ERASMUS UNIVERSITEIT ROTTERDAM

Value Relevance of Corporate Social Responsibility Reports

The role of reporting frameworks and third-party assurance in CSR reports' value relevance

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Abstract

Purpose of this thesis is to find how shareholders use CSR reports in their investment decisions. Special emphasis is put on the reporting framework used and the third-party assurance that is provided for the CSR report. These two points have not been extensively investigated yet and contribute to the existing research on the value relevance of CSR reports. In this thesis, reports complying with the Global Reporting Initiative (GRI) are investigated. In line with prior research a model is built in which share price is regressed on accounting variables (earnings and book value) and three dummies for GRI reporting, including third-party assurance and a high quality level measure. This model is tested on a sample of listed European firms and different regression methods are used. Results of the regressions show that reports complying with (assured) GRI are not value relevant. However, assured GRI reports with an application level A are value relevant. A negative relation with share price is found, meaning that shareholders do not think CSR reporting adds financial value to a firm. There are different reasons for this negative reaction. One is that shareholders consider CSR activities a misallocation of resources, which reduces firm value on the long run. Another interesting conclusion of this thesis is that shareholders do not use the content of GRI reports for their investment, but they use the quality and reliability indicators of these reports to identify the best performing firms on CSR reporting.

Keywords: value relevance, Corporate Social Reporting, disclosure, Global Reporting Initiative, assurance, reporting standard

Content

1. Introduction

1.1 Background

The interest of businesses for Corporate Social Responsibility (CSR) reporting has boomed in the last decade. In 1999, only twelve firms were reporting on CSR following the Global Reporting Initiative (GRI) standards, while in 2012 this number has risen to more than 2000 (Global Reporting Initiative, 2012). Besides the GRI there are other standards for CSR reporting[1]. Aim of these standards is to create a framework in which firms can show their accountability for actions of the organization that affect their stakeholders (Gamerschlag et al., 2011). Firms can have multiple reasons to disclose CSR information and are influenced by different stakeholders[2]. Shareholders are generally seen as the most important stakeholders. The goal of this thesis is to find the relevance of CSR reports in investment decisions of shareholders. This research emphasis on the reporting framework used and the external assurance given.

1.2 Standards to report on CSR

Different standards are used as a framework for CSR reporting, although none of them is globally accepted. The following standards are examples of globally used standards for CSR reporting[3]: AccountAbility (AA) 1000, UN Global Impact and the GRI. This makes CSR reports created under these standards comparable, a criterion for the hypotheses that are tested in this thesis. The AA 1000 provides principles for firms' accountability of CSR issues to society. AA 1000 published a Principle Standard guiding firms how to report on CSR and an Assurance Standard giving guidelines for the assurance of CSR reports by third-parties (AccountAbility, 2012).

The UN Global Compact[4] asks companies to adapt their way of doing business to ten principles of CSR within the areas: human rights, anti-corruption, labour and environment. Companies are committed to issue an annual 'Communication On Progress' (COP) to their stakeholders. This COP is a CSR report in which companies report on their policies to apply with the ten principles. The UN Global Compact is a comprehensive framework for the issuing of a CSR report. However, neither the Global Compact organization nor any other independent party does review the reports.

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[1] Examples are: UN Global Compact and AccountAbility 1000.
[2] See paragraph 1.3.
[3] More examples will be provided in paragraph 3.2.
[4] Following information on the UN Global Compact is extracted from the website: (United Nations Global Compact, 2013).

The GRI[5] measures the CSR performance in three categories: Economic, Environmental and Social. GRI 3.1[6] provides a comprehensive framework for CSR reports. Companies can report with a different application level, so readers can assess the quality with the help of this level indicator. Exceptional about this framework is that companies can use external assurance for their CSR report. Third-party assurance gives more reliability to reports, which makes it possible for readers to distinguish between higher and lower quality CSR reports. This last reason and the large number of companies applying this framework are important in my choice for using this standard in the empirical part of this research.

1.3 Motives for companies to report on CSR

Corporate Social Responsibility (CSR) is 'the responsibility of enterprises for their impacts on society' (European Commission, 2011). Companies are reporting information about their CSR activities in separate CSR reports or integrated annual reports. Management can have different reasons to report on CSR. First, the company might be obligated by regulations to disclose CSR information. Although some countries have mandated reporting on certain parts of CSR (Ioannou & Serafeim, 2012), there is still no general mandatory framework for CSR reports. CSR reporting is mostly voluntary and companies can have different theoretical incentives to disclose.

The first incentives can be found in the Political Economy Theory; the political economy is the social, political and economic framework in which human life takes place (Gray et al., 1996). Three theories are derived from this theory and are discussed below: Legitimacy Theory, Institutional Theory and Stakeholder Theory. The Legitimacy Theory assumes that a firm has a 'social contract' with society, meaning that it needs to operate within the boundaries and norms of society (Deegan, 2002). Reporting on CSR activities is done to ensure that the company's activities are perceived by outside parties as 'legitimate' (Deegan, 2002). The institutional theory takes another perspective. The organization acts in an institutional environment in which it conforms to collective norms and beliefs under invisible pressures, in order to persist as an organization (Oliver, 1991). Hence, a firm does not take an economic self-interest perspective but looks at the organization as an institute that has to gain legitimacy. The final theory within Political Economy Theory is the Stakeholder Theory. A stakeholder is any group or individual who is (possibly) affected by the achievement of the firms' objectives (Freeman, 1984). Examples of stakeholders of a firm are: shareholders, customers, suppliers, regulators, public interest groups, et cetera. Stakeholder Theory can be partitioned in two

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[5] Following information on the GRI is extracted from the website: (Global Reporting Initiative, 2013).
[6] Latest version of the GRI is G4, more details can be found in paragraph 3.5.

branches: the ethical branch and the managerial branch (Deegan, 2009). The ethical branch argues that all stakeholders have to be treated fairly by the organization. It is the responsibility of the firm to report on CSR, because it is accountable for the actions that affect its stakeholders. The managerial branch does not consider all stakeholders equal. Stakeholders who have the most control over the organization's resources (e.g. creditors, shareholders) are the most important for the firm (Ullman, 1985). Management will try to satisfy the demands of the most important stakeholders. CSR disclosure is a strategy of the management to manage relationships with the most important stakeholders (shareholders, creditors and regulators) and to (re)gain their support and approval (Roberts, 1992). Nikolaeva and Bicho (2011) added an extra factor to the incentives for companies to disclose on CSR. They found that beside institutional, legitimacy and reputational factors, imitation plays an important role. Companies in industries with higher rates of GRI disclosers are more likely to introduce GRI reporting. Hence, companies assume that if other companies disclose on CSR within a certain standard, they should apply it because it can add value to the firm.

The following incentives for firms to disclose CSR information are based on the Positive Accounting Theory (PAT), because these theories do not describe how a firm 'should' act (normative), but they describe how their actions can be explained (Deegan, 2009). Aim of PAT is to predict and clarify applied accounting practices. A company is 'nexus of contracts' and managers act in their self-interest. This theory assumes that businesses are only concerned with CSR to the extent that it contributes to the long-term value for the shareholders of the firm (van Marrewijk , 2003). In the Political Cost hypothesis, managers are concerned with the political consequences of their actions, including prevention of higher taxes and other regulatory actions (Gamerschlag et al., 2011). By disclosing CSR information, firms want to reduce the likelihood of adverse societal actions resulting in costs. An example is that a company can try to counter potential higher taxes or regulations on pollution by reporting on all the environmental friendly initiatives it undertakes.

Disclosure of CSR information can have some economic consequences. CSR reporting is a major requirement to be marked as a 'Social Responsible Investment' (SRI). A SRI is an investment not only selected on traditional financial criteria, but also on key dimensions of the CSR performance of the firm (Starr, 2008). Compliance with SRI principles through CSR disclosure can give (easier) access to capital. CSR reporting might also improve the 'sustainable' reputation of the firm (Deegan, 2009). This better reputation can help to motivate employees and attract new ones. The last positive point of CSR disclosure is that it can help organizations to innovate on the sustainability of the firm and use that as competitive advantage.

This thesis aims to find the usefulness of CSR information for shareholders. Shareholders use all information that influences the value of the firm. The economic consequences of CSR reporting have a direct effect on the firm value. Political Costs avoidance also creates a measurable benefit to the firm. The Political Economy Theory arguments are more abstract and therefore harder to translate into value. This research uses Positive Accounting Theory as it can create a direct theoretical link between CSR reporting and its consequences to the value of the firm. The following paragraph will describe a method to measure the usefulness of CSR information for shareholders. Goal of this will be to find, of all reasons to report on CSR, which part is explained by the added value management wants to create for their shareholders.

1.4 Value relevance of information

One of the aims of financial reporting is: 'providing information that is useful for decision making by investors' (Deegan, 2009). The goal of this thesis is to find the usefulness of CSR information for investment decisions. The decision-usefulness of both financial and non-financial information can be measured with the so-called value relevance of information (Deegan, 2009). The value relevance stream in accounting research is part of the market-based accounting research[7] (Deegan, 2009). It is part of the Positive Accounting theory, because it assumes that managers report on CSR to satisfy the information needs of investors. Value relevance research can be partitioned into three groups: 'marginal information content studies' (event studies) 'relative association studies' and 'incremental association studies' (Holthausen & Watts, 2001). All groups use regression models in which the dependent variables are stock market metrics and independent variables are accounting metrics (e.g. earnings, book value). Event studies test *' whether an event, such as an earnings announcement, conveys new information to market participants as reflected in changes in the level or variability of security prices or trading volume over a short time period around the event'* (Kothari, 2001, p.12). The relative association studies measure the strength of the relation between accounting numbers and share returns/prices over a longer period. In this field the Ohlson model (Ohlson, 1995) is often used. This model relates earnings and book values to share price. It is especially used to evaluate differences in measures of bottom line accounting numbers under different standards (Holthausen & Watts, 2001). To find the most value relevant accounting number, the explanatory powers (R^2) of the regressions are compared. Incremental association studies test whether a specific accounting number or information variable is relevant for explaining value or returns given other specified variables (Holthausen & Watts, 2001). That accounting number or

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[7] Another term used for this branch of research is the 'capital-markets research' (Kothari, 2001).

information variable is value relevant if the earnings respond coefficient is significantly different from zero (Holthausen & Watts, 2001). The last group of research is attainable for the tests in this thesis, because the goal is to find the value relevance of (the specific information variable) CSR information.

1.5 Value relevance of CSR information

Studies in this area try to relate CSR disclosure to financial performance. This financial performance is usually measured as the change in market value of equity. It can also be used to measure the influence of CSR information on shareholders' decisions, as they decide to invest more or less in a company. The Ohlson model (Ohlson, 1995), as described above, can help to explain the value relevance of other information besides earnings and book value. By adding extra variables, the information content for shareholders of those variables can be calculated. Previous research[8] showed that this method is useful to determine the value relevance of CSR information. Besides that, this model can also measure the impact of CSR reports on the value relevance of earnings and book value (Cardamone et al., 2012).

1.6 Research question

This thesis looks at the relevance of CSR reports from the perspective of the shareholder. Although other stakeholders play a role in the development of a CSR reporting strategy, this is outside the scope of this research. The general question that this thesis tries to answer is: '*Are Corporate Social Responsibility reports relevant for the decision-making of shareholders?'* However, this research emphasis on two variables that influence the relevance of CSR reports: whether a reporting framework is used and whether third-party assurance is given. Moreover, this study uses the value relevance to measure the relevance for decision-making of shareholders, as it is a common method to do so. This is why the following research question is developed:

What is the value relevance of CSR reports, using specific reporting standards and third-party assurance?

The following sub questions are developed to support the answering of the research question:

- *What are the motives for managers to disclose CSR information?*
- *What are the frameworks used for CSR reports?*

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[8] Moneva and Cuellar (2009), Schadewitz and Niskala (2010) and Cardamone et al. (2012) all use this model to find the relevance of CSR information for shareholders' decisions.

- *How do shareholders use CSR reports and how do you measure the relevance of these reports for investment decisions?*

- *What is the outcome of prior research on the value relevance of CSR reports?*

1.7 Relevance and contribution to prior research

Prior research investigated the value relevance of CSR information. This thesis tries to emphasis more on the role of the use of a framework for CSR reporting, this has not been the focus of prior research in this area. Besides the scientific contribution, results can be used as arguments in the debate about the development of a general framework for CSR reports. If the use of a framework turns out to create value relevance for shareholders, it will help the proponents. It can also answer the question if the use of a framework is perceived as a sign of quality of the CSR reports.

 The role of the accountant in CSR reporting is another point of discussion. The debate is about whether and to what extent auditors should give assurance on CSR reports. This study helps in this debate by testing if shareholders think third-party assurance is an important determinant of reliable CSR reporting. The adding of a variable of third-party assurance in this area of research is also new. Further, this research adds to the general debate on CSR reporting, by giving the argument of the relevance for shareholders.

Other contributions to prior literature lay in the methodology of the research. The sample of European listed firms from different sectors is different from earlier studies. Prior research often took just one country[9], this makes the results vulnerable for effects of local reporting culture, political pressure, regulations etcetera. Other studies took a broader European sample, but with only one sector[10]. Sector specific characteristics can cause problems here.

1.8 Scope and methodology of the research

Goal of this study is to find the decision-usefulness for shareholders of high quality CSR reports. This is done by looking at the relationship between companies providing third-party assured GRI reports and the market-value of companies. A common used model to measure decision-usefulness is the Ohlson model (Ohlson, 1995). This is will be used[11] in combination with a dummy for 'high-quality' CSR reports. Because most companies report to some extent about CSR, a distinction has to be made to find the 'best' reporters. GRI reports are investigated here, because the organization of this

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[9] For instance: Schadewitz & Niskala (2010).
[10] For instance: Carnevale et al. (2012).
[11] Reasons for this choice are explained in the research design.

framework provides extensive information about the companies reporting and the quality of CSR reporting. GRI reports are comparable and companies have the possibility to assure these reports by independent third parties, this creates extra validity. The combination of these two points creates a strong dummy for a 'high-quality' CSR report.
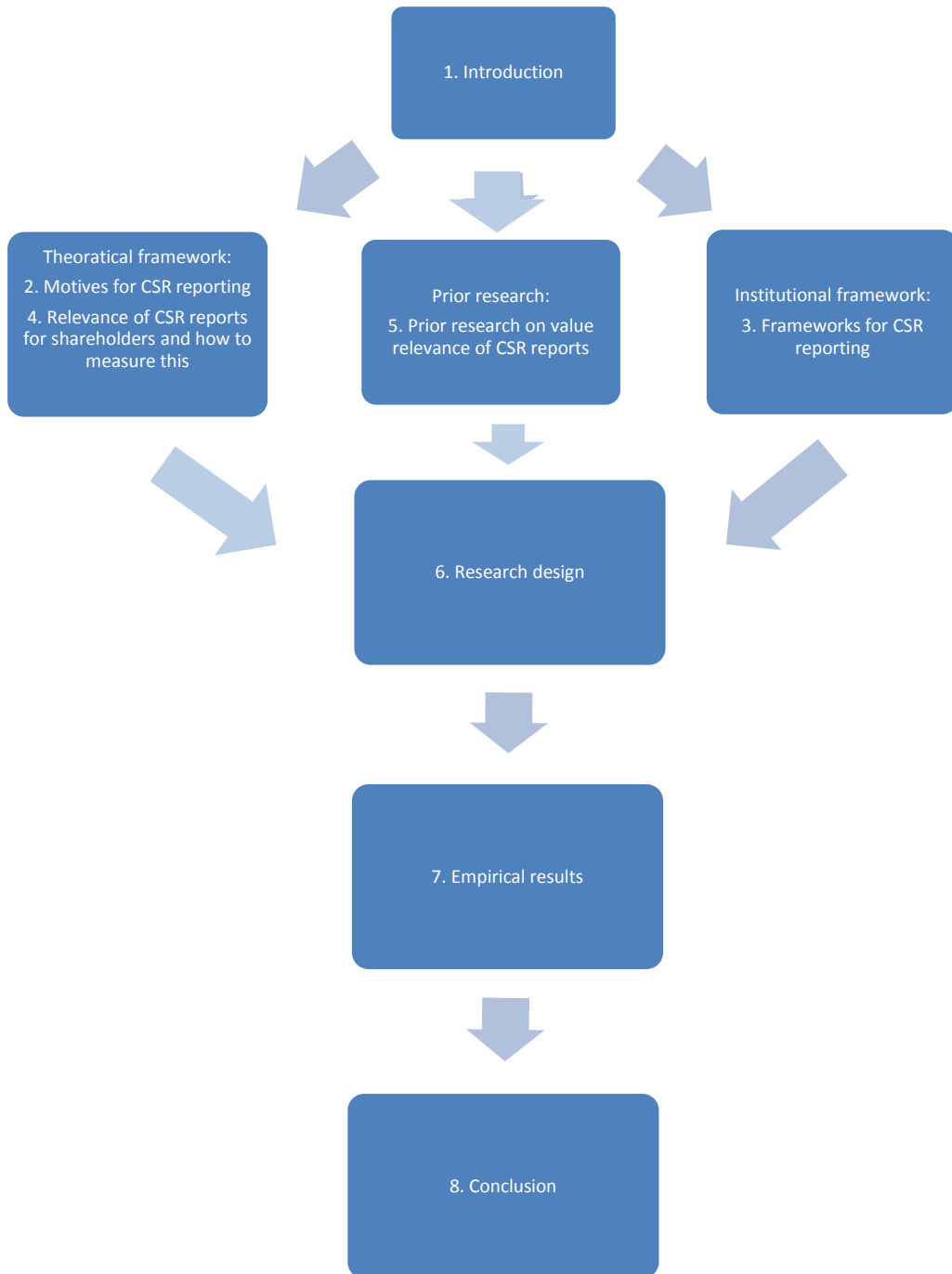
This research approach has not been applied yet on a sample of large European firms, for that reason I selected a European sample of listed firms. This sample is comparable, because all companies have to report under IFRS and comply with the reporting rules on CSR of the European Commission[12]. Advantage of this method is that the results are not biased by local influences as described above.

1.9 Structure

Before the research question will be answered in the statistical analyses, a literature review will be given. Several sub questions, derived from the research question, are answered. The literature review gives the institutional setting, the theoretical framework and a critical review of prior research. The sub questions will be answered in the following chapters:

Chapter two elaborates on both mandatory and voluntary CSR disclosures. First, current regulations on CSR reports are summarized. After that, motives for voluntary CSR disclosure derived from theoretical theories and the direct economic effects of this disclosure are elaborated. Section three classifies CSR reporting standards and describes how the Global Reporting Initiative, UN Global Compact and AA 1000 work. Besides, the guidelines for third-party assurance of these frameworks are discussed. Finally, there is an outline of the pros and cons of each of the frameworks. Chapter four investigates the reasons why shareholders appreciate CSR reports. Besides, it describes the concept of value relevance. Section five critically looks at prior research on the value relevance of CSR reports. This helps to find the right method to use in the empirical part of this thesis. Chapter six will give the research design. With the help of the answers on the sub questions the model for the research is developed. This section explains the different variables, the sample set and the datasets that are used in the statistical analyses. Hypotheses and a further description of the empirical analyses are also given. Chapter seven describes the empirical research and answers the hypotheses. The last chapter gives a general conclusion by answering the research question. Finally, the limitations and suggestions for further research are given.

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[12] European Commission (2011).

1. Introduction

Theoratical framework:

2. Motives for CSR reporting

4. Relevance of CSR reports for shareholders and how to measure this

Prior research:

5. Prior research on value relevance of CSR reports

Institutional framework:

3. Frameworks for CSR reporting

6. Research design

7. Empirical results

8. Conclusion

2. Motives for CSR reporting

2.1 Introduction

In this chapter, the motives for managers to disclose CSR information are discussed. In the first paragraph regulations on CSR reports are summarized, this shows motives based on mandatory disclosure. The other paragraphs describe all motives for managers to report voluntary. Oliver (1991) makes a distinction between an institutional[13] and a resource dependence perspective. The institutional perspective looks at responses of the management to institutional pressures. Further, it assumes that managers have no choice in their behaviour. They have to adhere to the rules, because the organization needs to conform to social norms and beliefs. On the other hand, the resource dependence perspective takes only self-interest motives of the management into account. Managers make active choices in order to mobilize more resources for the organization. Compliance to social norms and beliefs is not the goal of management's behaviour. The institutional perspective is further discussed in paragraph three and the resource dependence perspective is elaborated in paragraph four.

2.2 Mandatory disclosure

Regulations mandating disclosure on CSR are an apparent motive for managers to report this information. This paragraph will discuss current national and international regulations and guidelines.

In European countries most local guidelines on CSR reporting are voluntary prescriptions in the form of 'Codes of Conduct' or 'Reporting Guidelines' (Ioannou & Serafeim, 2012). An example of a country that made CSR disclosure mandatory is Denmark. In 2008 the Danish parliament agreed on the "Bill to amend the Danish Financial Statements Act (Accounting for CSR in large businesses)" (Danish Commerce and Companies Agency, 2013). This law requires every large company in Denmark to either disclose their CSR policies (how they implement them and what they have achieved), or to explicitly disclose that they do not have a CSR policy (Danish Commerce and Companies Agency, 2013). This law also requires auditors to give their opinions on the CSR report.

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[13] Not to be confused with the 'institutional theory' that will be discussed later in this chapter. The 'institutional theory' is a theory that uses the 'institutional perspective'.

On the European level, companies are still free to choose whether they report on CSR or not (European Commission, 2011). However, in April 2013 the European Commission came with a proposal for a 'directive on disclosure of non-financial and diversity information by EU companies' (European Commission, 2013). This directive requires large companies[14] to report on all aspects of CSR or explain why they do not have policies on a certain aspect. Companies are allowed to use either national, EU based or international[15] frameworks for their CSR disclosure (European Commission, 2013). This law proposal does not prescribe how companies should disclose, but they have to disclose on CSR using one of the frameworks mentioned above.

2.3 Institutional perspective

The political economy theory takes the institutional perspective and is a so-called open-system theory. This group of theories does not take the perspective that organizations have technological or material incentives. However, cultural norms, symbols, beliefs and rituals influence their behaviour (Suchman, 1995). The legitimacy, stakeholder and institutional theory are all derived from the political economy theory and they overlap on certain points, as will be explained below. These theories will be discussed in the next sub paragraphs.

2.3.1 Legitimacy theory

Legitimacy theory assumes that organizations continually seek to ensure that they are perceived legitimate, in other words that they operate within the bounds and norms of society (Deegan, 2009). Another definition of legitimacy is '*a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within societal constructed system of norms, values, beliefs, and definitions*' (Suchman, 1995). The term used in this branch of research[16] for the relation between an organization and society (a collection of individuals) is the 'social contract'. Voluntary CSR disclosure is a communication mechanism, by which firms try to persuade society that it is complying with its 'social contract' (Mobus, 2005). This means that if the expectations of society change, the organization has to adapt and change as well. An interesting point here is that firms act differently, dependent on whether they have to gain, maintain or repair legitimacy (Suchman, 1995). When a company breaches its social contract, a legitimacy gap arises. Society might take adverse actions against the organization. Companies disclose on CSR to close the legitimacy gap. With this tool, they can either: inform the public about its actual CSR policies, change the perception on the

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[14] Companies with at least 500 employees.
[15] Including UN Global Compact, GRI and ISO 26000.
[16] For instance: Deegan(2002), Mobus (2005) and Gray et al. (1996).

organization, manipulate the perception by deflecting the attention to other related issues (mostly by the use of emotive symbols) or change the expectations of society (O'Donovan, 2002).

2.3.2 Institutional theory

Under the institutional theory, organizations will adapt their structure and operations to conform to external expectations about what forms and structures are acceptable (Deegan, 2002). If the majority of firms in the industry adopt a certain reporting strategy, the organization faces 'institutional pressure' to adopt the same strategy (Nikolaeva & Bicho, 2011). In this part, there is some overlap with legitimacy theory as the organization is seeking for legitimacy. Two main elements of the institutional theory are 'isomorphism' and 'decoupling' (Dillard et al., 2004). The concept of isomorphism is extensively described in the paper of DiMaggio and Powell (1983). They define it as the process that forces one unit in the population to resemble other units in the same group. For CSR reporting, this means that one organizations decision to report on certain CSR issues with a certain method is dependent on the reporting strategy of other organizations in the industry. DiMaggio and Powell (1983) divide this concept into three groups: coercive, mimetic and normative isomorphism. With coercive isomorphism, CSR disclosure is influenced by stakeholder pressure. The organization will resemble to the organization it is dependent on for its resources. With mimetic isomorphism, the organization copies disclosure strategies of other organizations in the industry, in order to gain a competitive advantage in terms of legitimacy. Normative isomorphism is the process in which the organization adapts its disclosure strategy, because of pressure from group norms in the industry. The other element of the institutional theory is decoupling. Decoupling refers to the situation when the actual organizational practices differ from formal (institutionalized) practices (Dillard et al., 2004). CSR disclosures are used to improve the image of the company, without improving the CSR performance. Institutional theory explains that the organization faces pressure from several directions, which influences the CSR disclosure strategy of the firm.

2.3.3 Stakeholder theory

A stakeholder is any group or individual who can affect, or is affected by the achievement of the firms' objectives (Freeman, 1984)[17]. Stakeholder theory motivates CSR disclosure as a method used by an organization to be accountable to its stakeholders. Accountability is the duty to provide an account for those actions for which the organization is responsible (Cooper & Owen, 2007). This theory can be divided into two branches: the ethical branch and the managerial branch (Deegan, 2002). The ethical branch takes a normative perspective arguing that all stakeholders should be treated equally. For CSR disclosure, this means that the goal is to provide all stakeholders with for

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[17] However, there are different definitions of a stakeholder (Mainardes et al., 2011).

them relevant information, because they have the right to receive this information. Whether this leads to improved financial performance is irrelevant for the decision to report or not. In the managerial branch, management takes the power of the stakeholder into account. The more important the stakeholder is in providing resources to the organization, the more the relation with this stakeholder will be managed by the management (Deegan, 2002). Goal of CSR disclosure is to gain support of stakeholders and manage conflicts of interest between stakeholders (Mainardes et al., 2011). Overlap between these three theories can be found in the goal of managers' behaviour, which is to gain legitimacy for the organization. Nevertheless, they all take a slightly different perspective, which helps to understand the motives behind reporting on CSR.

2.4 Resource dependence perspective

The Positive Accounting Theory (PAT), as described briefly in the introduction, fits into the resource dependence perspective as it takes the perspective that every decision of management is influenced by (material) self-interest of managers (Suchman, 1995). The direct economic consequences of CSR disclosure can also explain disclosure behaviour. This also fits into the resource dependence perspective, where goal of the management is to mobilize more resources for the organization.

2.4.1 Positive Accounting Theory

In this paragraph the classical PAT perspective is taken, this theory was developed by Watts and Zimmerman (1978). They see a company as a 'nexus of contracts', where all parties act in their self-interest (maximize wealth-creation). Shareholders and management of a firm have a principal-agent relation and accounting is used to align the interests of both groups. In PAT three hypotheses are used: the bonus plan hypothesis, the debt contracting hypothesis and the political cost hypothesis (Deegan, 2009). Hereafter, these hypotheses are described and used to explain management's CSR disclosure behaviour. The bonus plan hypothesis states that managers who have bonus plans are more likely to adopt accounting methods that increase current income, because their income is dependent on the profit of the firm. Although some researcher tried to make a link between CSR disclosure and the bonus plan hypothesis, I think the proof for a causal relation is weak[18]. One of the assumptions of the debt contracting hypothesis is that managers of firms with a high debt/equity ratio are more likely to take steps to comply with debt covenants (Deegan, 2009). CSR disclosure could be one of the criteria in the debt covenant. Especially when a company gets its capital from

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[18] Setyorini and Ishak (2012) argue that CSR disclosure leads to better firm performance and therefore to higher rewards for management. However, they do not give evidence for the positive relation between CSR disclosure and better firm performance. If there is a relation like that, it would be an effect for the long term, not a direct effect in that year. So managers have no incentive to use this tool for earnings management.

social responsible investment funds, management has to disclose CSR information to comply with the covenants. The political cost hypothesis states that large firms with (too) high profits might attract the attention of interest groups and the government (Setyorini & Ishak, 2012). They criticize the CSR policy of the firm, because there is not enough commitment to environmental and societal issues. These groups might take adverse actions towards the firm, leading to higher costs. Management wants to avoid these costs and one of the methods for that is the disclosure of CSR information to create goodwill. Empirical evidence was found for the relation between political cost (size of the firm is used a proxy for higher political costs as they are more visible to the public) and CSR disclosure (Cormier & Magnan, 2003). Overall, the hypotheses from PAT give several incentives for managers to disclose CSR information.

2.4.2 Economic consequences

This paragraph describes the economic consequences of CSR disclosures, which will give more insight in the motives for managers to disclose. CSR disclosure can help to attract 'ethical' or 'social responsible' investment funds (Deegan, 2002). Social responsible investments funds base their investment decisions on both financial and CSR performance (Starr, 2008). CSR disclosure is one of the requirements for a social responsible investment under the UN supported Principles for Responsible Investment (PRI) (PRI Association (1), 2013). Social responsible investments can be of great importance for companies, only the PRI complying funds manage a total amount of 34 trillion US dollar (PRI Association (2), 2013).

By disclosing on CSR, a company can show commitment to these issues. This has a positive effect on the reputation of the firm (Nikolaeva & Bicho, 2011). Improved reputation in this area can have further consequences. Recruitment of new employees might be easier, as well as retention of current employees (Turban & Greening, 1997). It might also motivate the staff to work harder for a 'responsible' firm (Moskowitz, 1972). Consumers might buy more products of a firm with a good CSR reputation (Cooper & Owen, 2007). These points show that a better CSR reputation can create a competitive advantage for the company.

Another economic consequence of CSR disclosure is its effect on the risk profile of the firm. A firm can disclose openly about the environmental risks to society and about the risks for its employees in their work. In case accidents happen in the future, this might lead to lower claims to the firm, then when no awareness to these risks was shown.

A direct economic effect of CSR disclosure can be found in the cost of capital of a company. By providing more information to investors, cost of capital can be lowered, which will benefit the firm.

Dhaliwal et al., (2011) investaged this relation, they tested and confirmed two hypotheses. First, companies with a high cost of capital were more likely to start disclosing on CSR. The other hypothesis tested found that companies disclosing on CSR had a significant lower cost of capital. Hence, a firm can benefit directly from the disclosure of CSR.

2.5 Conclusion

Most of the CSR reports are voluntary disclosed by companies, because there is still limited regulation that mandates this disclosure. However, in countries like Denmark and on the European level there is a trend towards more mandated CSR disclosure. Voluntary disclosure can be explained by motives from either an 'institutional' or a 'resource dependence' perspective. From the 'institutional' perspective, management of a firm is motivated by more than just self-interest, they consider broader social pressures in their decisions. In the political economy theory, managers are reporting on CSR to gain legitimacy or to answer to institutional or stakeholder forces. Positive Accounting Theory explains CSR disclosure by self-interest motives of managers. They are motivated to limit political costs arising from not showing CSR commitment or they try to comply with debt covenants or 'social' investor requirements. The economic consequences of CSR disclosure are easier access to social responsible investment funds, a better reputation and lower financial risks in case of accidents. Finally, the cost of capital can be decreased by disclosing CSR.

3. Frameworks for CSR reporting

3.1 Introduction

This chapter gives a review on a selection of currently used frameworks for CSR reporting. Paragraph two gives a classification of different frameworks. Further, the choice to discuss certain frameworks more extensively is explained here. Paragraph three describes the UN Global Compact, paragraph four the AA 1000 and paragraph five the Global Reporting Initiative. Paragraph six shows an assessment of the reviewed standards to find the standards most applicable for this research.

3.2 Classification of frameworks

Several global initiatives to measure CSR practices of companies are available at this moment. These initiatives can be classified into four groups[19]:

- Rating indices based on socially responsible investment criteria.
  Examples are[20]: FTSE4Good, Dow Jones Sustainability Index and The Global 100 Most Sustainable Corporations.
- Membership in CSR communities/ Aspirational principles and codes of practices.
  Examples are: UN Global Compact, OECD guidelines for multinational enterprises and the World Business Council for Sustainable Development.
- Certification schemes.
  Example is: ISO 26000.
- Sustainable reporting practices/ Accountability and reporting frameworks.
  Examples are: Global Reporting Initiative, AccountAbility 1000, and KPMG Sustainability Reporting Survey.

Another categorization can be made based on the following dimensions: result-oriented versus process-oriented initiatives (Gjølberg, 2009). The rating indices are examples of result-oriented initiatives, because they measure CSR achievements. Process-oriented initiatives focus on participation, continuous improvement and learning processes (Gjølberg, 2009). The other three

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[19] Classification is based on those of the papers of Perrini (2005) and Gjølberg (2009), who both use almost the same categorization only with slightly different terminology.
[20] In these and the following examples, only initiatives that take all aspects of CSR into account (e.g., initiatives that only look at environmental issues are excluded) and are globally used are listed. Note that this is a limited selection of frameworks, based on which ones are the most referred to in the literature.

groups are based on this[21]. A further classification focuses on the barriers to entry the initiative: hard versus soft requirements (Gjølberg, 2009). It is harder to be listed in a rating index, like the FTSE4Good, than to apply for a reporting framework, like the GRI. The latter does not aim to find the best performing company, but it tries to promote a certain comparable standard and motivate companies to apply CSR practices (Gjølberg, 2009). This paper focuses on CSR reporting and the influence of the framework applied and the possible assurance given. Therefore, the rating indices are not further discussed, as they assess the relative performance and not how a firm reports. The initiatives useful for this research should prescribe how a company reports on CSR. This makes CSR reports of companies in a sample comparable. Moreover, it is a tool used by assurance providers to assess the quality of the report. The following frameworks meet these requirements and will be elaborated in the next paragraphs: AccountAbility 1000, UN Global Compact and Global Reporting Initiative[22].

3.3 United Nations Global Compact

Companies complying with the UN Global Compact are committed to implement, disclose and promote ten universal principles (UN Global Compact, 2012). These principles are categorized in human rights[23], anti-corruption[24], labour[25] and environment[26]. Part of the requirements of the Global Compact is the annual issuing of a 'Communication On Progress' (COP) (UN Global Compact, 2012). This is useful for this research, because it is a framework for CSR reports. The COP is a public communication tool to inform the stakeholders about the progress in implementing the ten principles. A COP requires a statement of the CEO showing his/her commitment, a description of the actual actions on CSR and a measurement of the outcomes of the CSR policies (UN Global Compact, 2012). This framework provides a practical tool for issuing comprehensive and comparable CSR reports. The UN Global Compact encourages companies to review their own COP. The organization

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[21] Exception is the KPMG Sustainability Reporting Survey (Gjølberg, 2009).

[22] The ISO 26000 is excluded, although it is a guidance-giving standard for companies who apply social responsible practices, it is explicitly not intended for audit or certification purposes, or regulatory or contractual use (Gürtler & Graziani, 2010).

[23] Businesses should support and respect the protection of internationally proclaimed human rights and make sure that they are not complicit in human rights abuses (UN Global Compact, 2012).

[24] Businesses should uphold the freedom of association and the right to collective bargaining; the elimination compulsory and child labour and the elimination of discrimination in respect of employment and occupation (UN Global Compact, 2012).

[25] Businesses should support a precautionary approach to environmental challenges; undertake initiatives to promote greater environmental responsibility; and encourage the development and diffusion of environmentally friendly technologies (UN Global Compact, 2012).

[26] Businesses should work against corruption in all its forms, including extortion and bribery (UN Global Compact, 2012).

does not review the reports, nor does it give guidance to assurance providers on how to assess the quality of the COP.

3.4 AccountAbility1000

AccountAbility did not only issue a Principle Standard in 2008, but also an Assurance Standard. First, the Principle Standard will be discussed. Aim of the AA1000 Principle Standards is '*to provide organizations with an internationally accepted, freely available set of principles to frame and structure the way in which they understand, govern, administer, implement, evaluate and communicate their accountability*' (AccountAbility (Principles), 2008, p.8). The standard is based on the principles of inclusivity, materiality and responsiveness (AccountAbility (Principles), 2008). Inclusivity requires the involvement of stakeholders in developing and achieving an accountable and strategic response to sustainability (AccountAbility (Principles), 2008). Hence, a firm should collaborate with its stakeholders to achieve better outcomes for its sustainability strategy. The second principle is materiality. In the context of CSR, this means that the company has to evaluate which sustainability issues are relevant for both the organization and its stakeholders. The last principle is responsiveness, this is how an organization shows its respond towards its stakeholders. A CSR report can be used to show stakeholders what sustainable actions the company has undertaken. With the help of this framework, companies can create comprehensive reports on CSR. The principles used in this framework are compatible with principles of other globally used frameworks, like UN Global Compact, ISO 26000 and the GRI (AccountAbility, 2012).

Besides a comprehensive reporting framework, the AA1000 gives guidelines for the assurance of these reports in the Assurance Standard (AccountAbility (Assurance), 2008). The Assurance Standard evaluates how the organization accounts for its management, performance and reporting on CSR issues by checking the adherence of the organizations to the AA1000 Principle Standard (AccountAbility (Assurance), 2008). This is a method to assess the quality of CSR reports. It offers a wide range of verification and certification schemes to check CSR specific issues, like greenhouse gas emissions (AccountAbility (Assurance), 2008). External assurance through an audit of information is a way to improve the creditability of CSR reports and the AA1000 Assurance Standard is a widely accepted standard for that (Moneva et al., 2006)[27].

The AA1000 Assurance Standard differentiates two types of assurance engagement. With both types, the assurance provider evaluates the nature and extent of the organization's adherence to

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[27] Based on the previous version of the AA1000 Assurance Standard, published in 2003.

the three principles, as elaborated above (AccountAbility (Assurance), 2008). Type 1 is used to give assurance on the organization's management and communication of CSR performance, without verifying the reliability of the CSR performance information in the report (AccountAbility (Assurance), 2008). With type 2 the assurance provider evaluates the reliability of sustainability performance, by reviewing the completeness and accuracy of the information provided (AccountAbility (Assurance), 2008). Engagement type 2 has a broader scope and provides a reflection of all information disclosed in the CSR report.

In the assurance engagement, the assurance provider can give different levels of assurance on different subjects. AccountAbility divides this into two levels of assurance: high and moderate (AccountAbility (Assurance), 2008). Aim of high-level assurance is to provide users of the CSR report a high level of confidence in the disclosures. While the only aim of moderate level assurance is enhancing the confidence (AccountAbility (Assurance), 2008). High assurance obtains enough information to reduce the risk of a false statement to very low but not zero. Moderate assurance reduces that risk, but not to that low level (AccountAbility (Assurance), 2008). With moderate assurance, the assurance provider gathers evidence from the management level of the firm and the focus is on the plausibility of the information. With high assurance, evidence is also gathered from lower levels in the firm and from stakeholders. Here, the focus is on the reliability of the provided CSR information (AccountAbility (Assurance), 2008). High assurance gives more reliability to the information; however it might not always be possible to provide this level of assurance on each subject.

Further, the Assurance Standard offers guidelines for all aspects of an assurance engagement. It subscribes the independence, impartiality, competence and due care of the assurance provider. Besides, it also prescribes the scope, content and responsibilities of the engagement (AccountAbility (Assurance), 2008). Concluding, the AA 1000 is a comprehensive framework for creating CSR reports and it can be used for assurance of those reports.

3.5 Global Reporting Initiative

The latest version of the Global Reporting Initiative is version 4 (Global Reporting Initiative, 2013). Since this version was released this year, it has not been applied by any company yet. This is the reason version 3.1 will be discussed in this paragraph. The new features of GRI 4 will be elaborated briefly at the end of this section.

Currently, GRI 3.1 is the most widely used voluntary sustainability reporting framework (Nikolaeva & Bicho, 2011). Purpose of this standard is to provide a comprehensive framework, which can be used

by organizations all over the world to report on CSR issues (Reynolds & Yuthas, 2008). The GRI has been developed through dialogue between all stakeholders in society (Bouten et al., 2011). Aim of this dialogue is to improve the strictness, comparability, auditability and general recognition of the framework (Willis, 2003). The GRI defines reporting content with the following principles: materiality, stakeholder inclusiveness, sustainability context and completeness (Global Reporting Initiative, 2013). The materiality concept used is comparable with the one used in AA1000 framework and stakeholder inclusiveness is comparable with the responsiveness concept of that same framework. For that reason, these concepts will not be discussed again here. Sustainability context means that the company should not only report on the sustainability actions of the organization, but also place these actions in a broader local or global context (Global Reporting Initiative, 2013). For example, a company that reports on its paid employee wages should place this in the context of the income level of the country it is active in. The last principle is completeness, this principle is met when the report is complete in terms of scope, boundary and time (Global Reporting Initiative, 2013). Scope means that all aspects of CSR should be covered. Based on the triple bottom line these are: economic, environmental and social aspects. Boundary explains that companies should not only look at their own organization, but also at other organizations in the production chain where they have influence on. An example could be Nike. It buys shoes from producers in third world countries, so it can use its influence to change CSR issues like child labour. The term 'time' is used to explain that companies should disclose on future (social/environmental) impact of today's actions. Without this, the firm does not show the complete picture of their sustainability performance. GRI distinguishes between three types of disclosure (Bouten et al., 2011). The first are strategy and profile disclosures, in these disclosures the firm describes its strategy, governance and profile. Management approach disclosures show how the organization addresses the different aspects of CSR. The last type of disclosure are the performance indicators, these provide stakeholders with comparable information on actual CSR performance.

Aim of the GRI project is to improve the quality and comparability of CSR reports. It created two tools for that: application levels and (external) assurance. The application level of the report shows the extent of appliance with the GRI framework of the CSR report (Global Reporting Initiative, 2013). It ranges from C to A. The report maker, usually the firm itself, declares this level. An independent third party or the organization of the GRI can check the application level declaration. Stakeholders can use the application level and the information whether or not this level is checked to assess the quality of the CSR report. The other tool is external assurance. Firms will receive a '+' next to their application level when an independent third party assures their report (Global Reporting Initiative, 2013). GRI has some requirements for external assurance (Global Reporting Initiative, 2013).

Assurance should be conducted with systematic, documented and evidence-based procedures. External assurance providers should be independent from the organization and competent in this practice. They should test whether the report gives a fair presentation of the CSR performance and is presented in line with the GRI framework. At last, they should show their opinions and conclusions in a publicly available assurance statement. Aim of this assurance is to improve the reliability of information provided in the CSR report. Stakeholders might rely more on assured CSR reports than uninsured ones, because there is an independent party assuring the quality of content of the reports.

This year GRI 4 is released, although there were no radical changes in comparing with GRI 3.1, some modification are worth mentioning[28]. GRI 4 updates the materiality concept, giving more defined boundaries of materiality of certain CSR issues. Further, this framework provides references to other CSR reporting frameworks, like the UN Global Compact and OECD guidelines for multinational enterprises. This helps to compare CSR reports under different standards. Finally, GRI tried to make guidelines that are applicable independent from the form of reporting. It should not matter if an integrated report or a separate CSR report is presented.

3.6 Assessment of reviewed standards

When you compare the GRI standard with the AA 1000, there are some similarities. Both frameworks provide a comprehensive framework for disclosure of CSR information and give guidelines for assurance of CSR reports. They differ in the aspect of transparency. The GRI publicizes all reports based on the GRI framework and gives additional information about the application level and the external assurance of those reports. This makes GRI reports comparable in terms of quality and reliability. The UN Global Compact is a useful comprehensive framework for CSR reports, however it does not give any guidance on external assurance. Overall, the advantage of the transparency of GRI reporters is a crucial point in the choice for the use of this framework in the sample of the empirical part of this thesis. It can give the most detailed information about reliability and quality of CSR reports from the viewpoint of the shareholder.

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[28] All modifications of the GRI in version 4 can be found on GRI's website (GRI 4, 2013).

3.7 Conclusion

CSR reporting frameworks can be divided into: reporting indices, principles and codes of conducts, certification schemes and accountability and reporting frameworks. Another distinction can be made on process- and result-oriented initiatives. As this research focuses on the reporting framework used and the assurance given for CSR reports, a small selection of frameworks was made. UN Global Compact, AA 1000 and GRI all provide a comprehensive framework for the creation of CSR reports. AA 1000 and GRI give additional guidelines for the assurance of those reports. The GRI's transparency on the application levels and assurance was the decisive point for selecting this framework for the empirical tests in this research.

4. Relevance of CSR reports for shareholders and how to measure this.

4.1 Introduction

This chapter describes how shareholders use CSR reports and how the relevance for investment decisions of these reports can be measured. First, section two explains the concept of 'social preferences' of shareholders for CSR reporting. Further, this paragraph investigates the financial effects of CSR reporting, which plays a role in investment decisions. After that the measurement of relevance of information for shareholders is elaborated. In paragraph three, capital market research and more specific value relevance research is described. An oversight of the assumptions, as well as a classification of different types of value relevance theory is given. Paragraph four shows the different measurement methods of value relevance. Finally, paragraph five describes the applicability of value relevance research to voluntary disclosure (including CSR reporting).

4.2 Shareholder's use of CSR reports

Before discussing how to measure the value relevance of CSR reporting, the potential preferences of shareholders for CSR information should be discussed. Shareholder can look at the financial effects of CSR reporting or they can use the information in the CSR report for their 'social responsible' investment decisions. The social preferences are discussed in the first subparagraph and the financial motives are mentioned in the second subparagraph.

4.2.1 Social preferences

Shareholders can appreciate CSR reports of companies for more than financial motives. One of the motivations for managers to report on CSR is to attract 'social responsible' investment funds (Deegan, 2002). Hence, this group of social responsible investors (SRI) bases its decisions on more than only financial consequences. For SRI financial returns are less important[29] and social and environmental impacts are more important[30] than for other investors in making investment decisions. Starr (2008) explains the behaviour of this type of investors. People have social preferences: they are concerned about the implications of their actions towards others. One of the basic social preferences of people is the 'inequity aversion': they seek to limit the inequalities within the group, even at cost of themselves. SRI are motivated to reduce the distance between 'life as it is'

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[29] Financial returns are the most important in investment decisions for 85% of the SRI against 92% of other investors (Starr, 2008).
[30] Most important in investment decisions is the ensuring that the investment reflects their personal values about social and environmental impact for 83% of the SRI versus 67% of the other investors (Starr, 2008).

and 'life as it should be'. Another explanation is that they act out of 'reciprocal fairness', they prefer actions that are fair above actions that seem selfish. Hence, they are more positive towards companies who operate fair to other stakeholders (e.g. the blue-collar workers). CSR reports are useful for shareholders, because they can base their 'ethical' investment decision on this information. With the help of CSR reports they can select an investment portfolio of firms that act in line with the social preferences of the investors.

4.2.2 Financial effects

Besides social preferences, shareholders can also appreciate CSR reports for the financial effects they have. Managers and shareholders of a firm have similar reasons to appreciate CSR reporting. Managers seek to create more firm value and higher future profits with CSR reporting. For shareholders, this leads to higher share prices and/or dividends. CSR reports help to develop legitimacy, satisfy stakeholders and prevent future political costs for the organization. Better reputation created by CSR reports is an advantage in attracting employees and customers. All these factors can increase the profitability and value of the firm, so the issuing of a CSR report can be informative for investors. These were positive financial effects of CSR reporting, however effects can also be negative. Still, this information could be useful for shareholders, because it influences the decision to invest in a firm. Negative effects on the share price can be explained by the following arguments. CSR reporting is an activity not closely related with the core business of the organization and is seen by shareholders as diverting resources from more lucrative purposes (Cardamone et al., 2012). Another argument is that shareholders perceive the content in CSR reports as harmful for the organization, because it reveals competition-sensitive information (Cardamone et al., 2012). The financial effects explain a part of the informativeness of CSR reports for shareholders.

4.3 Value relevance

As already mentioned in the last chapter, information is relevant for shareholders when it influences their investment decision. This is when the share price changes due to new information. Providing this kind of information is one of the goals of financial reporting (Deegan, 2009). In accounting research the relation between accounting variables and capital market variables is investigated (Kothari, 2001). Terms used for this kind of research are capital markets research and market-based accounting research. Ball and Brown (1968) are major contributors to this branch of accounting research. Before this paper accounting research was mostly normative, this was one of the first 'positive' theories. They developed a model based on the Efficient Market Hypothesis (EMH). Following the EMH, capital markets are efficient if all information is reflected in share prices. The

EMH can be divided into three forms of market efficiency: weak, semi-strong and strong (Fama, 1991). The weak form of market efficiency assumes that today's share price is determined by all past publicly obtainable information. The strong form of market efficiency is the opposite of the weak form. It assumes that all, even non-publicly available, information is reflected in today's share price. The semi-strong form takes the perspective that new relevant publicly available information will quickly be incorporated in the share price. Market-based accounting research takes this semi-strong efficiency perspective (Ball & Brown, 1968). Financial markets react on the new information contained in accounting number releases. The power of this reaction explains the relevance of accounting numbers for investment decisions. In accounting research the term value relevance is used for this, because it describes the relevance of this information to the value of equity. Francis and Schipper (1999) give four interpretations of value relevance. Accounting information is relevant when: it captures intrinsic value towards which share prices drift, it comprises information used in valuation models, it changes investor's expectations or there is a relation of this information with the market value of the firm. This last interpretation of value relevance is the one mostly used in value relevance research. Further, it is important to mention that accounting information is not the only, but one of the many sources of information used for investor's decisions. Aim of measuring value relevance is to find if certain information disclosed plays a role in the decision.

Value relevance literature can further be divided into event studies (marginal information content studies), relative association studies and incremental association studies (Holthausen & Watts, 2001). Event studies look at the market reaction on the moment new accounting information becomes available (Holthausen & Watts, 2001). Brown and Ball (1968) is an example of a paper in this field, they investigate how share prices change before and after earnings announcements. Price reactions on the earnings announcement are evidence for the value relevance of earnings. Association studies usually measure value relevance by checking differences in explanatory power (R^2) of the different accounting numbers over longer periods (Kothari, 2001). Relative association studies compare different associations between bottom-line accounting numbers and stock market values (Holthausen & Watts, 2001). They look for differences in value relevance between different accounting numbers (e.g. earnings, cash flows, book value) or bottom-line numbers under different accounting standards (e.g. IFRS versus a local standard) (Holthausen & Watts, 2001). Incremental association studies investigate the value relevance of a specific accounting number, which is relevant if the earnings response coefficient is significantly different from zero (Holthausen & Watts, 2001). These kinds of studies can also be used to measure value relevance of voluntary disclosures in the annual report (Cormier & Magnan, 2007). Examples of this are footnotes or information in separate

CSR reports. Aim of this research is to find the relevance of CSR reports for investors, so this method can be useful.

4.4 Measurement methods of value relevance

There are several methods for the measurement of value relevance in association studies. These methods can be categorized in price value relevance, returns value relevance and perfect foresight measures of value relevance (Balachandran & Mohanram, 2011).

Price value relevance is commonly measured with the Ohlson model (Ohlson, 1995). This provides a valuation framework that uses market value of shares as a function of earnings and book value of a firm. Scale effects are a problem in this function, so usually these variables are scaled by the number of shares. This framework is often used in value relevance research (Collins et al., 1997). The model assumes that shares are valued by using the weighted average of capitalized earnings and the current book value (Ohlson, 1995). Advantage of this model is that it can easily be extended with variables for other information sources that might be relevant for shareholders. Further, changes in value relevance over longer periods can be measured with this method by comparing R^2 of different periods (Collins et al., 1997).

With returns value relevance, stock market returns are a function of (changes in) earnings per share and book value per share. The Ohlson model (Ohlson, 1995) is also applicable for this group of measurement. Amir and Lev (1996) apply this method in their research, in order to find the relevance of non-financial information. Advantage of this method is that there are no scale effects.

The last group consists of the perfect foresight measures of value relevance. Francis and Schipper (1999) developed a model that fits in this group. Value relevance is measured with the total return that could be earned from a portfolio of an investor with perfect foresight of the information contained in the financial statement. Advantage of this model is that all information content of the annual report is covered and scale effects play no role.

The choice for one of the three methods should be motivated by the type of research that is conducted. When the value relevance of a specific information variable is investigated, the price and return methods are more applicable than the perfect foresight method. On the other hand, when the overall value relevance of the annual report is researched, the perfect foresight method might be an appropriate method.

4.5 Value relevance of voluntary disclosure

As mentioned in paragraph two, value relevance research can also be applied on voluntary disclosures. Voluntary disclosures are relevant for investors, because they improve the creditability of reported earnings and lower the information asymmetry between investors and managers (Cormier & Magnan, 2007). However, companies are not completely open about their operations, as this might reveal competition-sensitive information (Cardamone et al., 2012). Bad news that adversely affects firm value is also not likely to be reported, on the other hand reporting this information enhances the reputation of the firm as a high-quality discloser (Cormier & Magnan, 2007). This better reputation in its turn can lead to lower cost of capital.

Voluntary disclosures are specific information variables in an annual report, for that reason it is common to use incremental association studies to find the value relevance of this information. Amir and Lev (1996) used both a price model and a return model based on the Ohlson model (Ohlson, 1995) to find the value relevance of non-financial (voluntary) information in the cellular industry. They found that this information is relevant for investors in making their investment decisions. Banghøj and Plenborg (2008) examined whether a higher level of voluntary disclosure reduces the information asymmetry. They used a return model based on the Ohlson model (Ohlson, 1995) to conduct their research. No proof for the relation between high level voluntary disclosure and a lower information gap was found, indicating that voluntary information might not be value relevant. So, different conclusions are drawn about the potential value relevance of voluntary disclosures.

As concluded before, CSR reports are mostly provided on a voluntary base. To find the value relevance of CSR reports, it is logic to use similar methods. Cormier and Magnan (2007) investigate the value relevance of environmental reporting. They apply a model consistent with that of Amir and Lev (1996). Results were too ambiguous to conclude that environmental reporting is relevant. This is only one example to show the link between research on value relevance of voluntary disclosure and CSR disclosure. In the next chapter, the prior research will give a comprehensive picture of research in this field.

4.6 Conclusion

Shareholders use CSR reports to base their investment decisions on. They use them to find investments in firms that act in line with their social preferences. Information content of the CSR report influencing the firm value is also of importance for investment decisions. This can either be positive for reasons of legitimacy, political costs and reputational factors. On the other hand it can be negative, for reasons of costs and the revealing of competition-sensitive information. The relevance of information for investor's decisions can be measured with the help of market based

accounting research. Value relevance measures the correlation of accounting numbers in the annual report with capital market variables. Information is value relevant when share prices or returns are related with this information. Value relevance can be used to find both the relevance of the annual report in general and the relevance of specific information in the report. Different kinds of value relevance studies exist: event, relative association and incremental association studies. There are three measurement methods for association studies: price value relevance, return value relevance and perfect foresight measures. Only the first two are applicable for finding the value relevance of specific information variables. Companies report some information on a voluntary base. The relevance of this kind of information for investors can also be measured with value relevance. CSR reports are mostly voluntary disclosed. Hence, the usefulness of CSR reports can be measured with value relevance.

5. Prior research on value relevance of CSR reports

5.1 Introduction

In this chapter, prior research on value relevance of CSR reporting is discussed. These papers are selected to evaluate the different research questions, methods and results in this field of research. In paragraph two, the Ohlson model (Ohlson, 1995) is described, because most of the papers discussed in this chapter use this model as method to measure value relevance. After that, the papers on value relevance of CSR reporting are elaborated. Finally, paragraph four gives an evaluation of these papers.

5.2 Prior research on value relevance

A number of papers[31] about the value relevance of CSR reports refer to the Ohlson Model as described in Ohlson (1995), this is the reason that this paper is discussed here. Ohlson (1995) developed the residual income valuation model[32]. In this model, the market value is a function of accounting information from the balance sheet and the income statement. First assumption is that the market value is the net present value of all future dividends. Secondly, all changes in book value are incorporated in either earnings or dividends. Last assumption is about the behaviour of abnormal earnings. Ohlson (1995) assumes that abnormal earnings exist only temporarily and will disappear over time. Above normal earnings will diminish because of competition and below normal earnings will dissolve because of firms leaving the market. Overall, this leads to the following model in which the share price is determined by (abnormal) earnings, book value and other information.

$P_t = k(\varphi x_t - d_t) + (1-k)y_t + a_2 v_t$, where $\varphi = \frac{R_f}{R_f - 1}$ and

$k = (R_f - 1)a_1 = (R_f - 1)\omega/(R_f - \omega)$. P_t is the market value of the equity of a firm at date t, R_f is the risk-free rate plus one, x_t are the earnings in period t, d_t are the net dividends paid at date t, y_t the net book value at date t and v_t is all information other than abnormal earnings in period t.

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[31] See paragraph 5.3.
[32] The residual income valuation model will from now on be referred to as the Ohlson model.

5.3 Prior research on value relevance of CSR reports

Hassel et al. (2005) investigate whether market values of firms reflect both their financial and environmental performance. They expect that the value relevance of financial statement information will be enhanced by including environmental information. Hassel et al. (2005) reckon two schools in this field of research. First, the cost-concerned school assumes that environmental performance and reporting only create costs for the firm, which will result in a lower market value. On the other hand, there is the value creation school. They see environmental performance and reporting as a tool to increase market value. To test these hypotheses, Hassel et al. (2005) use the Ohlson model (Ohlson, 1995), where market value is regressed on book value, earnings and environmental performance. The following model was produced:

$$\frac{MV_{i,t} + DI_{i,t}}{BV_{i,t-1}} = \beta_0 + \frac{1}{BV_{i,t-1}} + \beta_1 + \beta_2 \frac{NI_{i,t}}{BV_{i,t-1}} + \beta_3 EP_{i,t} + e_{i,t}$$

$MV_{i,t}$ is the market value of equity, $DI_{i,t}$ is the dividend, $BV_{i,t-1}$ is the opening book value and $NI_{i,t}$ is current period income of the firm. Environmental performance ($EP_{i,t}$) in this regression is measured with an index of the Caring Company, ranging from 0 to 3. This index covers different aspects of environmental performance, including environmental reporting. When β_3 is significantly different form zero, $EP_{i,t}$ is value relevant. Further, they add dummies for changes in legislation and differences between industries. Hassel et al. (2005) test their model on a sample 337 quarter observations of 71 Swedish listed firms for the period 1998-2000. Accounting data is manually collected and stock market data is subtracted from the Trust Database of Bonnier-Findata. After statistical tests on this sample, the researcher found a negative relationship between market value and environmental performance. This supports the cost-concerned school, further it shows that environmental performance is value relevant for investors.

Murray et al. (2006) focus on the relationship between financial market performance and social and environmental disclosures. They take a sample of 100 UK listed firms for the period 1988-1997, together disclosing on CSR 660 times. Further, they classify three groups of disclosure: environmental, CSR and total voluntary disclosure. These data are extracted from a database of the Centre for Social and Environmental Accounting Research. Stock market performance is measured with the annual stock market returns, this information was found in the Datastream database. Three series of tests are conducted on this sample. First, simple correlations are calculated to find the relation between the variables. Second, a regression is build, relating the annual return on investment with the total amount of pages disclosed on each of the categories. Besides, interaction

terms are constructed to test for interrelations. In the third test, aim is to find whether there is a non-linear relationship. They take the number of pages in the annual report to determine the level of disclosure: high, medium or low. Further, firms are divided into three groups of stock market performance. Depending on the annual return, the firms are classified as high, medium or low performing. Results on the correlation between the disclosure variables and the market returns show an insignificant relation, with both the Pearson correlation and the p-value. Hence, there is no evidence for value relevance of this information. F-tests on the regression show no significant influence of disclosures. However, the last tests found a significant positive relation between the amount of disclosure and returns of the firm. Firms with high returns show low CSR and voluntary disclosure and vice versa. So, limited evidence is found for the value relevance of CSR reporting.

Cormier and Magnan (2007) investigate the influence of environmental reporting on the relation between earnings and market value of the firm. Influence of different institutional settings is studied. For that reason, this research compares environmental reporting in France, Germany and Canada. They developed a model in which the market to book value is a function of equity, earnings and a proxy for environmental reporting. This proxy consists of a score of environmental content in the annual and environmental report. 37 items are identified, on each of these items the firms can score a maximum of 3 points, when this item is described in quantitative terms. These data are hand-collected from annual and environmental reports. Financial data is extracted from Datastream (Germany, France) and StockGuide (Canada). The final sample comprises 223 firms with a total of 1125 firm year observations, for the period 1992-1998. To control for endogeneity with firm specific characteristics, Cormier and Magnan (2007) test for media exposure, size, age of assets and member ship of environmental sensitive industries. Results show that environmental disclosure is the highest in Canada, followed by Germany and France. Environmental reporting has a positive influence on the value relevance of earnings in the Canadian and German sample, for the French sample the relation was insignificant. Firm size, media exposure and environmental industries are all important determinants of environmental reporting (Cormier & Magnan, 2007). Value relevance of environmental reporting is dependent on the institutional context the company faces. German investors incorporate more information from environmental reporting in their investment decisions than in the other countries. Cormier and Magnan (2007) relate this to the socio-political context in Germany, where environment is an apparent issue.

Moneva and Cuellar (2009) investigate the value relevance of financial and non-financial environmental disclosures. Besides, they test for differences in value relevance between mandatory and voluntary environmental disclosure. Consistent with Hassel et al. (2005), they apply the Ohlson

model (Ohlson, 1995) on their sample. This sample contains 396 observations from 44 Spanish listed firms, for the period 1996-2004. Data before and after the introduction of environmental regulations for Spanish firms in 2002 is compared to test for the influence of mandatory disclosure. Information about environmental disclosure is hand-collected from the annual reports of the firms. Other accounting and equity market data is extracted from the Compustat Global Data database. In the standard Ohlson model (Ohlson, 1995) market value of equity is a function of book value and earnings. Moneva and Cuellar (2009) extended this model with several proxies for (non-)financial environmental disclosure. The first one is R&D investment, because Moneva and Cuellar (2009) assume that R&D investments indicate that a firm is trying to develop more innovative products with lower environmental impact. Other proxies are based on environmental disclosure. The first two non-financial proxies indicate whether or not firms disclose the appliance of a formal environmental policy and/or formal environmental management system. Other financial disclosure proxies continuously measure disclosure of environmental assets (investments), environmental costs and environmental liabilities (provisions). Further, Moneva and Cuellar (2009) cover the problem of scale effects by dividing the variables with total assets at the beginning of the period. Additional tests are conducted to examine the influence of size of the firm and environmental-sensitive industries. Analysis of the regression model provided the following conclusions. Non-financial disclosures have no significant relation with the market value of the firm. On the other hand, financial disclosures on environmental costs and provisions show a significant negative relationship with market value. The indirect measure of environmental performance, R&D investments, shows a positive and significant relation with the market value of equity. The impact of environmental-sensitive industries is clear, the non-financial proxies become significant in this group. This indicates that investors take this information more into account if firms are more vulnerable for environmental issues. Mandatory disclosure in the period after 2002 creates similar effects on the significance of non-financial proxies for environmental disclosures. This shows that, for Spanish investors, mandatory disclosure has more value relevance than voluntary disclosure. Overall, Moneva and Cuellar (2009) conclude that financial environmental disclosures are value relevant, while non-financial are not. In addition, mandatory reporting enhances the value relevance of environmental disclosures.

Schadewitz and Niskala (2010) investigated the value relevance of CSR reporting, moreover they focussed on firms reporting according to the GRI framework. They constructed a framework based on the Ohlson model (Ohlson, 1995) and previous research of Hassel et al. (2005). Market value is a function of the earnings based value, which consists of book value and abnormal earnings, and a dummy variable for firms that are reporting following the GRI standard. Natural logarithm format was applied on the variables to avoid extreme values to affect the results. This model gives the

possibility to investigate the incremental value relevance of CSR reporting. Schadewitz and Niskala (2010) applied this model on a sample of 69 listed Finnish firms, including 276 firm-year observations, for the period 2002-2005. Data about firms complying with the GRI standards is hand-collected, other information is obtained from the Thomson Financial Services database. Results show that the determinant of the dummy variable for GRI reporting is significantly positive. Furthermore, adding the GRI variable improves the explanatory power (R^2) of the model. Based on this, the conclusion is that GRI reporting has incremental value relevance and is positively related with the market value of a firm.

De Klerk and de Villiers (2012) research the value relevance of CSR reporting in a South-African setting. De Klerk and de Villiers (2012) use the exact same model as the one applied in Hassel et al. (2005). Only difference is that instead of a variable for environmental performance de Klerk and de Villiers (2012) use two proxies for CSR reporting. The first proxy (CRR_Comp) is based on a score in the KPMG Sustainability Reporting Survey, this score ranges from 0 to 52. The other proxy (CRR_GRI) is a dummy that is one for firms reporting in line with GRI guidelines. Besides, the impact of environmentally sensitive industries on the results is tested by adding a dummy variable for this to the regression model. CSR data is collected from KPMG Sustainability Reporting Survey 2008 and the financial data is extracted from the McGregor BFA database. De Klerk and de Villiers (2012) found a final sample of 67 listed South-African firms for the year 2008. Coefficients of both proxies for CSR reporting in the regression are significant and positive. This means that CSR reporting is value relevant and positively related with the market value of a firm. An interesting outcome is that the proxy of GRI is almost as value relevant as the proxy using the broad score on the KPMG survey. Finally, environmentally sensitive industries do not significantly influence the value relevance of CSR information.

Aim of the paper of Cardamone et al. (2012) is to find the value relevance of CSR reports and the effect of CSR reports on the value relevance of book value and earnings. They applied the following model based on the Ohlson model (Ohlson, 1995):

$$P_{iq} = \beta_0 + \beta_1 BPS_{iq} + \beta_2 EPS_{iq} + \delta_0 SR_{iq} + \delta_1 BPS_{iq} * SR_{iq} + \delta_2 EPS_{iq} * SR_{iq} + u_{iq}$$

P_{iq} is the share price of firm i in quarter q, BPS is the book value per share, EPS the earnings per share and SR is a dummy for firms publishing a 'social' (CSR) report. This model is different from previous models, because it does not only measure the incremental value relevance of CSR reports, but also the effect on the value relevance of EPS and BPS. Cardamone et al. (2012) apply this model on a sample of 178 Italian listed firms, containing 2609 observation, in the period 2002-2008. Information

about whether or not firms are publishing CSR reports is hand-collected through online research and telephone interviews. Accounting and financial market information is obtained from the Datastream database. Cardamone et al. (2012) found that the coefficient of the dummy variable for CSR reporting is significantly negative. The interaction coefficient BPS*SR is positive and significant, for EPS*SR the coefficient is positive but insignificant. Hence, conclusion is that CSR reporting is value relevant and has a negative effect on the market value of the firm. Further, CSR reporting positively impacts the value relevance of book value, but does not have an effect on the value relevance of earnings.

Carnevale et al. (2012) focus on the European banking sector. Goal of their study is to find the value relevance of Social (CSR) Reports and its effect on the value relevance of earnings and book value. The sample consists of 1600 observations from 130 European listed banks for the period 2002-2008. Accounting and financial information is extrapolated from Datastream, information about CSR reporting is obtained through online research. Carnevale et al. (2012) apply two methods to find the value relevance of the CSR reports in this sample. The first method is similar to the one used in Cardamone et al. (2012), difference is that Carnevale et al. (2012) take the natural logarithm of their variables. In the second test they add a variable for the country where the bank is located. With this method they test for differences in value relevance of CSR reports between countries. Outcome of the first method is that CSR reports are not value relevant and they do not affect the value relevance of earnings and book values. However, the second method gave different results. In Portugal, Austria and France CSR reporting has a negative impact on shareprices, on the other hand it has a positive effect on share prices in Italy, Ireland, Spain and Germany. In the five remaining countries CSR reporting has no significant impact on share prices. These results are quite ambiguous, which makes it hard to draw any conclusion on the value relevance of CSR reports of European banks.

5.4 Evaluation of prior research

This paragraph makes a comparison of the different goals, approaches and conclusions of the papers discussed in this chapter. In appendix I an overview of this is presented in a table, this paragraph helps to point out the remarkable differences and similarities.

First, the different research objectives are elaborated. Only Hassel et al. (2005) investigate the value relevance of environmental performance. Cormier and Magnan (2007) and Moneva and Cuellar (2009) research the value relevance of environmental disclosure, while the other papers study the value relevance of CSR reporting. This does not have to be a problem, because these variables can

proxy for an important part of CSR reporting. Hence, the methods used by these papers are relevant for this thesis.

Six out of the eight papers studied in this chapter are based on the Ohlson model (Ohlson, 1995), as described in paragraph two. Cormier and Magnan (2007) use the unconventional market to book value instead of the price, market value or returns on investment This is only a minor difference that will not be of large influence on the results. Besides, Murray et al. (2006) use three different methods. These methods create a direct link between market performance and CSR disclosure, without considering other accounting variables. Although this is an interesting method, it forgets to consider the relation of CSR disclosure with conventional accounting disclosure. All the other papers form a model based on the Ohlson model, where market value of a firm is a function of book value, earnings and a proxy for CSR reporting/environmental reporting/ environmental performance.

Further differences in methods can be found in the proxies for CSR reporting used in the models. Different studies create or use an index measuring the CSR (reporting) performance (Hassel et al., 2005; Murray et al., 2006; Cormier & Magnan, 2007; Klerk de & Villiers de, 2012). Moneva and Cuellar (2009) create several proxies, distinguishing between financial and non-financial parts of environmental reporting. The last group only measures whether or not a firm is issuing a CSR report (Cardamone et al., 2012; Carnevale et al., 2012), sometimes only the ones following a specific (GRI) standard (Schadewitz & Niskala, 2010; Klerk de & Villiers de, 2012).

Outcomes of these papers are quite ambiguous. Hassel et al. (2005), Murray et al. (2006) and Cardamone et al. (2012) find evidence for a negative relation between CSR reporting and market value. On the other hand, Cormier and Magnan (2007), Schadewitz and Niskala (2010) and de Klerk and de Villiers (2012) find evidence for a contradicting relationship. Remarkable fact here is that Schadewitz and Niskala (2012) and de Klerk and de Villiers (2012) come to the same conclusions, since they both use similar methods and the same proxy for CSR reporting (GRI compliers). Moneva and Cuellar (2009) find mixed results. Financial environmental reporting has a negative impact on share prices, but non-financial environmental reporting had no impact. Nevertheless, non-financial environmental reporting becomes positively related with market value, when membership of an environmentally sensitive industry or mandated disclosure is added. Cardamone et al. (2012) and Carnevale et al. (2012) are the only papers that investigate the impact of CSR reporting on the value relevance of earnings and book value. Cardamone et al. (2012) find a positive effect on the value relevance of book value, for earnings there is no significant effect. Carnevale et al. (2012) find no evidence for an effect of CSR reporting on the value relevance of earnings and book value.

5.5 Conclusion

There is extended literature about the value relevance of CSR reporting and different aspects of this subject are investigated. The most often-used research model in this field is the Ohlson model (Ohlson, 1995). Several proxies for CSR reporting are added to this model. Most common are reporting indices and a dummy variable for the availability of a CSR report. The results of these papers are ambiguous. It is not clear whether CSR reporting is value relevant and what the direction of the impact on the market value of firms is.

6. Research design

6.1 Introduction

In this chapter the research design of this thesis is explained. This research design is developed to answer the main question of this thesis: *'What is the value relevance of CSR reports, using specific reporting standards and third-party assurance?'* Further, the link between this research question and the hypotheses is discussed and the methodology is explained. Paragraph two describes the hypotheses and their link with the research question. Paragraph three, four and five describe the dependent and independent variables used in the research model. Section three explains the value relevance measure and paragraph four the proxies for CSR reporting. Paragraph five describes the control variables that are added to the model. After that, the final research model and research approach are elaborated and the validity of this model is discussed. Paragraph seven explains the sample on which the research model is applied. Finally, a summary of this chapter is given in the conclusion.

6.2 Hypotheses development

Aim of the above mentioned main question is to find out if the information contained in CSR reports made under GRI with or without third-party assurance is value relevant. GRI is chosen as reporting standard because of its openness about companies reporting following their standard, the quality of the GRI reports and the presence of third-party assurance. All these factors can influence value relevance. Chapter four explained the reasons for investors to use this information in their investment decisions: their social preferences or the financial effects of a CSR reporting strategy. Besides, this research tries to test if the application of a general framework like the GRI adds to the relevance of CSR reports. Furthermore, same tests for relevance are conducted for third-party assurance that is provided to CSR reports. In chapter three, the different CSR reporting frameworks and assurance models were discussed. Conclusion was that GRI is a globally accepted framework for both reporting and assurance. Consequently, this model became subject of study in this thesis.

Three points are important in the research question: the value relevance of CSR reports, the reporting framework used and the application of third-party assurance. In the hypotheses the term value relevance is used. The impact of the independent variables on share price is the proxy for this,

which is explained in chapter four. The reporting framework investigated here is the GRI and the application of third-party assurance will simply be called 'assured' GRI report.

The first question is if investors appreciate the disclosure of a GRI-based CSR report. GRI is a decent proxy for CSR reporting as concluded by de Klerk and de Villiers (2012). In this paper the GRI proxy had almost the same explanatory power as a much broader proxy based on the KPMG Sustainability Reporting Survey. Prior literature shows mixed results about the value relevance of CSR reports and the direction of the relation with share price. Some papers find a positive relation with share price (Schadewitz & Niskala, 2010; Klerk de & Villiers de, 2012), others a negative relation (Cardamone et al., 2012; Hassel et al. 2005) and others no relation at all (Carnevale et al., 2012). However, most papers discussed in chapter five find value relevance. Hence, in the hypotheses I expect an influence of GRI reports on share price, but the direction of the relation is unknown.

Hypothesis 1: The disclosure of a GRI report is value relevant.

As was discussed in chapter 3, third-party assurance can add to the relevance of CSR reports, because it increases the reliability of the content of those reports. The GRI publishes information about third-party assurance, this makes it possible to test the following hypothesis.

Hypothesis 2: The disclosure of an 'assured' GRI report is value relevant.

Another measure of quality incorporated in the GRI framework is the application level. This application level is either A, B or C, where A is the highest level. To find an even stronger form of CSR reporting, only third-party assured GRI reports with an application level A are allowed in the sample. This is how the following hypothesis is created.

Hypothesis 3: The disclosure of an 'assured' GRI report with an application level A is value relevant.

Following Cardamone et al. (2012) and Carnevale et al. (2012) not only the direct effect of CSR reporting on share price is investigated, but also the indirect effect through a changing value relevance of book value and earnings. Value relevance of book value increases in Cardamone et al. (2012). For the influence on earnings no evidence is found. However, CSR reporting might reveal information about the persistence of earnings. Therefore, the prediction is that the value relevance of both accounting variables increases when a variable for CSR reporting is added. This leads to the following hypothesis:

Hypothesis 4: The disclosure of an 'assured' GRI report influences the value relevance of earnings per share and book value per share.

The following diagram gives an overview of how the hypotheses help to answer the research question.
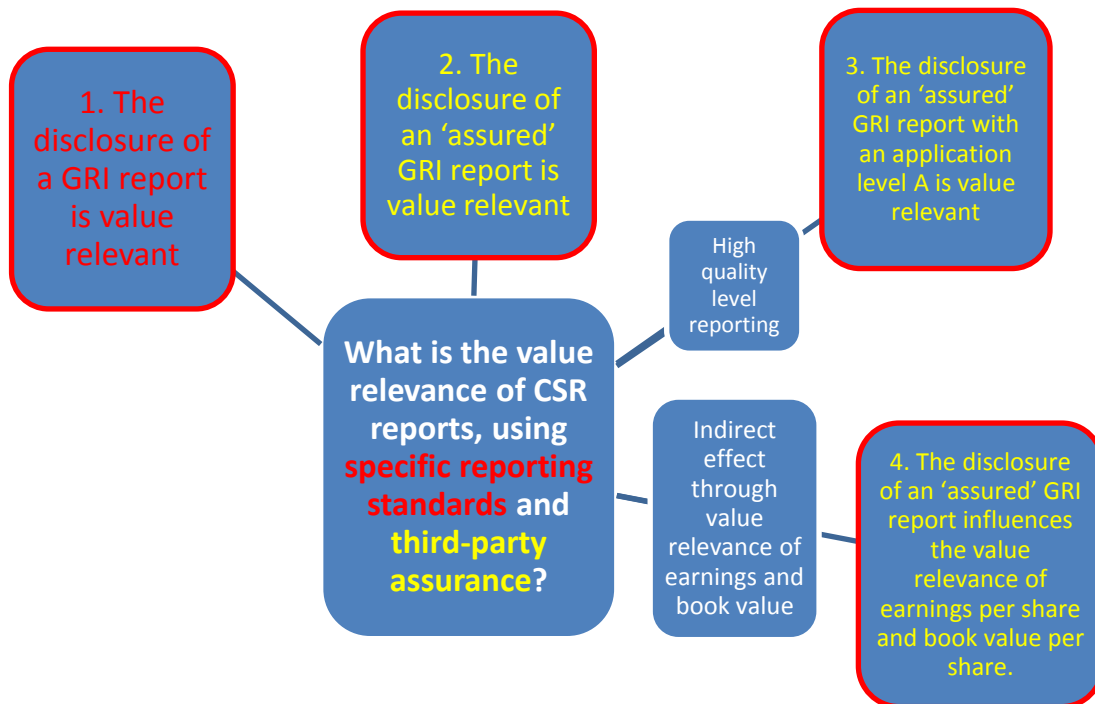
6.3 Value relevance measure

Conclusion of chapter five is that most papers in the field of CSR value relevance research apply a model derived from the Ohlson model (Ohlson, 1995). This model gives a good framework to measure the effect of CSR reports on the share price. Further, it can be used to measure how this information adds to (and interacts with) the accounting information variables earnings and book value. It gives a comprehensive outline of how investors come to their investment decisions. This is the reason why this model is used in this thesis. The model is constructed following Cardamone et al. (2012):

$$P_t = \beta_0 + \beta_1 BPS_t + \beta_2 EPS_t + \beta_3 CSR_t + e_t$$

In this formula P_t is the price per share of the firm in year t, BPS_t is the book value per share, EPS_t is earnings per share and CSR_t is a proxy for CSR reporting.

6.4 CSR reporting measure

Because most companies provide some kind of information about CSR, this research tries to find a proxy for high-quality CSR reporting. This can be found in CSR reports that are constructed with a general accepted framework and assured by a third-party. Chapter three describes the different

frameworks that are globally used to construct CSR reports. The GRI guidelines and the AA1000 both give a comprehensive reporting framework and possibility to add external assurance to the report. However, the GRI's application level tool and the extended publicly available information of GRI reporters plays an important role to use this framework in the empirical tests of this thesis. Hence, the proxy for CSR reporting is a dummy variable (GRI_t) that is one for companies issuing a CSR report based on the GRI. The dummy $GRIA_t$ is used for companies issuing GRI reports with third-party assurance. The last dummy adds an extra condition: companies should report with the highest application level 'A' and the report should be external assured. This dummy will be named $GRIAA_t$. Concluding, these proxies are ordinal ranked in terms of quality and reliability of CSR reporting, where $GRIAA_t$ has the most quality. This makes it possible to assess how shareholders react on different levels of quality of CSR reporting.

6.5 Control variables

Size of the firm can be a factor that influences the value relevance of the other variables in the model. First, larger firms have relatively better financial information systems, which positively affects the value relevance of earnings and book value (Collins et al., 1997). Further, the Political Cost hypothesis[33] expects larger firms to be more vulnerable for CSR issues (Setyorini & Ishak, 2012). Consequently, CSR reporting might be more value relevant for larger firms. To test for the influence of the size of firms, a variable measuring the total assets of a firm will be added to the model. If this variable influences the coefficients of other variables in the model, size is a confounding variable.

Due to the financial crisis, the markets showed extremely negative returns in 2008. This phenomenon might affect the results of the regression model. To test if this year has significantly changes the results a dummy for the year 2008 is made. In the Generalized Least Square model, the crisis dummy is not necessary, because a dummy for each quarter is taken[34].

Moneva and Cuellar (2009) exclude financial service firms from their sample, because the business model of financial firms is different from other listed firms. To check if the including of financial firms influences the result a dummy for these firms is added to the regression model. This helps to check whether or not financial firms have an influence on share price.

Different industries face different risks on social and environmental issues. Consequently, a control for high risk industries adds value to the model, because the industry can be the confounding

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[33] See chapter 4 for a further explanation of the Political Cost Hypothesis.
[34] Explained in chapter 7.

variable behind the value relevance of GRI reports. To identify these high risk industries, the paper of Young and Marais (2012) is used. They divide industries in high and low risk on social and environmental issues. This is based on the impact of climate change, labor, bribery and the inclusion in CSR reporting on firms in the industry. Young and Marais (2012) identify fourteen industries, these are used to classify firms in the sample in high and low risk on CSR issues[35].

The sample contains observations from four countries: Belgium, France, the Netherlands and Portugal. For three of these countries a dummy is created to test the impact of countries on share price and most importantly whether the local cultural and legal environment is a confounding variable for the value relevance of GRI reporting.

6.6 Research model

The final regression model used in this research is described below.

$$P_t = \beta_0 + \beta_1 BPS_t + \beta_2 EPS_t + \beta_8 TOTASS_t + \beta_3 GRI_t + \beta_4 GRIA_t + \beta_5 GRIAA_t + \beta_6 BPS_t * GRIA_t$$
$$+ \beta_7 EPS_t * GRIA_t + \beta_8 Crisis + \beta_9 FS + \beta_{10} HR + \beta_{11} BE + \beta_{12} NE + \beta_{13} PO + e_t$$

In which P_t is the price per share at the end of the quarter. BPS_t is the book value per share for that quarter. EPS_t are the earnings per share for that quarter. $TOTASS_t$ are the total assets of the firm in that quarter. GRI_t is one for firms disclosing a GRI report in that quarter. $GRIA_t$ is one for firms disclosing a third-party assured GRI report. $GRIAA_t$ is one for firms disclosing a third-party assured GRI report with an application level A. $BPS*GRIA_t$ and $EPS* GRIA_t$ are the interaction variables. Crisis is a dummy for the financial crisis on the stock markets in the year 2008. FS is a dummy for firms in the financial service industry. HR is a dummy for firms in CSR issues sensitive industries as described in section 6.5. BE, NE and PO are dummies for firms from respectively Belgium, the Netherlands and Portugal[36]. Finally, e_t is the error term.

There are several reasons for taking a quarterly time interval. First, listed companies release financial statements on quarterly bases, containing earnings and book value information. If you take yearly observations you forget to take the effect of the quarterly financial information releases in your model. This is one of the reasons for Cardamone et al. (2012) en Carnevale et al. (2012) to apply this approach. Besides, it gives more observations to the regression, which makes the results more reliable.
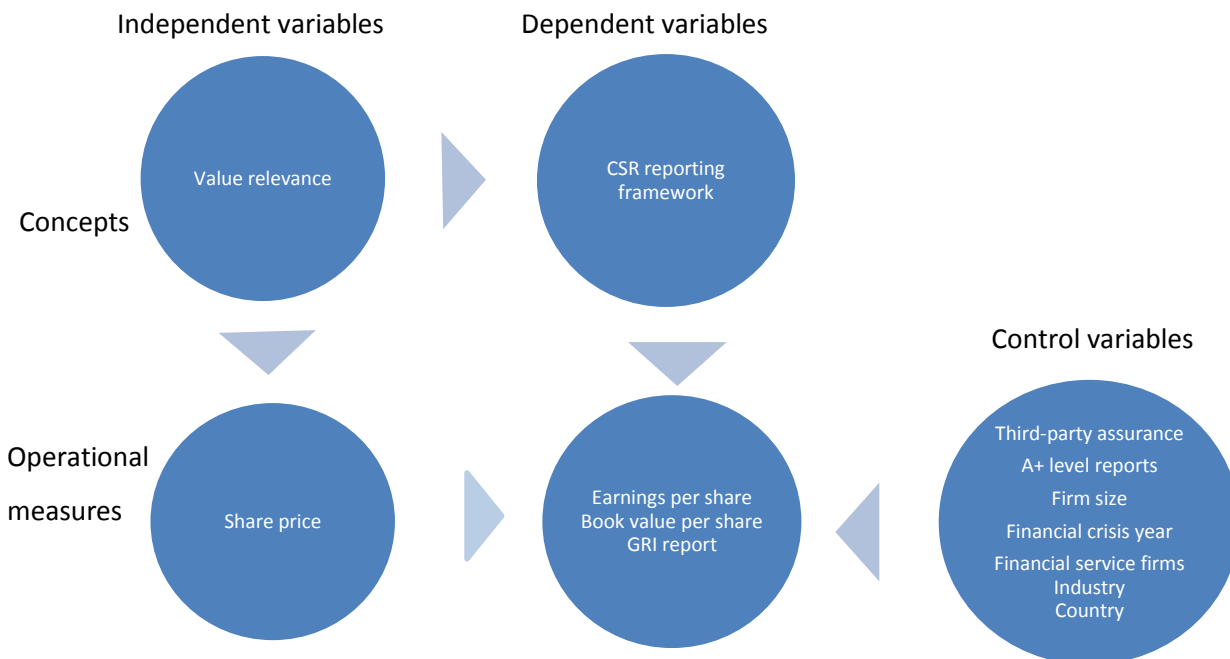
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[35] In appendix II the industries that have high or low risk on CSR issues are described.
[36] France is taken as the base country, which is the reason that no dummy for this country is included.

Based on the model above, different research approaches will be conducted. First of all, an Ordinary Least Square model is tested. The data contains both cross-sectional and time-series observations, those observations are pooled in this model. In order to investigate if the correlation of one GRI dummy is not explained by another GRI dummy, they are put together in the same model. This makes it possible to reveal underlying relations.

The next approach is a Generalized Least Square model. To test if time effects play a role in the coefficients of firm-specific variables, the fixed effects for time are taken. This is done by creating a dummy for each quarter of the sample. With this method I test whether the relation between the firms-specific variables and share price maintains when there is a control for time effects.

Stock market variables tend to be heteroscedastic (Brook, 2008). To cover this problem the first two approaches are redone with a Log transformation of the variables. This method reduces the effect of large observations. Based on these four research approaches the hypotheses are answered. The next diagram gives an overview of how the effects of GRI reporting on share price are tested.

Independent variables   Dependent variables

Concepts

Value relevance   CSR reporting framework

Control variables

Operational measures

Share price

Earnings per share
Book value per share
GRI report

Third-party assurance
A+ level reports
Firm size
Financial crisis year
Financial service firms
Industry
Country

The relation between the concepts and the operational measures is elaborated above, now the validity of the model used is explained. First, the construct validity of the model is discussed. Chapter four explained that shareholders base their investment decisions on information in the market that affects the share price of companies. The value relevance research branch investigates if accounting variables influence share price, in other words if information has decision-usefulness. The Ohlson

model (Ohlson, 1995) is the tool used for this. When the coefficient of individual accounting variables is significant the variable is value relevant. In other words, if a variable influences share price, investors use it in their investment decisions. This method can also be applied for non-financial information, like CSR reports[37]. Assumption of this model is that shareholders only have financial preferences that influence their decisions, but as discussed in chapter four they can also have ethical motives. However, when investors have ethical preferences they invest more in social responsible firms and this should be reflected in the share price.

Conclusions have internal validity if the claim of a causal relation between the independent variable (CSR reporting following GRI) and the dependent variable (share price) is correct. It is important that there is an actual relation and that this relation is not explained by a third (confounding) factor. This model tests several factors that could explain changes in share price[38]. In addition, the GRI dummies could explain parts of each other's correlation with share price, especially because an ordinal proxy is used. So, there is a control for this interrelation.

Conclusions have external validity, when the causal relation found in the model can be generalized to other situations. First of all, the sample includes listed firms from five European countries[39]. So, the results can be applied for more European countries, because national effects of regulation and culture are less emerging. The sample also contains firms from different economic sectors, which does not limit generalizations. Only one reporting framework (GRI) is investigated in the empirical part of the thesis, this complicates generalizations to other frameworks.

6.7 Sample

The context in which the tests are conducted is of importance for the validity and results of the research. First, the companies in the sample should be comparable. In this case, this means that companies should operate within the same environment in terms of regulation. Sample of this research consists of listed firms in the European Union. Although there are differences in regulation between different nations, all companies have to comply with the directives of the European Commission, as described in chapter two. The sample period is 2007-2012. This period has been chosen, because listed firms in the EU have to report in line with IFRS since 2007. Hence, the accounting variables in the sample are all constructed under the same framework, which makes them comparable.

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[37] See chapter 5 for all examples of research in this field.
[38] Described in paragraph 6.3.
[39] Described in paragraph 6.7.

Data for the empirical part of this thesis is collected from Datastream and from the database of the GRI. From the GRI database the data about CSR reporting is extracted. On the website of the GRI all companies complying with the GRI from 1999 till 2012 are presented (Global Reporting Initiative, 2012). This database further publishes which GRI standard and which application level they apply and if third-party assurance is given. Other equity market and accounting information is gathered from the Datastream database. Book value and earnings per share are available on a quarterly base in this database (BPS and EPS). Price is the price at the end of the quarter (P). Size is measured by Total Assets (TOTASS). Financial service sector firms are also collected from Datastream The dummies for GRI, GRIA, GRIAA, FS and Crisis are made based on information from one of these two databases and added to the dataset.

Data from the GRI-database does not contain firm specific codes or numbers, so they cannot be automatically matched with data from Datastream. To make the data collecting feasible, an index of the largest 100 European firms listed on Euronext[40] is chosen as bases for the data analysis. This approach is similar to the one of de Klerk and de Villiers (2012), who took the top 100 listed South-African firms. The accounting and equity market information is manually matched with data collected from the GRI-database. This is a representative sample, because it contains firms from different sectors and different European countries[41]. The latter is important, because it prevents local cultural, political and legal aspects to influence the results.

6.8 Conclusion

This chapter discussed the four hypotheses developed to answer the research question. After that, the Ohlson model, the GRI dummies and the control variables of the model are explained. Next, the final research model and the four different research approaches are elaborated. The validity of this is discussed afterwards. Finally, the European sample of listed firms is discussed.

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[40] See appendix III for the complete list of firms.
[41] Belgium, France, the Netherlands and Portugal.

7. Empirical results

7.1 Introduction

This chapter elaborates the empirical results of the statistical test made for this thesis. Paragraph two gives a short overview of how the dataset is created and discusses the descriptive statistics of the sample. Paragraph three discusses the different research approaches applied on the sample. All these approaches are used to draw conclusions on the hypotheses in paragraph four. Finally, paragraph five summarizes the chapter in the conclusion.

7.2 Descriptive statistics

In the last chapter, the reasons for choosing the sample of top 100 Euronext firms are elaborated. The datasets from the GRI and DataStream are merged into one dataset. From the top 100 firms, 9 firms are removed from the dataset, because not all equity market and accounting information is available. The sample contains 1911 observations of 91 firms, from the first quarter of 2007 till the first quarter of 2012. In order to prevent outliers to impact the results, outliers for each scale variable that are outside the 99.9% interval[42] are removed from the dataset[43]. This leads to a final sample set of 1787 quarterly observations.

Table 1 Descriptive statistics								
Variable	**N**	**Min.**	**Max.**	**Mean**	**Median**	**Std. Dev.**	**Skewness**	**Kurtosis**
P	1891	1.25	133.84	37.41	32.09	24.975	1.156***	1.362***
EPS	1878	.00	16.39	2.54	2.05	2.380	1.919***	5.112***
BPS	1890	-6.35	156.79	24.70	18.87	23.008	2.370***	7.734***
TOTASS	1847	435000	1158008000	62454226.67	14516860.00	159593318.658	4.617***	23.192***
GRI	1911			.40				
GRIA	1911			.18				
GRIAA	1911			.09				
HR	1911			.36				
Belgium	1911			.11				
Netherlands	1911			.22				
Portugal	1911			.04				
Valid N	1787							

Only the means of the dummy variables are tabulated.
*** Value differs significantly (1% significance level) from zero.

[42] Outliers that have a Z-score bigger than (-) 3.29 are removed, this method is regularly used in statistical analyses (Field, 2009, p. 153).
[43] See appendix IV for the box plots of the scale variables P, EPS, BPS and TOTASS.

In table one the final selection of data is presented. Analysis of the data shows that, of all observations, firms produce CSR reports on GRI bases in 40% of the cases, in 18% a third-party assured GRI report and in 9% the most qualitative form of GRI reporting: level A and assured. The sample contains Dutch (22%), Belgian (11%) and Portuguese (4%), but mostly French firms (63%). 36% of all firms are part of an industry that is sensitive for CSR issues[44]. The country and industry of a firm can both influence the percentage of firms reporting according to GRI. Appendix V shows that GRI reporting is more used by Portuguese and Dutch firms, than by Belgian and French firms. Further, as expected firms industries that are sensitive for CSR issues are more likely to report on GRI, than firms in other industries[45]. This shows that controls for industry and country in the regressions are necessary.

All scale variables are tested for Skewness, this shows if the distribution trails off in a certain direction. The variables TOTASS, P, EPS and BPS are all positively skewed[46], meaning that the top of the distribution is left from the mean. The Kurtosis measures the thickness of the tails of the distribution, in a normal distributed sample the Kurtosis score is 0. The financial data in the sample all have a high kurtosis, which indicates fatter tails and a higher peak: a leptokurtic distribution. This distribution is likely to characterize financial or economic time series (Brook, 2008). The data are not normally distributed, this can have consequences for OLS regressions, but this is covered by applying different regression methods and a log transformation of the data.

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[44] The concept of an industry that is sensitive for CSR issues is explained in chapter 6.
[45] See appendix VI.
[46] P, EPS, BPS and TOTASS all have a positive value in the column Skewness of table 1 indicating a positively skewed distribution, which is confirmed by the distribution curves in appendix VII.

Table 2 Correlation matrix										
Spearman's rho correlation coefficients	**P**	**EPS**	**BPS**	**TOTASS**	**GRI**	**GRIA**	**GRIAA**	**HR**	**BE**	**NE**	**PO**
P	1.000	.645***	.705***	-.023	-.077***	-.236***	-.244***	.157***	.031	-.260***	-.324***
EPS	.645***	1.000	.584***	.134***	.013	-.080***	-.085***	.210***	.051**	-.165***	-.229***
BPS	.705***	.584***	1.000	.247***	-.007	-.136***	-.133***	.146***	.028	-.206***	-.337***
TOTASS	-.023	.134***	.247***	1.000	.237***	.196***	.175***	.137***	-.057**	-.077***	-.063***
GRI	-.077***	.013	-.007	.237***	1.000	.565***	.391***	.126***	.075***	.237***	.042
GRIA	-.236***	-.080***	-.136***	.196***	.565***	1.000	.692***	.166***	-.006	.294***	.180***
GRIAA	-.244***	-.085***	-.133***	.175***	.391***	.692***	1.000	.174***	-.113***	.253***	.263***
HR	.157***	.210***	.146***	.137***	.126***	.166***	.174***	1.000	-.119***	.041	.061***
BE	.031	.051**	.028	-.057**	.075***	-.006	-.113***	-.119***	1.000	-.186***	-.075***
NE	-.260***	-.165***	-.206***	-.077***	.237***	.294***	.253***	.041	-.186***	1.000	-.114***
PO	-.324***	-.229***	-.337***	-.063***	.042	.180***	.263***	.061***	-.075***	-.114***	1.000

***, **, *: Correlation is significant at respectively 1%, 5% or 10% level.

In table two the correlations between the variables are presented. Correlation measures the relation between variables, so the correlations between the independent variables and P give a first indication of the value relevance of these variables. There are two correlation measures: Pearson's correlation coefficient and Spearman's rho correlation coefficient. The first is based on actual values and assumes that the variables are normally distributed (Field, 2009). The latter ranks the data before applying the Pearson's equation on these ranks and this method does not require a normal distribution (Field, 2009). In this dataset none of the variables are normally distributed, so the Spearman's rho seems more appropriate and is used for this sample. However, the correlation matrices show no differences in significance of the correlations between the two methods[47]. Earnings per share and book value per share are correlated and they both have a strong correlation with share price. This was expected, because prior research on value relevance found the same relation[48]. Another remarkable point is the correlation between the dummies for CSR reporting and price per share. First, all the correlations are negative, so GRI reporting is correlated with a lower share price. Besides, assured GRI reports (GRIA and GRIAA) have a stronger correlation with price than non-assured reports (GRI). This might indicate that shareholders rely more on assured GRI reports for their investment decisions, but this will be investigated later in this chapter. Further, the

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[47] See appendix VIII for the Pearson's correlations.
[48] E.g. Collins et al. (1997).

Netherlands and Portugal are negatively correlated with EPS, BPS and P, which might indicate that firms in these countries are financially underperforming compared with Belgian and French firms. HR is positively correlated with EPS, BPS and P, which indicates that these sectors were more profitable in the sample period. I will not elaborate on possible reasons for this, because it is outside the scope of this thesis. However, for the effect of HR on the GRI dummies in the regressions this might be important. No high correlations between independent variables are found. Hence, multicollinearity does not seem to be a problem at this moment. Multicollinearity is a statistical issue, that occurs when two or more independent variables in a regression are highly correlated, which can affect the estimation individual coefficients of the independent variables (Field, 2009). To test for possible multicollinearity, the VIF scores of the first regression analysis are presented in appendix IX. These show no concern for multicollinearity, because none of the scores is higher than the critical value of five.

7.3 Test models

7.3.1 Ordinary Least Square Model

The first research approach is a pooled regression based on the Ordinary Least Square (OLS) model in which time factors are not taken into account except for the crisis year 2008. The other variables are added stepwise, which makes it possible to draw conclusions on the different hypotheses. In table three the coefficients of the variables used for each model are presented. Model five is tested for collinearity and heteroscedasticity. The collinearity diagnostics does not show any collinearity problems[49]. The residual plot of regression model five shows that there is heteroscedasticity in the error terms[50]. Heteroscedasticity can cause overstating of R^2 and the significance of coefficient estimates (Field, 2009).This problem is addressed by taking the log of all variables in section 7.3.3 and 7.3.4.

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[49] See Appendix IX.
[50] See Appendix X.

Table 3 Ordinary Least Square Model					
	Model 1	Model 2	Model 3	Model 4	Model 5
R^2	.754	.756	.758	.758	.756
	Beta	Beta	Beta	Beta	Beta
(Constant)	19.277***	19.225***	19.047***	19.214***	19.365***
EPS	.290***	.292***	.291***	.282***	.293***
BPS	.468***	.464***	.468***	.470***	.469***
TOTASS	-.126***	-.126***	-.124***	-.124***	-.123***
FS	.043***	.039**	.038**	.038**	
Crisis	.018	.012	.011	.011	
BE	-.049**	-.048***	-.055***	-.056***	-.057***
NE	-.133***	-.124***	-.121***	-.120***	-.125***
PO	-.138***	-.125***	-.111***	-.110***	-.111***
HR	.049***	.055***	.059***	.059***	.060***
GRI	-.034**	.002	.003	.004	
GRIA		-.070***	-.025	-.044	
GRIAA			-.076***	-.075***	-.093***
BPSGRIA				.041	
EPSGRIA				-.015	

Dependent variable is P.

Changes in R^2 (F-test) are significant between model 1, 2 and 3. F-tests for model 4 and 5 are insignificant.

***, **, *: Coefficients are significantly different from zero at respectively 1%, 5% or 10% level.

The first model shows that earnings and book value have a significant positive relation with share price, which is consistent with prior research like Collins et al. (1997). In this model, the coefficient of GRI is negative and significant[51], which indicates that shareholders use this information in their investment decisions. However, when GRIA is added in the next model the significance of the coefficient of GRI disappears. This indicates that shareholders prefer higher quality CSR information, in this case third-party assured GRI reports. The effect of GRI is for a large part dependent on the effect of GRIA, which is a component of the GRI dummy. When GRIAA is added to the model, GRIA becomes insignificant, meaning that the effect of GRIA is largely explained by the effect of GRIAA. The coefficient for GRIAA is negative, which shows that shareholders expect a negative effect of this type of CSR reporting on firm value. In model four, the effect of GRIA on the value relevance of

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[51] At a 0.05 confidence level.

earnings and book value is tested[52]. GRIA has no effect on EPS, which is consistent with the findings of Cardamone et al. (2012). GRIA does not significantly change the value relevance of BPS. Cardamone et al. (2012) found a positive effect in their sample, but no proof for this hypothesis can be derived from this dataset. Two control variables are added to test for the effect of financial service firms and the financial crisis year 2008. Crisis did not have a significant effect, but time effects will be further investigated in the panel data model, before drawing conclusions on this. The dummy for financial service firms is positive, but only significant at a 0.05 level. The country dummies are all negative and significant and HR is significant and positive. However, country and industry do not influence the significance of GRIAA. So, these are no confounding variables for GRIAA in this regression. In model five insignificant independent variables are removed, this leads to model with a little lower R^2, but all variables are significant. The coefficient of GRIAA becomes larger, because the effects of GRI and GRIA do no longer explain a part of the coefficient of this dummy.

7.3.2 Generalized Least Square Model

The data tested in this thesis contains both cross-sectional (firm-specific) and time-series (quarters) observations, in other words this is panel data. It is a balanced panel, because there is a same number of time-series observations for each cross-sectional unit (firm). For panel data the Generalized Least Square (GLS) technique can be used to estimate the unknown parameters in a linear regression model (Brook, 2008). It can be applied for models with heteroscedasticity, where OLS is inefficient (Brook, 2008). In this case, GLS seems appropriate. GLS makes it possible to determine fixed effects for either the time variable or the firm-specific variable. With fixed effects unobserved time-series (cross-sectional) specific variables are treated as fixed constants. The following regression is a time fixed effects model. This model is used to investigate if share price is influenced by time variables next to the firm-specific variables (EPS, GRI, etc.). Fixed effects per firm are not taken, because the model already contains firm-specific variables[53] that cover effects per firm. The model uses the Least Square Dummy Variable approach, each period (quarter) gets a different dummy. Further, this model uses robust errors, because these standard errors correct for heteroscedasticity and time-series correlations (Field, 2009), which are present in this dataset[54].

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[52] The reasons for only taking the interaction between the GRIA dummy and EPS/BPS is that for answering the main question the effect of the reporting standard and assurance is of importance and the indirect effect of these two points is tested.

[53] BPS, TOTASS, EPS, GRI, GRIA, GRIAA are all variables that explain differences in share price per firm.

[54] Heteroscedasticity was tested after completing the model, see Appendix XI. Residuals are heteroscedastic, so the use of robust errors is justified.

Table 4 Generalized Linear Model

	Model 1	Model 2	Model 3	Model 4	Model 5
	B	B	B	B	B
(Intercept)	15.115***	15.225***	15.306***	15.318***	15.549***
Fixed time effects (20)	xx[†]	xx[†]	xx[†]	xx[†]	xx[†]
EPS	2.862***	2.877***	2.872***	2.817***	2.873***
BPS	.636***	.631***	.634***	.640***	.637***
TOTASS	-2.084E-08***	-2.089E-08***	-2.065E-08***	-2.074E-08***	-2.037E-08***
FS	2.765**	2.492**	2.481**	2.457**	
BE	-3.902***	-3.860***	-4.299***	-4.381***	-4.311***
NE	-8.172***	-7.727***	-7.611***	-7.665***	-7.750***
PO	-15.803***	-14.704***	-13.359***	-13.789***	-13.457***
HR	2.340***	2.583***	2.717***	2.841***	2.837***
GRI	-1.007	.428	.542	.521	
GRIA		-3.654***	-1.278	-1.043	
GRIAA			-5.543***	-5.356***	-6.413***
EPSGRIA				.568	
BPSGRIA				-.081	

Dependent variable is P.
Significance is based on the Wald Chi-Square statistic.
***, **, *: Coefficients are significantly different from zero at respectively 1%, 5% or 10% level.
†Individual parameters for time effects are not tabulated. All time effects together are significant at a 1% confidence level.

Results of the GLS models are presented in table four. In this model the significance of the coefficients are tested with the Wald Chi-square test. This test tells us whether the coefficient for that predictor is significantly different from zero and consequently making a significant contribution to the prediction of the outcome (Field, 2009). First conclusion is that the implementation of fixed time effects is significant and is appropriate for this model. Further, outcomes of the GLS model are similar to the results of the OLS model. GRI is significant when it is added in first instance. However, when the other dummies for CSR reporting (GRIA, GRIAA) are added, the significance evaporates. This could be explained by the fact that a large part of the explanatory power of GRI and GRIA is explained by the power of GRIAA. So, investors do not think that the issuing of (assured) GRI reports is informative in predicting firm value. On the other hand, an assured GRI report with an application level A is value relevant for investment decisions and negatively influences share price. Only, the highest qualitative form of CSR reporting is informative. The coefficients of the interaction variables EPSGRIA and BPSGRIA, are again not significant. GRIA does not influence the value relevance of BPS

and EPS. Again financial service firms seem to influence the results, the dummy is significant at a 0.05 level. The industry and country variables are significant, but do not influence the coefficient of GRIAA and there is still no concern for a confounding variable.

7.3.3 Ordinary Least Square model with Log transformation

The first two approaches showed heteroscedasticity in the residuals of the regression[55]. To cover this problem, the variables in the dataset are transformed by taking the 10log of each of them. This method is commonly used in statistics to solve heteroscedasticity in the residuals (Field, 2009). The two previous discussed approaches are redone here, with the transformation of the variables to test if this leads to more reliable results. Table five shows the results from the pooled OLS regressions. Again a test for homoscedasticity is executed, the scatter plot of the residuals shows no concerns for heteroscedasticity[56].

Table 5 Ordinary Least Square model with Log transformation				
Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
**R² ** .809	.812	.815	.815	.815
Beta	**Beta**	**Beta**	**Beta**	**Beta**
(Constant) 1.923***	1.900***	1.874***	1.849***	1.873***
Log(EPS) .230***	.230***	.230***	.224***	.230***
Log(BPS) .412***	.407***	.407***	.402***	.408***
Log(TOTASS) -.143***	-.139***	-.136***	-.136***	-.136***
FS .046***	.041***	.040***	.041***	.041***
Crisis .042***	.038***	.037***	.037***	.037***
BE .001	.003	-.006	-.006	
NE -.103***	-.091***	-.085***	-.086***	-.084***
PO -.195***	-.177***	-.150***	-.139***	-.150***
HR .044***	.050***	.053***	.051***	.053***
GRI .008	.034***	.034***	.036***	.030***
GRIA	-.071***	-.014	-.017	
GRIAA		-.119***	-.119***	-.128***
Log(BPSGRIA)			.023	
Log(EPSGRIA)			.035	

Dependent variable is Log(P).
Changes in R² (F-test) between model 1, 2 and 3 are significant. F-tests for model 4 and 5 are insignificant.
***, **, *: Coefficients are significantly different from zero at respectively 1%, 5% or 10% level.

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[55] However, GLS covered this problem in the second research approach.
[56] See Appendix XII.

The explanatory power of the OLS model with log transformation (0.815) is significantly higher than the first OLS regression (0.756). The log transformation limited the extreme differences in values of the scale variables, which helps to create a better fitting model. The coefficients of the accounting variables in the model presented in table five are significant. Log(EPS) and Log(BPS) are positive and Log(TOTASS) is negative, this is equal to the results in the first OLS. In model two, the coefficient of GRI turns out to be non-significant, but when GRIA and GRIAA are added to the model it becomes significantly positive. As concluded in the first two approaches, only third-party assured A+ GRI reports are value relevant and negatively impact share price. In this case, GRI turns positive and significant when GRIA and/or GRIAA are part of the model. This could be explained as a sign that GRI is a proxy for firms that are not reporting on CSR on a high level. The latter negatively impacts share price, so shareholders react oppositely to the dummy GRI. For GRIA the coefficient is significant in model two, but when GRIAA is added the significance disappears. GRIAA is significant in all models tested here. This can be explained as follows. The only thing that negatively impacts the share price of a firm is being part of the high-class CSR reporting performers: the A+ and third-party assured GRI reporters. Because this group is part of the GRIA group, GRIA becomes significant in first instance, but when GRIAA is added the effect is already covered by the GRIAA dummy. Further, the interaction variables Log(BPSGRIA) and Log(EPSGRIA) are insignificant, like in the first two approaches. Finally, in model five the variables Belgium, GRIA and the interaction variables are removed, because they did not add enough significance to the model. The R^2 does not significantly differ from the full model four, but all the independent variables are highly significant.

7.3.4 Generalized Least Square Model with Log transformation

Now, the GLS technique is redone with the log-transformed variables, again robust errors are taken to cover heteroscedasticity. It was not possible to test for the interaction variables of GRIA with EPS and BPS, because the zeros of the GRI dummies created calculation problems for the statistics program (SPSS) and made the standard GRI dummies redundant. In this model, heteroscedasticity is no longer present[57], further the robust errors cover a part of the possible errors in estimation.

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[57] See Appendix XIII.

Table 6 Generalized Linear Model with Log transformation

	Model 1	Model 2	Model 3	Model 4
	B	B	B	B
(Intercept)	1.766***	1.759***	1.752***	1.728***
Fixed time effects (20)	xx[†]	xx[†]	xx[†]	xx[†]
Log(EPS)	.246***	.246***	.246***	.245***
Log(BPS)	.389***	.384***	.385***	.389***
Log(TOTASS)	-.120***	-.118***	-.117***	-.114***
FS	.027**	.024**	.025**	
BE	-.017	-.016	-.024**	
NE	-.101***	-.097***	-.095***	-.090***
PO	-.231***	-.219***	-.195***	-.191***
HR	.025***	.029***	.031***	.034***
GRI	-.003	.016*	.018*	
GRIA		-.048***	-.009	
GRIAA			-.094***	-.091***

Dependent variable is Log(P).
Significance is based on the Wald Chi-Square statistic.
***, **, *: Coefficients are significantly different from zero at respectively 1%, 5% or 10% level
[†]Individual parameters for time effects are not tabulated. All time effects together are significant at a 1% confidence level.

The results of the regressions show that the time effects are significant and appropriate for this model. The coefficients of the accounting variables are also significant, like in the other approaches. The dummy GRI is significant in first instance, when the dummies GRIA and GRIAA are added the significance disappears[58]. The same applies for GRIA, its significance evaporates when GRIAA is added. Hence, the explanatory power of GRI and GRIA can both be explained by the strongest form of CSR reporting GRIAA. Share price is only (negatively) affected by companies reporting with GRI, that is third-party assured and has an A+ application level. The control variables do not influence the significance of GRIAA. FS and Belgium are only significant at a 0.05 level and are therefore removed from the final model. Coefficients of the Netherlands and Portugal are significantly negative, while HR is significantly positive. Overall, results are quite similar to the results of the other approaches.

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[58] It becomes positive, but only significant at a 0.10 confidence level.

7.4 Hypotheses testing

In this paragraph conclusions on the hypotheses are drawn based on the results of the tested models, I will take the outcomes of all four research approaches into account. Hypothesis one tests whether the disclosure of a GRI report is value relevant. All models tested find a significant negative effect of GRI reporting on share price, when GRI is the only dummy for CSR reporting. However, when GRIA and/or GRIAA are added the significance is no longer visible. Hence, the significance is explained by the explanatory power of GRIA and/or GRIA. In the OLS with Log transformation the coefficient of GRI even changes sign when GRIA and GRIAA were part of the model, indicating that it has the opposite information content as GRIA and GRIAA. Nevertheless, there is no consistent evidence for a positive impact of the GRI dummy on share price. Hence, the hypothesis has to be rejected. The disclosure of CSR information according to GRI as such does not influence share price and is therefore not value relevant.

Hypothesis two focuses on the disclosure of an 'assured' GRI report and tests whether that information was value relevant. The coefficient of the dummy of this kind of disclosure, GRIA, is significant and negative in all approaches when GRIAA is not part of the model. GRIAA explains naturally a part of explanatory power of the coefficient as these dummies are ordinal. However, in all four approaches the significance disappears completely when GRIAA is added. So, there is no indication that the GRIA dummy independently influences share price. These results lead to the conclusion that an 'assured' GRI report is not value relevant.

In hypothesis three, the value relevance of the disclosure of an 'assured' GRI report with an application level A is tested. This is the highest quality group of CSR reporting in these models. All approaches find a negative and highly significant coefficient for the dummy GRIAA. Hence, CSR reporting on this high level negatively impacts the share price of a company. Hypothesis three can be confirmed: an assured GRI report with an application level A is value relevant.

Hypothesis four tests whether the disclosure of an 'assured' GRI report influences the value relevance of earnings per share and book value per share. For this hypothesis the interaction variables EPSGRIA and BPSGRIA are constructed. The coefficients of EPSGRIA and BPSGRIA are insignificant in all approaches and every model. Conclusion is that 'assured' GRI reporting has no impact on the value relevance of earnings and book value and the hypothesis has to be rejected.

Hypothesis	Accept/Reject
1: The disclosure of a GRI report is value relevant.	Reject
2: The disclosure of an 'assured' GRI report is value relevant.	Reject
3: The disclosure of an 'assured' GRI report with an application level A is value relevant.	Accept
4: The disclosure of an 'assured' GRI report influences the value relevance of earnings per share and book value per share.	Reject

7.5 Relevance of conclusions on hypotheses

Conclusion on the first hypothesis is that GRI reports are not value relevant. In the research question, one of the main points is the value relevance of the appliance of a reporting standard for CSR reports. No value relevance is found for the GRI standard, so there is no evidence that shareholders use the information of the compliance to a CSR reporting standard in their investment decisions. One of the reasons for this could be that shareholders cannot interpret the information provided by GRI reports and cannot translate this in effects on firm value. Consequence of this is that the GRI should consider changes to its standards to enhance its informativeness to investors. Secondly, shareholders might consider the information from GRI reports not relevant for investment decisions. Either because it only affects firm value on the long run and they are focussed on short-term financial results, or because CSR issues do not play a role in investment decisions for the biggest part of the investors. This indicates that social responsible investors have no effect on the share price development of firms. The conclusion on this hypothesis is consistent with Carnevale et al. (2012), who found no value relevance for CSR reports which were marked with GRI guidelines. On the other hand, it is inconsistent with Schadewitz and Niskala (2010) and Cardamone et al. (2012) who did find value relevance of GRI reports.

Outcome of the test of the second hypothesis is that third-party assured GRI reports are not value relevant. This leads to another important point in the research question: the value relevance of third-party assurance. No confirmation is found for the value relevance of assured GRI reports, so shareholders do not use assured CSR information in their investment decisions. Assurance is provided to enhance to reliability of information in CSR reports. Assuming that the reliability has increased with assurance, lack of reliability does not seem to be the reason for shareholders not to use GRI reports in their investment decisions. If shareholders do think that GRI reports are not reliable, this has consequences for assurance providers in this field. The assurance they provide is

not used by one of the most important stakeholders, the shareholders. Assurance providers should find better procedures to enhance the quality of the insurance and indirect the reliability of GRI reports. The reasons for the absence of value relevance of CSR reports mentioned above are also relevant for this hypothesis. There is limited prior research on the effect of assurance on the value relevance of GRI reports. However, Moneva and Cuellar (2009) concluded that compulsory released environmental information has more reliability than voluntary released information. The compulsory released information was value relevant, while the voluntary information was not. Hence, they link more reliability with more value relevance. Though from this analysis, that link cannot be confirmed, more reliability does not lead to more value relevance.

On the third hypothesis the conclusion is that third-party assured GRI reports with an application level A are value relevant. The first two hypotheses found no evidence for the value relevance of a CSR report complying with a standard and third-party assurance. Here, the application level is a factor for quality that is added. This helps to find what causes the value relevance of GRI reports[59]. It can be concluded that reporting on the highest possible quality (application level A) and reliability (assurance) level is value relevant. Shareholders do not use the content of GRI reports, for their investment decisions. They use the differences in quality and reliability indicators of the report to rank companies on their CSR reporting policy and identify the best performers. This best performing GRI reporting group is then associated with lower returns, because the effect on share price is negative. There are different reasons for a negative impact on share price. First of all, spending resources to reach this high level GRI reporting, might be seen as a misallocation of resources. The firm could have spent it on more profitable projects, so it has a negative effect on firm value. This supports the cost-concerned school as was mentioned in chapter four. Further, the release of private information in the GRI report can induce actions of social interest groups or authorities, which may financially harm the firm. Another argument is that this high level GRI reporting is used as window-dressing for bad financial performance. The GRI report can tell that the firm is investing in sustainability to cover up financial underperformance. Again the influence of social responsible investors seems limited, because no positive effect is seen in the share price of firms who are well performing on CSR. It is expected that this group of investors will invest more in a company that is disclosing CSR information on a high level and when this group is large enough this will be reflected in the price. High level GRI reporting leads to a lower share price, which indicates a higher cost of capital for firms. So, managers should have other than financial motives to report on this level. They can be influenced by other stakeholders or they act out of social principles. So, managers who are

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[59] (Assured) GRI reports did significantly influence share price before the dummy for this group of reporting was added.

now thinking of reporting on CSR with the highest GRI level, should consider the negative financial consequences this decision might have. Similar to the conclusion on this hypothesis, Hassel et al. (2005) and Cardamone et al. (2012) found evidence for the value relevance of CSR reports and a negative effect on share price.

The fourth hypothesis concludes that assured GRI reports do not influence the value relevance of earnings and book value. This indirect value relevance effect does not appear from the analysis, which supports the conclusion that both the reporting standard (GRI) and assurance of CSR reports have no value relevance. Although more disclosure and openness can improve the creditability of earnings and book value to determine firm value, this effect is not found. The information contained in these GRI reports are no complement or substitute to the information contained in earnings or book value. This is interesting, because social and environmental issues are likely to impact firm value at some point. It further supports the claim that shareholders do not use the content of the reports for their investment decisions. The conclusion of this hypothesis matches the conclusion of Carnevale et al. (2012), who did not find an effect on the value relevance of earnings and book value. Cardamone et al. (2012) found a positive effect on the value relevance of book value, but no evidence is found for that here.

7.6 Conclusion

The descriptive statistics gave some concern for heteroscedasticity, which is covered in the different research approaches. These four approaches give a reliable approximation of the relation between CSR reporting and share price, so that the main question can be answered. The research question is: *'What is the value relevance of CSR reports, using specific reporting standards and third-party assurance?'* With the conclusions of the four hypotheses the question can be answered. First of all, CSR reports with the specific reporting standard GRI are not value relevant. They do not influence share price when there is a control for stronger CSR reporting dummies (GRIA and GRIAA). The second hypothesis needs to be rejected for the same reason. When GRIAA is added to the model the coefficient of GRIA becomes insignificant. GRI reports with an application level A and third-party assurance are value relevant and negatively influence share price. This could mean that shareholders do not use the content of GRI reports, but they use the reliability and quality indicators to rank the firms to find the best performing GRI reporting group. Being part of the best performers group in CSR reporting negatively influences the financial value of the firm and therefore share price. So, managers have other than financial motives to report on this high level. An explanation for the negative impact is that shareholders believe that reporting high quality GRI reports signals that the

firm is misallocating its resources. They see this as conflicting with creating financial value for the organization. Assured GRI reports do not affect the value relevance of the accounting variables earnings and book value. Hence, the information in these reports is not a complement or substitute for earnings and book value, but an independent information source.

8. Conclusion

8.1 Summary

This research focusses on the value relevance of CSR reports, in other words the usefulness of these reports in investment decisions. Special emphasis is put on the quality of CSR reports, based on the reporting framework used and the application of third-party assurance. The research question covers these aspects: '*What is the value relevance of CSR reports, using specific reporting standards and third-party assurance?*' Four sub questions are answered to find the different powers that determine the disclosure of CSR reports and the way they are used by shareholders.

The first sub question tries to find the motives of managers to disclose CSR information. Since the disclosure of CSR information is not mandatory in most countries, managers have other motives to report voluntary. They can be led by institutional pressures, try to gain legitimacy for the organization or answer to stakeholder requests. Financial motives are the avoidance of political costs and some economic consequences of CSR reporting. These economic consequences are the attraction of social responsible investors and better reputation, which can lead (together with some other factors) to lower cost of capital.

The next sub question identified the different reporting frameworks for CSR reports. After a classification, three frameworks are selected and compared: UN Global Compact, AA 1000 and GRI. The last two give the most comprehensive framework, in which there is place for external assurance of CSR reports. Final choice for investigating GRI is motivated by the openness about which firms are reporting and with what quality and reliability they do this.

Shareholder use CSR information in their investment decisions. They do that because of their social preference to invest in social responsible companies or for the effects of CSR reports on share price. These effects can be positive, because of positive effects on the cost of capital, or negative because it reveals competitive sensitive information and misallocates resources of the firm.

Prior research is investigated in the last sub question. Different methodologies are used, but the most common is the Ohlson model (Ohlson, 1995). Conclusions of prior research are ambiguous about whether CSR reports are value relevant and what the direction of the relation with share price is.

The empirical part of this thesis aims to answer the main question and the results of the theoretical part are used to explain the results from the analyses. Four hypotheses are developed to find the

(in)direct value relevance of GRI reports. These hypotheses are tested with a model containing accounting variables and dummies for GRI reporting. The model is tested on a sample of the 100 biggest European firms listed on Euronext. The first hypothesis tests if the issuing of GRI based CSR report is value relevant. This hypothesis is rejected, because the relation with share price is confounded by the stronger GRI dummies GRIA and GRIAA. Share price does not react on this form of CSR reporting. The second hypothesis tests if GRI reports with third-party assurance affects share price, again this hypothesis is rejected. After that, hypothesis three adds an application level A to the requirements. This dummy has a significant negative effect on share price. Finally, hypothesis four tests the indirect value relevance: the effect of an assured GRI report on the value relevance of earnings and book value, but this hypothesis needs to be rejected.

Now, the research question can be answered. CSR reports based on GRI with third-party assurance and a high quality level are value relevant and negatively affect share price. (Assured) GRI reports are not value relevant as such, only the strongest form of GRI reporting has an effect on share price. A conclusion of this thesis is that shareholders do not use the content of GRI reports, but they use the reliability and quality indicators of the report to identify the best performing firms in CSR reporting. This group of firms is associated with a negative effect on share price for the following reasons. First, it could be an indication for shareholders that the company is misallocating its resources for sustainability purposes, which negatively affects the financial value of the firm. Secondly, it reveals private information, which can cause actions of third-parties that financially harms the firm. Further, CSR reporting can be used as a tool for window-dressing when the firm is financially underperforming. Managers seem to accept higher cost of capital when they issue an A-level assured GRI report. This indicates that for the decision to disclose this information, other than sole financial motives play a role. Finally, the impact of social responsible investors seems limited, since no positive effect on share price of the release of CSR information was found.

8.2 Limitations and suggestions for future research

This research has some limitations. First, only the GRI reporting framework is tested. The value relevance of other CSR reporting frameworks is outside the scope of this research. This makes it more difficult to generalize these results for CSR reports produced with a different framework. Besides, it is not possible to compare the value relevance of CSR reports under different frameworks. A suggestion for future research could be to conduct these tests on a sample of firms reporting on CSR under several frameworks.

In this research model, quality and reliability of CSR reporting is measured with the reporting framework (GRI), third-party assurance and the application level. This is only a selection of criteria to measure the quality and reliability of CSR reporting. For a more precise measure a content analysis of CSR reports is necessary, which is suggestion for future research. Complementing with this it is possible to investigate if performance on CSR reporting accompanies real performance on CSR.

The value relevance model applied in this research looks at the reaction on share price. This reaction is used to test whether or not shareholders take this information in their investment decision. To test this more extensively a research based on interviews with investors can reveal more about how they use CSR information in combination with other information variables before making an investment decision.

In chapter two, all motives for managers to report on CSR are discussed. Managers issue CSR reports for several stakeholders and not only for shareholders. This thesis focuses on the last stakeholder group, because they are one of the most important stakeholders of a firm. However, it might be interesting to investigate how other stakeholders react on the issuing of a GRI report and how they view the quality and reliability of a report.

References

AccountAbility (Assurance). (2008, Ocotober). *AA 1000 Assurance Standard 2008.* Retrieved May 14, 2013, from www.accountability.org: http://www.accountability.org/about-us/publications/aa1000-assurance.html

AccountAbility (Principles). (2008, October). *AA1000 Principles Standard 2008.* Retrieved May 14, 2013, from www.accountability.org: http://www.accountability.org/images/content/0/7/074/AA1000APS%202008.pdf

AccountAbility. (2012). *AA1000 AccountAbility Principles Standard (2008)*. Retrieved from www.accountability.org: http://www.accountability.org/standards/aa1000aps.html

Amir, E., & Lev, B. (1996). Value-relevance of nonfinancial information: The wireless communications industry. *Journal of Accounting and Economics; Vol.22*, 3-30.

Balachandran, S., & Mohanram, P. (2011). Is the decline in the value relevance of accounting driven by increased conservatism? *Review of Accounting Studies; Vol.16*, 272-301.

Ball, R., & Brown, P. (1968). An Empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research, Vol. 6, No. 2*, 159-178.

Banghøj, J., & Plenborg, T. (2008). Value relevance of voluntary disclosure in the. *Accounting and Finance, Vol.48*, 159–180.

Bouten, L., Everaert, P., Van Liedekerkerke, L., & De Moord, L. (2011). Corporate social responsibility reporting: A comprehensive picture? *Accounting Forum; Vol.35*, 187-204.

Brook, C. (2008). *Introductory Econometrics for Finance.* Cambridge: Cambridge University Press .

Cardamone, P., Carnevale, C., & Giunta, F. (2012). The value relevance of social reporting: evidence from listed Italian companies. *Journal of Applied Accounting Research; Vol. 13, No.3*, 255-269.

Carnevale, C., Mazzuca, M., & Venturini, S. (2012). Corporate Social Reporting in European Banks: The Effects on a Firm's Market Value. *Corporate Social Responsibility and Environmental Management, Vol.19*, 159–177.

Collins, D., Maydew, E., & Weiss, I. (1997). Changes in the value-relevance of earnings and book values over the past forty years. *Journal of Accounting and Economics, Vol.24*, 39-67.

Cooper, S., & Owen, D. (2007). Corporate social reporting and stakeholder accountability: The missing link. *Accounting, Organizations and Society; Vol.32*, 649-667.

Cormier, D., & Magnan, M. (2003). Environmental reporting management: a continental European perspective. *Journal of Accounting and Public Policy; Vol.22*, 43-62.

Cormier, D., & Magnan, M. (2007). The revisited contribution of environmental reporting to investors' valuation of a firm's earnings: An international perspective. *Ecological Economics; Vol.62*, 613-626.

Danish Commerce and Companies Agency. (2013, March). *Corporate Social Responsibility and Reporting in Denmark:Impact of the third year subject to the legal requirements for reporting on CSR in the Danish Financial Statements Act.* Retrieved May 7, 2013, from http://csrgov.dk: http://csrgov.dk/documents/0/17

Day, R., & Woodward, T. (2009). CSR reporting and the UK financial services sector. *Journal of Applied Accounting Research; Vol.10, No. 3*, 159-175.

Deegan, C. M. (2002). The legitimising effect of social and environmental disclosures -- a theoretical foundation. *Accounting, Auditing & Accountability Journal; Vol.15, No.3*, 282.

Deegan, C. M. (2009). *Financial Accounting Theory.* Sydney: Mc Graw Hill.

Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, G. Y. (2011). Voluntary Nonfinancial Disclosure and the Cost of Equity Capital: The Initiation of Corporate Social Responsibility Reporting. *The Accounting Review; Vol. 86, No.1*, 59-100.

Dillard, J. F., Rigsby, J. T., & Goodman, C. (2004). The making and remaking of organization context: duality and the institutionalization process. *Accounting, Auditing & Accountability Journal; Vol.17, No.4*, 506.

DiMaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review, Vol. 48, No. 2*, 147-160.

European Commission. (2011). *http://ec.europa.eu*. Retrieved from http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0681:FIN:EN:PDF

European Commission. (2013, April). *ec.europa.eu.* Retrieved May 8, 2013, from
http://ec.europa.eu/internal_market/accounting/docs/non-financial-
reporting/com_2013_207_en.pdf

Fama, E. F. (1991). Efficient Capital Markets: II. *The Journal of Finance; Vol. 46, No. 5*, 1575-1617.

Field, A. (2009). *Discovering Statistics using SPSS.* London: Sage.

Francis, J., & Schipper, K. (1999). Have Financial Statements Lost Their Relevance? *Journal of
Accounting Research, Vol. 37, No. 2*, 319-352.

Freeman, R. (1984). *Strategic Management: a stakeholder approach.* Boston: Pitman.

Gamerschlag, R., Moller, K., & Verbeeten, F. (2011). Determinants of voluntary CSR disclosure:
empirical evidence from Germany. *Review of Managerial Science Vol.5*, 233-262.

Gjølberg, M. (2009). Measuring the immeasurable? - Constructing an index of CSR practices and CSR
performance. *Scandinavian Journal of Management; Vol.25*, 10-22.

Global Reporting Initiative. (2012). *www.globalreporting.org*. Retrieved from
https://www.globalreporting.org/resourcelibary/GRI-Reports-List-1999-2012.zip

Global Reporting Initiative. (2013). *www.globalreporting.org*. Retrieved from
https://www.globalreporting.org/reporting/latest-guidelines/g3-
guidelines/Pages/default.aspx

Gray, R., Owen, D., & Adams, C. (1996). *Accounting and Accountability: Changes and Challenges in
Corporate Social and Environmental Reporting.* London: Prentice Hall.

GRI 4. (2013). *FAQ about GRI 4*. Retrieved from www.globalreporting.org:
https://www.globalreporting.org/resourcelibary/G4-FAQ.pdf

Gürtler, G., & Graziani, C. (2010, October). *www.ifan.org.* Retrieved April 16, 2013, from
http://www.ifan.org/ifanportal/livelink/fetch/2000/2035/36282/394607/social_responsibilit
y/docs/en/26k-User-Guide%20_edition%202010-10-29_.pdf

Hassel, L., Nilsson, H., & Nyquist, S. (2005). The Value Relevance of Environmental Performance.
European Accounting Review, Vol. 14, No. 1, 41-61.

Holthausen, R., & Watts, R. (2001). The relevance of the value-relevance literature for financial
accounting standard setting. *Journal of Accounting and Economics, Vol. 31*, 3-75.

Ioannou, I., & Serafeim, G. (2012). The Consequences of Mandatory Corporate Sustainability Reporting. *Working paper, Harvard Business School*, 1-44.

Klerk de, M., & Villiers de, C. (2012). The value relevance of corporate responsibility reporting: South African evidence. *Meditari Accountancy Research; Vol. 20, No.1*, 21-38.

Kothari, S. (2001). Capital markets research in accounting. *Journal of Accounting and Economics, Vol. 31* , 105-231.

Mainardes, E., Alves, H., & Raposo, M. (2011). Stakeholder theory: issues to resolve. *Management Decision, Vol. 49, No. 2*, 226-252.

Marrewijk van, M. (2003). Concepts and Definitions of CSR and Corporate Sustainability: Between Agency and Communion. *Journal of Business Ethics, Vol. 44, No. 2/3*, 95-105.

Mobus, J. (2005). Mandatory environmental disclosures in a legitimacy theory context. *Accounting, Auditing & Accountability Journal; Vol.18, No.4*, 492.

Moneva, J. M., Archel, P., & Correa, C. (2006). GRI and the camouflaging of corporate unsustainability. *Accounting Forum, Vol.30*, 121-137.

Moneva, J., & Cuellar, B. (2009). The Value Relevance of Financial and Non-financial Environment. *Environmental Resource Economics, Vol.44*, 441-456.

Moskowitz, M. (1972). Choosing socially responsible stocks. *Business and Society Review*, 71-75.

Murray, A., Sinclair, D., Power, D., & Gray, R. (2006). Do financial markets care about social and environmental disclosure? Further evidence and exploration from the UK. *Accounting, Auditing & Accountability Journal, Vol. 19, No. 2*, 228-255.

Nikolaeva, R., & Bicho, M. (2011). The role of institutional and reputational factors in the voluntary adoption of corporate social responsibility reporting standards. *Journal of the Acadamic Marketing Science, Vol. 39*, 136-157.

O'Donovan, G. (2002). Environmental disclosures in the annual report: Extending the applicability and predictive power of legitimacy theory. *Accounting, Auditing & Accountability Journal; Vol.15, No.3*, 344.

Ohlson, J. (1995). Earnings, book values, and dividends in equity valuation. *Contemporary Accounting Research; Vol. 11, No.2*, 661-686.

Oliver, C. (1991). Strategic Responses to Institutional Processes. *The Academy of Management Review, Vol. 16, No. 1*, 145-179.

Perrini, F. (2005). Building a European portrait of Corporate Social Responsibility Reporting. *European Management Journal; Vol. 23, No. 6*, 611-627.

PRI Association (1). (2013). *www.unpri.org*. Retrieved May 7, 2013, from http://www.unpri.org/about-pri/the-six-principles/

PRI Association (2). (2013, April). *www.unpri.org*. Retrieved May 7, 2013, from http://www.unpri.org/about-pri/about-pri/

Reynolds, M. A., & Yuthas, K. (2008). Moral Discourse and Corporate Social Responsibility Reporting. *Journal of Business Ethics; Vol. 78*, 47-64.

Roberts, R. W. (1992). Determinants of Corporate Social Responsibility Disclosure: An Application of Stakeholder Theory. *Accounting Organizations and Society, Vol. 17, No 6*, 595-612.

Schadewitz, H., & Niskala, M. (2010). Communication via Responsibility Reporting and its Effect on Firm Value in Finland. *Corporate Social Responsibility and Environmental Management, Vol. 17*, 96-106.

Setyorini, C. T., & Ishak, Z. (2012). Corporate Social and Environmental Disclosure: A Positive Accounting Theory View Point. *International Journal of Business and Social Science; Vol. 3 No. 9*, 152-164.

Skinner, D. J. (1994). Why Firms Voluntarily Disclose Bad News. *Journal of Accounting Research, 32*, 38-60.

Starr, M. A. (2008). Socially Responsible Investment and Pro-Social Change. *Journal of Economic Issues; Vol.42, No.1*, 51-73.

Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *The Academy of Management Review; Vol. 20, No.3*, 571.

Trueman, B. (1997). Managerial Disclosures and Shareholder Litigation. *Review of Accounting Studies*, 181-199.

Turban, D. B., & Greening, D. W. (1997). Corporate social performance and organizational attractiveness to prospective employees. *Academy of Management Journal; Vol.40, No.3*, 658-672.

Ullman, A. (1985). Data in search of a theory: a critical examination of the relationships among social performance, social disclosure amd economic performance of US firms. *Acadamy of Management Review, Vol. 10, No. 3*, 540-557.

UN Global Compact. (2012, January). *After the Signature: A Guide to Engagement in the United Nations Global Compact.* Retrieved May 10, 2013, from www.unglobalcompact.org: http://www.unglobalcompact.org/docs/news_events/8.1/after_the_signature.pdf

United Nations Global Compact. (2013, April 22). *unglobalcompact.org*. Retrieved April 26, 2013, from http://www.unglobalcompact.org/AboutTheGC/index.html

Uyar, A., & Kilic, M. (2012). Value relevance of voluntary disclosure: evidence from Turkish firms. *Journal of Intellectual Capital, Vol. 13, No. 3*, 363-376.

Watts, R. L., & Zimmerman, J. L. (1978). Towards a Positive Theory of the Determination of Accounting Standards. *The Accounting Review; Vol. 53, No. 1*, 112-134.

Willis, C. A. (2003). The Role of the Global Reporting Initiative's Sustainability Reporting Guidelines. *Journal of Business Ethics; Vol. 43*, 233-237.

Young, S., & Marais, M. (2012). A Multi-level Perspective of CSR Reporting:The Implications of National Institutions and Industry Risk Characteristics. *Corporate Governance: An International Review; Vol. 20, No.5*, 432-450.

Appendix

Appendix I				
Authors	Object of study	Sample	Methodology	Outcome
Cardamone et al. (2012)	The value relevance of the social report to investors.	178 listed Italian firms 2002-2008 2609 observations	Model based on the Ohlson model (Ohlson, 1995), testing for the incremental value relevance and the interaction with book value and earnings of social reporting.	Social reporting has a negative impact on firm value. It has a positive influence on the value relevance of book value but no influence on the value relevance of earnings.
Carnevale et al. (2012)	The effect of CSR reporting of European banks on firm value.	130 listed European banks 2002-2008 1600 observations	Regression based on the Ohlson model (Ohlson, 1995) a dummy variable for CSR reporting is added.	No consequent evidence found for the hypothesis that CSR reporting has value relevance.
Cormier and Magnan (2007)	The value relevance of environmental reporting and influence on value relevance of earnings.	223 German, French and Canadian firms 1992-1998 1125 firm year observations	Market to book value as a function of earnings, equity and a proxy for environmental reporting.	Environmental reporting positively affects the value relevance of earnings in Germany and Canada. Value relevance of environmental reporting is the highest in Germany.
Hassel et al. (2005)	The value relevance of environmental performance.	71 listed Swedish firms 1998-2000 337 quarterly ratings from the Caring Company Research database	The cum-dividend adjusted market value is regressed on book value, net income and a dummy for environmental performance.	Environmental performance is value relevant and has a negative effect on the market value of a firm.
de Klerk and de Villier (2012)	The value relevance of CSR reporting in South-Africa.	67 listed South-African firms 2008	The cum-dividend adjusted market value is regressed on book value, net income and two dummies for CSR reporting.	CSR reporting is value relevant and positively affects the market value of firms.
Moneva and Cuellar (2009)	Value relevance environmental reporting, with	44 listed Spanish firms	The market value is a function of book value earnings and different	Financial environmental disclosures are value

	focus on mandatory/voluntary and financial/non-financial disclosure.	1996-2004 396 observations	proxies for environmental reporting.	relevant. Non-financial disclosures are relevant when they are mandatory or when the firm is an environmental sensitive industry.
Murray et al. (2006)	Value relevance of CSR reporting in the UK.	100 large UK firms 1988-1997 660 annual disclosures	CSR, environmental and voluntary disclosure are related with stock market returns using three different methods.	Limited evidence for a positive relation between CSR disclosure and stock market performance.
Ohlson (1995)	Developing and analysing of a model relating future earnings, book value and dividends to the market value of a firm.	No empirical testing of the models	Share price is regressed on (abnormal) earnings, book value and other information.	Accounting variables play an important role in the valuation of firms.
Schadewitz and Niskala (2010)	The effect of CSR Reporting on firm value.	69 listed Finnish firms 2001-2005 276 firm-year observations	Regression model based on the Ohlson model, where share price is regressed on earnings per share, book value per share and a dummy for CSR reporting following the GRI guidelines.	Information in CSR reports based on the GRI guidelines is value relevant for investors.

Appendix II

Industry	Risk on environmental and social issues
Energy	High
Healthcare/Biology	Low
Financial/Bank Retail	Low
Software and IT services	Low
Transportation/Infrastructure	High
Leisure/Entertainment/Media	Low
Chemicals	High
Construction	High
Mining	High
Telecommunications	Low
Industrials	High
Aerospace/Defence	Low
Professional services	Low
Based on the classification of Young and Marais (2012), more information on this classification can be found on page 437 of their paper.	

Appendix III

Company	Industry	Country
ACCOR	Hotels	France
AEGON	Life Insurance**	Netherlands
AGEAS (EX-FORTIS)	Life Insurance**	Belgium
AHOLD KON.	Food Retail, Wholesale	Netherlands
AIR LIQUIDE	Commodity Chemicals*	France
AKZO NOBEL	Specialty Chemicals*	Netherlands
ALSTOM	Industrial Machinery*	France
ANHEUSER-BUSCH INBEV	Brewers	Belgium
ARCELORMITTAL	Iron & Steel*	Netherlands
ARKEMA	Commodity Chemicals*	France
ASML HOLDING	Semiconductors*	Netherlands
ATOS	Computer Services	France
AXA	Full Line Insurance**	France
BELGACOM	Fixed Line Telecom.	Belgium
BIC	Nondur.Household Prod	France
BNP PARIBAS	Banks**	France
BOUYGUES	Heavy Construction*	France
BUREAU VERITAS INTL.	Business Support Svs.***	France
CAP GEMINI	Computer Services	France
CARREFOUR	Food Retail, Wholesale	France
CASINO GUICHARD-P	Food Retail, Wholesale	France
COLRUYT	Food Retail, Wholesale	Belgium
CORIO	Retail REITs	Netherlands
CREDIT AGRICOLE	Banks**	France
DANONE	Food Products	France
DASSAULT SYSTEMES	Software	France
DE MASTER BLENDERS 1753	Soft Drinks***	Netherlands
DELHAIZE	Food Retail,	Belgium

Company	Industry	Country
GROUP	Wholesale	
DSM KONINKLIJKE	Specialty Chemicals*	Netherlands
EADS	Aerospace	France
EDENRED	Financial Admin.***	France
EDF	Con. Electricity*	France
EDP ENERGIAS DE PORTUGAL	Alt. Electricity*	Portugal
EDP RENOVAVEIS	Alt. Electricity***	Portugal
ESSILOR INTL.	Medical Supplies	France
EUTELSAT COMMUNICATIONS	Broadcast & Entertain	France
FRANCE TELECOM	Fixed Line Telecom.	France
FUGRO	Oil Equip. & Services*	Netherlands
GALP ENERGIA SGPS	Integrated Oil & Gas*	Portugal
GDF SUEZ	Multiutilities*	France
GECINA	Ind. & Office REITs	France
GEMALTO	Software	Netherlands
GROUPE EUROTUNNEL	Railroads***	France
GROUPE FNAC	Broadline Retailers	France
HEINEKEN	Brewers	Netherlands
ICADE	Ind. & Office REITs	France
ILIAD	Internet	France
IMERYS	General Mining*	France
ING GROEP	Life Insurance**	Netherlands
JCDECAUX	Media Agencies	France
JERONIMO MARTINS	Food Retail,Wholesale	Portugal
KBC GROUP	Banks**	Belgium
KERING	Broadline Retailers	France
KLEPIERRE	Retail REITs	France
KPN KON	Fixed Line Telecom.	Netherlands
LAFARGE	Building Mat.& Fix.*	France
LAGARDERE GROUPE	Publishing	France
LEGRAND	Electrical	France

	Equipment*	
L'OREAL	Personal Products*	France
LVMH	Clothing & Accessory*	France
MICHELIN	Tires*	France
NATIXIS	Banks**	France
PERNOD-RICARD	Distillers & Vintners	France
PHILIPS ELTN.KONINKLIJKE	Divers. Industrials*	Netherlands
PORTUGAL TELECOM SGPS	Fixed Line Telecom.	Portugal
PUBLICIS GROUPE	Media Agencies	France
RANDSTAD HOLDING	Bus.Train & Employment	Netherlands
REED ELSEVIER (AMS)	Publishing	Netherlands
REMY COINTREAU	Distillers & Vintners	France
RENAULT	Automobiles*	France
REXEL	Electrical Equipment***	France
ROYAL DUTCH SHELL A	Integrated Oil & Gas*	Netherlands
SAFRAN	Aerospace	France
SAINT GOBAIN	Building Mat.& Fix.*	France
SANOFI	Pharmaceuticals	France
SCHNEIDER ELECTRIC	Electrical Equipment*	France
SCOR SE	Reinsurance**	France
SES FDR (PAR)	Broadcast & Entertain	France
SOCIETE GENERALE	Banks**	France
SODEXO	Restaurants & Bars	France
SOLVAY	Specialty Chemicals*	Belgium
STMICROELECTRONICS (PAR)	Semiconductors*	France
SUEZ	Water***	France

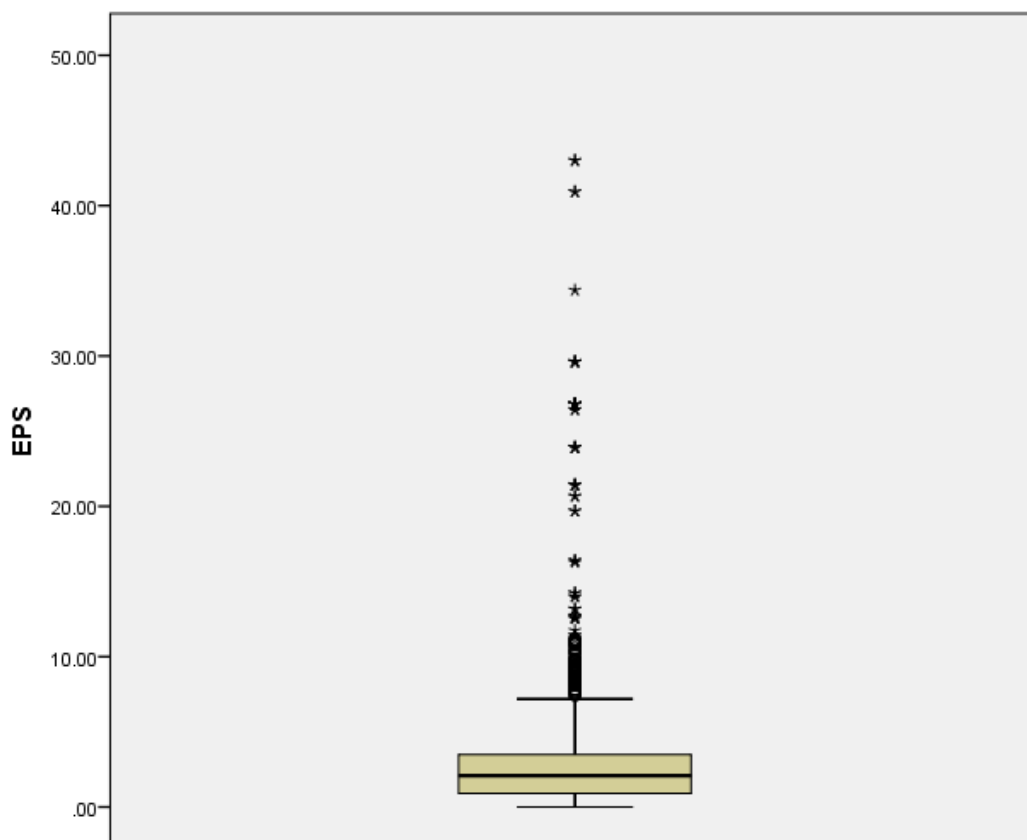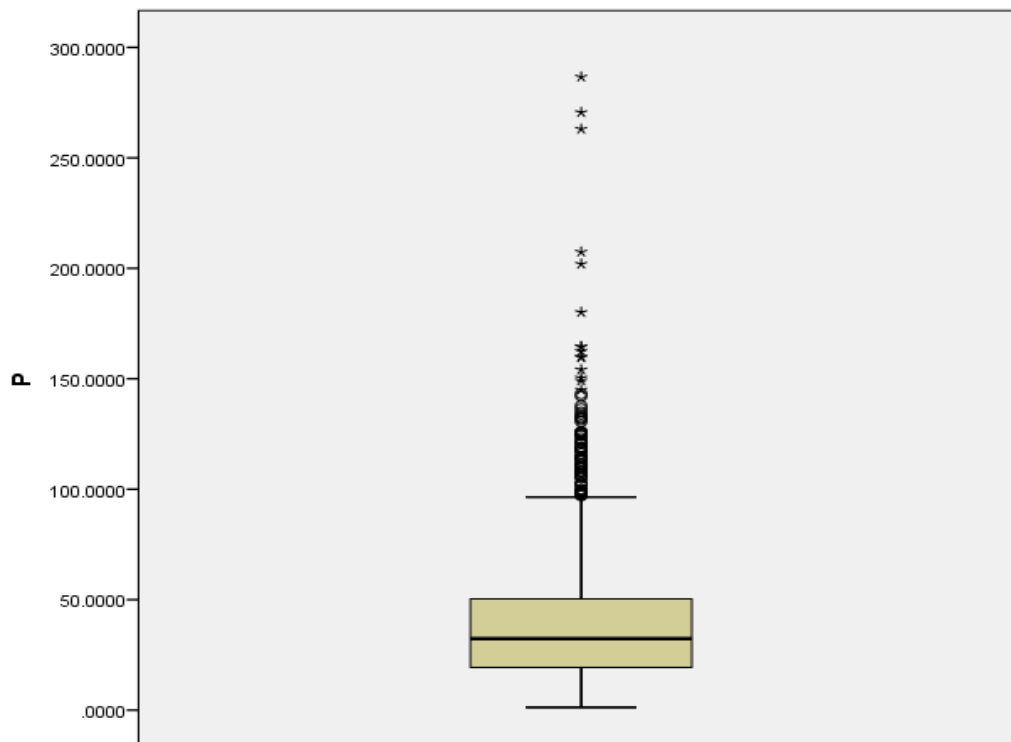|		
ENVIRONNEMENT		
TECHNIP	Oil Equip. & Services*	France
TELENET GROUP HOLDING	Broadcast & Entertain	Belgium
THALES	Defense	France
TNT EXPRESS	Delivery Services***	Netherlands
TOTAL	Integrated Oil & Gas*	France
UCB	Pharmaceuticals	Belgium
UMICORE	Specialty Chemicals*	Belgium
UNIBAIL-RODAMCO	Retail REITs	Netherlands
UNILEVER CERTS.	Food Products	Netherlands
VALLOUREC	Industrial Machinery*	France
VEOLIA ENVIRONNEMENT	Water*	France
VINCI	Heavy Construction*	France
VIVENDI	Broadcast & Entertain	France
VOPAK	Marine Transportation*	Netherlands
WENDEL	Specialty Finance**	France
WOLTERS KLUWER	Publishing	Netherlands
ZIGGO	Fixed Line Telecom***	Netherlands
ZODIAC AEROSPACE	Aerospace	France

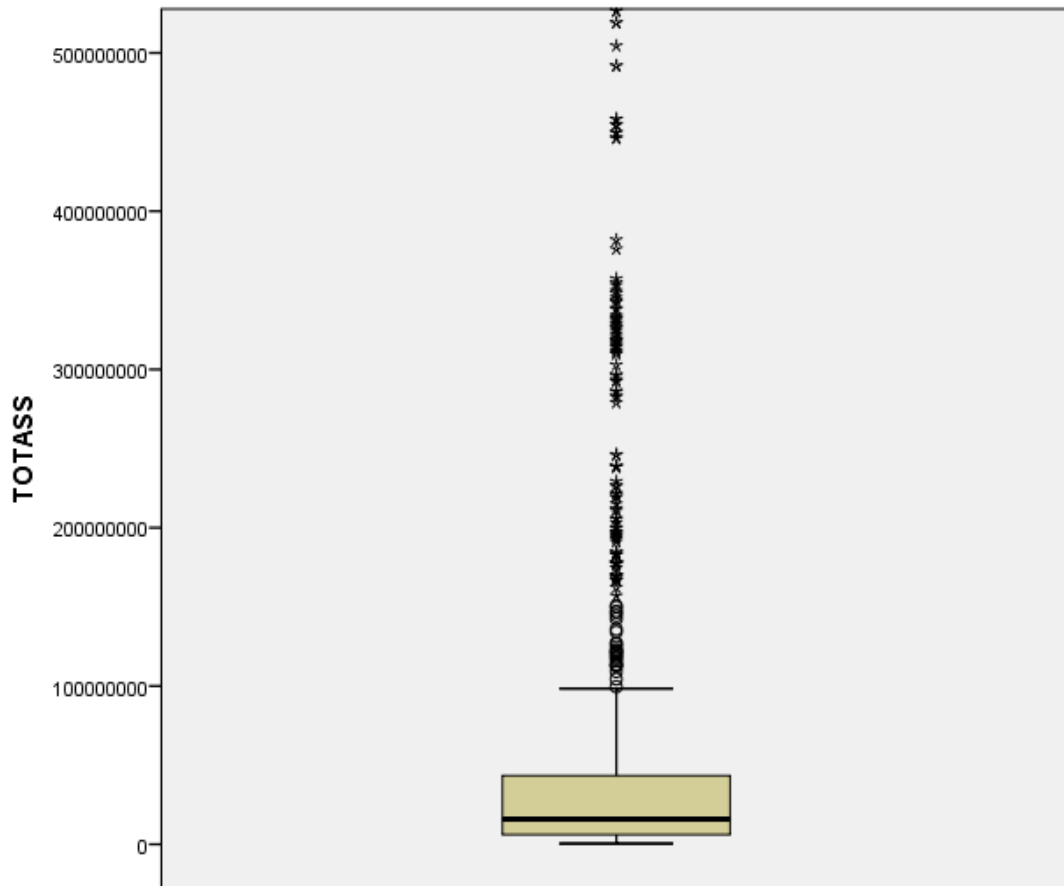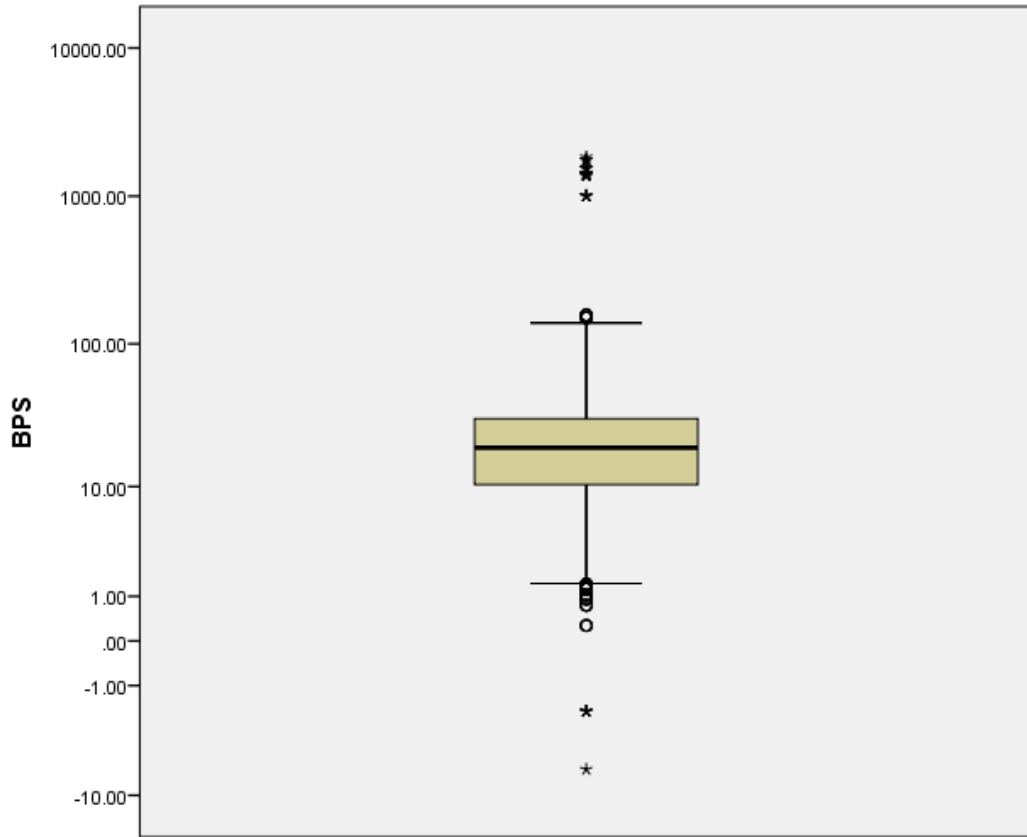* Industry that is sensitive for CSR issues
** Financial service industry
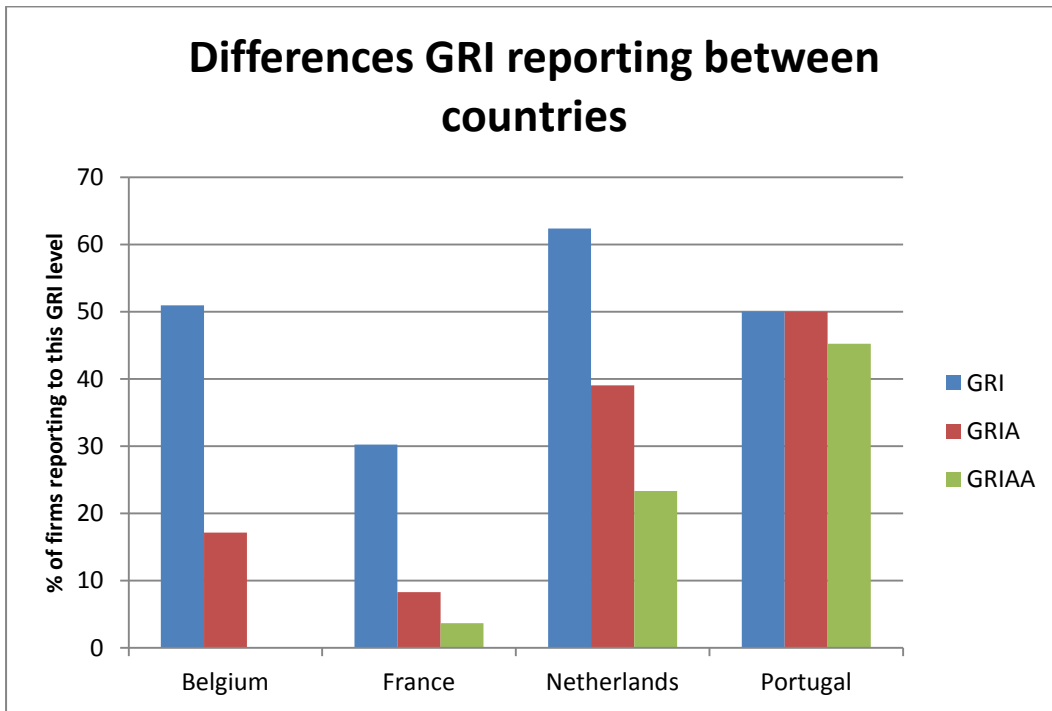*** Firm observations excluded, because of missing data in the Datastream database

Appendix IV

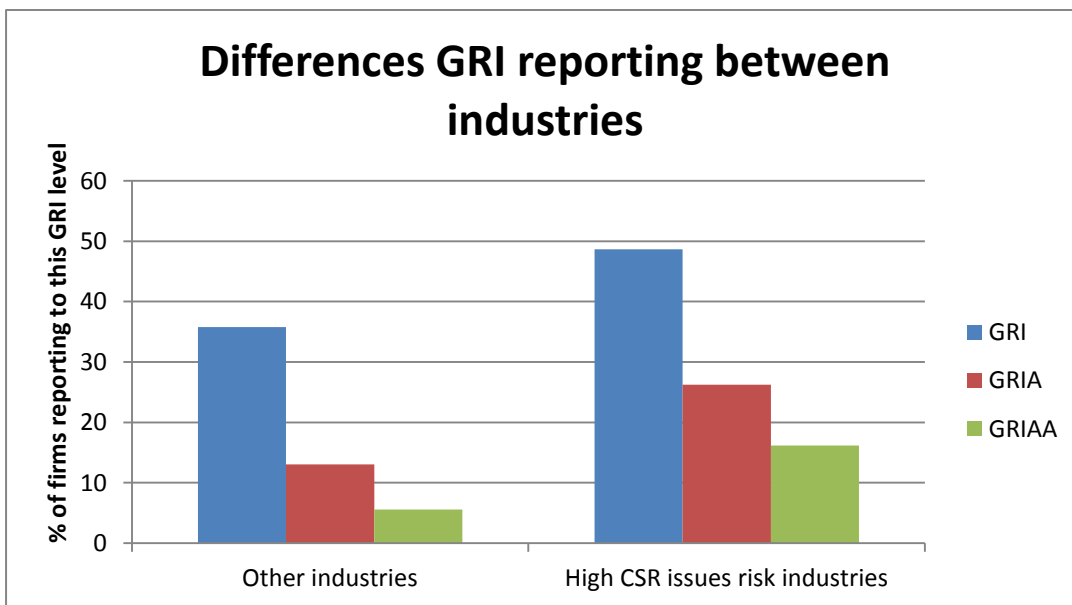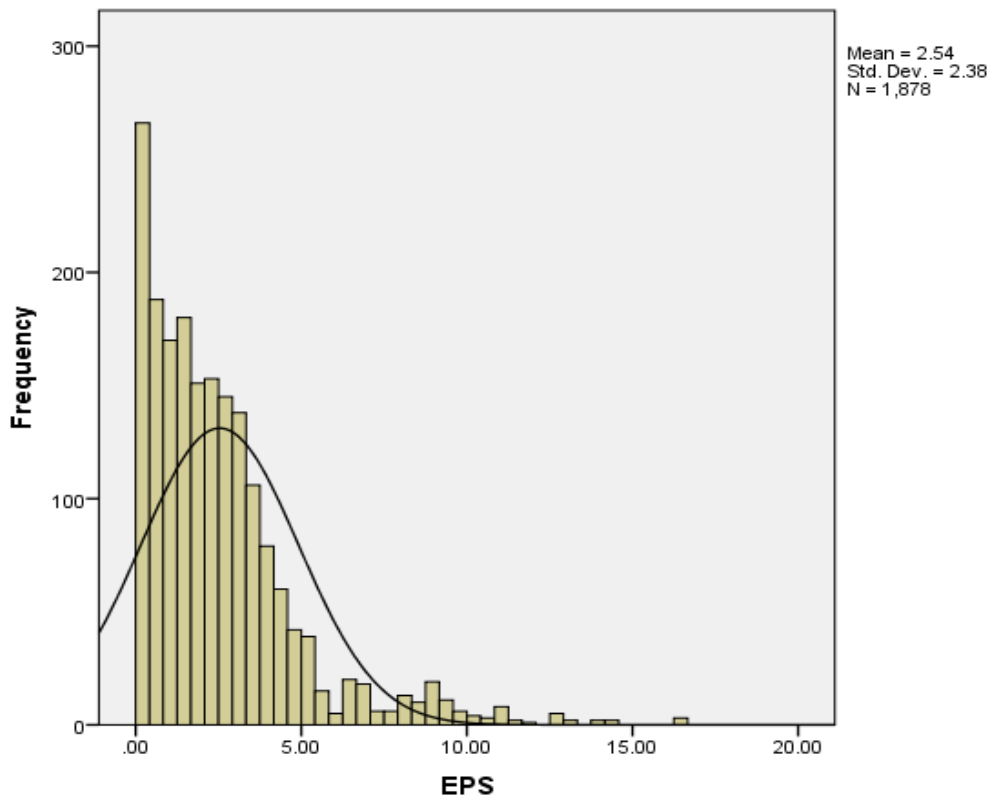* are excluded observations outside the 99,9% interval.

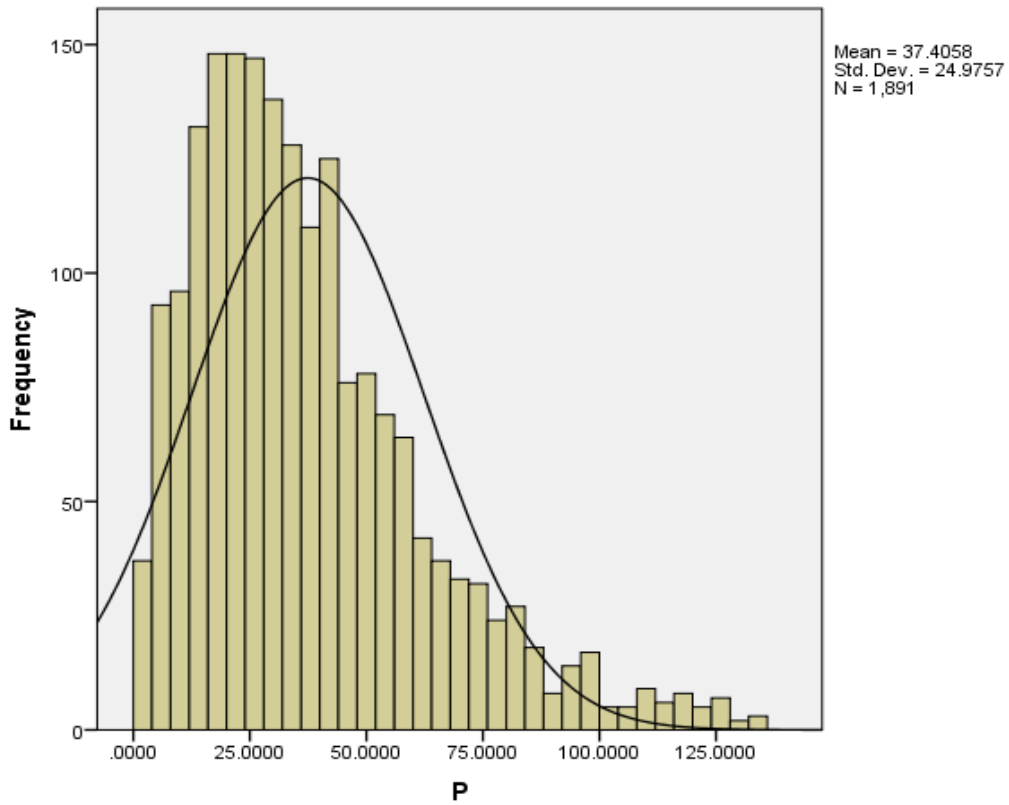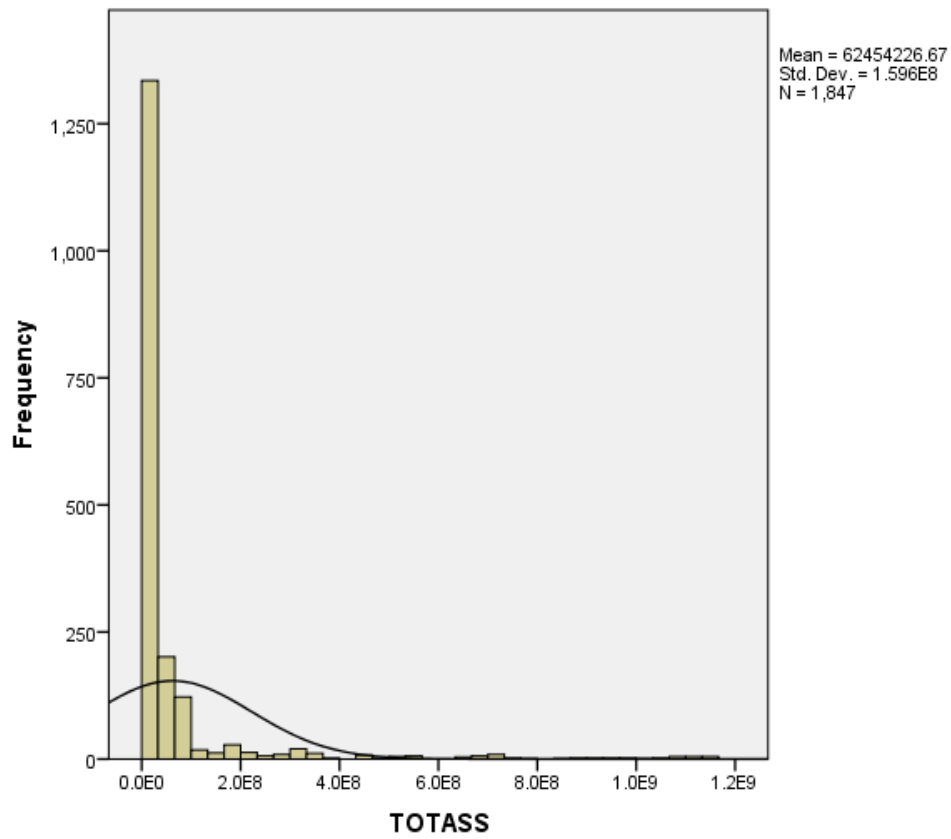**Appendix V**

Differences GRI reporting between countries

Appendix VI

Differences GRI reporting between industries

Appendix VII

Mean = 24.70
Std. Dev. = 23.008
N = 1,890

Mean = 62454226.67
Std. Dev. = 1.596E8
N = 1,847
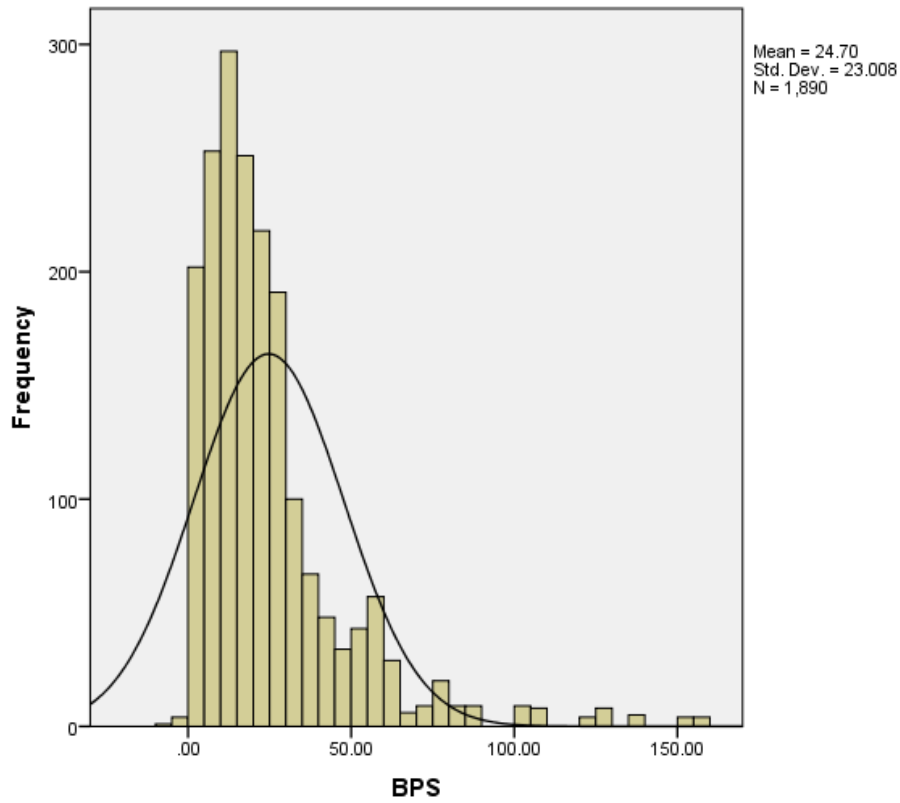
Appendix VIII Correlation matrix

Pearson's correlation coefficients	P	EPS	BPS	TOTASS	GRI	GRIA	GRIAA	HR	BE	NE	PO
P	1	.592***	.669***	-.039	-.093***	-.205***	-.212***	.132***	.020	-.233***	-.258***
EPS	.592***	1	.551***	.030	-.014	-.078***	-.072***	.146***	.046**	-.148***	-.163***
BPS	.669***	.551***	1	.151***	-.038	-.102***	-.096***	.017	.050**	-.086***	-.211***
TOTASS	-.039	.030	.151***	1	.044	-.007	.024	-.108***	.050**	-.060***	-.065***
GRI	-.093***	-.014	-.038	.044	1	.565***	.391***	.126***	.075***	.237***	.042
GRIA	-.205***	-.078***	-.102***	-.007	.565***	1	.692***	.166***	-.006	.294***	.180***
GRIAA	-.212***	-.072***	-.096***	.024	.391***	.692***	1	.174***	-.113***	.253***	.263***
HR	.132***	.146***	.017	-.108***	.126***	.166***	.174***	1	-.119***	.041	.061***
BE	.020	.046**	.050**	.050**	.075***	-.006	-.113***	-.119***	1	-.186***	-.075***
NE	-.233***	-.148***	-.086***	-.060***	.237***	.294***	.253***	.041	-.186***	1	-.114***
PO	-.258***	-.163***	-.211***	-.065***	.042	.180***	.263***	.061***	-.075***	-.114***	1

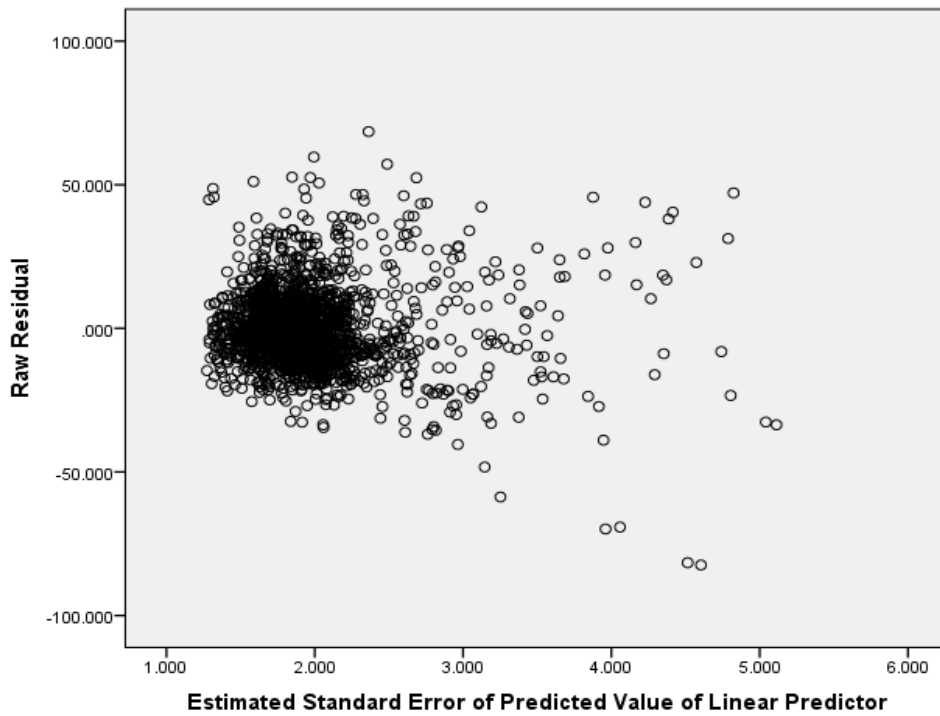***, **, *: Correlation is significant at respectively 1%, 5% or 10% level.

Appendix IX

Variable	VIF score
EPS	1.654
BPS	1.627
TOTASS	1.056
Belgium	1.113
Netherlands	1.223
Portugal	1.344
FS	1.027
Crisis	1.046
HR	1.150
GRI	1.510
GRIA	4.037
GRIAA	1.939
EPSGRIA	3.744
BPSGRIA	4.464

Appendix X
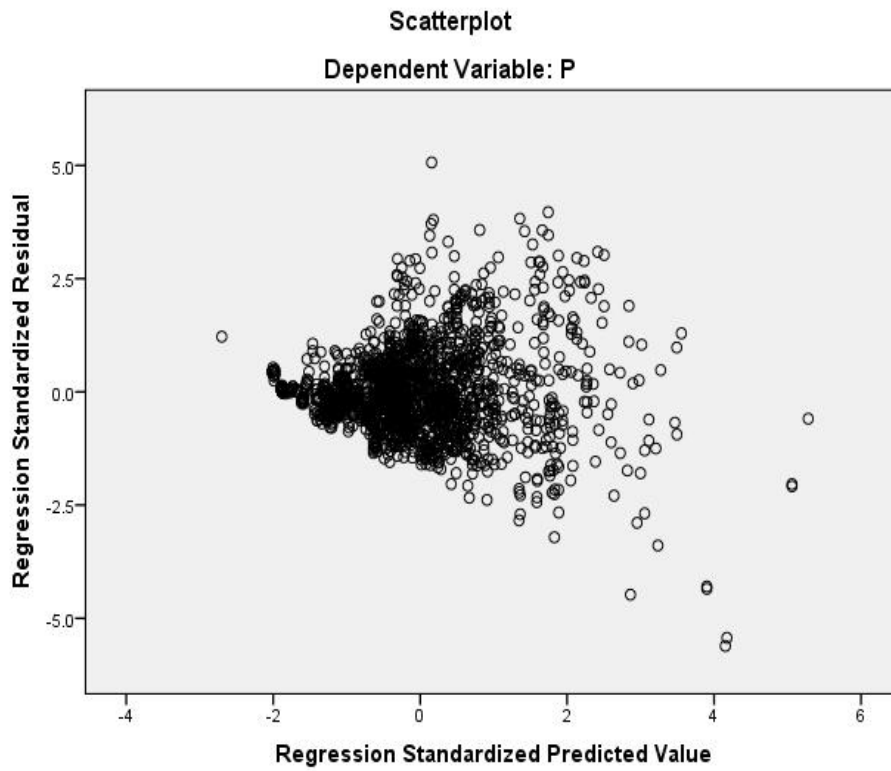
Appendix XI

Appendix XII

Appendix XIII