CSR disclosures and the volatility of the stock market
A study of the Swedish and Danish stock markets

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Abstract

Reporting regarding issues that are related to Corporate Social Responsibility have come into more and more focus lately. Most countries currently have a limited or no mandatory regulations regarding what should be included in either an annual report or in a stand-alone report in terms of CSR. However Denmark is one of the pioneers regarding mandatory CSR regulations and as such has certain rules and regulations that their companies have to follow. Even if today’s regulations are heavily focused on financial information that companies have to disclose there also exists regulations regarding non-financial information. As with the financial crisis that occurred in the early 21st century that led to stricter disclosures requirements for financial information we see a need for regulating non-financial information and especially CSR information. We have been able to see that some companies have been able to manipulate their CSR report so as to put themselves in a good light. Therefore the question arises if mandatory CSR disclosure will have any influence on the stock market.

The purpose of this study was to examine if Swedish companies and the Swedish stock market could benefit from having mandatory CSR regulations, similar to those that exist in Denmark. We sought to examine if fulfilling certain amount of CSR criteria would reduce the volatility of a company’s stock price.

In order for us to achieve the purpose of our research we had to conduct an experiment on the Swedish companies. In order for us to conduct the experiment we firstly had to select what type of research we would conduct and what type of research was most suitable for our research. In order for us to achieve an answer to our research question and to be able to fulfill the purpose of our research we decided to conduct a quantitative research. We have chosen to utilize the quantitative research approach as this would allow gathering sufficient data from existing databases and reports. The database that we chose to utilize in order for us to find our sample population was NASDAQ OMX Nordic where the companies had be listed as of 2015-03-31 as well as having financial data for the entire year of 2014, meaning between 2014-01-01 and 2014-12-31. NASDAQ OMX Nordic was also used in order for us to find market indexes. In order for us to able to answer our research question we developed three different hypotheses based on our theoretical framework that would later be tested.

From the testing of our hypotheses we could determine that there is a relationship between the amount of CSR that a company reports, in terms of how many of our CSR criteria they fulfill, and the historical volatility of the company’s stock price. We were also able to determine that there exists a relationship between the amount of CSR that a company reports and the level of Beta that a company has. This implied that the Swedish stock market could benefit from mandatory CSR regulation as it would reduce the volatility which would also be beneficial for the company’s different stakeholders.

Key words: CSR, mandatory disclosure, voluntary disclosure, regulations, Beta, volatility, stock price volatility
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Thank you!
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# Table of Contents

Chapter 1: Introduction ........................................................................................................... 1  
1.1 Research problem .......................................................................................................... 1  
1.2 Research gap .................................................................................................................. 3  
1.3 Problem Statement ........................................................................................................ 3  
1.4 Research question ......................................................................................................... 4  
1.5 Purpose .......................................................................................................................... 4  
1.6 Contribution and Limitation .......................................................................................... 4  
1.7 Disposition ...................................................................................................................... 5  
Chapter 2: Methodology of the Research ................................................................................. 7  
2.1 Preconceptions ............................................................................................................... 7  
2.2 Research perspective ..................................................................................................... 7  
2.3 Research philosophy ...................................................................................................... 8  
   2.3.1 Epistemological considerations ............................................................................. 8  
   2.3.2 Ontological considerations ................................................................................... 9  
2.4 Research approach ........................................................................................................ 10  
2.5 Research design ........................................................................................................... 11  
2.6 Research strategy ........................................................................................................... 12  
2.7 Research method .......................................................................................................... 12  
2.8 Literature review .......................................................................................................... 13  
2.9 Summary ....................................................................................................................... 14  
2.11 Ethical, Legal, Social considerations ......................................................................... 15  
Chapter 3: Theoretical framework .......................................................................................... 17  
3.1 Corporate Social Responsibility .................................................................................. 17  
   3.1.1 Theories within Corporate Social Responsibility .................................................. 17  
   3.1.2 Shareholder theory and Corporate Social Responsibility ..................................... 18  
   3.1.3 The Pyramid of Corporate Social Responsibility ................................................ 19  
      3.1.3.1 Economic responsibilities .............................................................................. 19  
      3.1.3.2 Legal responsibilities ................................................................................... 20  
      3.1.3.3 Ethical responsibilities ................................................................................. 20  
      3.1.3.4 Philanthropic responsibilities ....................................................................... 21  
3.2 Disclosures .................................................................................................................... 21  
   3.2.1 Mandatory and voluntary disclosures ................................................................. 21  
   3.2.2 Regulations ............................................................................................................ 22  
      3.2.2.1 Swedish legislation ....................................................................................... 23  
      3.2.2.2 Danish legislation ......................................................................................... 23  
   3.2.3 Legitimacy theory ................................................................................................. 24
6.1 Analysis of hypotheses .................................................................................................................. 61
  6.1.1 Hypothesis 1 and Hypothesis 2 ............................................................................................. 61
  6.1.2 Hypothesis 3 .......................................................................................................................... 64
  6.1.3 Analysis of figures and tables ................................................................................................. 65
  6.1.4 Summary of analysis ............................................................................................................. 67
Chapter 7: Conclusion .......................................................................................................................... 69
  7.1 Answer to our research question and additions to existing knowledge ................................. 69
  7.2 Theoretical implications ........................................................................................................... 70
  7.3 Implications for investors ......................................................................................................... 71
  7.4 Social Considerations ................................................................................................................ 71
  7.5 Future research and limitations ................................................................................................. 72
Reference list ........................................................................................................................................ 74
Appendix ............................................................................................................................................ 80
  Original sample population ........................................................................................................... 80
  List of revised sample population ................................................................................................ 81
  Relationship between Beta, Standard deviation, and reported CSR ............................................. 82

Table of Figures
Figure 1. Summary of theoretical methodology ............................................................................. 14
Figure 2. Carroll’s pyramid, based upon Carroll (1991) ................................................................. 19
Figure 3. Stakeholder theory model based upon Freeman (1979) p. 25 Donaldson and Preston (1995)p. 69 ................................................................. 29
Figure 4. OMXS 30 between 2013-01-01 to 2015-03-13 ............................................................... 34
Figure 5. OMXC 20 between 2013-01-01 to 2015-03-13 ............................................................... 35
Figure 6. OMXS 30 compared to OMXC 20 OMXC 20 between 2013-01-01 to 2015-03-13 35
Figure 7. Summary of theoretical framework ................................................................................. 40
Figure 8. Distribution of companies, based on percentage of criteria............................................ 53
Figure 9. Distribution of companies based upon revised sample, based on percentage of criterion ................................................................. 54
Figure 10. Scattered Beta of our sample population ....................................................................... 55
Figure 11. The Beta level of companies and the amount of CSR criterion fulfilled..................... 56
Figure 12. Standard deviation and amount of CSR reported ......................................................... 58

Table of Tables
Table 2. Division of Industries in accordance NASDAQ OMX ......................................................... 34
Table 3. Division of population ......................................................................................................... 41
Table 4. List of key-words for filter ................................................................................................. 43
Table 5. Sample population ............................................................................................................. 52
Table 6. Criteria in numbers ............................................................................................................. 53
Table 7. Summary of revised sample ............................................................................................... 54
Table 8. Descriptive statistics of our sample size after exclusion with inclusion of Beta test. 56
Table 9. Descriptive statistics for standard deviation and volatility of Swedish and Danish market index

Table 10. Historical volatility for Swedish and Danish stock market indexes

Table 11. The mean of historical volatility based upon amount of CSR reported

Table 12. Result of regression analysis between Beta and CSR reported

Table 13. Result of regression analysis between historical volatility and CSR reported

Table 14. Correlation test between Swedish and Danish market index
Chapter 1: Introduction
1.1 Research problem

This chapter sheds light on the research problem by discussing the effects that disclosing CSR information can have on companies as well as introducing the reader to current regulations on CSR disclosing which are relevant to the study. Thereafter we explain the reasoning behind the need for our research by discussing the research gap as well as presenting our research question. The chapter then presents the purpose of the research and finishes by explaining the contributions that the study aims to provide to existing theory as well as the limitations of the thesis.

During the 21st century the global economy was faced with several accounting scandals which were caused by insufficient accounting standards. The insufficiency meant that stakeholders, namely investors, were unable to see the whole financial picture of a company that they had interest in and therefore lacked crucial information whilst making decisions. One of the biggest scandals that occurred was the fall of Enron which is an example of how the previously insufficient accounting standards mislead stakeholders. Stakeholders had relied on the financial reports that the companies had provided them with before the scandals and assumed that they were correct. These assumptions had been proven wrong after the scandals had occurred which meant that there was a need for change. As a response to the fall of Enron and to the insufficient accounting standards the US responded with the Sarbanes-Oxley Act that increased the disclosure control in accounting.

One of the important sources of financial information for stakeholders are the annual reports from companies. The annual reports do however not only include financial information from companies but they also include non-financial information that is useful for stakeholders. This means that it is important for the disclosures to be wider than just for financial information but also include non-financial information (Coram, Mock, and Monroe, 2001, p. 87).

Corporate Social Responsibility (CSR) can be defined as a continuing commitment from companies to integrate social and environmental concerns into their operations and into the information that they provide to their stakeholders (Dahlsrud, 2008, p. 7). Currently CSR reporting is voluntary in Sweden, the information can be provided if the companies choose as either a stand-alone report or in the annual report. Swedish law has a lack of regulation regarding the CSR information that companies provide to stakeholders. Since Swedish companies not only have to abide by Swedish law but also international regulations, such as International Financial Reporting Standards (IFRS) and EU-directives, however the lack of CSR information regulation is not only present in Swedish law but also in international regulations. Even if IFRS mostly focuses on financial reporting they also regulate to some extent non-financial reporting, such as management commentary in the annual reports.

Another way to look at CSR is by dividing it into four responsibilities as shown by Carroll’s pyramid. The pyramid of corporate social responsibility divides CSR into four core responsibilities that companies have (Carroll, 1991, p. 42). Firstly the pyramid’s foundation which is economic responsibilities, which reflects a company’s responsibility to be able to provide goods and services to the society. Also it is important for companies to be able to maximize earnings per share and to be committed to maintain a strong position while staying as profitable as possible (Carroll, 1991, p. 40). Secondly companies have legal responsibilities
which in short entails that it is important that they follow the laws set forth by society (Carroll, 1991, p. 40). Thirdly there are ethical responsibilities for companies which focus on doing what is right even if they are not compelled to do so by law (Carroll, 1991, p. 41). Lastly a company has philanthropic responsibilities that require them to be a good corporate citizen, such acts could include programs promoting human welfare by providing financial resources to better the community (Carroll, 1991, p. 41).

The content and activity of a company’s CSR report is dependent on what information a company wants to share with its stakeholders. CSR reports can be prepared in different ways and be aimed in different directions. Cai, Jo, and Pan (2012) discusses three different ways to prepare the CSR report, firstly a CSR report can be prepared by company’s who are following the current trend. This means that the CSR reports are prepared without considering value adding information nor the intent to deceive stakeholders (Cai et al., 2012, p. 467). Secondly the CSR report can be prepared to increase the transparency of the company as well as improving their CSR strategies and thereby increase firm value (Cai et al., 2012, p. 467). Lastly CSR report can be prepared with the intent to deceive stakeholders and to legitimate questionable business (Cai et al., 2012, p. 467). Deception in CSR report can mean that a company focuses on the positive aspect of the company and thereby shining the spotlight away from the negative aspects, one example of this is McDonalds who in their CSR report shed a light on the healthy options of a Happy meal as well as the Ronald McDonald house charities whilst not focusing on the health issues that come from eating fast food at their restaurants.

Volatility in stock prices is commonly associated with the level of risk related to owning the stock, since an increase in stock volatility also increases the investment risk (Fama and French, 1992, p. 428). In relation to this a study has shown that superior corporate social performance has the capability of increasing shareholder wealth by lowering a company’s stock price volatility (Luo & Bhattacharya, 2009, p. 209). This means that companies engaging actively in CSR are likely to benefit from disclosing CSR information to the stakeholders since it reduces the investment risk for investors. Furthermore this implies that there should be a decrease in the company stock beta.

However there are some nations that have implemented mandatory CSR regulations and have disclosure controls regarding what should be disclosed in terms the annual report regarding CSR. One of these nations is Denmark who introduced their first CSR law in 2008 and have later amended it to include a wider range of disclosures that companies should include when presenting CSR. The Danish parliament similarly to academics believe that non-financial and financial information is important for stakeholders. However the regulations mostly focus on the financial information therefore they implemented the law since the lack of regulation regarding non-financial information would leave the market with a sub-optimal level of information. Furthermore by introducing the law the Danish parliament expects that the general credibility, transparency, and competitiveness would increase for Danish businesses. By having increased disclosure control the transparency of companies will be able to show and it will help stakeholders gain a better picture.

CSR and other non-financial information have not only been discussed on a national level, such as the case of Denmark implementing their own legislation, but also on an international level in the European Union. CSR was on the agenda in the European Commission between 2011 and 2014 wherein they should provide a strategy and propose a legislation change (Directive 2014/95/EU). In 2014 it was proved that the undertaking that the European Commission had taken on was successful and resulted in legislative change and will be implemented in the end
of 2016 (Directive 2014/95/EU). With the new legislation companies will have to disclose information to the public regarding environmental issues, social and employee issues, human rights, bribery and anticorruption issues, and issues regarding diversity of the company’s board of directors (Directive 2014/95/EU). In terms of these issues the company will have to disclose what policies the company are following, what possible risks may occur, and lastly what outcomes the companies expect from choices that they have made (Directive 2014/95/EU). However there is still room for flexibility for the companies as they can choose themselves how they wish to disclose the information as well as flexibility regarding what guidelines they chose to follow (EC, 2015). Nonetheless only companies that are able to meet the criteria will need to report CSR in accordance to the new EU-directive, this implies that not all companies will have to follow a mandatory CSR reporting regulation. This implies that roughly 6 000 companies in Europe will have to report this non-financial information when the new legislation will occur in 2016.

1.2 Research gap
As Luo and Bhattacharya (2009) discuss is that CSR is a topic that is heavily discussed in the current business world. With the discussion arise more questions, namely where the focus of CSR should lie. Some argue that CSR should be focused on the Friedman (1970) view of CSR, wherein the businesses and managers sole mission is to maximize shareholders investments in the long-term and not use the investments in order to improve the world. On the other hand there is also debates wherein CSR should not only be used to maximize shareholder profits but also there to take care of the social aspects of the society. This implies that CSR as a topic has been researched in many different ways and in many different business point of views as well as from many different perspectives.

Furthermore there has also been previous research in the area of non-financial information, where CSR is also a part of. One area of non-financial information that has been researched is the voluntary disclosures that companies provide to their different stakeholders. The research gap that we have been able to see is that articles relating to CSR disclosures that are often focused on certain areas of the CSR report, such as environmental or human rights, and not often focused on the whole CSR picture.

With the new European legislation and the upcoming implementation of the new EU-directive there will be a new mandatory regulations regarding CSR disclosures and with the already existing mandatory disclosures in Denmark there is a research gap in terms of mandatory CSR disclosures. The research in the field of mandatory CSR disclosures is minimal as we have only been able to find a few articles relating to this topic.

1.3 Problem Statement
With CSR becoming ever more utilized by organizations to influence the perception that society has of the organization the question arises around the need for regulations around it. Which can be seen in both Denmark’s implementation of regulatory CSR legislation as well as the new EU directive. With the new EU directive companies that fit the criteria who do not currently report on the relevant CSR topics will have to increase the amount of CSR that is currently disclosed to the public. The main focus will lie on disclosing CSR information related to the organizations environmental impact, human rights protocols, social influence, diversity, and business ethics to name a few. The EU directive can also be seen as a move towards standardization regarding CSR disclosures within the EU. Such a standardization would increase investor’s ability to compare listed companies within the EU on a more standardized basis.
With companies disclosing more CSR information to the market the organization becomes less transparent and investors receive more information concerning the organization that they are investing in. With more information available to the investors their investment activities and choices may be influenced which in turn can have an effect on the volatility of a company’s stock prices. In addition when the increase in the CSR information being disclosed by organizations is regulated by institutions such as the EU it lends additional validity to the information being disclosed. Furthermore when the regulations state what is to be disclosed it may reduce the investment risk since it becomes harder for organizations to hide or otherwise disguise bad business practices.

This combined with a changing world environment wherein society already demands more transparency from companies in terms of their CSR activities shows us that there is a need to fill the information gap that exists concerning the influence that increased CSR disclosures can have on stock prices and therefore the stock market.

1.4 Research question
With the upcoming legislation in EU there will be new mandatory CSR disclosures that will affect certain companies in EU, where Sweden is included. Furthermore since there has been little research in the field of mandatory CSR disclosures there is a wide area of research that is unexplored. Another aspect that is important to remember is that Denmark as a pioneer has mandatory CSR disclosures and that with combination with the upcoming changes leads us to having the following research question:

*Would mandatory CSR disclosures, as those that exist in Denmark, reduce stock volatility in Sweden?*

1.5 Purpose
The purpose of this study is to establish whether or not Sweden could benefit from adopting similar disclosure regulations as those that are currently active in Denmark. The study aims to establish if mandatory and legislated CSR disclosure have the possibility to reduce stock volatility in Sweden to better benefit the investors by reducing the investment risk.

Another purpose behind this thesis would be to review if there is a need for regulation of CSR reports on a global scale, namely if there is a need for a new standard in IFRS.

The reason behind our purpose is due to that some companies are misleading customers and shareholders with their CSR report by taking attention away from their harmful business practices. Furthermore there are questions regarding the motives that companies have behind their CSR reports, is it useful or just a distraction. We do not tend to suggest how a new standard should look but to scrutinize if there is a need for one.

1.6 Contribution and Limitation
The study aims to contribute to the current research area by studying the mandatory CSR disclosure requirements currently active in Denmark and establishing what influence it could have if similar mandatory disclosure regulations were established in Sweden. The study will research this in a quantitative manner and use Denmark as a benchmark to establish differences in volatility. Furthermore the study will contribute from a theoretical perspective by providing
information to researchers who wish to do additional research on a related or the same research topic. An additional scientific contribution is to build on the existing knowledge regarding whether or not CSR disclosures should be made mandatory for companies.

Denmark’s choice of implementing mandatory CSR disclosure requirements is an interesting example of how accounting regulations develop. The study will also focus on exploring the possible effects that the implementation of the mandatory CSR disclosure requirements can have on the stock market and for the investors. The main focus regarding the stock market will be the influence of making CSR disclosures mandatory and regulated for companies can have on the volatility of listed stocks. The study contributes to information to investors by establishing whether or not the increased controls on CSR disclosures that companies release to the public have the ability to reduce the volatility in stock prices. If the volatility is reduced it should lead to a more stable investing environment with reduced investment risk for the investors, since high volatility is associated with a higher risk. By doing this the study will provide insight into the effects that changing accounting policies can have. Furthermore the study sheds light on the influence that institutional aspects can have on developing accounting disclosure requirements.

The structure of our research is such that it will focus on the 100 largest companies listed on NASDAQ OMX Stockholm including both large cap and mid cap companies. After we will measure the amount of CSR that each company discloses by using the Copenhagen stock exchange as a benchmark for comparison. This structure makes our study unique since it is set in an experimental environment measuring the effects that implementing mandatory CSR regulations can have on the volatility of the stock market.

These limitations may lead to our results loosing generalizability in other world markets since both of the stock markets targeted by this research are set in similar surroundings. However this also means that our research can serve as a benchmark for future research regarding the implications that the implementation of mandatory CSR regulations can have. Furthermore the results of our study can prove to be useful for companies currently disclosing CSR information and to companies considering disclosing more CSR information. Since the results of the study will provide the companies with an opinion on what effects they can expect to see in the volatility of the company’s stock price depending on the amount of CSR information that is disclosed. It is important to remember that we have only examined companies who have reported on CSR during the year of 2014. Therefore companies who have not or do not intend to disclose information regarding their CSR for 2014 will be marked as having zero CSR.

1.7 Disposition
Chapter 1: Introduction
This chapter sheds light on the research problem by discussing the effects that disclosing CSR information can have on companies as well as introducing the reader to current regulations on CSR disclosing which are relevant to the study. Thereafter we explain the reasoning behind the need for our research by discussing the research gap as well as presenting our research question. The chapter then presents the purpose of the research and finishes by explaining the contributions that the study aims to provide to existing theory as well as the limitations of the thesis.

Chapter 2: Methodology of the Research
The process of writing a thesis requires the authors to take careful consideration in what method they wish to use to best fulfill the purpose of the study. In this chapter we start presenting our
choices of methodology by stating any preconceptions that may impact the outcome of the study that we may have as researchers. We then go on to explain our research perspective and delve into research philosophy by analyzing epistemological and ontological considerations. Thereafter we establish our choices of research approach, design, strategy, and method whilst explaining why we believe our choices to be the best fit for our research. Near the end of the chapter we elaborate on the sources of our data and literature. The chapter finishes with a summary of the research methodology chosen.

Chapter 3: Theoretical framework
This chapter presents the theoretical framework that will be the basis in aiding us to answer our research question. The chapter starts of by describing CSR and its various uses both for companies and for the social environment that surrounds it. We then go on to explain the differences that exists with mandatory and voluntary disclosures as well as the regulations surrounding them. Thereafter we take a look at stakeholder, shareholder, information and the principal agent theory to establish a balance between the society and the individual. The chapter goes on to discuss volatility and the financial markets of Denmark and Sweden. In conclusion a figure summarizing the theoretical framework is displayed.

Chapter 4: Practical method
In this chapter we will present the practical methodology behind the research and explain the data chosen. It is important that we use the correct method and data to achieve the purpose of the research. We start the chapter by explaining our time horizon and explaining what the target population for the research is as well as the sample and the reasoning behind it. The chapter goes on to present our data sources and explaining volatility, standard deviation, beta, and regression analysis. In conclusion the chapter presents the quality criteria of the study ensuring the reliability, validity, and replicability of the study.

Chapter 5: Empirical data
In chapter 5 we present the findings of our empirical data and translate the presented tables and figures. The chapter has a focus on presenting relevant data in regards to the volatility of our sample population in terms of beta, historical volatility, and standard deviation. In conclusion we will present the results of our hypothesis tests and the presented data will be analyzed in chapter 6.

Chapter 6: Analysis
In this chapter we discuss our findings by analyzing the results of our empirical data from chapter 5. The goal of our analysis chapter is to connect our empirical findings with previous research from our theoretical framework. To achieve this the chapter starts of by discussing our three hypotheses and goes on to analyze the information provided in the figures and tables in our empirical results. Finally the chapter concludes with a summary of what we have found during our analysis.

Chapter 7: Conclusion
The final chapter of this thesis provides us as researchers and authors of this study with the ability to tie together the findings of our empirical data with our own thoughts. In this chapter we will further answer our stated research question as well as how our findings will have an impact on investors and the existing body of knowledge. Lastly this chapter will conclude with the limitations and our recommendations for future studies.
Chapter 2: Methodology of the Research

The process of writing a thesis requires the authors to take careful consideration in what method they wish to use to best fulfill the purpose of the study. In this chapter, we start presenting our choices of methodology by stating any preconceptions that may impact the outcome of the study that we may have as researchers. We then go on to explain our research perspective and delve into research philosophy by analyzing epistemological and ontological considerations. Thereafter, we establish our choices of research approach, design, strategy, and method whilst explaining why we believe our choices to be the best fit for our research. Near the end of the chapter, we elaborate on the sources of our data and literature. The chapter finishes with a summary of the research methodology chosen.

2.1 Preconceptions

As researchers, we have to acknowledge that we are not value free, meaning that we will have bias due to our previous knowledge and experience as well as the attitude that we have towards the research subject (Johansson-Lindfors, 1993, p. 25). Therefore, we must consider that as students, we have spent four and a half years studying at Umeå University, and during this time, we have been exposed to many different courses with different professors with different values. The different values of these professors will of course have influenced us in one way or another. Furthermore, this is not the first thesis that we have written in accounting; thereby, some of the experience that we had the first time will stick with us whilst writing this thesis. Our previous thesis was also related to disclosures; however, it was focused on fair value accounting and not CSR.

As our topic of research for this thesis is in regards to CSR, we feel that our previous knowledge that we have gathered from the different courses will help us widen our horizon since CSR is a wide field itself. Furthermore, we have studied multiple law courses during our time at Umeå University, which will help us since the mandatory disclosure of CSR is regulated via legislation.

2.2 Research perspective

For this research, we will have a stakeholder perspective with a special focus on investors due to our belief that they will be the most influenced by the mandatory CSR disclosures since they are the main readers of annual reports. The perspective that we have chosen has also guided us with the collection of literature, data, and research method. Furthermore, the research focuses on comparing two different environments namely Denmark, who currently have mandatory CSR disclosure, and Sweden, who has voluntary CSR disclosure, to provide investors with additional information for the upcoming EU-directive. We perceive the investor perspective to be relevant to the study at hand since they are a group that may be the most influenced by changes in volatility within stock prices as a repercussion of implementing mandatory CSR disclosure requirements. We further believe that by adopting an investor’s perspective while conducting the research, our findings can lend clarity to investors in their future investment decisions. This would be achieved through providing information in regards of the influence that increased CSR disclosures can have on the volatility of a company’s stock price.
2.3 Research philosophy

The philosophy that we will choose to utilize will also provide us with assumptions regarding how we view the world around us further we should also defend our way of viewing the world compared to other options (Saunders et al., 2009, p. 108). This is why it is important for us as researchers to have a full and broad understanding of the meanings behind the separate stances within research and how they are related to each other as well as to other components (Grix, 2002, p. 176). This will provide us with the necessary knowledge to be able to argue and defend the stance chosen for this research as well as explaining why it is a good fit (Grix, 2002, p. 176). Furthermore it will provide necessary knowledge to avoid confusion whilst discussing different approaches to social phenomena (Grix, 2002, p. 176).

The research philosophy as well as the research method and research strategy that we will choose will be dependent on the nature of our research namely if we are focused on the social aspects or the facts (Saunders et al., 2009, p. 108). There are many different stances and approach to take into consideration depending on what type of research one chooses to conduct. We have therefore divided our research philosophy into epistemological and ontological considerations and we will focus upon two different stances for both these considerations.

2.3.1 Epistemological considerations

Ontology focuses on what social reality really is whilst epistemology is concerned with the theory of knowledge, more specifically the alternative ways to gain reliable knowledge concerning the social reality (Grix, 2002, p. 117). Whilst Guba and Lincoln define the epistemological question as “What is the nature of the relationship between the knower or would-be-knower and what can be known?” (Guba & Lincoln, 1994, p. 108). This raises the question if social sciences, such as business, should be studied with the same principals as natural sciences (Bryman & Bell, 2011, p. 15). Epistemology offers two different perspectives that we as researchers can use, these perspectives are interpretivism and positivism. Positivism can be seen as the perspective that is closest to natural sciences (Bryman & Bell, 2011, p. 15). The reasoning behind this is that the investigator is assumed to be independent from the object being investigated and further assumes that the investigator is knowledgeable enough to study the object without influencing it (Guba & Lincoln, 1994, p. 110).

Positivism is described differently by different authors, however both Bryman and Bell and Saunders et al. agree that positivism is the stance that is closest to the one of natural sciences, this implies that that the role of the researcher is to build laws by testing theories (2011, p. 15; 2009, p. 113). Positivism studies the social reality through the application of natural science methods (Bryman and Bell, 2011, p. 15). Furthermore only information that is confirmed by the senses can be accepted as reliable knowledge (Bryman and Bell, 2011, p. 15). A different yet similar perspective on positivism is that only observable information can lead to reliable data and the data can be collected using existing theory and developing hypotheses (Saunders et al., 2009, p. 113). Furthermore we must take into consideration that we are writing research relating to specific field of business, namely accounting. Similarly to the views of Bryman and Bell and Saunders et al. Bisman (2010) agrees to the definition of positivism for the use in accounting research. It is also important to remember that positivism is often related to quantitative methodology since the universal principals and the generalizability of positivism (Bisman, 2010, p. 5).

The other perspective of epistemology that we have decided to take into consideration is the interpretivism aspect, interpretivism aspect is often considered the opposite of positivism. Interpretivism implies that social sciences are understood through the people and their
institutions (Bryman & Bell, 2011, p. 16). Furthermore interpretivism can be seen as the way
that researchers understand how humans differ in our role as social actors (Saunders et al., 2009,
p. 116). What researchers have to do if they adopt an interpretivism stance they should enter
the social world of the human subject that they are studying and understanding the world that
they inhabit from their point of view (Saunders et al., 2009, p. 116). Furthermore interpretivism
approach is often related to qualitative methodology (Bisman, 2010, p. 5).

In accounting and finance research the field is mostly dominated by objectivist ontology
perspective even if the interpretivist epistemological perspective is on the rise, however both
perspectives of have their pros and cons (Bisman, 2010, pp. 6-7). As previously mentioned
positivism is most useful for when conducting a quantitative research whilst interpretivism is
mostly used when conducting qualitative research. We have also been able to gather that
positivism is used whilst conducting social research using the methods and applications of
natural science. “If” and “how” in regards to the stated research question are often used to
differentiate these stances, as our research question seek to understand “if” Sweden had a
mandatory CSR disclosure as those in Denmark would reduce volatility and therefore our stance
is related towards positivism and not interpretivism.

2.3.2 Ontological considerations
Guba and Lincoln argue that the ontological question concerns itself with identifying the nature
of reality and analyzing what can be known about it (1994, p. 108). Therefore it would be logical
to deduct that ontology concerns itself with how the researcher views reality. Since ontology
assumes that only information perceived from a real world can be reliable enough to identify
how things really are (Guba & Lincoln, 1994, p. 108). We further take a similar approach as
we did with the epistemological issues, namely we will focus on two different stances within
ontology. The two different stances within ontology is referred to objectivism and
constructionism, and raises the question whether the social reality in which the individual
inhabits is objective and external or if it is subjective and cognitively constructed (Long et al.,
2000, p. 190).

Objectivism can be viewed as the stances were social entities exist in reality external to social
actors (Saunders et al., 2009, p. 110). This means that the social actors are outside the control
of our reach as well as our influence (Bryman & Bell, 2011, p. 21). Objectivism is focused on
the organizational factor of the social science therefore it is important to consider them. Under
an objectivistic approach it is important to remember that organizations are tangible objects as
well as that these organizations has their own rules and regulations (Bryman & Bell, 2011, p.
21). Organizations can be viewed as having their on reality that is external from the employees
that inhabit the organization, the employees or inhabitants that inhabit the different
organizations must follow the rules and regulations that are set by the organization furthermore
organizations acts on their inhabitants through constraining force (Bryman & Bell, 2011, p. 21).

On the other hand we must also consider the other approach of ontology, namely the
constructionism stance. With a constructionism stance the social actors are external realities,
this implies that organization and culture are pre-given and do not confront the social actors
(Bryman & Bell, 2011, p. 21). These factors entail that we as researchers with a constructionism
stance have to observe the social entities and how they interact in order for the researcher to
gain the full picture of any organization or culture that the social scientist is studying.

The two different stances of ontology that we have presented see the organization and culture
as either social entities with their own realities (objectivism) or that the organization and culture
are external realities that do not influence the social entities (constructionism). In order for us to determine what ontological stance is best suited for our research we must consider our research question and the goal of our research. As we are studying the influence that mandatory as well as the amount of CSR disclosures has on the volatility on Swedish companies we feel that an objectivistic stance is most suitable for our research. We are aware of that it is individuals who produce the CSR for companies however our argument is regarding that it is the object of having CSR and disclosures regarding CSR that will influence the investors and the financial market. Meaning that it is the companies who are influencing the individuals and thereby are social entities. Furthermore we are observing different variables with our research that are related towards our research question. Due to us viewing the variables and the result that we find from our different test as the result of our empirical data that will be analyzed as what they are and without interference from our own personal views. For these reasons we have chosen to have an objectivistic stance when it comes to our ontology.

2.4 Research approach

Our research approach will need to be linked the previous aspect of methodology that have covered, namely research philosophy, as well as being linked to our future methodological stances, both when we choose what research design we will utilize as well as it will be the basis for our research strategy and research method. There are different research approaches that can be utilized in order for us to conduct our research, however we will choose to focus on the two main research approaches that both Bryman and Bell (2011) and Saunders et al. (2009) focus on as well, namely inductive and deductive approach. These two approaches are contradictive of each other but both represent different ways of studying ideas about the world that surrounds us (Balnaves & Caputi, 2001, p. 59).

The deductive approach can be seen as a researcher developing a hypothesis based upon existing knowledge in an area in order to test them against existing theory so as to either confirm existing theory or contradicting it thereby creating new theories (Bryman & Bell, 2011, p. 11). Furthermore a deductive approach can be seen as the natural sciences approach as it utilizes the approaches and methods of natural science in order to confirm laws (theories) or to contradict them (creating new theories) (Saunders et al., 2009, p. 124). Balvanes and Caputi define deduction as being deterministic where a conclusion can only be reached from the evidence observed (Balvanes & Caputi, 2001, p. 59). On the other hand an inductive approach focuses on generating new theory by understanding the social environment, by exercising the environment and analyzing the data that have you gathered from your observations. As an opposite of deduction induction is when there is so much evidence that the conclusion fits the fact (Balvanes & Caputi, 2001, p. 59).

Both research approaches have their pros and their cons when it comes to conducting research, as we have previously mentioned the research approach is related to the research philosophy, as we previously stated we have chosen to utilize a positivism stance and an objectivistic ontological stance. These choices are related more towards a deductive approach since positivism is more related towards natural science, as is deductivism. Relating once again towards our research question that follows; “Would mandatory CSR disclosures, as those that exist in Denmark, reduce stock volatility if they existed in Sweden?”, as we seek to generalize the Swedish stock market in order for us to answer our research question it lends another reason for that a deductive approach is more suitable for our research (Saunders et al., 2009, p. 125).

The first step in a deductive approach is to gather knowledge through relevant theories in the research area. These theories are later used to create hypotheses which are tested against the
collected data. The findings from the tests are utilized to either prove or disprove the hypotheses in order for the researcher to prove or disprove a theory. Theories that are disproved lead towards the creation of new theory.

2.5 Research design
The choice of deductive approach as our research approach will help us with the selection of research design. Balnaves and Caputi highlight the importance of research design since it is not enough to have a good idea but it needs to be backed up by a good design (Balnaves and Caputi, 2001, p. 27). There are different types of research design that a researcher can choose between, we have however chosen to focus on three different approaches to research design, namely exploratory, descriptive, and explanatory.

Exploratory research design is focused upon understanding the problem in a new light by assessing the problem and asking questions (Saunders et al., 2009, 139; Babbie, 2004, p. 87). The use of exploratory research design could be useful for researchers who are trying to understand and clarify a specific problem that is new to them or unsure of (Saunders et al., 2009, 139, Babbie, 2004, p. 87). Saunders et al. argues that exploratory research design has three key principal ways of being conducted; firstly researchers should search for relative literature, secondly the researchers can interview experts in the field that they are researching, and lastly they can conduct focus group interviews (2009, p. 140). These three principals are more related towards an inductive and qualitative approach rather than a deductive approach therefore we feel that this research design is not useful for our research as we have chosen to conduct our research using the deductive approach.

The next research design option that we have to consider is the descriptive approach. The descriptive approach focuses on describing the situation at hand and can sometimes be seen as an expansion of an explanatory study and quite often is a part of explanatory research (Saunders et al., 2009, p. 140; Babbie, 2004, p. 89). To be able to effectively pursue descriptive research it is important to have a clear picture and sufficient knowledge of the area in which you wish to pursue your research before you collect the data (Saunders et al., 2009, p 140). A common occurrence in descriptive research is that it is too descriptive and does not lead to a clear conclusion (Saunders et al., 2009, p. 140). Descriptive research has clear position in business and management research, however it should be viewed as a means to an end and not a method utilized as an end itself (Saunders et al., 2009, p. 140). Furthermore descriptive studies often seek to answer the questions what, where, when, and how (Babbie, 2004, p. 89). Therefore descriptive studies often become descripto-explanatory studies since it is common for them to become precursors to explanatory studies (Saunders et al., 2009, p. 140).

Explanatory studies focus on explaining the relationship between predetermined variables. Therefore they often take a perspective where it makes it possible for the researcher to study the relationship between variables in order to be able to explain them (Saunders et al., 2009, p. 140). Furthermore explanatory studies often seek to answer the question why, as in why did an observation happen (Babbie, 2004, p. 89). An explanatory research approach can be applied to both quantitative and qualitative research methods (Saunders et al., 2009, p. 141).

In order for us to determine what type of research design would be most suitable for our research we must turn towards both our research question as well as the purpose for our research. With this in mind we feel that the research design that would be most suitable to answer our research question and to fulfill our purpose is for us to utilize an explanatory approach. Even if the explanatory is focused on description aspect. However authors have argued that natural science
research argues that they are heavily influenced by description aspect as well as being influenced by explanation of the observable data that has occurred. Relating to our research question we want to understand what would happen if there was a mandatory CSR disclosure requirement for Swedish companies utilizing the Danish legislation thereby trying to explain what would happen to stock volatility if Sweden had a mandatory CSR disclosure legislation.

2.6 Research strategy
In order for us to utilize the methods that we have previously chosen there is a clear need to have a clear research strategy. Different authors have different choices when it comes to research strategies, in this thesis we will use Sanders et al. (2009) as a basis for the different viewpoints regarding research strategy. As our deductive approach and the stances that we have taken in research philosophy, objectivism and positivism, are focused upon the approaches that natural science takes. Since our research question is focused upon what would happen if Sweden had a mandatory CSR disclosure similar to those that Denmark have. Therefore the Swedish stock market will be our lab. The experiment will be setup so that we will see how many of the mandatory Danish regulations are being followed by the Swedish companies and understand if the Swedish stock market would be influenced by having more or less of the mandatory regulations that Denmark has. As Danish companies have mandatory disclosures regarding CSR we will have those companies as a control group for the test that we will be running furthermore roughly 93% of the Danish companies who are influenced by the mandatory regulations are reporting a CSR report either in their annual financial report or in a stand-alone report.

2.7 Research method
Having determined what different types of methodologies that we have chosen we must finally decide what type of research method we will utilize. The research method determines the process that we as researchers will use in order for us to collect information and data. The two different research methods that we will focus upon is the quantitative and qualitative method. Researchers have compared the main difference between quantitative and qualitative research methods wherein they could conclude that the main difference between the methods is a matter of numbers versus words (Lee, 1992, p. 88; Bryman & Bell, 2011, p. 410; Cooper & Schindler, 2011, p. 160; Holme, Solvang, and Nilsson, 1991, p. 154; Saunders et al., 2009, p. 17). While choosing our research method our philosophical position regarding epistemology and ontology will be consistently important since our choice of method implies that we have a specific opinion of what is to be researched and how (Lee, 1992, p. 88). In addition to this the research methods are often based upon different paradigms and it is up to the researcher to choose an appropriate research method in terms of how reality is perceived and understood (Lee, 1992, p. 93). Which is why the different choices of methodologies that we have previously chosen are also important to take into consideration when choosing our research method (Bryman & Bell, 2011, pp. 26-27). The factors that we must take into consideration are; epistemology, ontology, and our research approach.

The quantitative method focuses on understanding the social world using a natural science approach. Bryman and Bell argue that within the quantitative method researcher will use a deductive research approach, a positivism stance within epistemology, and objectivism stance within ontology (2011, p. 27). Having previously chosen to have an objectivism ontological stance and having a positivism epistemology stance as well as we have chosen a deductive research approach. The choices we have made so far are related towards a quantitative research method which can be related towards a natural science approach. However it is not only those three methodological approaches that we must consider and that is related towards quantitative
research method. As we can see both our research design and research strategy can be related
towards natural science and quantitative research method. The quantitative research method has
four distinctive preoccupations that we have to consider as researcher; namely measurement,
causality, generalization, and replication (Bryman & Bell, 2011, p. 163). Measurement is the
process in which researchers assign a numeric value towards the observations that researchers
do. Secondly causality is related towards the explanation as well as understanding why things
are the way they are in the social world that the researcher are studying (Bryman & Bell, 2011,
p. 163). Furthermore generalization implies that the research that has been conducted can be
generalized in other situation than the one that the researcher has conduct in (Bryman & Bell,
2011, p. 163). Lastly replication is concerned with that the research that has been conducted
should be able to be repeated by other researcher and these researchers should be able to gain a
similar result. It is therefore important that the researcher should not influence the research that
is being conducted (Bryman & Bell, 2011, p. 165). Furthermore to be able to determine that a
quantitative approach is most suitable for our research we must consider our research question
as well as the purpose behind our research.

As we are trying to know understand what would happen if we took a mandatory regulation
that exist in another country, in our instance Denmark, and investigate if Swedish companies
who have CSR reports have a reduced stock volatility if the CSR report contain the regulation
that Denmark has. The research that we are conducting is related towards the quantitative
research method as we believe that it is related towards the criteria that exist in quantitative
research method as well as the research strategy that we are utilizing is related towards
experimental approach that is related towards natural science.

2.8 Literature review

Literature sources can be divided into three different segments, namely primary, secondary, and
tertiary sources (Saunders et al., 2009, p. 69). The differences between the different sources
available is dependent to two factors according to Saunders et al. namely the level of detail in
the source as well as the time it takes to publish the source, wherein primary sources take longer
time to publish but have higher level of detail whilst tertiary sources have lower level of detail
but can be published faster and in between these two sources there are the secondary sources
(2009, p. 69). Primary literature source is related towards the first publication of a work and is
usually presented in one of these literature forms; reports, theses, company reports, and some
government publications (Saunders et al., 2009, p. 69). Secondary sources are often published
in the form of journals, books, and some government publications wherein these sources are
easier to find than primary sources as they are published for a wider audience (Saunders et al.,
2009, p. 69). Lastly tertiary sources are related towards sources that can be considered as search
tools, these sources include indexes, abstracts, encyclopedias, and dictionaries (Saunders et al.,
2009, p. 69). Researchers often use tertiary sources in order to find both primary and secondary
sources that are used as the main sources in research (Saunders et al., 2009, p. 69).

As we mentioned above primary sources are related to company reports and theses, we are for
this reason going to utilize Diva in order for us to find literature sources as well as searching
OMX Stockholm for us to find the Swedish companies and to find their annual reports as well
as CSR reports. Secondly we will utilize journals and books as our secondary literature sources,
wherein we will use Umeå university library to find both or books and journals. Furthermore
we are utilizing Umeå university library’s access to Emerald and Business Source Premier
(EBSCO) to find articles as well as using Google Scholar to find relevant articles.
The theses that we have found and used as primary sources have been useful for us as researchers to find peer reviewed articles that we have later used as secondary sources as well as helping us with the structure of our thesis. The secondary sources that we have found from searching theses as well as searching EBSCO has been used by us when writing our introduction, methodology, and theoretical framework. The other primary source that we have used in the form of annual reports as well as CSR reports have been gathered from either NASDAQ OMX Stockholm or NASDAQ OMX Copenhagen. Lastly we have also used governmental sources as both primary and secondary sources in our thesis as we have included the Danish legislation as well as the reports that have been published by the Danish Business Authority regarding the CSR legislation.

In order for us to find the relevant literature sources we have chosen to focus on the following key words: **CSR, mandatory disclosures, voluntary disclosures, volatility, historical volatility, information asymmetry, principal agent theory, legitimacy theory, stakeholder theory, shareholder theory, stakeholder theory versus shareholder theory, beta, accounting beta, financial performance, accounting financial performance.**

### 2.9 Summary

| Research philosophy | • Positivism - Epistemology  
|• Objectivism - Ontology |
|---|---|
| Research Approach | • Deduction |
| Research design | • Explanatory |
| Research strategy | • Experiment |
| Research method | • Quantitative |

*Figure 1. Summary of theoretical methodology*
The figure above provides the reader with a summary of our theoretical methodological chapter which describes what different choices that we have made in order for us to conduct our research. As can be seen from the figure the choices that we have made for our research philosophy is an objectivism stance for ontology and a positivism stance for our epistemology. These philosophical choices has guided us when it comes to making the other research choices for our thesis. The two different stances that we have chosen in research philosophy has guided us with the choice of research approach, in our case the research approach will be that of deduction. The research design that we have chosen, explanatory, is related towards the previous methodological choices that we as authors have made. As positivism and objectivism as well as deduction are related towards a natural science approach it was natural that our research strategy should also be related towards that approach. Furthermore our research strategy is also related towards our research question and our purpose and therefore the strategy that we have chosen is that of an experimental strategy. By combining all the previously methodological approaches that we have chosen we feel that the research method that is most suitable for our thesis would be that of a quantitative method.

2.11 Ethical, Legal, Social considerations
As researchers our focus should not only lie on the scientific contributions that our research can have but also on the ethical, social, and legal implications that are set upon researchers whilst fulfilling the purpose of their research. Therefore, whilst conducting research it is important for researchers to first consider and to keep in mind throughout the research the social, ethical, and legal aspects that may influence the impact and outcomes of one’s research. Ethics are connected with corporate social responsibility and the norms and values defined through a moral code of conduct. In accordance with this it is important that we have permission to use any data, primary or secondary, that we gather and wish to use to fulfil the purpose of our research (Saunders et al., 2009, p. 168). All literature that we have used throughout the research such as journals, books, and other sources are accurately referenced so as to avoid plagiarism. Further Diener and Crandall define ethics as a way for researchers to uphold their values through a set of guidelines and principles, this in turn helps the researcher define the main goals of the research as well as helping the researcher identify when goals and values are in conflict (Diener & Crandall, 1978, p. 3). Another aspect included in ethics is that researchers have a duty to perform their research as adeptly as possible and to further portray their findings to the reader as accurately as possible (Diener & Crandall, 1978, p. 3).

The study at hand utilizes data that is publicly available and does not reveal any additional information that may harm the companies included in the study. An important aspect for us to keep in mind during our research is to not falsify any data that is used during the study or presented in our empirical findings. Falsifying data would not only be an unethical research approach but would also result in the presentation of a misguided conclusion. Therefore throughout the research we have only used publicly available data which has not been manipulated.

However it is highly unlikely for this to occur in our research due to our method of data collection which focuses on gathering data from financial reports and therefore consent to use the data in our research is more relevant. Since the financial reports are already publicly available and the information that is disclosed is either mandatory through regulations or voluntarily provided by the company we so no issues with consent. Furthermore the use of any data in this research will follow a strict moral code and adhere to current laws and regulations that are relevant to the use of data or any other intellectual property in research. In addition to
this the presented data in our research will not be manipulated or presented in a way that is
willfully meant to deceive the reader. This will increase the readability and understandability
of the presented data allowing the reader to gain a clearer understanding of the research process
as well as increasing the replicability of the research.

As we will be using the approaches of natural science in our thesis deception becomes an
important issue that we as researchers have to consider. Natural sciences are dependent on the
use of i.e. statistical models and in our research we will be utilizing a variety of them we need
to reassure the reader of this thesis. In order for the readers of this research to feel “safe” we
will use the same unaltered data for all of our statistical tests. However it is also important to
remember that data can only be considered reliably if the data is reported in an accurate view,
this gives us as researchers another two important aspects to consider when we are conducting
our statistical tests.

From a social standpoint our research aims to contribute by establishing whether or not the use
of regulated CSR reporting has a positive influence on the volatility and standard deviation in
the stock market. In the future this research could aid investors since a reduction in volatility is
often coherent with a reduction in the investment risk faced by investors. Furthermore other
stakeholders with an interest in CSR reports may be interested in the results of such a study,
since the research is evaluating the influence of regulated CSR disclosures.

An important aspect for us as student researchers to keep in mind during the progress of our
research is that we represent Umeå University. This implies that the decisions that we make
throughout our research can be reflected back upon Umeå University, thereby impacting the
university’s reputation. Therefore we have an ethical and moral obligation to act in an ethical
manner whilst pursuing the purpose of our research. One of the ways to achieve this is by
making sure that we take the correct precautions to accurately reference previous research on
the subject.

Another ethical issue that arises is the effect that the results of our research can have upon both
companies and investors. We as researchers must keep in mind that the outcome of our research
may influence the investment decisions taken by investors. Depending on the results of our
study investors may choose not to invest in companies unless they disclose sufficient
information regarding their CSR activities. Therefore the results of our research can prove to
be either a positive or negative aspect for companies depending on the amount of CSR that a
company reports.
Chapter 3: Theoretical framework

This chapter presents the theoretical framework that will be the basis in aiding us to answer our research question. The chapter starts of by describing CSR and its various uses both for companies and for the social environment that surrounds it. We then go on to explain the differences that exists with mandatory and voluntary disclosures as well as the regulations surrounding them. Thereafter we take a look at stakeholder, shareholder, information and the principal agent theory to establish a balance between the society and the individual. The chapter goes on to discuss volatility and the financial markets of Denmark and Sweden. In conclusion a figure summarizing the theoretical framework is displayed.

3.1 Corporate Social Responsibility

Corporate social responsibility can be seen as a company’s duty to serve the interests of the entire society around them including environmental aspects. However the definition and meaning of CSR has been widely applied and evolved since the beginning of the 1950s (Carroll, 1999, p. 268). The concept of CSR is widely viewed as being accurately introduced by Bowen in 1953 were the practice of CSR was simply defined as the act of businessmen doing desirable acts towards their community (Moura-liete & Padgett, 2011, pp. 529-530). In the 1980s as companies and social interests became closer entwined there was a focus on a new aspect from the business environment in CSR namely the stakeholders (Moura-liete & Padgett, 2011, p. 532; Carroll, 1999, p. 288). Since the 1990s CSR has been widely adopted by many organizations and its use has increased significantly (Moura-liete & Padgett, 2011, p. 536). Furthermore CSR evolved during the 2000s to become a strategic aspect for companies due to the influences of environmental and social sustainability issues had on the institutional legitimacy of companies this further evolved to include a company’s legal responsibilities (Moura-liete & Padgett, 2011, p. 536).

The idea of CSR today is that business and society are integrated through common goals and interests. Furthermore the modern view of CSR has continued to evolve towards being stakeholder and investor oriented whilst the original idea of CSR was focused on the societal wellbeing as a whole through the bond between companies and organizations and the moral duty they have towards society. CSR can also be used as a tool to assess the appropriateness of a company through its authenticity and legitimacy from a community based perspective (Dunfee et al., 1999, p. 30).

3.1.1 Theories within Corporate Social Responsibility

CSR today can be seen as to be divided into two contrasting theories namely the orthodox theory of CSR and the stakeholder theory. The orthodox theory of CSR is focused on the more traditional thought that a company’s main focus should be business oriented (Quazi, 2003, p. 823). Stakeholder theory, also called the modern theory of CSR, is the contrasting theory which focuses on ongoing general agreement between companies and society. Another important aspect of this theory is that it presumes that companies are no longer solely responsible to their shareholders but that they should have a broader view incorporating their responsibility towards other groups in society that are stakeholders in the company (Quazi, 2003, p. 823). One of the foundations for this argument is that decisions made by corporations may influence society in a similar way to how decisions made by society influence the business environment (Quazi, 2003, p. 823).
The business environment as it is today sets a growing amount of pressure on companies and organizations to address and respond to the societal demands which are upon them (Quazi, 2003, p. 822). Quazi argues that the people within the organization reflect what the organization stands for and that it is therefore within their responsibilities to uphold and advance the corporate social commitments set upon the organization (Quazi, 2003, p. 822). This can also prove to benefit companies by portraying a both profitable and socially intertwined business to external stakeholders. This would increase their competitive advantage in comparison to companies in the same environment with less focus on CSR. Similarities could be drawn in a situation where both companies are meeting the expectations set upon them by society if one of the companies produced a CSR disclosure of a lesser quality than the other.

3.1.2 Shareholder theory and Corporate Social Responsibility
Friedman’s views on CSR incorporate the aspects of a company being able to maintain a sustainable positive development and the moral obligation of the company to maximize the profits for its shareholders (Friedman, 1970). Of these two crucial issues Friedman advocates that it is a company’s obligation to maximize its profits towards its shareholders. However while doing this another issues arises which regards whether or not it is possible for companies to be able to do what can from an economical perspective be described as charitable work while still being able to maintain a profitable company. Furthermore even if the company maintains profitability while successfully fulfilling its infused duties to society one may consider whether or not the company would be more profitable if it was absent from unprofitable societal pressures. This issue raises the question whether or not the pressures that society puts on companies in terms of CSR performance should be seen as purely a cost that reduces shareholder and investors wealth.

This is in part why Friedman’s article has created a discussion surrounding corporate sustainability development in comparison to the effect it has on the financial performance of a company. The issue at hand is whether or not a practicing CSR can be viewed as a profitable activity for a company or the latter being purely an expense portraying its duty to society. Furthermore Friedman highlights the aspect that businesses cannot be perceived as to have responsibilities as such, but rather that the individuals within the business are the bearers of such responsibilities (Friedman, 1970). Therefore the business can only be seen to have artificial responsibilities (Friedman, 1970). Friedman adds to this by arguing that a corporate executive of a company has a direct responsibility towards its employees which generally should be achieved by striving for as high a profit margins as possible whilst following current legislation and such expectations of society that restrict the company (Friedman, 1970). The topic at center here is that the corporate executive’s main concern should be the responsibility such an individual has towards their employees. Then again the corporate executive is an individual and his personal needs and moral code may guide him towards the choice of directing personal income or time towards charitable needs outside of the office (Friedman, 1970). However in such a case he would not be acting as an agent but rather as a principal since it is his own money and time that he chooses to invest in these ventures and not the resources that would otherwise be rewarded to his employees or other shareholders in the form of corporate profits (Friedman, 1970). The argument continues discussing the aspect that if the corporate executive is spending the company’s money to for societal responsibilities he is also reducing the investor’s stock returns. Furthermore such spending would increase the expenses for the company thereby indirectly increasing the prices for customers which in turn could be described as spending the customer’s money (Friedman, 1970). The corporate executive can be seen as acting favorable towards society only if he is spending the corporation’s money in a way which the investors would disapprove of, since he would then no longer be acting as an agent for the stakeholders
of the company (Friedman, 1970). Friedman’s article could be seen as addressing the growing notion at the time which insinuated that companies and corporations have a responsibility to take actions to increase social welfare. As discussed Friedman notes that managers will engage in activities to increase social welfare however the corporate executive’s only incentive to further such actions should be driven by his responsibility to increase shareholder wealth in the long term.

3.1.3 The Pyramid of Corporate Social Responsibility

In 1991 Carroll identified four aspects that together define corporate social responsibility and depicted them in the pyramid of corporate social responsibility (Carroll, 1991). The pyramid has since then become widely used and is meant to clarify which areas should be seen as a company’s main focus towards its current and future stakeholders. There is a natural connection between companies and CSR and their obligation towards their stakeholders, being any individual or group, such as investors, that has a stake in the performance and outcomes of the company. A company’s stakeholders can be divided into separate groups with varying needs such as investors, customers, employees and the social environment surrounding the company. Whilst an employee may be more concerned with a fair wage and work environment. On the other hand a customer’s main concern may be with the quality of a company’s products or services that they provide. Therefore the act of pursuing successful CSR activities should aim to satisfy the expectations of the various stakeholders whilst minimizing ill effects on other stakeholders who may have separate priorities. The pyramid of corporate social responsibility helps separate four different responsibilities within CSR for companies as well as defining relevant behaviour for companies (Carroll, 1991, p. 42). The corporate social responsibilities were divided into four areas philanthropic responsibilities, ethical responsibilities, legal responsibilities, and economic responsibilities (Carroll, 1991, p. 42). These four areas can be described in a pyramid as seen in the figure below.

![Pyramid of Corporate Social Responsibility](image)

**Figure 2. Carroll’s pyramid, based upon Carroll (1991)**

3.1.3.1 Economic responsibilities

The economic responsibilities that a company faces focuses on how companies were created as economic entities that are able to provide society with useful goods and services (Carroll, 1991, p. 40). As companies were established the primary motive for entrepreneurship was their ability to turn a profit whilst still providing the society with acceptable goods and services in the
process (Carroll, 1991, p. 41). The notion of turning a profit evolved to become ever more focused upon maximizing profits which can be seen to be beneficial for investors, therefore companies need to keep this in mind how other decisions will affect their ability to maximize their profits (Carroll, 1991, p. 41). The economic responsibilities depicted in the pyramid of corporate social responsibilities have been separated into five key responsibilities. The company’s responsibility to maximize their earnings per share and to be further committed to maximizing the profits available to them (Carroll, 1991, p. 40). Furthermore the company has a responsibility to strive towards and maintain a strong competitive position as well as focusing on sustaining a high level of operating efficiency (Carroll, 1991, p. 41). From an economical perspective the company’s success is to be measured by their ability remain consistently profitable.

3.1.3.2 Legal responsibilities
A company’s legal responsibilities towards society can be defined as codified ethics that portray the basic norms and values that are expected to be followed by law abiding corporations. Carroll defines five areas within legal responsibilities. The importance for the corporation to act in a manner consistent with the expectations set upon them by current government legislation (Carroll, 1991, p. 40). Further Carroll highlights the importance for companies to follow the current local regulations as well as their responsibility to act as law abiding corporate citizens (Carroll, 1991, p. 40). In these regards the success of a company should be defined by their ability to fulfil this legal obligations as well as the company’s ability to at least provide goods and services that are in accordance with the legal responsibilities that are directed towards the company.

3.1.3.3 Ethical responsibilities
The ethical responsibilities that companies have can be described as the ethical activities that are not already included in the current laws and regulations (Carroll, 1991, p. 41). The ethical responsibilities include the company’s responsibility to act in an ethical manner towards societal members even though these expectations from society may not be regulated in the law (Carroll, 1991, p. 41). While acting in accordance to these responsibilities companies need to take into consideration what the society, consumers, employees, and other stakeholders deem as fair and further not to harm any of the stakeholders moral rights (Carroll, 1991, p. 41). Within these ethical expectations imposed on companies by society and various stakeholders are the ethical principles of moral philosophy such as justice, rights, and utilitarianism (Carroll, 1991, p. 41). The ethical responsibilities a companies have are considered to be a legitimate component of CSR. Furthermore even if the ethical responsibilities are represented separately to the legal responsibilities that a company has they are to be considered intertwined. This is due to the important role ethical responsibilities as a whole have had on the foundation of new laws and regulations, thereby having an influence on the founding of current legal responsibilities that are in play today (Carroll, 1991, p. 41). The ethical responsibilities include the importance for companies to act in a manner consistent with the expectations that are set upon them by society and in accordance with ethical norms. Furthermore they have a duty to keep an open mind in terms of considering new and uprising ethical norms adopted by society (Carroll, 1991, p. 42). The company is also recommended to not put their ethical norms at risk in order to achieve corporate goals. The wellbeing of a company’s corporate citizenship should be defined by their ability to do what is expected of them from both morally and ethically (Carroll, 1991, p. 42). Finally Carroll highlights the importance of how corporate ethical integrity goes beyond simply following current laws and regulations set upon the company (Carroll, 1991, 42).
3.1.3.4 Philanthropic responsibilities

The final aspect of the pyramid of corporate social responsibility are the philanthropic responsibilities. These responsibilities focus on the actions that companies take in order to comply with the expectations from societal norms that define a good corporate citizen (Carroll, 1991, p. 42). Examples of these would be the interaction with society through the acts of promoting human welfare or goodwill. Philanthropy can be said to encompass the actions that companies take to give back to the community surrounding their business environment be it in the form of the arts, education, or fundraising for the less fortunate. The difference between the philanthropic responsibilities and the ethical responsibilities a company has towards society differ in the way that they are perceived by the community. Whilst society expects that corporations follow and uphold a certain level of ethical standards the same cannot be said for philanthropy. Although society wants corporations to contribute their resources to humanitarian activities, society does not consider a company to be unethical if they choose not to contribute therefore it could be seen as a voluntary action provided by companies (Carroll, 1991, p. 42).

The main reason for the separation of ethical and philanthropic responsibilities is that some companies believe themselves to be fulfilling their social responsibility by solely being good corporate citizens towards the community (Carroll, 1991, p. 42). What Carroll manages to establish is that philanthropy is highly desired by society whilst on the other hand being the lesser of the four responsibilities in the pyramid of corporate social responsibility (Carroll, 1991, p. 42).

3.2 Disclosures

3.2.1 Mandatory and voluntary disclosures

When companies disclose information to the public there are two different approaches, mandatory and voluntary disclosures. Mandatory disclosures are formed by a collection of laws and regulations, such as IFRS and U.S. GAAP that may vary depending on the geographical location of the company due to there being both international regulations and country specific laws regarding disclosures. Mandatory disclosures separate themselves from voluntary disclosures since they must, by law, be disclosed to the public eye. In addition what is mandatory for a company to disclose depends on which industry it operates in whether it be ingredients and nutritional information for food producers or detailed financial information for publicly traded companies (Fishman & Hagerty, 2003, p. 45). Furthermore the regulations dictate what is to be disclosed as well as to what degree disclosed information needs to be explained by disclosing additional information. On the other hand voluntary disclosures are often provided separately from the audited financial report, due to this they are not included in the information which is required to be audited which may reduce the information’s verifiability and reliability. Voluntarily disclosed private information is commonly focused on either the company’s standing from a CSR point of view or management forecasts focusing on the future of the company.

Healy, Hutton, and Palepu (1999) studied whether or not companies could benefit by expanding the amount of information that is voluntarily disclosed. The study indicated that companies that increased the amount of information disclosed voluntarily benefitted from improved stock performance, increased institutional ownership, analyst following, and improved stock liquidity (Healy et al., 1999, p. 511). This shows that sophisticated investors such as institutional shareholders are inclined towards investing in companies that focus resources on providing higher transparency to investors.

Fishman and Hagerty (2003) studied two questions relevant to disclosure. Firstly why sellers would not voluntarily disclose their private information? Secondly, if voluntary disclosures are
not forthcoming, who is the main beneficiary of mandatory disclosure regulations? (Fishman & Hagerty, 2003, p. 45). The studies main assumption is that not all readers of the disclosed information are knowledgeable enough to understand what the disclosed information entails. Their findings indicate that that the amount of individuals who understand the disclosed information affect the amount of voluntary information that is disclosed. This is due to if there is only a small amount of individuals that understand the mandatory information disclosed the voluntary information disclosed might not be forthcoming (Fishman and Hagerty, 2003, p. 46). This indicates that mandatory disclosures may benefit informed investors whilst being neutral to uninformed investors and possibly harming the company (Fishman and Haggert, 2003, p. 46).

Ball, Jayaraman, and Shivakumar (2012) examine whether or not mandatory disclosures and voluntary disclosures of managers’ private information are complementary instruments for providing information to investors and not substitutes to each other (Ball et al., 2012, p. 138). Their study finds that mandatory and voluntary disclosures act as complements. This is due to the results which indicate that companies are willing to commit to greater audit authentication in their financial statements when the manager commits a greater amount of resources towards forecasting and disclosing private information (Ball et al., 2012, p. 163). This is achieved by disclosing informative and frequent voluntary forecasts to the investors which leads the investors to believe that the forecasts are more credible (Ball et al., 2012, p. 163). The study shows us that mandatory disclosure regulations can prove to be beneficial for companies currently voluntarily disclosing private information.

3.2.2 Regulations
As we are doing a comparison between Swedish and Danish publicly listed companies we must take into consideration three different legislations and regulations; namely Swedish law, Danish law, and the regulations set by IASB in IFRS and IAS. All three of these regulatory and legislator systems have rules regarding financial information as well as the disclosure requirements for financial information in the annual report. We are however focusing on CSR, which is non-financial information therefore we are focusing on disclosure control regarding CSR information in the annual report.

Legislations and regulations are not the only aspects that are available for companies who are considering reporting on their CSR activities, there are also guidelines that companies can consider. However as we are only considering the CSR reporting activities that are mandatory for publicly listed companies to report we will not focus on the different guidelines that are available to the companies.

Firstly considering the regulations set by IASB we can see that all European listed companies must produce a consolidated financial statements in accordance to IFRS. This means that the law is applicable to both publicly listed companies in Sweden and Denmark and we can therefore utilize the companies listed on NASDAQ OMX Stockholm as well as NASDAQ OMX Copenhagen. According to the qualitative characteristics of the financial statement the information provided to the end user, in our case investors, should be both useful and relevant for the decision making process (IFRS, IFRS 2012, p. 8). As we have previously discussed what is useful and relevant information for investors is dependent on the investors themselves. The difference is dependent on what type of information that an investor values, some investors focus only on the financial information provided by the annual reports whilst making decisions whilst other investors might focus on other aspects of the annual report, namely the non-financial information such as CSR information.
Whilst examining the different regulations in both the IAS and IFRS standards we can see that they are focused upon financial information and financial disclosures. The information that we can find from the regulations is that the non-financial information is mostly focused upon the management review aspect of the annual report and what should be included there.

### 3.2.2.1 Swedish legislation

Previously Sweden did not have a regulation regarding disclosure information for CSR, nor does Swedish legislation have a full regulation regarding CSR at the moment. In 2009 the government made changes to Årsredovisningslag, the Swedish annual reporting legislation, wherein two aspects of CSR would be included. As of the 1st of January 2010 Swedish companies have to include non-financial information in the management report that is relevant towards the current activities of the company, the non-financial information that should be included are environmental- and employee issues (6 chapter, 1 § 4 st., Årsredovisningslag, SFS 1995:1554). Governmental owned companies are mandated to include this information in their management report whilst smaller companies do not need to include this information.

The Swedish legislation does not provide much information regarding what should be included in the management report in the annual report nor does it specify what should be provided. In accordance to Swedish law we can also utilize the legislation preparation, see prop. 2998/10:235, as a way to review how the law should work, however this governmental report does not provide us as researchers nor does it provide investors with additional information regarding the information that should be provided.

### 3.2.2.2 Danish legislation

In 2008 Denmark introduced an action plan for CSR wherein they decided to improve the competitiveness of Danish businesses through the increase of reporting of non-financial information. The Danish parliament believed that investors need two types of information in order for them to make a good investment decision, namely non-financial and financial information. As we have previously stated financial information has been thoroughly been legislated as well as regulated through international standards who are evolving constantly through the introduction of new standards.

The action plan of 2008 provided Danish companies with guidelines of how they should report their CSR in the annual report of the company. As the action plan developed the Danish parliament decided that as of 2013 there would be mandatory for Danish companies to present their policies regarding CSR in terms of respecting human rights and how they are working towards reducing their climate impact. Similarly to the Swedish legislation only publicly traded companies, large companies and state-owned companies need to do their CSR report in accordance with the Danish legislation thereby SME are excluded, same as in Sweden.

The Danish legislation that exists today regarding CSR disclosures can be found in Årsregnskabsloven § 99 a. Firstly the legislation state that companies have to report on issues regarding “virksomhedens samfundsansvar” which translates into corporate-social responsibility (Årsregnskabsloven § 99 a). The legislation further states that the CSR issues that should be disclosed relates to human rights and climate or environmental impacts (Årsregnskabsloven § 99 a).

CSR disclosure should furthermore disclose what CSR policies the companies are following, which means that they should include, standards, guidelines, or principles (Årsregnskabsloven
§ 99 a). This aspect means that the companies should disclose what guidelines or policy the company is following, such as OECD guidelines or UN Global Compact principles. Secondly the companies should include how the CSR actions that the companies have included will translate into action, therefore the companies need to include what system or procedure they are following (Årsregnskabsloven § 99 a). Lastly the company should include what has been achieved during the year from the CSR actions of a company as well as what they hope to achieve in the future with their CSR actions (Årsregnskabsloven § 99 a).

The disclosed information that the company presents in regards to CSR is to be presented in the management report of the annual report and not specifically in a stand-alone report. However if a company chooses to disclose the information in a different way than in the management report they must clearly state it in the management report, meaning that there is a need for cross-referencing between management report and where the place that CSR is reported (Årsregnskabsloven § 99a). However there still exist an out for companies with the legislation as companies can choose to not report in accordance with the legislation if they state so, they do instead have to include what future actions that the companies will take in regards to CSR (Årsregnskabsloven § 99 a).

3.2.3 Legitimacy theory

As we have previously mentioned there are different aspects of CSR that we as researchers have to take into consideration, these different aspects have also been argued by different researchers of what managers and companies should focus upon. The classical aspect and what is argued to be the main aspect for companies is that they should generate acceptable profit and return for the shareholders (O’Donovan, 2001, p. 344). This view is usually referred as the Friedman method which relates towards his article from 1970. However recently CSR has moved towards a wider perspective wherein companies have to satisfy a wider audience than just the shareholders, companies must also take into consideration interested stakeholders (O’Donovan, 2001, p. 344). The wider perspective takes into consideration three different areas namely financial, social, and environmental when it comes to a company’s annual report. Furthermore researchers also argue that there exist a social contract between the society and the company wherein the company not only should focus on maximizing profits but also act in a social responsible manner towards the society (O’Donovan, 2001, p. 344; Brown & Deegan. 1998, p. 22). Furthermore it is important for the company to remember that the relationship between the company and society is ever changing and not fixed (Brown & Deegan, 1998, p. 22).

As we now have discussed the different views of CSR as well as considering the relationship between society and corporation we turn to understand what legitimacy theory is. Legitimacy theory can be defined as the social contract that exists between the society and the company wherein the company’s value is linked with the value of the larger society (O’Donovan, 2011, p. 345). Another definition of legitimacy theory states that legitimacy is the generalized perception or assumptions of a company’s actions in terms of that they are desirable, proper, or appropriate for the society that they inhabit in relations to the societies norms, values, beliefs, and definitions (Suchman, 1995, p. 574).

Since according to Suchman legitimacy is the generalized perception or assumption of a company’s action therefore there are three aspects that one should focus upon, namely generalized, perception or assumption, and social construct (1995, p. 574). The generalized aspect of legitimacy implies that the actions of a company should be seen as an umbrella evaluation, meaning that society will not look at specific actions and instead focus on the whole picture (Suchman, 1995, p. 574). Secondly perception or assumption is the way that society
views the company and the view that society has of a company will create the societies different reactions to the company’s actions (Suchman, 1995, p. 574). Lastly the social construct aspect of legitimacy relates towards that the legitimacy of a company is dependent on how society views them therefore the companies views can differentiate from the individuals of society (Suchman, 1995, p. 574).

Disclosures that a company do regarding their activities are related against legitimacy theory. The different disclosures that a company do are related towards the activities that a company do as well as how companies want alter the perspective of how others see their activities. As we have previously stated legitimacy is related towards company’s link towards society and their need to act in accordance to the society’s social norms. It is therefore important to remember that if companies do not disclose their activities then investors will be unaware of what the companies do they are not achieving legitimacy (O’Donovan, 2001, p. 346). This implies that the legitimacy aspect of CSR can be an important indicator as to way companies choose to disclose their different activities, be it voluntary or mandatory. Furthermore by disclosing information, in terms of legitimacy, can be seen as a way for companies to seek credibility regarding the actions that they have taken (Suchman, 1995, p. 574).

When it comes to legitimacy the organization can handle this aspect in different ways depending on what the company which to achieve. The company can deal with legitimacy by either trying to gain more legitimacy, maintain their current level of legitimacy, or losing some of their current legitimacy (O’Donovan, 2001, p. 347). The different aspects of maintaining legitimacy for a company is dependent on what type of tactic said company chooses to apply in different situations in order to respond to different threats against their legitimacy (O’Donovan, 2001, p. 349). However it is important to remember that different researchers have used different names for the different legitimacy strategies as well as what type of legitimacy strategies that companies should utilize.

The company might want to gain legitimacy from their different stakeholders for the activities that the company are conducing when they for example expand into a new market segment. The company or their managers want to gain legitimacy when they are entering into a new market since the company might have little to no previous knowledge of the new market, however it does presents a problem for managers since there exist liability of newness (O’Donovan, 2001, p. 349). On a similar note it is argued that the companies seek to educate the public (Brown & Deegan, 1998, p. 23). In order for managers and the company to gain their legitimacy for when they entering a new market they have a need to be proactive, which they are able to do as they have preexisting knowledge, that can influence stakeholders, of the activity that will take place (O’Donovan, 2001, p. 349). With their preexisting knowledge companies can choose how and when they will share the information that they have regarding the activity with the different stakeholders (O’Donovan, 2001, p. 349). This example can also be viewed as a way for the managers and the company to seek support from society. The question than occurs if the company wants passive support or active support from society. Wherein passive support acknowledges the actions of the company however leaves it alone therefore the legitimacy level is low (Suchman, 1995, p. 575). On the other hand active support refers to that companies want the society to help them, i.e. against competitors, however in return the society will require higher legitimacy (Suchman, 1995, p. 575) meaning that they will need more information from the company in return for their help.

Of the three different options that are available for companies do deal with their legitimacy maintaining it can be seen as the easiest option. In order for companies to maintain the
legitimacy that they have already established they need to consider the different stakeholders needs as well as that their needs will change overtime, therefore legitimacy is in constant need of change and needs to be kept current by being able to observe as well as anticipate the changes (O’Donovan, 2001, p. 349; Brown & Deegan, 1998, p. 22). On the other hand legitimacy is also dependent on the historical events of a company, meaning the different actions that the company have already done (Suchman, 1995, p. 574). Furthermore the maintenance of a company’s legitimacy is dependent on the level of maintenance needed keep it at the same level (O’Donovan, 2001, p. 350). It is also important to remember, as we stated before, that legitimacy can sometimes be seen as generalized, meaning that the big picture is considered when dealing with legitimacy.

The levels of legitimacy can be seen as in the chart below where the level of legitimacy in a company can be either high or low or in a level between the two extremes.

Low — High

If a company has a high level of legitimacy it would mean that the company is regarded as a good corporate citizen which implies that a company acts in a responsible matter towards the society and societies members wherein these members have certain expectation of society in regards to their environmental and social activities (O’Donovan, 2001, p. 350). On the other hand there are companies with low levels of legitimacy. Low legitimacy companies are companies who are not mainly dependent on society and its member in order for them to survive therefore they may not strive to build more legitimacy (O’Donovan, 2001, p. 350). The level of legitimacy that a company has and wish to maintain will also be a key to how much they will work towards it. Low level of legitimacy implies that a company will mainly act as a response against institutional rules and expectations, whilst high level of legitimacy firms will have to worker harder to maintain their legitimacy by trying to be one step ahead of societies expectations in regards to social and environment (O’Donovan, 2001, p. 350). The level of legitimacy implies the amount of information that will be shared between the company and society, the level of information shared can also sometimes be called pragmatic legitimacy (Suchman, 1995, p. 578).

The last option that firms have available to them in terms to their legitimacy is the option to repair it. In order to repair the legitimacy one must consider what level of crisis management the company is within (O’Donovan, 2001, p. 350). If a company has a high level of need for repairing its legitimacy they need to take a proactive stances, meaning that they have to get in front of the crisis that the company is currently facing (O’Donovan, 2001, p. 350. 7). The proactive tactic strategy for repairing legitimacy can only be utilized for crisis that can be predictable, usually not related with a crisis, the other type of strategies that can be utilized for repairing legitimacy, during a crisis, are reactive, meaning that the strategy is implemented after said crisis has happened (O’Donovan, 2001, p. 350).

Furthermore there also exist other strategies that we have to take into consideration regarding legitimacy strategy. One of the strategies that can be utilized by the companies is to manipulate perception that investors have of the company, by for instance deflecting attention away from problem areas of the company by focusing on the positive aspects (Brown & Deegan, 1998, p. 23).

In order to gain, repair, and to maintain legitimacy a company will be dependent on the company’s ability to communicate their tactics, meaning that they will have a need to disclose
the information regarding what they have done in order keep or build their legitimacy towards the different stakeholders within the society. Furthermore we must once again emphasis on the importance of the annual report as the information source wherein the information helps both the financial markets as well as how the public views and reacts to the activities that a company do, where environmental disclosures are included (O’Donovan, 2001, p. 351).

As we have previously stated legitimacy theory is related to have companies interact with society and how society and its members view the company. It is therefore important to take into considerations voluntary versus mandatory disclosures that the company’s produce for the public, wherein stakeholders and especially investors are included. When the information is voluntary disclosed in the annual report the managers can utilize the information that is being sent out to send out a certain message to the public, where investors are included (O’Donovan, 2001, p. 351). This means that the managers of the company can manipulate the information that they send out in order for them to change the legitimacy of the company. If we move our focus more towards the CSR aspect of the company we can focus on the social and environmental factors. With voluntary information disclosures the company and its managers can use the annual report to send messages to the investors regarding the actions and activities that the company has taken with concerns to social and environmental factors (O’Donovan, 2001, p. 351). On the other hand annual reports can also correct the public perspective of the company or the industry that the company operates within, wherein either of these factors can be seen as negative or that they do not produce good whilst the opposite might in reality be true (O’Donovan, 2001, p. 351: Brown & Deegan, 1998, p. 33).

Previous research has suggested that the end user of annual reports want an increase of corporate environmental disclosures in the annual report, this implies that annual reports are an important source for environmental information (O’Donovan, 2001, p. 352). However it is important to consider stand-alone environmental reports, and CSR reports, as they are becoming more common as a way for companies to disclose information to investors (O’Donovan, 2001, p. 352; Brown & Deegan, 1998, p. 21). Even if stand-alone reports are more common now the Danish law only mentioned that CSR information must only be disclosed in the management review of the annual report and not in a stand-alone report. It is also common that CSR, including environmental, information is often reported partly in the annual report with a cross-reference to a section in a stand-alone report, where the information is more thoroughly presented (O’Donovan, 2001, p. 352).

As companies wishes to gain more legitimacy in society the need for disclosures continues to be an important part for company’s activities, i.e. environmental information, in their annual report (O’Donovan, 2001, p. 363). Furthermore company’s decision to utilize different tactics within legitimacy is dependent on what type of threat that they are facing in regards to environmental issues or events. This means that a company will voluntary disclose more information if the perceived threat is medium to high, whilst low level threats tend to not warrant a response (O’Donovan, 2001, p. 363).

Previous researchers have suggested that legitimacy tactics are utilized during environmental issues or events as well as disclosing environmental information are made by the companies as a way for companies to be seen in a positive light (O’Donovan, 2001, p. 364). Since it exist a possibility that the information is disclosed for the company’s own gains means that the information presented is questionable even if the majority of environmental information that investors take part of is gathered through the annual reports (O’Donovan, 2001, p. 364). However
O’Donovan argues that the information regarding environmental issues gathered from annual reports may not be as misleading as they first appears (2001, p. 364).

3.3 Society or the individual
3.3.1 Stakeholder theory
As we are conducting an experiment regarding if Swedish companies had a mandatory disclosure requirement that exist in Danish law we need to consider the different groups of society can be influenced by the disclosed information. As we are focusing on CSR information from companies the groups who are influenced can be regarded as stakeholder of the company as they can affect or are affected by the different activities that an organization conducts (Freeman, 1984, p. 46). This implies that these groups will want to see the company succeed as they all have a stake in the success of the company, furthermore the different groups that are stakeholders of a company also play a role in the success of the company (Freeman, 1984, p. 25). For these reasons the company and the stakeholder and the company are interlinked and dependent on each other and the company’s activities influence the stakeholders. However it is also important to take into consideration that the different stakeholders of a specific company can be rivals with each other, it is therefore important for the company to be able to satisfy the different groups (Freeman, 1984, p. 25).

The different stakeholders are dependent on the company to create value for them, it is important to take into consideration who these different groups. Freeman (1984) and Donaldson and Preston (1995) suggest that a stakeholder model can be utilized in order to show how the different groups and the company are interlinked.
Furthermore we must consider that these different groups of stakeholders are either internal or external. A company’s external stakeholders will provide the company with different types of resources, however in return for these resources the external stakeholders may ask the company to perform certain types of actions (Chan, Watson, & Woodliff, 2014, p. 61). Internal stakeholders can be seen as those groups within a company that can influence a manager and the way that that specific managers does his or her job (Freeman, 1984, p. 216). Internal stakeholders can also be described as the managers who setup the different strategies whilst the employees are the ones who implement the strategies (Schlosser & Mcnaughton, 2007, p. 308).

The classical view of the stakeholder model has however been critiqued by other researchers as it simplifies the different stakeholders. From the critique Clarkson (1995) developed a new way of viewing the different stakeholders by introducing two new categories, namely primary and secondary stakeholders (Clarkson, 1995, p. 105). The primary group of stakeholders can be seen as the group that a company cannot continually exist without, these groups are e.g. investors, customers, employees, and suppliers (Clarkson, 1995, p. 105). On the other hand secondary stakeholders are those groups that the company’s survival is not dependent on, however these groups are influenced by the company and the company is influenced by these groups (Clarkson, 1995, p. 107). It is important that take into consideration secondary groups as these may cause damage to the company (Clarkson, 1995, p. 107; Freeman, 1984, p. 53).
As we have previously stated stakeholders and the company are influenced by each other, therefore the actions of the company can be influenced by the different groups of stakeholders. Disclosures that a company does in regards do different CSR activities are helpful as it increases transparency. Transparency for different CSR activities is an important aspect according to both researchers as well as the European Union. When it comes to stakeholder theory and transparency there exists some right to information for different stakeholder groups in regards to the activities that a company do (Dubbink, Graafland, & Liedekerke, 2008, p. 393). Furthermore by having increased disclosure the company’s become more open towards the different groups of stakeholders, and more specifically towards their investors, it will also improve the companies accountability as well as their responsibility towards the different stakeholder groups (Dubbink et al., 2008, p. 393). However transparency can be problematic for companies since they can overshare information as well as it can be expensive for companies to publish the information (Dubbink et al., 2008, p. 393).

3.3.2 Shareholder theory
Having previously discussed the different groups of stakeholders that a company focuses upon, however there is also a need to focus on a specific group of stakeholders. Returning once again to the research question and purpose of our research our key target group is the investors, therefore we must consider stakeholder theory. Researchers stated that the key focus of any company is to maximize the shareholder value (Friedman, 1970; Fontrodona & Sison, 2006, p. 35; Smith, 2003, p. 85). Furthermore shareholder theory could be linked to agency theory as it is an aspect of the company wherein the shareholders are the principals and the management of a company are the agents (Fontrodona & Sison, 2006, pp. 33-34).

There has been discussions regarding whether one should focus upon shareholder theory or stakeholder theory. The discussion has been especially upcoming due to the recent scandals that the financial world has suffered with e.g. the fall of Enron wherein the focus had been on increasing the shareholder value and the return on their investments (Smith, 2003, p. 85). The financial scandals from the fall of Enron could also be seen as a victory for stakeholder theory because the stakeholder theory focuses on the different groups that are dependent on the company and who the company is dependent on, which means that the company should balance the investors needs with the needs of its employees, customers, and the community it belongs to (Smith, 2003, p. 85).

3.3.3 Information asymmetry
Information asymmetry is a definition for the imbalance of information or knowledge between separate actors in a situation. Such as when a party in a transaction knows at least some relevant information whilst the other parties are not privy to such relevant information. High levels of information asymmetry may lead to markets becoming inefficient since the interested parties do not have access to all the necessary information to make an informed investor decision. Furthermore one could argue that the existing information asymmetry between informed and non-informed investors play a key role in the increased demand for financial and non-financial disclosures as well as being influenced by the relationship between management and outside investors (Healey & Palepu, 2001, p. 406).

While the theory of information asymmetry has been widely discussed in literature Akerlof (1970) can be seen as one of the earlier pioneers. Akerlof (1970) describes information asymmetry to be present when a seller with superior knowledge to the buyer executes a trading transaction since an un-informed buyer does not have the same amount of information he cannot
possibly know the real value of what he is buying. This is illustrated by Akerlof (1970) through an automobile transaction where the seller has superior knowledge of the quality of the car that is being sold whilst the buyer cannot establish the quality of the car until it has been purchased. These situations are also referred to as the lemons problem.

According to Cho et al. (2013) recent studies suggest that investors desire reliable information concerning CSR performance that are delivered through public and private means, furthermore the studies indicate that the investors utilize the available CSR information in their investment decisions (Cho et al., 2013, p. 72). Cho et al., studies the effects that CSR performance has upon information asymmetry as well as finding how the relation between CSR performance and information asymmetry changes in companies that have a large amount of informed investors (Cho et al., 2013, p. 72). It is important to note that all investors are not considered to be privy to the same information insiders, institutional investors, and analysts usually have access to a higher degree of information than the average investor (Cho et al., 2013, p. 75). A perspective of information asymmetry in the market describes the less informed investor as a follower of the informed investor since they tend to mimic the investing decisions made by the more informed investors (Cho et al., 2013, p. 75). On the other hand in situations of adverse selection wherein the seller has more information than the buyer, the more informed investor may use their information to trade advantageously by selling to the less informed investors at higher bid prices while rebuying stock at a lower ask pricing (Cho et al., 2013, p. 75). Furthermore this trading strategy can be sustained until all the relevant information is revealed to the rest of the public. According to the findings of Cho et al. both negative and positive CSR performance from companies provide relevant information that reduces information asymmetry between investors (Cho et al., 2013, p. 82). Although the negative CSR performance was observed to have a greater influence on decreasing the bid-ask spread than a positive CSR performance had (Cho et al., 2013, p. 82).

Easley and O’Hara studied the relationship between a company’s cost of capital and its information structure (Easley & O’Hara, 2004). The found that the volume of private information withheld by a company influenced the return on investment desired by investors. The reasoning behind this was that investors perceived that companies withholding private information from the public increased the investment risk for the uninformed investor. This enables companies to choose what information to provide to investors so as to manipulate their cost of capital (Easley & O’Hara, 2004). In addition to this they establish that the quality of the information as well as its delivery system when it is provided to the market influences asset pricing (Easley & O’Hara, 2004).

Informed investors that know about the information asymmetry in the market can thereby utilize this knowledge to their advantage. Such as a previous investment decision being altered when they realize that they have superior information to base their investment decisions upon in comparison to the non-informed competitor. Another reason for the existence of information asymmetry in the market are the analytical capabilities that experienced investors have and are able to utilize to better process the any information already available to the public. Similar situations can arise when companies disclose information that is of a substandard quality leading to asymmetrical information. Even in these cases the more experienced investors or financial analysts will have the necessary tools and knowledge to be able to accurately translate the disclosed information and make an informed investor decision. The un-experienced investor may not have the necessary knowledge to decipher the quality if it is of a lesser quality. Epstein and Schneider (2008) have studied the role of uncertain information quality in the marketplace (Epstein & Schneider, 2008, p. 225). Their study revealed that the quality of the information
provided by companies effecting the desired compensations that investors required, the lower the quality of the information the more the investor demanded in compensation (Epstein & Schneider, 2008, p. 225). In addition to this, low information quality can have adverse effects by having a long lasting negative effect on the company’s stock price (Epstein & Schneider, 2008, p. 225).

3.3.4 Principal agent theory

The principal agent theory concerns itself with the relationship between the principal and the agent that has the power to take decisions on behalf of the principal. Eisenhardt (1989) explains that the principal agent theory is the aspect of agency theory which focuses on choosing the contract which is the most effective under varying levels of outcome uncertainty, risk aversion, information, and other variables (Eisenhardt, 1989, p. 60). According to the principal agent theory a relationship is formed when the principal entrusts the agent to perform duties which are of interest to the principal. The principal agent theory also presumes that there is a negative relationship between risk and incentives (Hölmstrom, 1979, p. 79). However an agent has the possibility to act in a manner that best suits his own interests instead those of the principal this is possible due to the agent’s superior knowledge in the area. This in turn could lead to the agent withholding information or providing the principal with misleading information. Such situations can be described as a moral hazard when the agent does not put in enough effort for the agreed upon task (Eisenhardt, 1989, p. 61). These situations where one part has more knowledge than the other in a transaction are referred to as information asymmetry. One of the issues within the principal agent theory is that it presumes that each party acts in its own self-interest and that the agent may therefore prioritize their own needs ahead of the principals. The reason for such an outcome can be explained by the fact that the agent wants to maximize his own possible benefits from the task at hand and that these goals are not always aligned with those of the principal (Eisenhardt, 1989, p. 61). The other issue that brings rise to the agency problem is caused by the information asymmetry between the principal and the agent which leads to the principal not being able to know whether or not the agent is acting appropriately (Eisenhardt, 1989, p. 61).

Another aspect of the principal agent problem is adverse selection which arises in a situation where the information between two parties of a transaction is asymmetrical. Adverse selection can lead the principal to enter into a contract with an agent that is not capable of completing the task at hand since the principal may not have enough information to prove that the principal is acting in a misleading manner (Eisenhardt, 1989, p. 61). In addition another issue in the relationship between the principal and the agent is the difference in their individual level of risk aversion as well as their behaviour (Eisenhardt, 1989, pp. 61-62). The choice of contract type can alleviate these issues to some degree, for example an outcome-based contract has the possibility of aligning the agent’s actions and motives with those of the principal (Eisenhardt, 1989, p. 61). However this method can also transfer part of the risk from the principal to the agent since the outcome is not only based on the agent’s behaviour but may also be influenced by other aspects. Therefore the risk transfer can become costly depending on the outcome uncertainty this is due to the agents need for an increase in compensation for being exposed to additional risk (Eisenhardt, 1989, p. 61).

Due to the difference in perceived goals and incentives between the principal and the agent, the principal agent problem also focuses on solving the issues that arise between the two parties. Therefore companies have tried to create incentives to align the management teams’ interests and motives with that of the principals, a common form of incentive is the executive compensation (Garen, 1994, p. 1176). Management compensation is viewed as a way to address
the principal agent problem, however it is important to be accurate whilst structuring the compensation so that it is able to fulfil its purpose thereby motivating the agent to act and take decisions which prove to be beneficial to the principal (Garen, 1994, p. 1176).

An example of the principal agent problem can be explained in a situation where a landowner hires a building contractor to build a house on his land using high quality materials. In this situation the landowner is the principal whilst the contractor acts as the agent. The agent may choose to hire a family member or friend who provides low quality materials but charges the principal the same as high quality materials would cost on the market. These actions would benefit the agent whilst harming the principal, yet due to the asymmetrical information it is hard for the principal to know if the agent has not been acting in accordance with the agreed upon terms.

When this theory is applied to a shareholder environment the shareholders are the principals whilst management would be considered as agents whose duty it is to act in the best interest of the principal. However as described above issues can arise when the agent has an incentive to act in his own best interest instead of the principals which creates the discussed principal agent problem.

3.4 The financial market
As we have chosen to focus upon companies that are publicly listed we must examine where this population exist. In order for us to be able to answer our research question as well as achieving our purpose we will be utilizing OMX Stockholm as well as the Copenhagen Stock Exchange, as this is where our population exists, in order to find the information that we need for the different companies.

3.4.1 NASDAQ OMX Nordic
Once again we will have to turn towards our research question wherein we are examining the Swedish stock market and utilizing the Danish stock market as a benchmark. This means that we will have to turn towards these stock market who are now owned and operated by NASDAQ OMX under NASDAQ OMX Nordic (NASDAQ OMX). These stock markets are important for us as this is where our population inhabits.

As of 2007 the Scandinavian stock exchange group OMX was acquired by NASDAQ which created the new NASDAQ OMX Group (NASDAQ). The NASDAQ OMX Group created NASDAQ OMX Nordic which is the stock exchange for Sweden (OMX Stockholm), Denmark (OMX Copenhagen), Finland (OMX Helsinki), Iceland, Estonia (OMX Tallinn), Latvia (OMX Riga), and Lithuania (OMX Vilnius) (NASDAQ OMX).

3.4.2 NASDAQ OMX Stockholm
In Sweden there has been a stock exchange since the mid-19th century, to be more specific the Swedish parliament approved that a stock exchange should open in Stockholm in 1863. Since it is creation many different things have happened to the Swedish stock exchange and as of 2008 the Stockholm stock exchange is a part of OMX NASDAQ OMX group and is today called NASDAQ OMX Stockholm (NASDAQ OMX Nordic). The NASDAQ OMX Stockholm can be divided into different groups depending on the size of the company, the companies can be divided into large cap, medium cap, and small cap. Large cap companies are those who have a share value over 1 billion euros, mid cap companies are those who have a share value over 150 million euro but less than 1 billion euros, lastly small cap companies are those who have a share value less than 150 million euros (NASDAQ OMX). Furthermore the companies who are
listed on NASDAQ OMX Stockholm can be divided into different segments depending on what industry they operate within, there are ten different industries that a company can be divided into (NASDAQ OMX). The ten different industries can be seen below;

<table>
<thead>
<tr>
<th>NASDAQ OMX Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil &amp; Gas</td>
</tr>
<tr>
<td>Health Care</td>
</tr>
<tr>
<td>Basic Materials</td>
</tr>
<tr>
<td>Financials</td>
</tr>
<tr>
<td>Industrials</td>
</tr>
<tr>
<td>Technology</td>
</tr>
<tr>
<td>Consumer Service</td>
</tr>
<tr>
<td>Telecommunications</td>
</tr>
<tr>
<td>Consumer Goods</td>
</tr>
<tr>
<td>Utilities</td>
</tr>
</tbody>
</table>

Table 1. Division of Industries in accordance NASDAQ OMX

Furthermore it is important to remember that the NASDAQ OMX is divided into different types of Indexes, there are a total of 40 000 market indexes across the world in the NASDAQ OMX (NASDAQ OMX). The most famous of the market indexes that is operated on the Swedish stock market is OMX 30, this are the 30 most traded and largest companies in Sweden. Furthermore we can also take into consideration OMXS 60 which are the 60 most traded Swedish companies on the OMXS. As we are utilizing the Danish stock market as the benchmark we feel that OMX 30 will be the better representation as a comparison between the Swedish and Danish market.

![Closing price OMXS 30](image)

Figure 4. OMXS 30 between 2013-01-01 to 2015-03-13

The figure above shows us that the Stock market has not fluctuated much over the last two years, however it does show that there has been increase of the value since the fall in value in October of 2014.

3.4.3 NASDAQ OMX Copenhagen

The first version of the Copenhagen stock exchange opened in 1808 wherein it started as a nonprofit organization. The Copenhagen stock exchange as in the case of the Stockholm stock exchange has change overtime, and became itself a publicly listed company in 1996 three years after Stockholm stock exchange became publicly listed company (OMX NASDAQ). Furthermore OMX acquired the Copenhagen stock exchange in 2005 which later was acquired in 2007 by NASDAQ which led to the creation of NASDAQ OMX Copenhagen that was launched at the same time as the Swedish version in 2008 (NASDAQ OMX).

As the Copenhagen stock exchange is now part of the NASDAQ group under the new name NASDAQ OMX Copenhagen they adhere to the same cap limit as NASDAQ OMX Copenhagen. This implies that the companies are divided into the same cap groups as the Swedish companies as well as being divided into the same industry groups (NASDAQ OMX). As with the NASDAQ OMX Stockholm there are different index versions of NASDAQ OMX.
Copenhagen. The most famous index in the Danish stock exchange is NASDAQ OMX Copenhagen 20. The NASDAQ OMX Copenhagen 20 represent the 20 biggest companies in Denmark (NASDAQ OMX).

As with the OMXS 30 we can see that there was a dip in the stock value of OMXC 20 in October of 2014 but has been on a rise since then. This information will provide us with an overview of the Danish companies.

From the above figure we can see that the two different indexes follow each other closely, i.e. they reduce and increase in value similarly. However what we can also see from the above figure is that OMXC 20 is less volatile than its counterpart OMXS 30 which provides an interesting first glimpse to the two different markets.
3.4.4 Financial performance

As we are researching the potential effect that CSR disclosures can have on volatility of the companies that operate on NASDAQ OMX Stockholm. Therefore it is important for us to understand what financial performance is, financial performance can be described as how a company utilizes the assets in order for them to generate revenues. Furthermore financial performance can be described as a way to see and understand a company’s financial health as well as comparing companies across the same industry.

The information that companies report regarding their CSR activities, for instance the policies that companies have regarding social and ethical or the actions that a company undertakes has a relationship with the financial performance of the company (McGuire, Sundgren, Schnieeweis, 1988, p. 854). However the relationship between the financial performance of a company and their CSR activities can be viewed from different stand points. Firstly it is argued that the economic cost that occurs for companies from reporting on CSR actions may put the companies in a disadvantage in terms of financial performance compared to companies who report less regarding their CSR actions (McGuire et al., 1988, p. 854). The other point of view is that companies will benefit in regards to financial performance when the companies report on their CSR actions as the cost of reporting and conducting CSR actions are minimal (McGuire et al., 1988, p. 854). However this raises and interesting question of the relationship between financial performance and the amount of CSR that a company reports, suggesting that the relationship can both be positive and negative. Examination of new research suggest a similar trend that the relationship between financial performance and CSR can be positive, negative, or neutral (Saeidi, Sofian, Saeidi, Saeidi, Saeiidi, 2015, p. 341) This raises the question regarding if time period, market, and choice of method will influence the result and the relationship between financial performance and amount of CSR.

Furthermore it is also important to take into consideration the relationship between CSR and stakeholder theory wherein, as the cost of reporting on CSR actions may reduce other costs in other parts of the company (McGuire et al., 1988, p. 854). The relationship between CSR actions and stakeholder theory also states that the stakeholders will get an overview of how the managers of a company deal with the different aspects of CSR and therefore provide an insight into their skillset as managers (McGuire et al., 1988, p. 855).

Corporate financial performance can be divided into subdivisions, it can be based upon accounting-based, market-based, and perceptual (Orlitzky, Schmidt, and Rynes, 2003, p. 407). Accounting-based financial performances can be related towards the internal-decision making of a company as it shows how managers relocates their different resources in the business (Orlitzky et al., 2003, p. 408). Furthermore McGuire et al. (1988) suggest that accounting based measurements can be utilized when testing the influence of CSR on financial performance. The financial measurements that are used when calculating financial performance is return on assets (ROA), return on equity (ROE), or earnings per share (EPS) (Orlitzky et al., 2003, p. 408). The different measurements can be find below;

\[
ROA = \frac{Net\ income + Interest\ expense\ (after\ tax)}{Average\ total\ assets}
\]

\[
ROE = \frac{Net\ income}{Shareholder's\ equity}
\]
**EPS** = \( \frac{Net\ income - Dividends\ on\ preferred\ stock}{Average\ outstanding\ shares} \)

Secondly market based financial performance measurements are focused on the investors, wherein the investors are the primary stakeholder group (Orlitzky et al., 2003, p. 407). The financial performance measurements that are in focus is price per share or share price appreciation (Orlitzky et al., 2003, p. 407). Lastly perceptual-based financial performance relates towards how the public views the company’s financial performance, i.e. is the company soundly financially in their eyes or are they utilizing their assets (Orlitzky et al., 2003, p. 407).

The study by McGuire et al. (1988) suggests that there is a correlation between financial performance and the amount of CSR that companies report which was positive (1988, p. 868). Whilst Saeidi et al. (2015) has seen that there is no relationship between CSR reported by a company and the financial performance of said company (2015, p. 347). This finding suggest that the relationship is neutral for Iranian companies. The study further showed that companies who report less CSR has a higher risk due to the possibility of accumulating additional risks (McGuire et al., 1988, p. 868). The study of McGuire et al (1988) has utilized more traditional accounting measurements of financial performance, such as those suggested by Orlitzky et al. (2003), when examining the influence of CSR and the amount of CSR reported by companies on the companies and their financial performance.

### 3.4.5 Volatility

The description of volatility varies between researchers, one way of viewing volatility is that the volatility of a stock over the remainder of its life is calculated as the standard deviation of the daily price of the stock return over the same period (Beckers, 1987, p. 370). Another definition of volatility is that it contains a predictable component and an unpredictable component (Pagan & Schwert, 1990, p. 267). The predictable component of volatility is equal to the conditional variance within a series, in statistical terms this means \( \sigma^2 \) (Pagan & Schwert, 1990, p. 267). Variance in statistical term that measures the distribution of data about the mean as center (Moore, McCabe, Duckworth, and Alwan, 2009, p. 44). Predictable variance is mostly related towards long-term returns, this means returns that occur annual or in a span over one year (Sizova, 2013, p. 546). The variance of a financial series is dependent upon what information is available at the time that it occurs as well as the mapping between the information and the variance (Pagan & Schwert, 1990, p. 267). The unpredictable variance is mostly related towards short-term asset returns as these returns occur e.g. monthly (Sizova, 2013, p. 546).

As we have previously stated volatility is dependent on the available information, it can also be seen as one of the most important assets of the financial market (Vlastakis & Markellos, 2012, p. 1808). As information is so important to the financial market we must consider what type of information that companies supply the market with, information supply, as well as what type of information that the market requires and how much information that the market requires, information demand.

From an information supply perspective the hypothesis states that the information that is available and the arrival time of said information to the market place directly relates towards the measures of market activity, the measure of market activity includes volatility (Vlastakis & Markellos, 2012, p. 1809). The hypothesis, according to literature, can be further built upon through the mixture of distributions hypothesis. The other aspect of market activity that information can influence is the trading volume, the second hypothesis provides a link between the volatility and the trading volume of the market (Vlastakis & Markellos, 2012, p. 1809). The
problem with information however is that it is not possible to directly observe it therefore creating a need to utilize a proxy, such proxies are the information that the market or companies provide, however it is important to remember that there is a dictations between market and company information (Vlastakis & Markellos, 2012, p. 1809), e.g. annual reports. The information that companies releases to the market will in most cases have an influence on both the stock price, i.e. the changes, as well as the trading volume (Ryan & Taffler, 2004).

On the other hand we have information demand, meaning the demand that the market has for information. The information demand has its own equilibrium, the equilibrium will happen when the prices of the stock are only reflected by a portion of information that the market has, and more specific that the investors have (Vlastakis & Markellos, 2012, p. 1809). The increase of information on the market leads to more informed investors this means that according to the information demand the increased information will lead to that the stock prices will provide the information. Since stock prices are now informative the need for investors to gather additional information will be reduced (Vlastakis & Markellos, 2012, p. 1809). Furthermore the increase of information might also lead to investors stop asking for additional information from the company’s that they have invested in therefore it is important to release new information to the public (Vlastakis & Markellos, 2012, p. 1810).

Furthermore the volatilities that we can choose between are either historical volatility or implied volatility. Historical volatility is a way to measure how the price of a stock has fluctuated over time by utilizing the price data, over a specific time period, to empirically measure the market’s volatility (Zhao, 2013, pp. 10-11). Whilst measuring historical volatility it is important to have a good time period as a too short time frame will have greater fluctuation whilst a too long time period will have a gentler fluctuation but longer time period will also have more accuracy (Zhao, 2013, pp. 12-13). On the other hand implied volatility takes out the individual aspects that are underlying the volatility so as to be able to input them in an option pricing model and thereby being able to generate a stock value that should be equal to the current stock value (Zhao, 2013, p. 13).

The historical volatility of a company’s stock is not the only aspect that investors can take into consideration when making an informed investment decision. Another form of volatility that has to be taken into consideration is the beta of a company (Otuteye & Siddiquee, 2013, p. 8; Schlueter & Sievers, 2014, p. 539). When reviewing data investors may take into consideration financial accounting and by reviewing the numbers of financial accounting they want to predict the systematic risk of a stock return (Elgers, 1980, p. 389). The systematic risk of a stock return is the beta of the stock which is something that investors can utilize when making investment decisions (Elgers, 1980, p. 389). Beta can be utilized by investors who want to forecast future earnings of the companies that they are examining which might provide the reader with insight when making an informed investment decision (Elgers, 1980, p. 190; Comiskey, Mulford, and Porter, 1986, p. 257). However there might be issues with forecasting as there might exist error with the measurements that are utilized and therefore forecasting errors will occur (Comiskey et al., 1986, p. 257). However beta is not only utilized whilst making predictions of future earnings, it can also be utilized whilst examining the variability between the beta of a company’s stock and the beta of the market in which the company operates (Otuteye & Siddiquee, 2013, p. 9). This implies that the beta of the company might provide investors with insight regarding the volatility of the company’s stock compared to the volatility of the market.

Furthermore the question that exists in research regarding if beta is alive or if beta is dead. Fama and French (1992) and (2004) researched the possibility of a relationship between returns of
company’s on the stock market and the beta of these companies where they found that the relationship between these factors are nonexistence. Furthermore the argument that beta is dead is built upon the issue that beta cannot help with the risk factor (Otuteye & Siddiquee, 2013, p. 9) that investors take into considerations when making an investment decision. On the other hand academics have argued that the beta is alive due to the fact that the risk of an investment can be linked to the beta and variance of a stock or portfolio (Otuteye & Siddiquee, 2013, p. 9). The discussion regarding if beta is alive or dead is a factor that investors have to take into considerations when making an informed investment decision. However it is not easy to understand which aspect an investor should take into consideration and it will be based upon the investors own thoughts on the two stances that exists.

3.5 Summary of theoretical framework

The theories that we have chosen to utilize for our research in order to answer our research question as well as achieving the goals of our research are presented in figure 7. The figure represents how we are connecting the different theories that we have chosen to utilize with the end goal of our research. The different groups will further guide us when it comes to the creation of hypothesis that we will utilize to test so as to be able to answer our stated research question. As our research question seeks to understand if mandatory CSR disclosures will reduce stock volatility, therefore the last step of our figure seeks to understand if the CSR report will effect financial performance of the companies.
Figure 7. Summary of theoretical framework
Chapter 4: Practical Method

In this chapter we will present the practical methodology behind the research and explain the data chosen. It is important that we use the correct method and data to achieve the purpose of the research. We start the chapter by explaining our time horizon and explaining what the target population for the research is as well as the sample and the reasoning behind it. The chapter goes on to present our data sources and explaining volatility, standard deviation, beta, and regression analysis. In conclusion the chapter presents the quality criteria of the study ensuring the reliability, validity, and replicability of the study.

4.1 Time horizon
As we are currently writing our master’s thesis we are limited to a ten week period between start and finish. With a set time period we have chosen to have a fixed number of companies from the Swedish market, whilst the Danish market will only be tested using a market index. The mandatory regulations for CSR reporting in Denmark was implemented in 2008, this was during the financial crisis. Both the Swedish and Danish market have taken time to recover from the crisis and we are now on a better path financially. Furthermore as we have stated to measure historical volatility we need a specific time period, as we stated in our theoretical framework if we are utilizing a too long or too short time period will influence the volatility of the market, we will therefore limit the time period for measuring the volatility of the stock market.

4.2 Population
We will focus upon two different populations, the Swedish and the Danish market. The populations of these two markets will be listed companies as they have to adhere to the current regulations in regards to CSR disclosures. From our theoretical framework we can see that the Danish regulation is far more developed than the current Swedish regulation, the Danish regulation also provides guidelines in terms of what and how the Danish companies are supposed to report their CSR whilst the Swedish regulation does not provide such insights. We will therefore utilize Danish listed companies as a benchmark for our study, from a recent study by the Danish government 93 % out of a survived 1 100 company’s reported on their CSR. We will utilize 100 listed Swedish companies on NASDAQ OMX Stockholm and the population will be divided into four different groups;

Amount of CSR reported in accordance with Danish regulation

<table>
<thead>
<tr>
<th>Percentage</th>
<th>0-25%</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
</table>
| Table 2: Division of population

4.3 Sample approach
We have limited our sample to companies who are publicly listed as these are the companies who are required by the regulations to report CSR as well as publicly listed companies are traded on the stock market. We have furthermore chosen to focus on two different samples, the Danish market index as our benchmark and the Swedish market will be seen as an experiment wherein we take the Danish regulations and apply them on Swedish firms.

Firstly we have chosen to delimit us to NASDAQ OMX Stockholm and NASDAQ OMX Copenhagen, however it is important to remember that there are more stock markets available
for us to utilize. Beside NASDAQ OMX we also have the availability of utilizing Aktietorget and First North for the Swedish market, however only NASDAQ OMX and First North have companies from both Sweden and Denmark. First North, unlike NASDAQ OMX, is not a regulated stock market, they do however have advisors who make sure that the companies listed on First North are following the rules and regulations of the market (NASDAQ OMX Nordic). Firstly it is important to remember that First North is owned and operated by NASDAQ OMX Nordic which is the company that owns and operates NASDAQ OMX Stockholm as well as NASDAQ OMX Copenhagen. Secondly we must consider what types of companies that are traded on First North are smaller companies who are currently in their growth phase of their development, therefore the companies are focused on growth and evaluation (NASDAQ OMX Nordic). On the other hand we have NASDAQ OMX, parent company and operator of NASDAQ OMX Stockholm and NASDAQ OMX Copenhagen, where the larger and established companies are operating. Furthermore NASDAQ OMX is a regulated market which have specific rule to the market that both Swedish and Danish companies have to adhere towards.

By examining the admission rules of NASDAQ OMX and First North we can see that the rules differ quite a lot between the two different stock markets. As we have previously stated First North is a stock market for smaller Swedish and Danish companies who are currently in their growth and expansion phase whilst NASDAQ OMX is for established companies of different sizes. Firstly by reviewing the share size necessary for entrance to the stock market, First North requires that 10 percent of the company needs to be owned by the general public, the term general public implies individuals who each own less than 10 percent each of the capital or voting rights (NASDAQ OMX). Furthermore the share value should be equal to 500 Euro whilst the value per share should at least be equal to 50 Eurocent (NASDAQ OMX). On the other hand NASDAQ OMX requires that the general public owns at least 25 percent, however exemptions can be made, furthermore the market value of the shares should be equal or greater than 1 million euros (NASDAQ OMX). Since the public owns a higher percentage of the companies on NASDAQ OMX we feel that the transparency levels of these companies will be higher, i.e. they will report more information to the public. This notion is confirmed by the admission requirements of NASDAQ OMX wherein companies are required to provide the market with current information in a timely matter, the information must also be reliable as well as accurate, however the information is mostly focused upon the financial reporting aspect (NASDAQ OMX). The requirement for disclosure of information for First North companies are related to the information that can significantly influence the price of their financial instruments as well as information that could be seen as important for the companies commercial interest (NASDAQ OMX). Therefore the rules regarding information publishing differs quite a lot between the two stock markets.

Overall the rules for First North are simpler than the rules that NASDAQ OMX has for their companies. Because of the mentioned reasons we have chosen to focus on established companies that should publish more information as well as having to adhere to the regulations of Sweden and Denmark. Furthermore we feel that they represent the market better than companies who are in a growth phase.

4.4 Data collection
The main source of data in terms of financial data will be gather from NASDAQ OMX Nordic as this is where our companies are listed. In order for us to determine if the companies are reporting any types of CSR disclosures we will have to examine their annual reports which we will gather from their individual websites.
As we are utilizing NASDAQ OMX Nordic as our source for financial information we had to limit our search criteria since NASDAQ OMX Nordic offers a variety of different stock markets and indexes. In order for us to find the information that we are in need of we have chosen to utilize the following criteria:

- **Market** – Our market criterion will be set as STO which is the NASDAQ OMX Nordic representation for NASDAQ OMX Stockholm. This will allow us to be able to filter away stocks from other countries.

- **Segments** – The segment criterion represents the different sizes of the companies that are available to us as researchers. We have chosen to focus on all three different cap sizes; Large, Mid, and Small. However we have excluded Norwegian stocks.

- **Sector** – We have chosen not to filter away any sector thereby utilizing all ten different sectors that are available on NASDAQ OMX Nordic.

- **Currency** – This criterion refers to what currency the company is quoted with. As we have our focus upon Sweden and Denmark the currencies that we must consider are SEK (Swedish Krona) and DKK (Danish Krona). However this criterion did not have to be utilized as the previous criteria have sorted out this criterion.

- **Time period** – The time period refers towards during what time interval that we will limit ourselves to. For this research we have chosen to focus upon a one year period so therefore the period will be set between 2014-01-01 and 2014-12-31.

- **Market index** – The market index filter will be utilized in order to select the market index that we will compare. This filter will be set to Stockholm Share index for the Swedish market index and to Copenhagen Share index for the Danish market index.

Furthermore we must also consider the annual reports as a main source of data gathering for the CSR information. As the Danish law states that the CSR disclosure information needs to be published in the management review section of the annual report and if it is not it needs to be stated where it is published. We will therefore also need to filter the annual reports with key-words that are stated in the Danish law to be able to see what percentage of Swedish companies report similar information and in what percentage the Danish law is used by Swedish companies.

Therefore we have established the following key-words as a representation of our filtering system:

<table>
<thead>
<tr>
<th>Key-words</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate-social responsibility</td>
<td>Human rights</td>
</tr>
<tr>
<td>CSR policies</td>
<td>CSR Guidelines</td>
</tr>
<tr>
<td>CSR actions</td>
<td>CSR systems</td>
</tr>
<tr>
<td>Future CSR initiatives</td>
<td>Expectations future CSR initiatives</td>
</tr>
</tbody>
</table>

*Table 3. List of key-words for filter*
The key-words that we have chosen to focus upon are related towards the legislation that exists in Denmark and the legislation can be examined in our theoretical framework or at Årsregnskabsloven § 99 a. Firstly Corporate-social responsibility criterion is based upon the fact that the companies need to mention this in their annual report for this criterion to be fulfilled. Both the Swedish legislation and the Danish legislation brings up the issue that companies need to report regarding their climate or environmental impacts that the companies have. The human rights issue is also an important factor that the company have to disclose in their annual report. In the Danish legislation the companies have to include what actions, systems, or procedures that the companies are conducting in terms of CSR and as they only need to disclose one of these the three key-words have been grouped as one. Secondly companies need to disclose what CSR policies, guidelines, or principles the companies have chosen to follow and as they only need to disclose one of these they have been grouped together as one.

4.5 Volatility

In the center of our research is the measurement of volatility of the financial markets, that is the Swedish market and the Danish market. As we have previously mentioned volatility is the measurement regarding how price of i.e. a stock has changed over time. Furthermore there are two main options to consider when one is calculating volatility and those are historical and implied volatility. We must also consider that the volatility of a price corresponds to the standard deviation. The below expressions and equations will only focus on historical volatility as this is the volatility that we have chosen to focus upon.

The foundation for calculating historical volatility is by utilizing the generalized volatility equation (Zhao, 2013, p. 12). The equation calculates generalized volatility for a specific time horizon and is expressed as following:

$$\sigma_T = \sigma \sqrt{T}$$

However the above calculation takes into consideration the calendar days of the time horizon, it is therefore not completed. As we seek to understand historical volatility of the Swedish and Danish market indexes and the Swedish companies we have to focus on business days. We therefore have to change T to P and the new equation will be as following:

$$\sigma_P = \sigma \sqrt{P}$$

In the new equation the volatility for the time period P will be equal to the volatility of the market times the root of the time period P. There have been a lot of discussions regarding if volatility should be measured using calendar days or business days, by including calendar days the volatility tends to be lower therefore it is better to focus on business days when trading of stocks occur (Hull, 2015, p. 202). As P is excluding non-trading days we cannot use the expression T. During an annual calculation T would represent usually 365, the days in a year, on the other hand P will have usually have the value of 252 as that is the assumption of amount of trading days in a year (Hull, 2015, p. 202). However we will be utilizing a value of 249 which where the amount of trading days for Sweden 2014. As well as the value of 248 which is the amount of trading days in Denmark for 2014. Since we have the exact number of trading days and therefore do not need to utilize the assumption value. The value comes from the days of a year where stocks can be traded meaning these are the days where shifts of value can occur.

The formula for computing historical volatility for any time period can be stated as following (Zhao, 2013, p. 11):
\[ SD = \sqrt{\frac{1}{n-1} \sum_{i=1}^{n} (r_i - m)^2} \]

The above formula is explained as following; \( SD \) is the standard deviation, \( r_i \) is the price returns, \( m \) is equal to the average mean of all data points, and \( n \) is the number of data points that we have used. The equation can be broken down further as we need the two separate equations for both the mean and price returns (Zhao, 2013, p. 11).

Mean is calculated as the following:

\[ m = \frac{\sum_{i=1}^{n} r_i}{n} \]

Whilst price return has two possible calculations, either the percentage option or the natural logarithmic option. The percentage of price change is as follows:

\[ r_i = \frac{P_{i+1} - P_i}{P_i} \]

whilst the natural logarithmic of price change is as following:

\[ r_i = \ln\left(\frac{P_{i+1}}{P_i}\right) \]

in these equations \( P_i \) is the stock price for the period \( i \) (Zhao, 2013, pp. 11-12).

As volatility is at the center of our research question these formulas and equations will be crucial for our research as we want to understand how volatile the two different stock markets are. However even if we now know the equation for volatility we need to understand the crucial component of the calculation, namely the standard deviation.

### 4.6 Standard deviation

Standard deviation is the statistical calculation of variation of a data set and how far the data set is spread around the mean (Moore et al., 2009, p. 40), in our case the standard deviation will tell us how much variation there is of stock price in the markets that we are measuring. Standard deviation that is close to 0 implies that the stock price is close to the mean. The mean is the average value of the stock price during a year. On the other hand the standard deviation can be higher than zero or even much higher which means that the stock price is widely spread. A wide spread standard deviation implies that the standard deviation is not close to the mean.

As we have divided our companies into four different groups based upon the amount of CSR that they report it is important for us to understand if there will be any differentials between the different groups. The importance of the groups lies with the amount of CSR disclosures that these companies do in terms of the Danish regulations and will be the key for us to be able to answer our research question. Furthermore the standard deviation calculations are a crucial component of the volatility formulas and equations and therefore we will have to calculate it.

One way for us to be able to calculate the standard deviation of the stock is by utilizing the standard deviation function that is available in excel, *St. Dev*. It is important for us to calculate the standard deviation for both the Swedish market as well as for our benchmark market, Denmark, so as to compare the volatility of the two different markets and therefore help us understanding if there is any differences.

### 4.7 Beta

The risk of an investment that arises from the market is measured via using Beta. The Beta of an investment can be measured at three different levels. The first level of Beta of an investment is when the beta is equal to 1, \( \beta = 1 \), at this level the price of the stock is going to follow the market volatility. The second level of Beta of an investment is when the Beta is less than 1,
\( \beta < 1 \), this implies that the price of the stock will not follow the market volatility instead it will be less volatile than the market. Lastly the level of Beta for an investment can be greater than 1, \( \beta > 1 \), which implies that the stock price will not follow the market instead the price will be more volatile than the market.

There are different versions for us to be able to calculate the Beta of both the companies in our sample population as well as the market. The Beta calculation that we have chosen to focus upon can be stated as the following equation:

\[
\beta = \frac{\text{Cov}(r_a, r_b)}{\text{Var}(r_b)}
\]

This first expression shows that beta is equal to the covariance between the two returns, \( r_a \) and \( r_b \), divided with the variance of the return, \( r_b \) (Penman, 2013, p. 107).

Since we are discussing returns it is important to mentioned what they represent, firstly \( r_a \) represents the return on the asset, or required return, that we wish to measure in our case this would be the stock price. The other return, \( r_b \), represents the return of the benchmark asset, or return on the market, that we have chosen (Penman, 2013, p. 107), in our case the benchmark or the market that we are examining return of is the Swedish stock market index, the reason that we cannot utilize the Danish stock market index for our benchmark is due to that the Danish stock market has fewer trade days than the Swedish. In order for us to be able to utilize the beta expression we must know how we reach the return. Return on the asset or the required return that we wish to measure is reach by utilizing the following formula;

\[
r_a = \alpha + \beta r_b
\]

Wherein the return on the asset, \( r_a \), is reached by finding the risk-free return, \( \alpha \), and adding the beta multiplied by market risk premium (Penman, 2013, p. 107).

### 4.8 Regression analysis

The use of regression analysis is to estimate the relationship between variables, two or more, within regression analysis the relationship that is in focus is that between a dependent variable and an independent variable and how the independent variable changes can influence the dependent variable (Watsham & Parramore, 1997, p. 187). As we described previously we want to examine the Beta of the Swedish companies in order to see if it differentiates from the market index and the companies in our sample population.

Linear regression as with regression analysis has one dependent variable and one or more independent variables that we must take into consideration. There are two variables that we have to take into consideration, and those are \( y \) and \( x \). The \( x \) variable is the dependent variable whilst the \( y \) variable is the independent variable and the regression analysis shows us how the variables are interlinked (Moore et al., 2009, p. 119). However our focus lies with Beta which is a type of linear regression model therefore the dependent variable would be \( r_a \) whilst the independent variable would be \( r_b \) and the parameters would be during what period we seek the beta.
4.9 Hypothesis

In order for us to connect our research question with the theoretical framework that we have chosen to focus upon we are in need to develop hypotheses. The hypothesis that we will present below are related towards the theoretical framework as well as the stock market volatility.

There has been little research relating towards the question if mandatory CSR disclosures are related towards the volatility of the stock market, this is partly due to the lack of mandatory CSR disclosures in terms of both regulations and legislation. However there is research related towards that an increase in information, which CSR disclosures is, will have an influence on the stock market.

As Denmark has a wider and more defined legislation regarding CSR than the current Swedish legislation, wherein the Swedish legislation only focus on environmental and employee-issues and not the entire of CSR aspect. By having a wider CSR disclosures the investors will have access to more information. With a high level of information asymmetry the markets may become inefficient as the information that is necessary to make informed investor decision is not readily available. The demand for increased disclosures may occur from the existing knowledge gap between informed and non-informed investors, meaning that non-informed may want to reduce the gap by gaining wider access to the information (Healey & Palepu, 2001, p. 406). Furthermore it is important to note that recent studies suggest that information regarding CSR has become an important piece of information for investors (Cho et al., 2013, p. 72). The quality of the information that the companies provide to the public may also have long lasting effects on the company’s stock price (Epstein & Schneider, 2008, p. 225). The principal agent theory relates to the relationship between the shareholder, the principal, and management, the agent. The principal hires the agent to act on his behalf and therefore the agent needs to act in the best interest of the principal. However the agent may have ulterior motives that better benefit his own interests and may therefore chose to act in a way that is not the most beneficial to the principal (Eisenhardt, 1989, p. 61). Furthermore this could lead to the agent withholding information from the principal or provide the principal with misleading information, these situations are referred to as a moral hazard since the agent may not be putting enough effort into the agreed upon task (Eisenhardt, 1989, p. 61). This also raises the question regarding the information that companies release to the public if the focus of the information should be towards the shareholders or the stakeholders. Similarly previous research has argued that companies have a responsibility towards not only their investors but also the society in which they inhabit (O’Donovan, 2001, p. 344; Brown & Deegan, 1998, p. 22). Furthermore we must take into consideration the legitimacy of a company as it can be easily lost but hard to regain. In order for a company to maintain their legitimacy it is important for them to disclose information towards the public so as to satisfy the stakeholders and one way of doing that is through the annual report (O’Donovan, 2001, p. 351). Lastly disclosure of information may have an effect on the volatility of a company’s stock price and it can also be seen as an important asset in the financial market (Vlastakis & Markellos, 2012, p. 1808).

We must once again turn towards our research question that we stated in the beginning: Would mandatory CSR disclosures, as those that exist in Denmark, reduce stock volatility in Sweden? Based on our research question in combination with the above information and the rest of the gathered theories in chapter 3 we have developed the following hypothesis to be tested.

Hypothesis 1:

\[ H_0: \beta_{Beta} = 0 \]
\[ H_1: \beta_{Beta} \neq 0 \]
The first hypothesis that we have stated, $\beta_{\text{Beta}}$, will describe if there is a relationship between the Beta and the amount of CSR reported by the different companies. If the null hypothesis is accepted it shows us that there is no relationship between the Beta and the amount of CSR reported by the different companies. If the null hypothesis is rejected our alternative hypothesis is that there is a relationship between the variables.

**Hypothesis 2:**

$$H_0: \beta_{\text{volatility}} = 0$$  
$$H_1: \beta_{\text{volatility}} \neq 0$$

The second hypothesis, $\beta_{\text{volatility}}$, will describe if there is a relationship between the historical volatility and the amount of CSR reported by the companies. If the null hypothesis is accepted it shows us that a relationship does not exist between the historical volatility of a company and the amount of CSR it reports. However if the null hypothesis is rejected we expect there to be a relationship between the two variables.

**Hypothesis 3:**

$$H_0: \beta_{\text{market}} = 0$$  
$$H_1: \beta_{\text{market}} \neq 0$$

The last hypothesis that we seek to test is regarding whether there exists a relationship between the Swedish stock market, OMXS 30, and the Danish stock market, OMXC 20. Therefore if the null hypothesis is accepted it will imply that there exists a relationship regarding historical volatility between the two markets. Whilst on the other hand if the null hypothesis is rejected the alternative hypothesis states that there is no relationship between the two stock markets.

This test is conducted due to the proximity between the two countries and it will help is further understand our research question. Furthermore this hypothesis has been created not to test the link between the theoretical framework and the result from our statistical tests. Which implies that the result from the tests will not build upon the existing knowledge. Instead the hypothesis was created to satisfy the curiosity of the authors and provide the authors with additional insight of the relationship between the markets that we are examining.

**4.10 Quality criteria**

Whilst conducting our research it is important for us to remember the quality of the results that we will achieve through our tests. Saunders et al. (2009) and Swarnborn (1996) argue that the two most important criteria for quantitative research is reliability and validity. This view is shared with many other researchers, a study conducted by Bryman, Becker, and Sempik (2008) showed that 90% of the researchers that they had surveyed found validity important and over 85% found reliability important. Furthermore we will be incorporate the generalizability criterion into validity as it sometimes can be referred to as external validity (Saunders et al., 2009, p. 158). However Bryman & Bell (2011) also include replicability as an important quality criteria for quantitative research, however the study by Bryman et al. (2008) found that only 60.2% of surveyed researchers agreed with that, nonetheless we have chosen to include it as a criteria so as to strengthen the quality of our research.

**4.10.1 Reliability**

The reliability criterion in terms of quality criteria refers to if the techniques that we have utilized in order to find our data and the process of how we have analyzed our data will yield
consistent results (Saunders et al., 2009, p. 156). The reliability of the research can be achieved by answering three different questions; firstly will the result of the research be the same when conducted on another occurrence, the second question that needs to answered is if other researchers will make the same observations that we have made during our observations, and the last question that needs to answered is whether there is transparency in our research in terms of how we have made sense of the raw data that we have collected (Saunders et al., 2009, p. 156). The questions that are raised regarding reliability shows us as researchers that we need to be specific with the inclusion of information. Therefore the questions that have arisen regarding the issue whether we have presented enough information regarding our data collection methods as well as the methods that we have utilized in order to analyze the data. We have included the where we have found our data as well as what type of filter we have used in our data collection method for both financial data collection and non-financial data collection. Furthermore we will be utilizing historical data as our secondary data that is available, to increase reliability we have also provided with the time period and detailed explanation of the different formulas that we will utilize.

Furthermore reliability is dependent on the researcher being independent from the propositions about the empirical world in three different aspects. Firstly, similarly to what Saunders et al. (2009) has mentioned the researcher needs to be independent from the subject that he/she is investigating (Swanborn, 1996, p. 21). Further the research that one is conducting must be independent in regards to time (Swanborn, 2996, p. 21), meaning that the research should be able to be conducted at another time period. Lastly the research should be instrument-independent, meaning that if researcher use the same instrument the result should be the same (Swanborn, 1996, p. 22). On the other hand researchers use other instruments needs to be a correlation calculated to see how similar the results between the different instruments are (Swanborn, 1996, p. 22).

However to ensure reliability of the results that we have found in our research we must defend ourselves against some issues that may occur for quantitative researchers. The issues that can arise are in the form of bias or error from the participants, subjects, or observer (Saunders et al., 2009, pp. 156-157). Furthermore we must also consider three additional issues in the form of researcher-independent, time-independent, and instrument-independent. Subject and participation error can occur if we as researchers conduct our research in a non-suitable environment, such as conducting a research on the wrong week day, this is an aspect that is easily controlled by choosing a neutral place (Saunders et al., 2009, p. 156). The other aspect of subject and participation is any bias that may occur in the research. Bias from the subject or participants can occur when the information that researchers gain from the subjects or participants is what they believe their managers want them to say (Saunders et al., 2009, p. 156). Observer error can occur if there are more than one researcher conducts the collection of data, or if the collection of data occurs separately during different time periods by more than one researcher. The issue with observer error is that each researcher might have their own criteria or filter for data collection as well as their own method to collect data. This can lead to us as researchers getting different results from the data process. The other aspect regarding observation occurs if there is bias. Observer bias refers to how the different researchers interpretation the results from the processed data (Saunders et al., 2009, p. 157). Observer bias may lead to the results being incoherent and as the results being incoherent we will be unable to reach a conclusion. The reliability issues in terms of subject or participant error and bias is avoided as the subjects of our research are not directly affect by the research that we are conducting. Subject or participant error and bias is more related towards qualitative research as it involves direct contact between the researcher and the subjects or participants. This problem
is further voided as we are utilizing historical data that is available to the public and we do not have to seek it out. Observer error will be voided as we will be collecting the data together as well as already having a set filter for the data collection. On a similar note observer bias will be voided as we will be interpret the data process as a team so as to have a shared view of the result.

4.10.2 Validity
The validity criterion is the most important quality criteria that we as researchers must consider. Validity is defined as that the propositions that a researcher has describes and explains the empirical world that they are studying in a correct way (Swanborn, 1996, p. 22). Further validity can be described as if the findings that the researcher has found are trustworthy (Saunders et al., 2009, p. 157). Yet another definition of validity is; validity evaluates the findings of the research in terms of whether or not the indicators used during the research process have the ability to accurately measure that concept (Bryman & Bell, 2011, p. 159). Validity can sometimes be referred to as internal validity whilst external validity is at times referred to as generalizability (Saunders et al., 2009, p. 158).

Even if validity is an important factor to take into consideration whilst conducting research it will be more useful for researcher that is based upon argumentation and interpretation and for research that relies upon statistical properties the reliability criterion may be sufficient (Swanborn, 1996, p. 22). We do however feel that it is important for our research to fulfill multiple quality criteria so as to strengthen our research.

Internal validity raises the question if the relationship between variables is casual or not (Saunders et al., 2009, p. 158; Bryman & Bell, 2011, p. 42). This raises the question if we as researchers can be sure that one variable causes the other variable and that there is no other factor that place a roll in the causation (Bryman & Bell, 2011, p. 42). In our study we are trying to define the relationship between mandatory CSR disclosure and volatility of the stock market, therefore in order for us to make our research valid we must be sure that mandatory CSR disclosure reduces the volatility of the stock market and that no other variables plays a roll.

Bryman and Bell (2011) argue that there are five different forms of validity that researchers can take into consideration when they are conducting research namely Face validity, concurrent validity, predictive validity, construct validity, and convergent validity. Face validity concerns itself with whether or not it looks as though the test is able to accurately reflect the concept in question (Bryman & Bell, 2011, p. 160). The researcher can also choose to establish the concurrent validity of a test by choosing a criterion which cases may vary, this is used to identify its ability to predict the outcome of other cases (Bryman & Bell, 2011, p. 160). Predictive validity is similar to concurrent validity, the difference being that the researcher chooses to use a future criterion instead of a current one to test the validity of a measure (Bryman & Bell, 2011, p. 160). Lee and Paul define construct validity as a measure to estimate how accurately a test is possible to measure what it is supposed to measure (Lee & Paul, 1955, p. 282). Lastly, convergent validity concerns itself with whether or not measures of constructs that should be related to each other actually are related to each other when being observed through other methods (Bryman & Bell, 2011, p. 160).

On the other hand of internal validity we have external validity which is concerned with the whether or not the research that has been conducted is generalizable, meaning if our findings are applicable if they were conducted in another research setting (Saunders et al., 2009, p. 158). In our situation the question lies in whether or not the research that we have conducted is
applicable beyond the companies that are listed on NASDAQ OMX Stockholm. There are three different types of external validity that we as researcher must take into consideration; population validity, time validity, and environmental validity (Ryan et al., 2002, pp. 123-124). The first aspect that we must consider is the population validity, wherein the question arises if the population that we have selected for our research is representative for the whole population. The population that we have selected for our research is the top 100 companies in Sweden which statistically is a large enough sample to be able to represent the population of listed Swedish companies. It is important to remember that the population of listed Swedish companies is not that big, furthermore the population differs in terms of the size of the companies that have been included in our research. However it is also important to remember that we have not included growth companies as these are firstly not traded on NASDAQ OMX Stockholm and secondly these companies will differ from the rest of the population in terms of their volatility. The second aspect that we must take into consideration is time validity which issues the question whether or not the study can be generalized to another time period. The issue that we are faced with in terms of time validity is that the market conduction can influence the results of our study. The time period that we have chosen is in a time period where the market has recovered, some argue that we are in a growth face, and this is a factor that must be taken into consideration when asking the question if it is generalized to another time period. If the market conditions are similar than the result should theoretically be similar between the time periods. Lastly we must consider the environmental validity aspect which raises the question if the study can be generalized over different settings. What must be taken into account with this issue is the current market condition, furthermore it is difficult at this time to have another benchmark country than Denmark due most countries having voluntary CSR disclosures and not mandatory. However changing the country that is experimented with should not provide difficulties, therefore the environmental validity aspect can be fulfilled however researchers must take into consideration the different factors.

4.10.3 Replicability
The last quality criteria that we have chosen to focus upon is the replicability criterion. Replicability is the process of reproducing another researcher’s research so as to see whether or not the results in the original research still stands (Bryman & Bell, 2011, p. 41). In order to achieve a high level of replicability criterion the original researcher, in this case we, should seek to have as little bias as possible in the research (Bryman & Bell, 2011, p. 165), no bias might be impossible to have. It is important to remember that other researchers should be able to reproduce the findings from the original research, therefore the issue that can arise from having bad replicability is that the other researcher has a different result.

For this research we have chosen to include as much information as possible for the reader so as to make it understandable what we have done, what information we have used, what data collection method has been utilized, and how the data has been processed. With the information that we have chosen to include we believe that hypothetical future replication will be possible.
Chapter 5: Empirical data

In chapter 5 we present the findings of our empirical data and translate the presented tables and figures. The chapter has a focus on presenting relevant data in regards to the volatility of our sample population in terms of beta, historical volatility, and standard deviation. In conclusion we will present the results of our hypothesis tests and the presented data will be analyzed in chapter 6.

5.1 Sample Size
In order for us to answer our research question we must review the population that we have chosen to utilize for this research. The population of our research are companies who as of 2015-03-31 are listed on NASDAQ OMX Stockholm. We have chosen the 100 biggest companies as these are the ones who have the potential of being influenced by the upcoming regulatory changes on a European level (see for example Directive 2014/95/EU). As our research seeks to understand if mandatory regulation regarding CSR would have an effect on the volatility of these companies.

<table>
<thead>
<tr>
<th>Population</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>100</td>
<td>100%</td>
</tr>
<tr>
<td>Large cap</td>
<td>72</td>
<td>72%</td>
</tr>
<tr>
<td>Mid cap</td>
<td>28</td>
<td>28%</td>
</tr>
</tbody>
</table>

Table 4. Sample population

From the table above we can see that the majority of the companies that we have examined for this research are large cap companies, meaning that the value of these companies is above 1 billion Euro on the stock market, however some companies drop below the valuation after being listed. The other part of our population is Mid cap companies, meaning those companies who have a market value between 150 million and 1 billion Euros, the selection of mid cap companies is based on current market value as of 2015-03-31. In our practical method chapter we discussed what key-words we have chosen to examine as well as why we have chosen to group together CSR policies, CSR guidelines, or CSR principles as the Danish legislation only requires that one of these to be fulfilled. Secondly CSR actions, CSR systems, or CSR procedures have been grouped as the Danish legislation requires the companies to disclose one of these and not all and therefore these key-words have been grouped as one.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Number</th>
<th>Percentage</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR</td>
<td>95</td>
<td>95%</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Human rights</td>
<td>75</td>
<td>75%</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Climate impact</td>
<td>89</td>
<td>89%</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>CSR policies, CSR guidelines, or CSR principles</td>
<td>90</td>
<td>90%</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>CSR actions,</td>
<td>58</td>
<td>58%</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
### Table 5. Criteria in numbers

<table>
<thead>
<tr>
<th>CSR system, or CSR procedures</th>
<th>Achieved CSR initiatives during the year</th>
<th>Expectation for future CSR initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>54</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>54%</td>
<td>55%</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

From the table we can determine how many companies, out of the 100, are reporting the different criteria that we have chosen to focus upon. From the data we can see that 95% of companies are reporting some type of CSR or sustainability in either their annual report or in a separate report. Furthermore we have assigned 0 and 1 as the min and max values, wherein 0 is no criterion mentioned whilst 1 means that the company reports on the criterion. Furthermore the table will help us with the understanding and helping with the analysis and the discussion of the research as we will be able to understand if the different criteria have an influence on the volatility of the stock market. By having analyzed the annual reports of the 100 biggest companies we are now able to see how much information the different companies are reporting. From table 1 we can determine that the majority of the companies that we have chosen to examine are Large cap and the remainder of the companies are Mid cap, this implies that we have not included Small cap companies in our empirical data.

![DISTRIBUTION OF COMPANIES](image)

**Figure 8. Distribution of companies, based on percentage of criteria**

The figure above shows us how many companies and to what extent these companies include the different criteria in their annual report or in their separate sustainability report. By combining table 6 and figure 8 we can see that the majority of the companies include CSR, their impact on the environment, human rights, as well as what different policies, guidelines, or principles that they are adhering to. This is confirmed by the figure above as 86% of the sample population report on 51% or more of the CSR criteria in their annual or sustainability report.
We have also not differentiated between Large cap and Mid cap companies in our empirical data and have therefore presented the distribution based on percentage of CSR criteria that the companies fulfill.

After the initial gathering of our sample data we had to exclude some companies and therefore we have a revised sample size.

<table>
<thead>
<tr>
<th>Summary of companies</th>
</tr>
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<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Included</td>
</tr>
<tr>
<td>Excluded</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>N</td>
</tr>
<tr>
<td>93</td>
</tr>
</tbody>
</table>

*Table 6. Summary of revised sample*

The table above provides a summary of the companies that we have included in our research, with a total amount of 100 companies. The interesting number is the 7 percent of the total companies that have been excluded from our research. The exclusions have occurred since these companies did not have sufficient data for the year 2014. The lack of data is related towards financial information that we have gathered from NASDAQ OMX, meaning that the excluded companies did not have financial information for all the 249 trading days, which were the total amount of trading days for NASDAQ OMX Stockholm during the year 2014.

As we have revised our sample size and only include 93 companies out of the 100 that we had in the beginning and therefore we will have to review the distribution of the companies in a new figure below.

![Figure 9. Distribution of companies based upon revised sample, based on percentage of criterion](image_url)

From the figure above we can see that the majority of companies still report over 51% of the CSR criteria that we have chosen to utilize for this research. Furthermore we can determine that the excluded companies are from the groups that report 2 or more of the CSR criteria that we have chosen for our research. What is interesting from the distribution of our sample is that the majority of the companies that we have chosen for our research report between 76-100% of
the CSR criteria that we have. Whilst 79 out of our 93 companies report 51% or more of the criteria which means that they report on at least 4 of the criteria.

### 5.2 Beta

In order for us to gather how our sample follows the market in terms of volatility we have conducted a Beta test on the sample. In order for us to conduct a proper Beta test we needed to choose an index that represents the market, however it is also important to remember that the trading day of the index and the stock market have to be the same and in our case the trade days for 2014 were 249 days. For these reasons we have chosen to utilize NASDAQ OMXS 30 as our index for the Beta test. Beta is calculated by utilizing the following equation $\beta = \frac{\text{Cov}(r_a, r_b)}{\text{Var}(r_b)}$.

Furthermore all the companies that we have in our research are Swedish, the companies that we have included are represented in the scatterplot below.

![Scattered Beta](image)

**Figure 10. Scattered Beta of our sample population**

The figure above shows the distribution of Beta from our test, the y axis represents the Beta level whilst the x axis represents the number of companies that we have included for our research. The total number that we have included in our research is 93. From our beta test we could determine that the Beta level of the companies were between -0.1965 and 1.3607. The company with a negative Beta level of -0.1965 is the outlier of our Beta test and is marked with red in the figure above. However this volatility compared with the market is incomplete as we need to include the CSR criterion, based upon the Danish regulation, that we have for the companies as well as what level of criterion the companies have achieved.
Figure 11. The Beta level of companies and the amount of CSR criterion fulfilled

The above figure shows the Beta level of the different companies as well as how many of the criteria they fulfill, depicted in percentage, as we can see the outlier with a negative Beta level of -0.1965 did not fulfill a single criterion whilst the companies who reported on all the CSR criterion reported a Beta level between 0.4040 and 1.2372. However this figure does not show the full picture of the relationship between the Beta and the amount of CSR reported.

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta</td>
<td>93</td>
<td>-0.1965</td>
<td>1.3607</td>
<td>0.844581</td>
<td>0.2549630</td>
</tr>
<tr>
<td>CSR Percent</td>
<td>93</td>
<td>0.00%</td>
<td>100.00%</td>
<td>74.3466%</td>
<td>26.77226%</td>
</tr>
<tr>
<td>CSR</td>
<td>93</td>
<td>0</td>
<td>1</td>
<td>0.96</td>
<td>0.204</td>
</tr>
<tr>
<td>Human Rights</td>
<td>93</td>
<td>0</td>
<td>1</td>
<td>0.75</td>
<td>0.434</td>
</tr>
<tr>
<td>Climate Impact</td>
<td>93</td>
<td>0</td>
<td>1</td>
<td>0.90</td>
<td>0.297</td>
</tr>
<tr>
<td>CSR Policies</td>
<td>93</td>
<td>0</td>
<td>1</td>
<td>0.88</td>
<td>0.325</td>
</tr>
<tr>
<td>CSR Actions</td>
<td>93</td>
<td>0</td>
<td>1</td>
<td>0.60</td>
<td>0.492</td>
</tr>
<tr>
<td>Future CSR Initiatives</td>
<td>93</td>
<td>0</td>
<td>1</td>
<td>0.55</td>
<td>0.500</td>
</tr>
<tr>
<td>Future CSR Goals</td>
<td>93</td>
<td>0</td>
<td>1</td>
<td>0.56</td>
<td>0.499</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>93</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7. Descriptive statistics of our sample size after exclusion with inclusion of Beta test

Table 8 presents descriptive statistics in terms of mean and standard deviation for the selected variables taken into account during our CSR criterion screening of the listed companies. The standard deviation is useful since it shows us how close the different data points are to the mean of the data for the selected variable. This helps us to identify the amount of variation in the data points. The mean in the above table also represents the amount of companies who have reported regarding the different criteria. Furthermore the minimum and maximum numbers show us that the criteria can be either 0, which means that they do not report on the criteria, and 1, which
means that they report on the criteria. The mean for CSR percent shows us that the average number of criteria that the companies report is 74,3466 %.

5.3 Volatility
We have chosen to divide our volatility calculations into two segments, market volatility which will compare the two market indexes that we have chosen to focus upon namely OMXS 30 and OMXC 20. Whilst the other volatility segment that we have chosen to focus upon is on the company level. This is the volatility of the Swedish company’s individual stock prices during the year 2014.

5.3.1 Market volatility

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closing price</td>
<td>249</td>
<td>1269,9100</td>
<td>1478,9300</td>
<td>1375,563655</td>
<td>40,3571917</td>
</tr>
<tr>
<td>OMXS 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return per day</td>
<td>248</td>
<td>-37,9500</td>
<td>39,4500</td>
<td>,565323</td>
<td>11,8611130</td>
</tr>
<tr>
<td>OMXS 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on investment</td>
<td>248</td>
<td>-.0290</td>
<td>.0310</td>
<td>.000443</td>
<td>.0086858</td>
</tr>
<tr>
<td>OMXS 30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closing price</td>
<td>248</td>
<td>620,0400</td>
<td>773,5400</td>
<td>717,195202</td>
<td>35,6363676</td>
</tr>
<tr>
<td>OMXC 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return per day</td>
<td>247</td>
<td>-17,3500</td>
<td>26,8800</td>
<td>,503644</td>
<td>7,0080757</td>
</tr>
<tr>
<td>OMXC 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on investment</td>
<td>247</td>
<td>-.0241</td>
<td>.0399</td>
<td>.000789</td>
<td>.0098954</td>
</tr>
<tr>
<td>OMXC 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8. Descriptive statistics for standard deviation and volatility of Swedish and Danish market index

The descriptive statistics presented in table 10 represent the differences in standard deviation and therefore also the volatility of the Swedish and Danish market indexes. The statistical output shows us that the return on investment is more volatile in the Danish market index at 0,00989 in comparison to the Swedish market index at 0,00869. However both of these are very close to zero and therefore both represent relatively non-volatile markets. Furthermore the descriptive statistics represented in the above table will aid us in calculating the historical volatility of the Swedish and Danish market indexes in accordance with the equations that have been presented in chapter 4.

Therefore we have to once again return to the previously presented equations that we need in order to calculate the historical volatility. The equation is as following;

\[ SD = \sqrt{\frac{1}{n-1} \sum_{i=1}^{n} (r_i - m)^2} \]
By utilizing the information that we have gathered from table 6 in combination of the equation for historical volatility we can present the historical volatility for the Swedish and Danish stock market indexes in the table below.

<table>
<thead>
<tr>
<th>Market</th>
<th>N (Trading days)</th>
<th>( \sum_{i=1}^{n} (r_i - m)^2 )</th>
<th>Historical volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMXS 30</td>
<td>248</td>
<td>0.018634</td>
<td>0.008668</td>
</tr>
<tr>
<td>OMXC 20</td>
<td>247</td>
<td>0.024088</td>
<td>0.009875</td>
</tr>
</tbody>
</table>

Table 9. Historical volatility for Swedish and Danish stock market indexes

The empirical data presented in table 11 regarding the calculation of the historical volatility by utilizing the historical volatility equation confirms that there is little variance between the statistical output in table 10 and our manual calculation of the historical volatility in table 6. Furthermore we can see that the historical volatility between the two markets is not so different. The Swedish market index volatility is at a level of 0.8668 % whilst the Danish market index volatility is at the level of 0.9875 %. This means that both the markets have less than 1 % historical volatility. Furthermore we can see that the trading days that we have included in the table 11 is n-1, therefore the Swedish N is 248 whilst they had 249 trading days in 2014 and the Danish N is 247 whilst they had 248 trading days in 2014. Here we can see that the Danish stock market had 1 less trading day than the Swedish stock market.

5.3.2 Company volatility
In order for us to gain a better insight into the historical volatility of the companies in our sample population we were in need to create a scatter plot.

The above scatter plot gives us a clearer view of the relationship of the distribution between the amount of CSR that is reported by our sample population and the individual historical volatility of our sample population. In order for us to gain a better overview of the scatter plot result we have calculated the mean of the historical volatility for the different groups that we have for our sample population. The mean of historical volatility can be seen in the table below.
Lastly we have presented the mean of the historical volatility and divided our sample population into four different groups depending on the amount of CSR criterion they have fulfilled presented in a percentage parameter. This table is related with the scatter plot in figure 12 as it shows the mean in raw numbers and not in a figure. From the above table we can see that the 26-50 % group is interesting since it is showing higher degrees of historical volatility than the other groups.

### 5.4 Test of hypotheses

#### 5.4.1 Hypothesis 1

Our first test is related towards the first hypothesis that was previously stated in chapter 4:

\[ H_0: \beta_{Beta} = 0 \]
\[ H_1: \beta_{Beta} \neq 0 \]

To test our first hypothesis we have included amount of CSR reported as an independent variable whilst having Beta as the dependent variable. Thereby the hypothesis will test whether or not there is a relationship between the Beta of a company and the amount of CSR reported by the separate companies. The aim of the test is to help us answer the research question regarding if an increase in CSR disclosure can reduce stock volatility.

<table>
<thead>
<tr>
<th>Beta</th>
<th>T-test</th>
<th>p(t)</th>
<th>Pearson Correlation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSR Reported</td>
<td>2,034</td>
<td>0,045</td>
<td>0,209</td>
<td>0,2507249</td>
</tr>
</tbody>
</table>

The regression analysis between the two variables “Beta” and “CSR reported” shows us that our p value is 0,045 which is within the significance level of 0,05 meaning that it has most likely not happened by chance and therefore the null hypothesis can be rejected. This means that we can accept the alternative hypothesis which states that there is a relationship between the amount of CSR reported and the Beta of the company. However the Pearson correlation is low but shows us that there is a positive correlation between the variables. A positive correlation between the beta of a company and the amount of CSR that a company reports implies that the beta will increase when the amount of CSR that is reported is increased.

#### 5.4.2 Hypothesis 2

The second regression analysis that we will conduct is in regards to our second hypothesis:

\[ H_0: \beta_{volatility} = 0 \]
\[ H_1: \beta_{volatility} \neq 0 \]

In order for us to conduct a regression analysis to test our second hypothesis we have set the amount of CSR reported as the independent variable meanwhile the historical volatility is set as a dependent variable. The test will show whether or not there is a significant relationship between the two variables so as to help us answer our stated research question.
### Historical volatility

<table>
<thead>
<tr>
<th>CSR Reported</th>
<th>T-test</th>
<th>p(t)</th>
<th>Pearson Correlation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-3.740</td>
<td>0.000</td>
<td>-0.365</td>
<td>0.000</td>
</tr>
</tbody>
</table>

*Table 12. Result of regression analysis between historical volatility and CSR reported*

The regression analysis between the historical volatility and the amount of CSR reported shows that the p value is 0.000 and therefore the relationship cannot have happened by chance. This means that our null hypothesis is rejected and that we can accept our alternative hypothesis which states that there is a relationship between the historical volatility of a company’s stock price and the amount of CSR that the company reports. The Pearson correlation shows us that there is a negative correlation between the amount of CSR reported and the historical volatility of a company’s stock. With the existence of a relationship and a correlation between the amount of CSR that a company reports and the historical volatility of a company’s stock we can determine that when the amount of CSR reported is increased the historical volatility of a company’s stock is reduced.

#### 5.4.3 Hypothesis 3

In order to test our third hypothesis we will conduct a One-sample t-test as well as a correlation test. The different tests that we have chosen to utilize will help us with our hypothesis as well as show us if a correlation exists, the hypothesis is as follows:

\[
H_0: \beta_{market} = 0 \\
H_1: \beta_{market} \neq 0
\]

Our research question is regarding if mandatory disclosure of CSR can have an influence on the volatility of stock market. The hypothesis is first to determine if there is a relationship between the historical volatility of the Swedish and Danish market due to the proximity of the countries which might be a factor. Furthermore we want to examine if there is a correlation between the historical volatility of the two markets. We are therefore conducting a t-test in order to accept or reject the null hypothesis as well as a correlation test in order to see if there is a correlation between the two markets.

<table>
<thead>
<tr>
<th></th>
<th>T-test</th>
<th>p(t)</th>
<th>Correlation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>OMXS 30</td>
<td>9.114</td>
<td>0.070</td>
<td>0.528</td>
<td>0.0000082447</td>
</tr>
<tr>
<td>OMXC 20</td>
<td>8.913</td>
<td>0.071</td>
<td>0.528</td>
<td>0.0000109417</td>
</tr>
</tbody>
</table>

*Table 13. Correlation test between Swedish and Danish market index*

From our t-test we can determine that the p value is slightly above the significance level of 0.05 therefore the null hypothesis cannot be accepted. However we cannot reject the null hypothesis neither due to the significance level being at 0.070 and 0.071 which implies that the reason behind the result from our statistical chance might have occurred due to chance. This implies that we cannot state if there is a relationship between the historical volatility of the two stock markets. The correlation test does however imply that is a positive correlation which means that when the Swedish stock market increases/decrease the Danish stock market will increase/decrease as well and the same goes the other way around, when the Danish stock market increases/decrease the Swedish stock market will increase/decrease.
Chapter 6: Analysis

In this chapter we discuss our findings by analyzing the results of our empirical data from chapter 5. The goal of our analysis chapter is to connect our empirical findings with previous research from our theoretical framework. To achieve this the chapter starts by discussing our three hypotheses and goes on to analyze the information provided in the figures and tables in our empirical results. Finally the chapter concludes with a summary of what we have found during our analysis.

6.1 Analysis of hypotheses

In order for us to answer our research question as well as for us to connect our research question with our theoretical framework we decided to develop three hypotheses (see chapter 4) that we would test (see chapter 5).

We have decided to combine hypothesis 1 and hypothesis 2 whilst conducting our analysis of the data as these two hypotheses will relate towards similar theories from our theoretical framework. Furthermore Beta is the volatility of the stock compared to its market whilst historical volatility is the volatility of the individual stock.

6.1.1 Hypothesis 1 and Hypothesis 2

The first hypothesis that we developed seeks to explore if there is a relationship between the Beta and the amount of CSR reported of our sample population.

\[ H_0: \beta_{Beta} = 0 \]
\[ H_1: \beta_{Beta} \neq 0 \]

During the testing of our first hypothesis we conducted a regression analysis and found that the p value was within the significance level which implied that we could reject our null hypothesis, which stated that there was no relationship between the Beta and the amount of CSR reported by a company. By rejecting our null hypothesis we accepted the alternative hypothesis which means that there is a relationship between the two different variables. Furthermore it is important to note that the correlation between the beta and the amount of CSR that a company reports is positive and at a level of 0,209. This implies that the beta of a company will increase when the amount of CSR that a company reports increases.

The second hypothesis will describe if there is a relationship between the historical volatility and the amount of CSR reported by the companies.

\[ H_0: \beta_{volatility} = 0 \]
\[ H_1: \beta_{volatility} \neq 0 \]

The regression analysis that we performed for the second hypothesis showed us that the p value is at a level of 0,000 which means that the probability of the relationship between the variables being a chance is low and therefore the null hypothesis is rejected. Due to the null hypothesis being rejected we will accept the alternative hypothesis which means that there is a relationship between the historical volatility of the stock price and the amount of CSR that a company reports. The correlation between the historical volatility and the amount of CSR that a company reports is negative at a level of -0,365. This implies that when the amount of CSR that a company reports increase the historical volatility of the company’s stock will be reduced.
Both hypotheses show us that the amount of CSR reported has a relationship with the Beta and the historical volatility of a company. This can be influenced by both the quality of the information and the delivery system used to provide it to the market since they both can influence the asset pricing of the company (Easley & O’Hara, 2004). In addition to this the quality of the information can also have an effect on the return that investors require (Epstein & Schneider, 2008, p. 225). Our findings lend support to these statements since the Beta value and the historical volatility is dependent on the amount of CSR criterion that the companies fulfill and the correlation is positive. We are able to determine from the Pearson correlation that we have gathered from our statistical tests that the relationship between a company’s beta and the amount of CSR that they report is positive. Which has the implication that beta will increase when the amount of CSR reported is increased. This is to be expected as the beta should preferable be close to 1 so that the volatility of the company is related to the volatility of the market in which they operate. On the other hand the correlation between historical volatility and the amount of CSR that a company reports is negative. This implies that when companies increase the amount of CSR that they report the historical volatility of the stock would be reduced which has implications regarding that increased amount of information disclosed decreases volatility. The principal agent theory relates to the relationship between the company, the agent, and the shareholders, the principal, where the agent is entrusted to perform his duties in accordance with the interests of the principal. One of the issues with the principal agent theory is that information asymmetry exists between the agent and the principal, where the agent often has more knowledge than the principal. This can lead the agent to withhold information from the principal (Eisenhardt, 1989, p. 61). Furthermore as we have previously established the information available to the public can influence the volatility of a company’s stock price (Ryan & Taffler, 2004). Therefore our findings also support previous literature since our findings reflect that a lower amount of CSR reported indicates that the company will have a higher volatility. On the other hand if the company has fulfilled a majority of the CSR criteria it is likely to have a less volatile stock. The increased amount of information disclosed will show the investors and other stakeholders what the managers of a company are doing and what their plans for the future of the company are. This can also be related towards one of the standpoints that McGuire et al. (1988) brings up in regards to the relationship between CSR and financial performance. The relationship between stakeholder theory and the CSR actions of the company is dependent on managers showing the different stakeholder groups what they are doing as well as giving the stakeholders an insight into their skills as managers (McGuire et al., 1988, p. 855)

Furthermore we have to take into consideration that CSR and disclosures regarding CSR and sustainability is information that is revealed to the stakeholders, wherein investors are included, of a company. Vlastakis and Markellos (2012) have argued that information is an important asset of the financial market. It is important to take into consideration what type of information the companies are supplying in regards to CSR and towards which stakeholders. This means that there exists a question whether the companies should focus on a narrow view, namely the investors, or a wider view, society as a whole (O’Donovan, 2001, p. 344). The wider perspective can be specified as three separate areas financial, social, and environmental in regards to the company’s annual report. This raises the question if companies should focus on solely maximizing profits or if they should also have a focus on their social responsibility. Previous research suggests that companies should have a focus on both the narrow and wide aspects (O’Donovan, 2001; Brown & Deegan, 1998), meaning that they should both maximize profits whilst also acting in a social responsible manner. On the topic of having a wide versus a narrow approach or a combination of the both we have only focused on the wider aspect whom the
investors are still a part of. From the testing of our hypotheses there is a relationship between the volatility of a company’s stock price and the amount of CSR that the companies report. This in turn suggests that investors care about the CSR actions taken by the companies that they choose to invest in. The relationship that exist suggests that increased amount of CSR disclosure will reduce the historical volatility of a company’s stock. The statistical tests shows if companies report more than one of the seven criteria that we have stated that the historical volatility reduces for these companies. This is something that companies can take into consideration when choosing to report on CSR. Furthermore companies can accumulate risk from not disclosing information regarding CSR (McGuire et al., 1988, p. 868). The reason for the possibility of accumulating risk by not disclosing information regarding CSR occurs from that the company does not want to be transparent or has possibly done something unethical or wrong that they do not wish investors to know about. Furthermore regarding the transparency factor, the risk may increase due to the fact that companies are not informing investors regarding their actions, good or bad, meaning that investors are not informed.

From our theoretical framework we can see that both researchers and the European Union suggest that transparency is an important aspect for companies when dealing with CSR activities. This means that stakeholders and especially investors have a right to information regarding the different activities that a company conducts and this is backed up by the stakeholder theory (Dubbink, Graafland, & Liedekerke, 2008, p. 364). Our findings support these claims since we can see that when investors are privy to more information regarding the company’s CSR activities the company’s stock becomes less volatile. Our findings further support the increase of disclosure criteria from both IASB and EU when it comes both financial and non-financial information as this will make the companies more transparent which is something that will benefit the investors. Transparency regarding non-financial information has been lacking regulation on a global scale and the upcoming regulatory changes for European based companies is something that will be useful for investors and interested parties.

Another important thing to consider is the legitimacy of companies, researchers suggest that legitimacy is hard to gain but easier to maintain and loose. Companies can maintain their legitimacy level by disclosing additional information to the public this information can help both the financial markets as well as how society reacts and perceives the actions that companies pursue (O’Donovan, 2001, p. 351). Companies who disclose a high amount of information usually tend to have a higher amount of legitimacy whilst companies who disclose a lower amount of information usually tend to have a lower amount of legitimacy (O’Donovan, 2001, p. 350). In addition to this companies can disclose environmental information as a part of legitimacy tactics in order for the company to be seen in a positive fashion (O’Donovan, 2001, p. 364). We have not studied nor tried to examine the last aspect of this statement regarding utilizing disclosures as a way to manipulate investors and the public. Instead our focus has been on the first part of the statement, regarding legitimacy and the way that companies can either maintain, gain, or loose legitimacy. As we stated in our theoretical framework legitimacy theory can been seen as a contract between the company and the society and how society reacts to the different actions of the company. For our research we assume that since volatility has a relationship with the amount of CSR that a company reports it will mean that the additional information is important for the society and its inhabitants, especially for investors. Furthermore by reviewing table 11 we can see that companies who release additional information to the public will have less historical volatility. As we have only studied one year for both the Beta and the historical volatility we cannot discuss the aspect of gaining legitimacy, however if we relate volatility with maintenance we can see that more disclosures will reduce volatility from both our empirical data and from the hypothesis that we have tested.
Previous research also suggests that companies can benefit from increasing the amount of information that is voluntarily disclosed to the public, the benefits included improved stock performance, increased institutional ownership, analyst following, and improved stock liquidity (Healy et al., 1999, p. 511). This in turn means that sophisticated investors such as institutional shareholders and analysts may prefer to invest in companies that voluntarily disclose an increased amount of private information. Our findings lend support to these statements by showing that an increase in the amount of CSR information that is voluntarily disclosed by companies reduce the volatility of the company’s stock and would therefore be a safer investment opportunity for institutional shareholders by providing them with increased transparency of the company.

Previous research that has studied the relationship between CSR and the amount of CSR that companies report and the financial performance of these companies have found results that differ. For instance McGuire et al. (1988) found a positive relationship between CSR and financial performance whilst Saedei et al. (2015) found a neutral relationship. This raises the question whether time period, chosen market, or research method had any influence on the results of the research. McGuire et al. (1988) and Saedei et al. (2015) had chosen to utilize more traditional accounting methods in their research and examined two different markets, namely US and Iran. On the other hand this research has utilized beta and historical volatility to review the performance of the company during a one year time period as well as chosen the Swedish stock market as the research market. We were able to determine that the amount of CSR that a company reports has a relationship with the both the beta and historical volatility and that CSR reduces the historical volatility for companies.

An issue that we brought up in our theoretical framework was the question whether beta is dead or alive, meaning if beta can be used to assess the risk of the market. The discussions and findings made by Fama and French (1992) and (2004) wherein they found that beta is dead has in our statistical testing not been brought up and we can therefore not make any statement on this issue, neither can we confirm that beta is alive as some researchers have made (see examples in Otuteye & Siddiquee, 2013, p. 9). Therefore we as researchers cannot provide input on this issue, neither can we provide investors with additional information regarding the issue of beta as a predictor for risk which could have proven useful for them when making investing decision. We are also aware that our statistical tests and research has not had the aim to provide insight into the risk factor of beta and only focused on the volatility aspect of beta. With the volatility aspect of beta we have found a positive correlation between the amount of beta that is reported and the beta of a company which implies that beta will increase when the amount of CSR that is disclosed increases. Furthermore we brought up the discussion that beta can be utilized by investors so as to gain insight into future performance of a company, with our testing and within the scope of our research this has not been explored.

6.1.2 Hypothesis 3
The last hypothesis that we seek to test is to understand if there is a relationship regarding historical volatility between the Swedish and Danish stock market indexes.

\[ H_0: \beta_{market} = 0 \]
\[ H_1: \beta_{market} \neq 0 \]

Unlike the other hypotheses that we tested this hypothesis was tested using a single t-test and a correlation test in order for us to determine if there is a relationship and/or a correlation. From the t-test we can see that the p value is above in table 14 the significance level which means
that the null hypothesis is cannot be accepted. However the significance level is not high enough which implies that we are not able to reject the null hypothesis either. Therefore we cannot state whether a relationship between the historical volatilities of the two stock market indexes that we have chosen to examine. On the other hand we were able to determine that there is a positive correlation between the two stock market indexes which means that when one of the market indexes goes up the other will go up as well however it also implies that when one of these stock market indexes decreases the other will decrease as well.

Furthermore it is important to take into consideration that this hypothesis has not been conducted as a way to connect our research question with our theoretical framework. Instead the reasoning behind this hypothesis was to see if there was a relationship between the two different historical volatilities of the stock markets indexes by conducting a t-test on the respective market indexes. The two statistical tests were also conducted as a way for us as researchers to satisfy our curiosity. Even if the null hypothesis was rejected it was not by a wide significance level. However the correlation shows us that some form of correlation exist with a value of 0.528 (see table 14). As correlation is seen as a value between -1 and 1 we can determine that there exist a medium to high level of correlation between the two market indexes. Furthermore by examining the comparison between the two market indexes (see figure 6) we can see that they follow each other in the most situations, even if their highs and lows are not the same level. Therefore we have both empirical data and visual observation of an existence of correlation between the two market indexes.

Furthermore we can also examine the historical volatility of these two market indexes (see table 11). By reviewing their historical volatility from 2014 we can see that the Swedish stock market index (OMXS 30) has a volatility of 0.8668% whilst the Danish stock market index has a volatility of 0.9875%. Neither of these markets are extremely volatile and are once again similar in this aspect.

However what is important to note is that the Danish stock market has 1 fewer trading day than the Swedish market. Furthermore it is important to take into consideration that the Swedish market index is valued higher than the Danish stock market, which implies that if we look at the day to day trade the Danish market would look more stable (see table 10).

6.1.3 Analysis of figures and tables
As we stated in our empirical data we had to remove seven companies from our original sample due to them not having enough financial information for the year 2014 which left us with the remaining 93 companies. In figure 10 we have created a scatterplot visualizing the distribution of the Beta within our sample. The figure shows us that there is an even distribution of the Beta value which lies between 1.3607 and 0.2200 for our sample population, however we can see that there is an outlier with a Beta value of -0.1965. By examining the outlier more closely we could see that this company had reported zero percent of our CSR criterion for 2014. What we could also determine was that this company had a historical volatility of 3.88 % which is above the mean of 2.14 % for the group of our sample population that has reported between 0-25 % of our CSR criterion. By disclosing zero percent of the CSR criteria we are able to determine that this company and the other two companies who disclose zero percent CSR are not fulfilling their legal responsibilities as Swedish companies need to at least report on their environmental/climate impact. This implies that these companies contradict CSR responsibilities that Carroll (1991) mentions. As companies need to follow the legislations that the government has set for these companies (Carroll, 1991, p. 40).
However we did not feel that one scatter plot was enough to convey the information of our empirical data so figure 10 plots the Beta against the amount of CSR criterion fulfilled by our sample population shown as a percentage. From this information we can see that the beta is more evenly distributed when companies fulfill a higher percentage of the CSR criterion. What is interesting to note is within the 0-25 % group. In this group we can see that there are only five companies, however the value of the Beta ranges from -0.1965 to 1.2266. In addition to this the three companies that have fulfilled zero percent of the CSR criterion are all below the market Beta of 1. Furthermore the mean of our sample populations Beta value is 0.844581 which has been calculated in table 8. Meaning that the mean Beta value is below the market Beta. In addition to this table 8 provides us with information in regards to the volatility of the Beta value within our sample population which has a standard deviation of 0.254963 and that the mean amount of CSR criterion that were fulfilled by our sample population was 74.35 %.

One of the few regulations regarding CSR that exists in Swedish law is that companies need to publish what effects they have on the environment. From the descriptive statistics in table 8 we can read that 90 % of our sample population reported about their company’s climate impact. The 10 percent of companies that did not report their climate impact may not have done so for different reasons, the main reason would be that they are not large enough to be required to do so by law. However since our sample population is made of all listed companies they are all required to do so by law which implies that there may be another reason as to why the companies are not reporting their climate impact. This reason could be that the company does not have a significant enough environmental foot print to warrant a disclosure, examples of such companies are investment companies or gambling companies who only exists on the internet. Furthermore by having such a small environmental footprint it may imply that the costs of measuring and reporting their environmental impact each year outweigh the benefits they stand to gain from disclosing them. However not reporting on a required legislations may have negative impact for these companies, as we can see they are the most volatile group. Furthermore they are not a “good corporate citizens” which may be problematic from a legitimacy perspective. From the companies perspective it is important to remember that their actions or lack of actions might be generalized by the society, meaning that society considers all actions taken by the companies instead of the individual (Suchman, 1995, p. 574). This means that companies who report on little to no CSR will provide society with little information regarding their actions which means that companies cannot easily change their perspective if they are not willing to share information. Companies who disclose little to no information also have a problem gaining legitimacy from the society (O’Donovan, 2001, p. 346). However it is important to remember that the relationship between the society and company is not fixed it is ever changing (Brown & Deegan, 1998, p. 22), meaning that companies can in the future increase their legitimacy and change how investors and society views them.

Furthermore we can take into consideration the entirety of table 8 this is due to the gain aspect of legitimacy. The reasoning behind this consideration is that in order for companies to gain legitimacy there is a certain need for the public to gain access to information in regards to the different actions and activities that a company conducts (O’Donovan, 2001, p. 363). By combining the information from table 8 with the information from figure 8 we can see that even though the Swedish law mandated only one of our seven criteria there were companies who disclosed information regarding all seven criteria, or 100 %. By allowing the investors access to more information we can suggest that these companies are trying to gain more legitimacy in accordance to theory. This suggestion can also be extended towards those companies who reported on climate impact and the minimum of one extra criterion since they are giving the
public, and especially investors, access to more information that is voluntary disclosed and required by law.

To gain a deeper understanding of the distribution of the historical volatility of our sample population we created a scatterplot based on the standard deviation of each company’s historical return for the period and the amount of CSR criterion fulfilled which can be seen in figure 11. The figure shows us that there is again a wide distribution of the historical volatility in percentage for the companies that have disclosed zero percent of the CSR criterion ranging from 1.03 % to 3.88 %. However we can see a reduction in the range of the historical volatility when the companies of our sample population fulfill a larger percentage of the CSR criterion to be disclosed. This confirms what Vlastakis & Markellos (2012) stated regarding that volatility is dependent on the available information that investors and the public can partake of. However it is also important to remember that the amount of CSR reported is a small piece of the information cog that investors have to consider.

One of the discussions that we have had throughout this research has been on where the focus should lie in terms of stakeholder versus shareholder. Wherein stakeholder theory states that the company is influenced by different types of groups and these groups can both be affected and effect the company, where one of these groups are the investors (Freeman, 1984, 25:46). Whereas the shareholder theory has its focus on the investors and where the company’s actions should focus on maximizing the shareholders profit (Friedman, 1970; Fontrodona & Sison, 2006, p. 35; Smith, 2003, p. 85). During our research we have had a focus on the investors and by reviewing our tables and figures we have been able to see that by having companies consider not only the investors but also the other stakeholder groups they have had less historical volatility on their stock price (see table 11). When a company has a low historical volatility it reduces the inherent investment risk for an investor since it indicates that the fluctuations in the company’s stock price are usually not very wide. The findings of our research indicate that it could therefore be beneficial for companies to not only focus on maximizing shareholder profits but also take other stakeholders into consideration since our findings indicate that such an approach reduces the historical volatility of the company’s stock price.

However disclosing of additional information might be costly for certain companies for different reasons, one of those being financial. It is therefore important to take into consideration what type of investors a company has. There might exists the possibility that the additional disclosed information that a company would provide would not be beneficial for all investors as these would not be able to understand the information (Fishman & Hagerty, 2003). From both our original and our revised sample population we could see that there were three companies who had not reported on any of our criteria for 2014. However we have not examined the reasoning behind the neglected or delayed release of said information. However what we could determine was that two of these companies were less volatile than the market, as they had a Beta of 0.5229 and 0.8335. These Beta levels imply that these two companies will go down at a rate 52.29 % and 83.35 % compared to the market, they will however also only rise with the same amount. The question that arises here would be if these companies’ investors are uninformed and do not care about the information that a company can provide them or if these companies would disclose more information that the Beta of these companies would be closer to that of the market level of 1.

6.1.4 Summary of analysis
In order for us to answer our research question we chose to construct three different hypotheses, however hypothesis one and two were both related to the same theoretical framework and have
therefore been analyzed together. On the other hand hypothesis three was constructed to satisfy our curiosity as to how the two market indexes were related to each other due to the similarity and proximity of the two markets.

Both hypothesis one and two rejected the null hypothesis and therefore provided evidence towards an existing relationship between the amount of CSR criterion fulfilled and disclosed to the public and the Beta value as well as the historical volatility of the company’s stock price. By having rejected the null hypothesis few turned towards our theoretical framework, from the theories that we have chosen we have found evidence in our results that support previous theories. We have also found that increasing the amount of CSR criteria fulfilled will reduce the historical volatility of the stock price.

In addition to our hypotheses we also conducted additional analysis of other statistical tests that we have conducted and presented in tables and figures in chapter 5. We felt that these tests could clarify some of the theories that we have discussed in our theoretical framework as well as lending us support to clarify the results of our hypothesis testing.

From both the tests and analyses that we have conducted together with our theoretical framework we have found evidence that suggests that some form of mandatory CSR disclosures will have a positive effect, due to increased amount of CSR disclosure decreases the volatility of the stock market. However this will be further discussed in our conclusion.
Chapter 7: Conclusion

The final chapter of this thesis provides us as researchers and authors of this study with the ability to tie together the findings of our empirical data with our own thoughts. In this chapter we will further answer our stated research question as well as how our findings will have an impact on investors and the existing body of knowledge. Lastly this chapter will conclude with the limitations and our recommendations for future studies.

The purpose behind this thesis is to gain a deeper understanding regarding if mandatory CSR disclosures, as the one that exists in Denmark would have an impact on Swedish companies. There has been plenty research done in the subject of mandatory and voluntary disclosures and how these types of disclosures have an influence on different markets. However since there is a limited amount of markets that have a mandatory CSR disclosure requirements for the companies who inhabit them there has been little research done on this specific field. Furthermore it is important to remember that CSR disclosures will provide additional information towards both the public and the financial market, which is also an area that has been previously researched. We have also taken into consideration the upcoming regulatory changes in the European Union which means that certain companies will have to start to report their CSR which is another reason behind us choosing our research topic. As we have chosen to conduct a quantitative study our research has to aim to build upon existing research as well as to lend a new perspective regarding mandatory CSR disclosures. However we must err on the side of caution with our conclusion as we have chosen to conduct an experiment in a specific market, namely Sweden.

7.1 Answer to our research question and additions to existing knowledge

We must firstly return to the beginning of our research where we stated the following research question:

Would mandatory CSR disclosures, as those that exist in Denmark, reduce stock volatility in Sweden?

It is also important to note that the research question above has been the red thread of our research which has guided us throughout our research. By conducting a regression analysis for two of our hypothesis we could find that there exists a relationship between the amount of CSR that a company discloses and both the Beta value and the historical volatility of the companies. We must once again emphasize that the amount of CSR disclosed is based upon the regulations that exists in Danish law, meaning that the seven criteria that we have chosen are based upon the Danish law. The Beta value of the companies lets us know what the volatility of the company is compared to the market. Whilst historical volatility shows us how volatile the stock price of a company was during 2014. However it is important to note that even if our tests show that there is an existence of a relationship between volatility and amount of CSR disclosures it is not the whole story.

Furthermore we have had another red thread through our research besides our research question, namely we have to take into consideration the purpose behind our research. The main purpose behind our research was to examine if Sweden could benefit from having a regulated mandatory CSR disclosure such as those that exists in Denmark. The main purpose of our research is closely related towards the research question that we have chosen for our research. However we are aware of that some companies will have higher level of benefits from having a
mandatory CSR disclosures than other companies as our empirical data suggest with the fact that some company even if they disclose 0-25% of the criteria are still having a low level of volatility and a mean level of 2,11% which would be decreased if the outlier company would have been excluded from our sample population. For these reasons we would suggest that if Sweden will make their own regulations regarding mandatory CSR to take into consideration what companies would most benefit from having to abide by those rules. This means that there needs to be further studies conducted on the area of cost benefit relationship between the amount of CSR that is disclosed and the volatility of a company’s stock price.

Secondly we also had the purpose to examine if a regulation regarding mandatory CSR disclosure would be beneficial on a global scale by having it implemented in for example IFRS as a new standard. We cannot fully state that we have achieved this purpose as we have only conducted our experiment on a specific market, namely the Swedish, and therefore we cannot state a definitive answer for a global approach. However if the Swedish market is any suggestion behind how the market would react to having mandatory disclosures regarding CSR then our empirical data shows that it would be beneficial for both investors and other stakeholders.

What is interesting to note is that both the Danish legislation and the upcoming European legislation do not provide the companies with a clear statement regarding what guidelines or principals that companies should follow, instead they provide them with existing guidelines and principles. However these principles and guidelines have been reviewed by experts in the field and as they already exist and are followed by some companies it will instead help companies make informed decisions as well as provide investors and auditors with a universal code which makes it easier to follow and understand if companies indeed to follow the legislations.

Lastly we believe by having a mandatory CSR disclosure regulation that is reviewed by auditors would be helpful for both investors and stakeholders. As is stated in our theoretical framework there might exists possibilities of managers of company’s not being willing to share all the information to the public as well as the possibility of manipulating the information so as to suit them. For these reasons we have a strong belief that regulating CSR disclosures might hinder these types of practices, however our research has not taken into consideration this aspect and we cannot further discuss this issue.

7.2 Theoretical implications

The results from our analysis suggest that companies that focus upon both the shareholders and other stakeholders can benefit from lower volatility in their stock price. Which is connected to the stakeholder and shareholder theories that suggest that companies should either focus upon the society that surrounds the company or only focus upon the shareholders of the company by maximizing the profits for investors. These results indicate that by voluntarily disclosing additional CSR information that benefit a wider variety of stakeholders the company also provides a beneficial service to its stakeholders by reducing the historical volatility in their company’s stock price which reduces the investment risk for investors. In addition this shows that our results support claims by previous researchers that an increase in transparency of a company reduces its volatility.

Previous research from our theoretical framework suggests that investors desire reliable information regarding how the company is performing in terms of CSR (Cho et al., 2013, p. 72). In addition to this the research indicates that investors utilize publicly disclosed CSR information in their investment decisions (Cho et al., 2013, p. 72). Even though all investors
are not equal in terms of knowledge and experience an increase in the amount of CSR disclosed to the public may well reduce the information asymmetry between informed and non-informed investors by increasing the amount of information about the company that is publically available. Furthermore our results lend support to these claims since an increase in the amount of CSR disclosed also reduces the volatility of a company’s stock price which suggests that the information is more evenly distributed among the market participants.

7.3 Implications for investors
As the focus of our research has been on the stock volatility of Swedish companies we have felt that the most important group of stakeholders are the investors who invest in these companies. Our original sample population existed of 100 companies who were later reduced to 93, as 7 of our companies did not have complete financial information for 2014. Our sample population was furthermore divided into four different sample groups based upon the amount of CSR that the companies are reporting. From both the testing of our hypothesis and from table 11 we are able to see that there is a relationship between the amount of CSR that a company reports and the historical volatility of a company’s stock price. The companies who produce 76-100 % are the least volatile companies. We are able to determine from table 11 that historical volatility will decrease with a certain degree depending on the amount of CSR information that a company choses to disclose.

Furthermore the companies have to take into consideration the cost benefit relationship between the amount of CSR that is disclosed and the reduction of volatility of the company’s stock price. From the empirical data we have been able to see that certain companies will have a small amount of volatility as well as a Beta level of below 1 even if these companies are not producing any of the seven criteria that we had regarding CSR for 2014, however it is important to note that the information might be delayed and might be reported during a later stage of the year. On the other hand we also have a outlier company that has a Beta level of -0,1965 as well as a historical volatility level of 3,88 %. Firstly the Beta level shows us that this company will move in the opposite direction of the market, i.e. when the market goes down this stock goes up and when the market goes up the stock goes down. Furthermore we can see that the historical volatility level of 3,88 % is above the mean of the group that reports between 0-25 % amount of CSR criteria.

Lastly the findings from the tests that we have done and with what we can observe from our empirical data we are able to see that there is a relationship between the amount of CSR that is reported and the historical volatility of the stock price of a company. As we have been able to answer our research question and being able to see that having mandatory CSR disclosers will benefit investors as well as other stakeholders and the social world that companies inhabit. We therefore welcome the upcoming changes to European regulations since it will benefit the investor, however the question exists regarding what companies that will have to follow the upcoming regulation.

7.4 Social Considerations
The findings of the research indicate that increasing the amount of CSR that is disclosed can lead to less volatile company stock prices. This shows us that regulating CSR and increasing the transparency of companies can be beneficial to investors and other stakeholders. From the findings of the research we can see that Sweden would benefit from adopting similar regulations to those in Denmark. Therefore the standard setters may need to adopt new regulations regarding the disclosure of CSR information so as to reduce the volatility of the Swedish stock market. National and international accounting regulations that are in place today, such as IFRS,
focus on the disclosure of financial information. However the new EU directive focuses on increasing companies’ transparency by addressing non-financial information such as disclosing CSR information. Our findings show that markets within the EU can stand to benefit from the new directive.

Our findings may also be useful for companies that currently do not disclose CSR information by providing them with information which shows them that by increasing the amount of CSR information disclosed the company may benefit from less volatile stock prices. This in turn can influence companies to voluntarily increase the amount of CSR information that is disclosed. Furthermore there is a possibility that the results of the study can have an influence upon the investor’s decision making process whilst evaluating which companies to invest in. This possibility exists due to companies that disclose more CSR information benefit from having a less volatile stock price which when combined with the increased availability of information reduces the investment risk for investors. However it is difficult to estimate to what degree the findings of the study will influence the investor’s decision making process.

We would recommend companies that currently do not disclose CSR information to consider the possible benefits of increasing the transparency of the company in terms of increasing the amount of CSR information currently being disclosed. This would have the possibility of being useful for not only the society as a whole but also key stakeholders of the company. It would allow investors and other stakeholders to assess the company’s different actions regarding CSR. Furthermore it would allow investors and other stakeholders to assess the company’s managers and their ability to manage their company which could benefit the company in the long run and provide investors and other stakeholders with more information regarding how the managers deal with different social and ethical issues that a company might face.

7.5 Future research and limitations

Previous research has suggested that the historical volatility of a company’s stock price is dependent on different factors wherein information is one of the factors. With our research we have examined one part of the information factor, namely CSR, and have not focused on other possible variables that have influenced the historical volatility of the stock price. We would therefore suggest for future research to take into consideration the information variable as a whole and determine the influence that this variable has on the historical volatility of the stock price. We would also suggest for future research to take into consideration the different factors that influence historical volatility of a stock price so as to determine what investors should focus upon when making an investment decision and if it is something that investors can use so as to gain abnormal returns when they invest.

Furthermore as we have only focused on one year we would suggest to take into consideration additional years so as to gain a wider view of historical volatility as it can be influenced by having different time range, therefore it is important to understand how it would differ over the years. Another important aspect of having additional years included into a similar study would be in order to see the development of the amount of CSR that a company reports and the development of historical volatility.

As we have previously stated there are upcoming changes to the regulations on a European level, which means that Swedish companies have to abide by them. However we have also to take into consideration that only certain companies will have to follow the upcoming regulations. We would therefore suggest future research to take a focus on companies that have to report on CSR in accordance to the new regulatory changes. Furthermore we would suggest
that they make a comparison between the historical volatility of the company before and after the implementation of the company. However one must also take into consideration that the upcoming regulatory changes will come into effect at the end of 2016 meaning that the annual report for 2016 is the first where some companies have to abide by the new regulation. It is therefore we would suggest for researchers to wait until the annual report of 2017 has been released before undertaking this study.

However even if we have found that the increase of the amount of CSR that is reported has a relationship with historical volatility we must still err on the side of caution. We have found there is a benefit of having additional information for investors however there is also another side of disclosing information that we have not taken into consideration, which is the cost aspect. We have not taken into consideration the cost benefit aspect of CSR whilst conducting this research therefore we would suggest for future research on this topic as we feel that it could give an additional perspective towards the issue of volatility and CSR.

As we have stated previously we have not taken into consideration the manipulation aspect that might exists in CSR disclosures, we would therefore suggest for further research to be conducted on this issue and its relationship with investors.

We would also like to make the suggestion for future researchers to conduct a similar research however instead of utilizing historical volatility and Beta tests on the raw data that they should utilize more standard accounting measurements. As previous research has stated accounting research is usually conducted by measuring for example the ROA/ROE of the company. We feel it would be interesting to see what these measurements would yield for results in regards to the amount of CSR disclosed. Furthermore we would recommend that future research focuses upon multiple markets in a specific time period in order to gain additional information regarding the question of CSRs influence on the stock market and whether the relationship is positive, negative, or neutral.
Reference list


LBK nr 1253. 01/11/2013. Årsregnskabsloven
Appendix

Original sample population

Original sample population, in no particular order

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## Relationship between Beta, Standard deviation, and reported CSR

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