnish market both, good and bad news, had positive returns on stock prices which can be explained by the event timing. Swedish market had positive return on good news and almost no return on bad news. Interestingly it was noted that Swedish stocks react much slower to new information compared to Finnish stocks. The cumulative aggregated abnormal return curves for Finnish stocks look distinctly like theoretical efficient market reaction to new information, as stocks immediately gain, or lose, value after the new information is released to the market.

The answer to the main research question: "*How corporate announcements about Russia affect the stock prices?*" is that corporate announcements affect stock prices positively because in all cases, except one, cumulative aggregated abnormal returns have been clearly on the positive side. That already answers to some secondary questions like *"Is there difference between event types and returns"* and *"Is there difference between returns in Finland and Sweden?"*. Event types do not seem to effect as expected since bad events in Finland did yield positive returns and in Sweden returns were only slightly on the negative side. Good events yielded positive returns in both markets. Finland seems to be more vulnerable to Russian market, in the good and bad, as it reacts heavily on the news as on the contrary Swedish market seems to react slower to news. Figure 2. answers the last question about time and event types: *"Does the timing of the event have effect on event type"*. And the answer is yes, bad events are clustered to times when Russian GDP has declined and good events are scattered more evenly. According to our results Sweden offers interesting investing opportunity if one is familiar with the companies operating in Russia and can do correct valuations before market have fully reflected the new information to share prices. However, before initializing such investment strategy one should conduct further research on the Swedish market.

For further research this thesis provides many suggestions. One could study more precisely the impact on news in specific industry, say industrial products, to control differences what industries have. It would be also interesting to see if there is difference in stock price reactions on shares which are listed on both exchanges. Theoretically there should not be possibilities for arbitrage but as discussed earlier, markets are not completely efficient. To best capture the real impact on announcements abnormal returns should be weighed based on some quantitative measures, like turnover from that market, share of market capitalization in the exchange, or by some Russia concentration coefficient. All of those numbers are not freely available so it would require substantial effort from the researcher. Market efficiency is widely studied but as this thesis notes, Swedish stocks seems to react much slower to information implying not so good efficiency. One could study market efficiency and reaction to new information from the perspective of one market and announcement from that market. Also the events could be selected more precisely to capture the effect of, for example, joint-ventures.

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