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Corporate Social Responsibility (CSR) Disclosure and Earnings Management

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Abstract

This study examines the relationship between CSR reporting and financial reporting. Specifically, we hypothesize that firms with extensive CSR disclosure have lower levels of earnings management (EM), and that such firms thereby provide more transparent financial reports compared to other firms. We argue that CSR disclosure is associated with ethical and cultural forces, that can constrain EM. We also argue that CSR disclosure is associated with an increase in external monitoring pressures and reputational considerations, which mitigates EM. We use discretionary accruals as a proxy for EM, and we measure CSR disclosure with two dummy variables and three variables derived from a content analysis. In our bivariate analyses, we find a negative and significant relationship between CSR disclosure and EM, across all our CSR variables. In our multivariate regression analysis, we find significant results for one CSR variable. Specifically, we find that firms that issue a separate CSR report are less likely to engage in accruals manipulation.

Keywords: Corporate Social Responsibility (CSR), CSR disclosure, Earnings Management.

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1. Introduction

The importance of Corporate Social Responsibility (CSR) is growing worldwide and companies increasingly provide CSR disclosures in order to meet stakeholder expectations. Responsible investors and investment funds are increasing (Adam & Shavit, 2008) and CSR disclosure can provide information about the competitiveness and expected future performance of firms (Clarkson et al., 2013; Wang et al., 2016). Investors and other stakeholders demand greater transparency from firms, both in financial aspects and other business aspects (Kim et al., 2012). Voluntary CSR disclosure frameworks are increasingly transitioning into mandatory CSR disclosure requirements (KPMG, 2017) and in the EU, a new legislation requires companies of a certain size to provide CSR disclosures from 2018 and onwards (PwC, 2016).

While CSR disclosure can improve transparency in business, the opposite can be said about earnings management (EM). As described by Healy and Wahlen (1999), EM aim to “mislead some stakeholders” or “influence contractual outcomes” through managers alterations of financial reports and reported economic performance. EM reduces earnings quality and thereby leads to lower quality of financial reports (Dechow et al., 2010; Hong & Andersen, 2011). EM is often perceived as unethical (Scholtens & Kang, 2013) and, contrary to CSR disclosure, it leads to negative effects on stock markets (Martínez-Ferrero et al., 2016). One important aspect of socially responsible behavior is financial transparency (Atkins, 2006; Chih et al., 2008) and in line with that, responsible firms should constrain earnings management (Kim et al., 2012).

In this study, we examine the relationship between CSR disclosure and EM. We hypothesize a negative relationship between the two, based on ethical, cultural, reputational and external monitoring theories. We refer to this hypothesis as the *transparent reporting hypothesis*. This is consistent with a more honest approach to corporate reporting. The competing hypothesis, namely that of a positive relationship, is referred to as the *opportunistic reporting hypothesis*. We also examine whether corporate visibility has a moderating effect on the relationship, because higher levels of market attention is associated with lower levels of EM (Yu, 2008) and higher levels of CSR reporting (Hahn & Kühnen, 2013).

Some studies have examined the link between CSR *performance* and EM. Kim et al. (2012) found that socially responsible firms are less likely to engage in EM, suggesting that ethics drives managers to constrain EM and produce high-quality financial reports. Although a few studies suggest a positive relationship between CSR and EM (Prior et al., 2008; Martínez-Ferrero et al., 2016), there are seemingly more studies that support a negative relationship between CSR and EM (Hong & Andersen, 2011; Litt et al., 2013; Scholtens & Kang, 2013). Litt et al. (2013) argue that both internal and external factors can support a negative relationship, based on corporate culture theory and external monitoring theory.

A few studies have focused on CSR *disclosure* in relation to EM. Wang et al. (2016) studied the effect of mandatory CSR disclosures on EM and found that CSR disclosure mitigates EM. The authors argue that CSR disclosure increases the exposure to public attention and scrutiny and that it reduces information asymmetry, and thereby it contributes to reduce EM. Yip et al. (2011) studied voluntary CSR disclosure in relation to EM and found mixed results, suggesting that the relationship can be different in different contexts. More specifically the study

suggests that the context of political costs can affect the relationship.¹ Sun et al. (2010) studied voluntary environmental disclosure and EM in the UK and found no significant relationship.

We add insights to the European context by studying Swedish listed firms between 2013 and 2015, which provides a final sample of 324 firm-year observations. Sweden is interesting to study due to the high levels of CSR reporting (KPMG, 2017), the recent focus on CSR reporting legislation in Europe, and the scarce amount of literature for European countries on this specific topic. We measure CSR disclosure based on five variables: (1) whether the firm provides a separate CSR report or not, (2) whether the firm follow the GRI guidelines or not, and (3, 4 & 5) a GRI-based content analysis of 32 keywords for CSR disclosure. We proxy EM by discretionary accruals, which we measure with the cross-sectional modified Jones model (Dechow et al., 1995). Visibility is measured based on firm name occurrences in media. We conduct bivariate analyses and multivariate regression analyses in order to test our hypotheses.

We find a significant and negative relationship between EM and CSR disclosure, across all our CSR variables, in our bivariate analyses. In our multivariate regression analysis, we find that firms that issue a separate CSR report are less likely to engage in EM through accruals manipulation. This result is robust to all our control variables and it supports the *transparent reporting hypothesis*. However, for the remaining four CSR variables, we find no significant relationship between EM and CSR disclosure in the multivariate regression analysis. In sum, we can provide some support for the *transparent reporting hypothesis*, although to a limited extent. Furthermore, we do not find that visibility has any significant impact on the relationship.

Our study contributes to the research literature in several ways. First, the new EU legislation for CSR disclosure highlights the growing attention towards CSR disclosure. The growing importance of CSR disclosures, and the challenges related to that, entails a need for better understanding of the costs and benefits of CSR disclosure (Huang & Watson, 2015). We highlight a potential benefit, namely reduced EM and improved financial reporting quality. Additionally, unlike Prior et al. (2008) and Martínez-Ferrero et al. (2016), our study supports the view of more honest CSR disclosure efforts from companies. While some studies have found a negative relationship between CSR *performance* and EM (e.g. Kim et al., 2012), we also highlight the possibility of a similar relationship between CSR *disclosure* and EM.

Although there is extensive research in each of the areas of EM and CSR, there is seemingly a gap in the literature regarding how the areas are related to each other. Information about a potential relationship can be useful for stakeholders that seek to understand and influence reporting behavior. It can provide insights for investor communities, who increasingly consider CSR aspects of firms. A potential relationship may suggest that the extent of CSR disclosures can provide a signal to stakeholders regarding the reliability of the financial reports. A potential relationship can also provide insights for regulators, both for financial reporting and CSR reporting, regarding drivers of corporate reporting behavior.

In the next section, we present a literature review and our hypothesis development. Then we describe the research design in section 3 and we present the results in section 4. Finally, we summarize our conclusions and suggestions for future research in section 5.

¹ Political costs refer to the political scrutiny, which includes the degree of governmental focus on taxation and regulation (Yip et al., 2011).

2. Literature review and hypothesis development

Corporate Social Responsibility

Carroll (1979) stated that social responsibility encompasses economic, legal, ethical, and discretionary obligations for an organization towards society. The European Commission defined CSR as “the responsibility of enterprises for their impacts on society” (European Commission, 2011) and the International Organization for Standardization (2010) state that social responsibility is about “transparent and ethical behavior”. The importance of CSR and CSR reporting is growing, and although CSR reporting still faces challenges, it is developing into a key part of the overall reporting framework (Tschopp & Huefner, 2015).

Voluntary disclosure frameworks are increasingly turning into mandatory requirements (KPMG, 2017). However, CSR disclosures are still expected to result from both voluntary initiatives and mandatory requirements in the future (GRI, 2015). Following a new EU legislation, Swedish firms of a certain size will have to disclose CSR information to some degree from 2018 (PwC, 2016). Unlike mandatory CSR disclosures, voluntary CSR disclosures may be driven partially by marketing considerations and strategic decisions. External pressures from various stakeholders are however important determinants of voluntary CSR disclosure (Huang & Watson, 2015; Hahn & Kühnen, 2013). Gamerschlag et al. (2011) argue, based on political costs theory, that voluntary CSR disclosure is important for firms in order to avoid negative consequences from additional regulation, taxes or other stakeholder activities. In line with this argumentation, voluntary CSR disclosure is to some extent necessary for various reasons, even when it is not required by law.

Investors are, as well as other stakeholders, becoming increasingly interested in CSR aspects of firms. Adam and Shavit (2008) explain that responsible investors and investment funds are increasing and that this increases the demand for CSR information. Clarkson et al. (2013) suggest that voluntary environmental disclosures can increase firm value and that it provide information about the competitiveness and expected future performance of the firm. Some studies have shown that CSR information can reduce information asymmetry and increase transparency (Huang & Watson, 2015). Cho et al. (2013) studied CSR performance in relation to information asymmetry, proxied by bid-ask spread. The study show that information asymmetry can be reduced by information regarding both positive and negative CSR performance. Dhaliwal et al. (2011) and Dhaliwal et al. (2012) found that voluntary CSR disclosures can attract more analysts and institutional investors, which reduces analyst forecast error and thereby cost of equity capital. Several studies have also found that CSR disclosure is positively associated with media visibility (Hahn & Kühnen, 2013). Furthermore, CSR disclosure can be argued to increase transparency, as Lanis and Richardson (2012) found that higher levels of CSR disclosures are related to lower tax avoidance.

It is worth noting that there is a difference between CSR performance and CSR disclosure, because firms with superior CSR performance do not necessarily have more or better CSR disclosure (Richardson et al., 1999; Hahn & Kühnen, 2013). Hahn and Kühnen (2013) state that on the one hand, there might be a positive relationship because firms might want to signal good CSR performance through CSR reporting. On the other hand, firms with weaker CSR performance might use CSR reporting to mitigate legitimacy threats, due to pressures from

stakeholders. Although there is mixed evidence, several studies have suggested a positive correlation (Belal & Cooper, 2011; Clarkson et al., 2008; Gelb & Strawser, 2001).

CSR and Earnings Management

Healy and Wahlen (1999) describe EM as managers alteration of financial reports, with the intent to “mislead some stakeholders” or to “influence contractual outcomes” based on the reported economic performance. Burgstahler and Dichev (1997) show that EM, proxied by discretionary accruals, are used by managers to avoid losses and earnings decreases. EM reduces earnings quality and thereby leads to lower quality of financial reports (Dechow et al., 2010; Hong & Andersen, 2011). Moreover, EM is often perceived as unethical (Scholtens & Kang, 2012) and, contrary to CSR disclosure, it leads to negative effects on stock markets (Martínez-Ferrero et al., 2016).

Walker (2013) have identified three motives for EM, that are commonly discussed in prior literature. The first motive is to achieve contractual terms connected to earnings, primarily concerning executive compensation and debt covenants. The second motive is to influence external investors in their expectations of future cash flows and perceptions of firm risk. The third motive is to influence third parties with an interest in the firm’s financial strength and those parties include for example competitors, customers, suppliers or politicians. Many different determinants and consequences of EM have been discussed in prior literature, including for example governance and control factors (e.g. Klein., 2002; Leuz et al., 2003) and capital market reactions to EM (e.g. Francis et al., 2004; Xie, 2001).

There are extensive amounts of literature in each of the areas of EM and CSR, however there is seemingly a gap in the literature when it comes to the relationship between the two. Some studies have investigated this relationship, however the results are somewhat inconsistent. Although a few studies have examined CSR disclosure, most studies on the relationship between EM and CSR have focused on CSR *performance*. One of the early studies was conducted by Chih et al. (2008), who found inconsistent results across three different proxies of EM for an international sample. The proxies for EM were earnings smoothing, earnings aggressiveness and loss avoidance, and these measures are based on total accruals. As stated by Chih et al. (2008), it is possible that there is a negative relationship, a positive relationship or no relationship, between EM and CSR. A few studies have suggested a positive relationship between EM and CSR, with the argument that CSR can be used opportunistically as a strategic shield against the negative consequences of EM (Prior et al., 2008; Martínez-Ferrero et al., 2016). We return to the arguments for a positive relationship further down, but first we present the arguments for a negative relationship between EM and CSR.

According to Atkins (2006), transparency in financial reports is a key factor of CSR for investing communities. In line with stakeholder management theory, socially responsible firms should therefore constrain EM and thereby provide more transparent and reliable financial reports (Hong & Andersen, 2011). Kim et al. (2012) found that firms with good CSR performance are less likely to manage earnings through accruals manipulation or real activities manipulation, and that CSR firms are less likely to occur in investigations regarding GAAP violations. This indicates that CSR firms deliver more reliable and transparent financial information. Similar to Kim et al. (2012), Hong and Andersen (2011) studied US firms and found consistent results.

Kim et al. (2012) and Hong and Andersen (2011) rely on ethical theories to explain the relationship, as the authors argue that ethical considerations is a driver of managers reporting decisions. This is supported by Jones (1995), who argue that competitive advantage can be achieved by behaving in a way that is according to the ethical principles; trustworthy, trusting and cooperative. The behaviors can be perceived as altruistic and companies engaging in them tend to survive and succeed, while those who engage in activities perceived as opportunistic do not achieve competitive advantage. Ethical theories argue that firms must embrace social responsibility as an ethical obligation, based on principles such as “the right thing to do” (Kim et al., 2012; Carroll, 1979; Jones, 1995). The connection between ethics and CSR can be supported by Gao et al. (2014), who found that insiders of CSR conscious firms are less likely to engage in insider trading, which indicates that CSR firms follow ethical codes to a greater extent.

Some more studies have suggested a negative relationship between CSR performance and EM. Scholtens and Kang (2013) studied Asian companies in ten countries and the authors argue that focus on CSR initiatives can contribute to reduce EM, even if it is not enough to get rid of EM single-handedly. Litt et al. (2013) used a narrower measure of CSR and studied environmental initiatives in relation to EM, in the US. The study found that firms with environmental initiatives engage less in EM and the authors rely on two theories to explain the results. First, the external monitoring theory suggests that environmentally responsible firms are monitored and scrutinized to a greater extent by various stakeholders, and this results in increased compliance pressure, which contributes to reduce EM. This argument is consistent with Dhaliwal et al. (2011), who found that voluntary CSR disclosure can attract more analysts. Yu (2008) found that analyst coverage is negatively associated with EM. Several other studies can support the argument that increased monitoring and scrutiny reduces EM and increases earnings quality (Dechow et al., 1996; Dechow et al., 2010).

Moreover, Litt et al. (2013) refer to the corporate culture theory, which suggest that firms with environmental initiatives develops a corporate culture, with moral beliefs and values that are more honest and focused on the greater good. This argument can be supported by Linnenluecke and Griffiths (2010), who argue that practices such as CSR reporting can contribute to more ethical and responsible values and beliefs among employees. Moreover, Eccles et al. (2012) suggest that CSR firms tend to focus on non-financial incentives to a higher degree, and this suggests that managers in such firms have less incentives to manipulate financial numbers. The corporate culture theory is arguably relatable to the ethical perspective suggested by Kim et al. (2012), as both perspectives focus on internal forces.

As noted by Kim et al. (2012), ethics may not be the only driver of CSR that may contribute to reduced EM and the authors mention reputational aspects as another potential explanation. Consistent with signaling theory (Connelly et al., 2011) CSR and CSR disclosure can provide a positive signal regarding the reputation of a firm. Meanwhile suspicions of EM lead to negative reactions on stock markets and is consequently bad for the reputation of a firm (Martínez-Ferrero et al., 2016). Accordingly, the reputational perspective would be consistent with a negative relationship between EM and CSR (Kim et al., 2012). Reputational considerations are important because it helps firms to attract resources, enhance performance and build competitive advantage (Fombrun et al., 2000). Similar to the external monitoring theory, the reputational perspective focus on external forces.

While most studies on the relationship between EM and CSR have focused on CSR performance, there are only a few studies who have studied the aspect of CSR *disclosure*. Wang et al. (2016) investigated the relationship between mandatory CSR disclosure and upwards EM. The study examined the introduction of mandatory CSR disclosure in China and the authors argue that CSR reporting reduces information asymmetry, by providing performance-relevant information and by increasing the exposure to public attention and scrutiny. With performance-relevant information, the authors refer to information which can be useful for investors in assessing financial positions and future performance of firms. The authors argue that information asymmetry is a necessary condition for EM, and with less information asymmetry, EM is less likely to exist. The findings suggest that mandatory CSR disclosure firms constrain EM and that mandatory CSR disclosure firms are more likely to be caught when engaged in EM. This indicates that higher levels of CSR disclosures improved the earnings quality and thereby the financial reporting quality. The theoretical arguments of Wang et al. (2016) are applicable to voluntary CSR disclosures as well, because voluntary CSR disclosure can reduce information asymmetry (Clarkson et al., 2013) and voluntary CSR disclosure can attract more market attention and scrutiny (Dhaliwal et al., 2011). These arguments are consistent with the external monitoring perspective.

A few other studies have also investigated the link between voluntary disclosure and EM. Francis et al. (2008) studied voluntary disclosures of financial information and the relationship with earnings quality. The study found that firms with good earnings quality (low level of EM) have more voluntary (financial) disclosures, compared to firms with poor earnings quality (high level of EM). Yip et al. (2011) extended that study to examine the relationship between EM and voluntary CSR disclosure, and how the relationship is affected by the contextual factor of political costs.² The study focused on US firms, and CSR disclosure was analyzed based on the identification of disclosing or non-disclosing firms. The study found a negative relationship between EM and CSR disclosure for firms with higher political costs, and a positive relationship for firms with lower political costs. Based on the results, the authors suggest that the relationship can be different in different contexts. Another study was done by Sun et al. (2010), who examined voluntary environmental disclosures in the UK, and the authors hypothesized a positive relationship with EM, proxied by discretionary accruals. However, the study found no significant relationship. This is one of few studies, in the area of EM and CSR, that has focused exclusively on a European country.

Similar to Yip et al. (2011) and Sun et al. (2010), we examine voluntary CSR disclosure in relation to EM. We hypothesize a negative relationship between EM and CSR disclosure. We base our hypothesis on both internal and external factors and we combine the theoretical arguments of Kim et al. (2012), Litt et al. (2013) and Wang et al. (2016). We consider ethics and corporate culture as the internal factors, and we consider external monitoring pressures and reputation as the external factors.

² Yip et al. (2011) proxy political costs by industry. The study compared one sample of firms from the oil and gas industry to a sample from the food industry, and the industries were argued to be characterized by high and low political costs respectively.

Transparent reporting hypothesis: Firms with more extensive voluntary CSR disclosure are less likely to engage in earnings management.

We also present a competing hypothesis, namely that of a positive relationship between CSR disclosure and EM. Advocates for a positive relationship tend to argue for an opportunistic use of CSR, as it can improve reputation and legitimacy. Prior et al. (2008) found a positive relationship between EM and CSR performance, based on a multinational sample. The authors argue that CSR is used to gather support from stakeholders and that CSR may be used as an entrenchment mechanism in the context of EM. The study only found significant results for regulated firms and this is important to keep in mind, because regulated firms formed less than 20% of their sample.

A positive relationship would be consistent with agency theory, as CSR might be used opportunistically by managers to pursue their own interests (Jensen & Meckling, 1976). Furthermore, in line with legitimacy theory, companies might use CSR to mitigate legitimacy threats (Deegan, 2002). Matsumura et al. (2013) suggest that CSR disclosure improves the reputation of firms as it rewards good CSR performance and it mitigates the penalty for poor CSR performance. In a somewhat similar way, CSR disclosure might be used to mitigate the reputational penalty for EM. According to Hemingway and MacLagan (2004), firms might engage in CSR in order to cover up for corporate misconduct.³

Martínez-Ferrero et al. (2016) argue that CSR can be used as a strategic shield against the negative consequences of EM. The authors argue that CSR, contrary to EM, has a positive effect on the reputation and cost of capital of the firm. The authors also argue that the market fails to detect when CSR is used as a strategy to mask EM. Furthermore, this view is consistent with Chakravarthy et al. (2014), who found that CSR can repair reputational damage following earnings restatements. It is also consistent with Guiral (2012), who found that positive CSR activities can improve auditor perceptions of internal control systems. This perspective leads to the competing hypothesis.

Opportunistic reporting hypothesis: Firms with more extensive voluntary CSR disclosure are more likely to engage in earnings management.

According to Martínez-Ferrero et al. (2016), the strategic shield approach is less likely to work in countries with strong commitment to CSR. This suggestion is consistent with our expectation of a negative relationship between EM and CSR, because Sweden is a country with high levels of CSR reporting (KPMG, 2017) and a strong commitment to CSR (RobecoSAM, 2017).

Furthermore, we hypothesize a moderating effect of visibility on the relationship between EM and CSR disclosure. Yip et al. (2011) suggest that the relationship between CSR disclosure and EM can be context-specific, based on political costs. Gamerschlag et al. (2011) argue that high political costs are associated with high visibility, and that visibility is positively associated with CSR disclosure. Furthermore, higher levels of market attention can potentially mitigate EM through more monitoring and scrutiny (Yu, 2008; Litt et al., 2013; Wang et al.,

³ As pointed out by Kim et al. (2012), Enron can serve as an example, because the firm was perceived as a socially responsible firm by many, before the scandal came to light.

2016). For these reasons we expect that higher visibility in combination with extensive CSR disclosures will strengthen the negative relationship.

3. Research design

Data and sample selection

The sample consist of Swedish firms, listed on Nasdaq OMX Stockholm in the large and mid cap segments.⁴ The starting point for our sample is a list provided by Dagens Industri, covering listed firms as of January 2018 (DI, 2018). We limit our sample to three years, namely 2013-2015, and this provide an initial sample of 439 observations. We obtain financial data from the database ORBIS.⁵ Moreover, we manually collect CSR reports and annual reports from the websites of the sample firms. We conduct a content analysis based on keywords from the GRI guidelines, and we obtain CSR data from the Sustainability Disclosure Database, which is provided by GRI. We exclude foreign firms, observations with missing financial data, and observations for which our EM proxy cannot be calculated. Observations for which CSR data cannot be collected, due to missing CSR and annual reports, are also excluded. Furthermore, we exclude banks and insurance companies from the sample due to the different characteristics of accruals for financial institutions (Kim et al., 2012). Our final sample is composed of 324 firm-year observations and 116 unique firms.

While prior literature has focused primarily on US and Asian companies, we add insights to the European context.⁶ One advantage of studying one country in isolation is that noise stemming from country-specific differences can be avoided. Kim et al. (2012) argue that the mixed results of Chih et al. (2008) could be driven by country-specific differences, concerning accounting and CSR regulation, investor protection and EM practices.

CSR variables

We use five measures of CSR disclosure, including two dummy variables and three measures based on a content analysis derived from the GRI guidelines. First, we examine whether the firm issues a separate CSR report or not. This variable has been used in prior literature (Gamerschlag et al., 2011; Yip et al., 2011; Dhaliwal et al., 2012) and it is based on the assumption that stand-alone CSR reports indicate more extensive CSR disclosures. We search for separate CSR reports on the websites of the sample firms and we classify each firm-year observation with “1” if a separate CSR report could be found, and “0” if it could not be found. This variable is labelled SR.

Secondly, we consider whether the firm follow the GRI guidelines for CSR reporting or not. GRI provides the most common framework to use for sustainability reporting (KPMG, 2017) and it is arguably the most relevant institution in the context of CSR disclosure

⁴ We exclude firms from the small cap segment because CSR disclosure is less likely to exist in smaller firms. Several studies have shown that CSR disclosure is related to firm size (Hahn & Kühnen, 2013).

⁵ 5 observations were manually complemented with financial data from the annual reports, for single missing values in ORBIS. The size of the values was carefully compared to the values in ORBIS, in order to ensure consistency and reliability. The variables concerned were net accounts receivables and net property, plant and equipment (PPE).

⁶ We have only found one study in the area of the link between EM and CSR which has focused on Europe only; Sun et al. (2010). The study examined EM in relation to environmental disclosures, in the UK.

(Moneva et al., 2006; Tschopp & Huefner, 2015). Consequently, we expect GRI firms to provide more extensive CSR disclosures than other firms. The Sustainability Disclosure Database, provided by GRI, contain information regarding sustainability and integrated reports that GRI are aware of. The database only contains reports that are accessible online. GRI have classified the reports as GRI reports if the report contains a GRI content index and make explicit references to the GRI standards or guidelines. Reports that do not meet these criteria are classified as non-GRI reports or “citing-GRI” reports. In our study, we consider CSR reports, integrated reports or annual reports to be GRI-reports if GRI has identified the report as a GRI report. The variable is labelled GRI and takes the value of “1” for GRI reports, and “0” otherwise.

We then conduct a content analysis, in order to obtain three additional variables, based on a disclosure index created by Gamerschlag et al. (2011). The authors derived 32 keywords from the GRI guidelines, arguing that the keywords are indicative of meaningful CSR disclosure. Table 1 shows the keywords.

Table 1 Keywords for the content analysis	
Environmental	Social
Recycled	Employment
Energy consumption	Employee turnover
Biodiversity	Collective bargaining
Emissions	Collective agreements
Effluents	Occupational health
Waste	Occupational safety
Spills	Training
Environmental impacts	Diversity
	Equal opportunities
	Human rights
	Discrimination
	Freedom of association
	Child labor
	Forced labor
	Compulsory labor
	Community
	Corruption
	Public policy
	Compliance
	Fines
	Sanctions
	Product responsibility
	Customer health
	Customer safety

The disclosure index is derived from the core indicators of the GRI framework, which means that these disclosures are relevant for most companies and for most stakeholders. Several other studies have used content analysis on CSR disclosures, with keywords derived from GRI (Beck et al., 2010). The GRI guidelines includes the environmental, social and economic aspects of sustainability. Due to the mandatory nature of financial disclosures, Gamerschlag et al. (2011) focused on the environmental and the social aspects in their CSR disclosure index. The content analysis provides variables for environmental CSR disclosure (CSR_{env}), social CSR disclosure (CSR_{soc}) and finally total CSR disclosure (CSR_{tot}). The first two variables contain the sum of frequencies for the respective group of keywords and the third variable is the sum of the first two variables.

Gamerschlag et al. (2011) applied the index both on separate CSR reports and on annual reports. In our study we apply the content analysis to one of the reports only, because companies providing CSR disclosures in both reports might just provide a summary of the separate CSR report in the annual report. In first hand we apply it to the separate CSR report, and if the firm does not have one, we apply the content analysis to the annual report. The keywords are strongly related to CSR, which is why it can be applied on an annual report, even though an annual report contain non-CSR related information as well. Consistent with Gamerschlag et al. (2011), we apply the content analysis to voluntary CSR disclosures. Although content analysis is time-consuming, it provides a more sophisticated complement to our dummy variables.

We use a form-oriented mechanistic approach to content analysis, as we study frequencies of words. Mechanistic approaches have dominated over interpretative approaches in prior research on CSR disclosures (Beck et al., 2010). Gamerschlag et al. (2011) argue that this approach is the most reliable form of content analysis, because the coder does not need to use any subjective judgment. An assumption in this approach is that the frequency indicates the importance of the subject in the text (Abdolmohammadi, 2005). Consistent with Gamerschlag et al. (2011), we consider both singular and plural forms (e.g. environmental impact/environmental impacts) and we consider both American and British English (labour/labor). Also similar to their study, we use the search function of the PDF reader after manually checking its reliability. More specifically we used the advanced search function of Adobe Acrobat Reader. To a small degree we had to manually adjust the frequencies throughout the coding process, in order to avoid errors. For example, “fine” had to be adjusted for irrelevant words such as “defines”. For the purpose of our regression analysis, we also create adjusted measures with the natural log in order to adjust for skewness.

Discretionary Accruals

Measures of discretionary accruals are commonly used as proxies for EM and earnings quality (e.g. Jones, 1991; Dechow et al., 2010). We use the cross-sectional modified Jones model (Dechow et al., 1995), which regresses total accruals on the change in sales and property, plant and equipment (PPE). The change in sales and PPE represents the non-discretionary part of the total accruals, because working capital (short-term) accruals vary with sales and depreciation expenses (a long-term accrual) vary with PPE. In this model, sales growth and investment in PPE are seen as drivers of firm value (Dechow et al., 2010). The residual of the regression model represents the discretionary accruals, which serves as our proxy for EM.

The modification of the original Jones (1991) model adjust for the possibility that revenues are manipulated. This is done by removing changes in net receivables from the model, because it is easier to exercise discretion over revenue recognition for credit sales, compared to cash sales (Dechow et al., 1995). Consistent with Kim et al. (2012), we use the absolute value of discretionary accruals, rather than the signed value, because EM can include either upwards or downwards manipulation of earnings (Klein, 2002; Walker, 2013). Specifically, we use the following model:

$$TA = \beta_0 + \beta_1(\Delta Rev - \Delta Rec) + \beta_2 PPE + \varepsilon \quad (1)$$

where:

TA = total accruals in year t, scaled by lagged total assets, where total accruals are calculated by Δ Current Assets - Δ Cash - Δ Current Liabilities - Depreciation and Amortization Expense (Jones, 1991), and where the change (Δ) is calculated between year t and t-1;

Δ Rev = sales in year t minus sales in year t-1, scaled by lagged total assets;

Δ Rec = net receivables in year t minus net receivables in year t-1, scaled by lagged total assets;

PPE = net property, plant and equipment, scaled by lagged total assets;

ε = residual, representing discretionary accruals.

Control Variables

We incorporate several control variables in our model; we control for firm size, because Roychowdhury (2006) suggest that firm size can explain variations in EM, and firm size can also explain variations in CSR disclosure (Hahn & Kühnen, 2013). Consistent with Wang et al. (2016) and Martínez-Ferrero et al. (2016), we use the natural log of total assets as a measure for firm size. We control for return on assets (ROA), since financial performance can affect EM (Kothari et al., 2005; Prior et al., 2008). We control for financial leverage, measured by equity ratio, because managers may consider debt covenants in EM decisions (Press & Weintrop, 1990), and we control for sales growth, because growing firms have stronger incentives to meet earnings targets (Skinner & Sloan, 2002). Like Yip et al. (2011), we measure sales growth as the sales increase in percentage from year t-1 to year t.

Furthermore, Klein (2002) found that governance factors can affect levels of EM and Sun et al. (2010) suggest that governance mechanisms should be considered when studying the relation between EM and CSR disclosure. Like Sun et al. (2010), we control for board size with manually collected data from the annual reports. Although some studies suggest that larger boards may be inefficient (Jensen, 1993), other studies can support the view that larger boards can mitigate EM. Xie et al. (2003) found a negative association between board size and EM. The authors suggest that larger boards may bring more experienced and independent directors to the board, which can contribute to mitigate EM. Yu (2008) suggest that more scrutiny can mitigate EM, and this can also support the relevance of board size as a control variable. Finally, we control for the industry and year effects with dummy variables. All our control variables have been used in prior literature.

Empirical model

We use the following model in order to capture the relation between EM and CSR disclosure:

$$EM = \beta_0 + \beta_1 CSR + \beta_2 SIZE + \beta_3 ROA + \beta_4 LEV + \beta_5 GROWTH + \beta_6 GOV + \varepsilon \quad (2)$$

where:

EM = earnings management, proxied by the absolute value of discretionary accruals (ABS_DA);

CSR = CSR disclosure, measured by one of five variables: SR, GRI, log CSR_{env}, log CSR_{soc} or log CSR_{tot}, where the three latter variables are adjusted for skewness with the natural log;

SR = a dummy variable that takes the value of 1 if the firm issue a separate CSR report;

GRI = a dummy variable that takes the value of 1 if the firm report according to GRI;

CSR_{env} = total amount of environmental disclosures;

CSR_{soc} = total amount of social disclosures;

CSR_{tot} = total amount of environmental and social disclosures;

SIZE = the natural log of total assets;

ROA = financial performance, measured by return on total assets;

LEV = financial leverage, measured by equity ratio;

GROWTH = sales growth measured as the sales increase in percentage from year t-1 to year t;

GOV = board size, i.e. number of board committee members;

In our model we use the EM variable as the dependent variable and this is consistent with prior studies that have hypothesized a negative relationship between EM and CSR (e.g. Kim et al., 2012; Litt et al., 2013; Wang et al., 2016). This is also consistent with our theoretical arguments, as we argue that the cultural and ethical forces, as well as the reputational and external monitoring pressures that CSR and CSR disclosure brings, contributes to mitigate EM.

In our additional analysis, we test whether visibility has a moderating effect on the relationship between EM and CSR disclosure. Hahn and Kühnen (2013) state that media exposure, supply-chain position and brand-related features are common proxies for visibility. We follow Gamerschlag et al. (2011) and measure visibility by media exposure, based on data collected from the database Factiva. We count the number of times that the firm name has occurred in business and news publications during the firm year.

4. Results

Descriptive statistics and bivariate analysis

In table 2, we report descriptive statistics for our variables. Consistent with prior studies in the field, we winsorize all continuous variables at the 1% level, by adjusting the values of the top and bottom percent to the values of the 99th and 1st percentile.⁷ The mean value of absolute

⁷ The winsorization at the 1% level is consistent with prior studies in the field (e.g. Kim et al., 2012; Wang et al., 2016; Hong & Andersen, 2011; Litt et al., 2013) and it is consistent with the general earnings quality literature (Kothari et al., 2005; Dechow et al., 2010). Consistent with prior studies, we report descriptives for the winsorized variables only.

discretionary accruals is 5,6% of lagged total assets, which is similar to the levels reported by Wang et al. (2016), Litt et al. (2013), Sun et al. (2010) and Martínez-Ferrero et al. (2016).

In our sample the proportions of firms that issue separate CSR reports and report according to GRI are 28% and 36% respectively. For our continuous CSR variables, we report both the original values and the natural log of the values.⁸ The descriptives for the continuous CSR variables indicate that social keywords are used more often than environmental keywords in our sample. The average word frequency for CSRtot is 128. Regarding our control variables, our sample has a mean return on assets of 6,9%, a mean equity ratio of 50% and a median sales growth of 7,6%.⁹

Table 2 Descriptive statistics

Variable	n	Mean	Median	Std. Dev	25th Percentile	75th Percentile
ABS_DA	324	0,056	0,037	0,078	0,014	0,070
DA	324	0,007	0,000	0,090	-0,032	0,038
SR	324	0,275	0	0,447	0	1
GRI	324	0,358	0	0,480	0	1
CSRtot	324	127,6	67,5	136,0	33,0	169,0
CSRenv	324	51,3	21,5	64,0	5,0	77,5
CSRsoc	324	76,0	42,5	79,4	24,0	99,5
log CSRtot	324	4,256	4,212	1,217	3,497	5,130
log CSRenv	324	2,897	3,068	1,684	1,609	4,350
log CSRsoc	324	3,812	3,749	1,116	3,178	4,600
ROA	324	0,069	0,062	9,695	0,034	0,105
LEV	324	0,500	0,480	0,192	0,380	0,610
SIZE	324	15,615	15,468	1,849	14,427	17,155
GROWTH	324	0,223	0,076	0,946	0,011	0,163
GOV	324	7,216	7	1,582	6	8
VIS	324	618,5	263,0	921,9	140,0	654,5
High_VIS	324	0,269	0	0,444	0	1

The table report descriptive statistics for our variables. See section 3 for definitions of the variables. For the variables CSRtot, CSRenv and CSRsoc, we report both the original values and the natural log of the values. ABS_DA contain the absolute value of discretionary accruals and DA contain the real (signed) values of discretionary accruals. High_VIS is a group variable, which takes the value of 1 for firms with high visibility, and the value of 0 for firms with low visibility. This grouping is made based on the mean value of visibility (VIS). This variable is discussed further in the additional analysis.

Table 3 reports Pearson correlations to the lower left side and Spearman correlations to the upper right side. There is a high positive correlation among our CSR variables (>0,5) and in particular the three variables derived from the content analysis are highly correlated

⁸ Due to skewness of the original values, we use the natural log of the CSR variables in the regression analyses. This adjustment provided better normality distributions.

⁹ Sales growth has a higher mean than median due to a few observations with extreme values.

Table 3 Correlation Matrix: Pearson and Spearman Correlations

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
ABS_DA	1	1,000	-0,134	-0,141	-0,111	-0,134	-0,141	-0,111	-0,167	-0,164	-0,030	0,052	-0,185	0,163	-0,181	-0,225
log CSRtot	2	-0,193	1,000	0,909	0,944	1,000	0,911	0,944	0,602	0,691	-0,080	-0,416	0,743	-0,203	0,450	0,488
log CSRenv	3	-0,179	0,868	1,000	0,749	0,909	0,999	0,749	0,624	0,660	-0,042	-0,394	0,650	-0,179	0,337	0,444
log CSRsoc	4	-0,168	0,948	0,716	1,000	0,911	0,752	1,000	0,516	0,647	-0,101	-0,381	0,709	-0,201	0,485	0,449
CSRtot	5	-0,127	0,826	0,773	0,801	1,000	0,911	0,944	0,602	0,691	-0,080	-0,416	0,743	-0,203	0,450	0,488
CSRenv	6	-0,118	0,776	0,821	0,673	0,928	1,000	0,752	0,624	0,657	-0,041	-0,396	0,650	-0,180	0,333	0,443
CSRsoc	7	-0,121	0,782	0,656	0,823	0,952	0,774	1,000	0,516	0,647	-0,101	-0,381	0,709	-0,201	0,485	0,449
SR	8	-0,168	0,559	0,600	0,461	0,581	0,628	0,486	1,000	0,579	0,063	-0,182	0,383	-0,077	0,298	0,250
GRI	9	-0,148	0,613	0,629	0,558	0,682	0,655	0,635	0,579	1,000	-0,014	-0,307	0,562	-0,177	0,347	0,295
ROA	10	-0,154	0,014	0,014	-0,001	0,030	0,036	0,022	0,054	0,030	1,000	0,350	-0,150	0,169	-0,135	-0,103
LEV	11	0,135	-0,451	-0,433	-0,403	-0,327	-0,314	-0,291	-0,224	-0,329	0,244	1,000	-0,516	0,086	-0,262	-0,281
SIZE	12	-0,177	0,673	0,638	0,648	0,648	0,571	0,647	0,373	0,545	0,025	-0,467	1,000	-0,251	0,614	0,598
GROWTH	13	0,020	-0,068	-0,144	-0,040	-0,047	-0,041	-0,045	-0,094	-0,071	0,026	0,039	-0,086	1,000	-0,120	-0,148
High_VIS	14	-0,153	0,425	0,314	0,458	0,494	0,408	0,516	0,298	0,347	-0,031	-0,259	0,625	-0,033	1,000	0,511
GOV	15	-0,143	0,450	0,433	0,428	0,426	0,379	0,425	0,209	0,285	0,016	-0,256	0,630	-0,090	0,480	1,000

The lower left side show Pearson correlation coefficients (below the diagonal) and the upper right side show Spearman correlation coefficients (above the diagonal). Bold numbers indicate statistical significance at the 0,05 level. For definitions of variables, see section 3. For descriptives of variables, see Table 2.

with each other ($>0,9$). This is expected and consequently we only include one CSR variable at a time in the regression analysis. Due to the high correlation ($>0,5$) between SIZE and the other independent variables we analyse the variance inflation factor (VIF). The VIF values are well below the tolerance values of 10, which suggest that multicollinearity is not a problem (Gamerschlag et al., 2011). Apart from that, the correlation coefficients indicate that no multicollinearity is present among the independent variables.

The correlation analysis indicates negative and significant coefficients for the correlation between absolute discretionary accruals (ABS_DA) and all our CSR variables. The correlation analysis also indicates that ABS_DA is negatively and significantly correlated with return on assets, firm size, visibility and board size. This indicates that more profitable firms, larger firms, more visible firms and firms with larger boards have less accruals manipulation. We observe that firm size has a high positive correlation ($>0,5$) with visibility and all CSR variables, except one (SR). This is consistent with prior research, because large firms and more visible firms are more likely to disclose CSR information (Hahn & Kühnen, 2013). The correlation analysis also suggest that larger firms have lower equity ratios and larger boards. Consistent with Skinner & Sloan (2002) the correlation analysis also provides some indication that growing firms have more absolute discretionary accruals, although this correlation is significant for the Spearman correlation only.

In table 4, we report descriptive statistics for our CSR variables by the quartiles of our EM proxy DA.¹⁰ We compare the mean and median values for CSR disclosure between the top and bottom quartiles, where the top quartile represents more aggressive EM and the bottom quartile represents more conservative EM. The more conservative firms have a higher degree of CSR disclosure compared to the more aggressive firms, based on the mean comparisons for the variables SR (30% vs 9%), GRI (40% vs 16%), CSRenv (53 vs 32), CSRsoc (81 vs 53) and CSRTot (135 vs 86). The Wilcoxon rank-sum test indicate statistical significance for the difference across all CSR variables. This suggests that the more conservative firms, in terms of accruals manipulation, issue separate CSR reports and follow GRI to a greater extent, and that those firms have more extensive CSR disclosures based on our disclosure index. The untabulated t-tests produced similar results.

In table 5, we report descriptive statistics for absolute discretionary accruals (ABS_DA) by group variables for high and low CSR disclosure. The mean and median comparisons, for all CSR variables, indicates that firms with higher levels of CSR disclosure have lower magnitudes of discretionary accruals. In other words, this suggests that firms that provide a separate CSR report, firms that report according to GRI, and firms with higher levels of CSR-words have lower accruals manipulation. For SR and GRI, the Wilcoxon rank-sum test indicate statistical significance for the difference at the 0,01 level. For CSRenv and CSRTot, the difference is significant at the 0,05 level, and for CSRsoc, the difference is significant at the 0,1 level. The untabulated t-tests produced similar results.

The correlation analysis and the bivariate analyses from table 4 and 5 suggests a negative association between EM and CSR disclosure and this provides preliminary support for the *transparent reporting hypothesis*. The robustness is tested further in the coming parts.

¹⁰ Kim et al. (2012) report a similar bivariate analysis, where the frequency distribution of CSR firms is compared between the top and bottom quartile by absolute discretionary accruals.

Table 4 Bivariate Analysis: CSR Disclosure by Quartiles of Absolute Discretionary Accruals

		Quartile 1 (Conservative)	Quartile 4 (Aggressive)	Wilcoxon Test
SR	Mean	0,296	0,086	0,001***
	Std. Dev	0,460	0,283	
GRI	Mean	0,395	0,161	0,001***
	Std. Dev	0,492	0,369	
CSRtot	Mean	134,778	85,704	0,047**
	Median	63	42	
	Std. Dev	151,831	104,787	
CSRenv	Mean	52,864	31,667	0,032**
	Median	20	10	
	Std. Dev	68,254	50,869	
CSRsoc	Mean	81,420	53,210	0,069*
	Median	50	29	
	Std. Dev	92,952	56,667	

The number of observations (n) equals 81 firms for each quartile. Quartile 1 represents the lowest quartile of absolute discretionary accruals (ABS_DA), and it thereby represents the more conservative firms. Quartile 4 represents the highest quartile of ABS_DA, and it thereby represents the more aggressive firms. The quartiles are compared based on CSR disclosure, with the Wilcoxon rank-sum test, also known as the Mann-Whitney U-test. That is the nonparametric equivalent to the t-test, and we report it due to the nominal data level for our dummy variables. *, **, *** indicate statistical significance at the 0.1, 0.05 or 0.01 levels respectively, based on two-tailed tests.

Table 5 Bivariate Analysis: Absolute Discretionary Accruals by CSR Disclosure Groups

	Group	Mean	Median	Std. Dev.	n	Wilcoxon Test
SR	0	0,064	0,040	0,088	235	0,003***
	1	0,034	0,026	0,035	89	
GRI	0	0,064	0,040	0,086	208	0,003***
	1	0,040	0,026	0,059	116	
CSRtot	0	0,068	0,044	0,095	162	0,029**
	1	0,043	0,030	0,055	162	
CSRenv	0	0,067	0,047	0,094	162	0,030**
	1	0,044	0,030	0,057	162	
CSRsoc	0	0,067	0,041	0,094	162	0,010**
	1	0,044	0,030	0,058	162	

For SR and GRI, group 1 contain firms that issue a separate CSR report and report according to GRI respectively. For CSRtot, CSRenv and CSRsoc, the variables were divided in two groups based on the median values of word frequencies. For these variables, group 1 contain firms with a high degree of CSR disclosure and group 0 contain firms with a low degree of CSR disclosure. The difference between the groups are compared for each variable based on the level of absolute discretionary accruals (ABS_DA). The Wilcoxon rank-sum test is used to test the differences, due to skewness of the ABS_DA variable. *, **, *** indicate statistical significance at the 0.1, 0.05 or 0.01 levels respectively, based on two-tailed tests.

Regression analysis

Table 6 reports multivariate OLS regression with robust standard errors. Five regressions are presented; one for each CSR variable. The level of R² for our main model is around 21% and this level is consistent with prior studies in the field (e.g. Wang et al., 2016). The untabulated bivariate regression analysis between ABS_DA and the CSR variables indicate a significant negative relationship across all CSR variables.¹¹ However, the results are only partly robust to the inclusion of the control variables in the multivariate regression analysis. In the main model, one CSR variable (SR) show a significant negative relationship with ABS_DA at the 0,1 level. The remaining four CSR variables do not show any significant relationship. This means that our results can provide some limited support for the *transparent reporting hypothesis*.

For our control variables, ROA and SIZE are significantly and negatively related to absolute discretionary accruals (ABS_DA), in three and two regressions respectively. Based on these regression models, this suggest that larger and more profitable firms are less likely to engage in EM through accruals manipulation. The negative relation between firm size and EM is consistent with prior studies (e.g. Kim et al., 2012; Kothari et al., 2005). Regarding the relation between financial performance and EM, prior studies have found mixed indications. For example, Kim et al. (2012) found different relationships for different EM proxies. For the other control variables, we do not find any significant relationship with ABS_DA.

Table 6 Multivariate Regression Analysis

	1	2	3	4	5
SR	-0,011 (0,096*)				
GRI		-0,007 (0,457)			
log CSRtot			-0,001 (0,851)		
log CSRenv				-0,004 (0,305)	
log CSRsoc					0,003 (0,701)
ROA	-0,001 (0,101)	-0,001 (0,098*)	-0,001 (0,094*)	-0,001 (0,106)	-0,001 (0,086*)
LEV	0,024 (0,501)	0,023 (0,510)	0,023 (0,505)	0,019 (0,586)	0,024 (0,486)
SIZE	-0,005 (0,092*)	-0,005 (0,151)	-0,005 (0,197)	-0,004 (0,238)	-0,007 (0,079*)
GROWTH	-0,005 (0,269)	-0,005 (0,282)	-0,005 (0,296)	-0,006 (0,228)	-0,005 (0,271)

(continued on next page)

¹¹ The bivariate regression analysis indicate significance at the 0,01 level for the variables SR, GRI and log CSRenv and significance at the 0,05 level for the variables log CSRsoc and log CSRtot.

Table 6 Multivariate Regression Analysis (continued)

	1	2	3	4	5
GROWTH	-0,005 (0,269)	-0,005 (0,282)	-0,005 (0,296)	-0,006 (0,228)	-0,005 (0,271)
GOV	-0,003 (0,319)	-0,003 (0,326)	-0,003 (0,341)	-0,003 (0,373)	-0,003 (0,325)
Industry dummies	included	included	included	included	included
Year dummies	included	included	included	included	included
R2	0,210	0,208	0,207	0,210	0,208
n	324	324	324	324	324
VIF range	1,10-4,05	1,10-4,02	1,10-4,04	1,10-4,05	1,11-3,99

Five regressions are presented, where ABS_DA is the dependent variable in all regressions. Regression number 1, 2, 3, 4 and 5 shows the regressions for each of the CSR variables SR, GRI, log CSRtot, log CSRenv and log CSRsoc respectively. *, **, *** indicate statistical significance at the 0.1, 0.05 or 0.01 levels respectively, based on two-tailed tests with robust standard errors. The p-values are presented in parenthesis. Industry dummies are included in all regressions based on one-digit SIC-codes. For definitions of the variables, see section 3.

Additional analysis

In this section we present an additional analysis concerning the potential interaction effect of visibility on the relationship between EM and CSR disclosure. We divide our sample in two groups, based on high or low visibility. This is done based on the mean value of visibility and the group variable is called High_VIS. Table 2 shows that 27% of the sample firms are classified as high visibility firms. First, we compare the mean and median levels of CSR disclosure and absolute discretionary accruals (ABS_DA), by high and low visibility firms. The untabulated results of the bivariate analyses indicates that high visibility firms have higher levels of CSR disclosure and lower magnitudes of discretionary accruals. Based on the Wilcoxon rank-sum test and the t-test, the differences are significant at the 0,01 level. This is consistent with our expectations and prior research (Hahn & Kühnen, 2013; Yu, 2008).

In order to examine the role of visibility for the relationship between CSR disclosure and EM, we extend our main regression model (equation 2) by adding an interaction variable to the model (equation 3). In order to facilitate the analysis, we use dummy variables for the analysis of the interaction effect.

$$EM = \beta_0 + \beta_1 CSR + \beta_2 SIZE + \beta_3 ROA + \beta_4 LEV + \beta_5 GROWTH + \beta_6 GOV + High_VIS + High_VIS * CSR + \varepsilon \quad (3)$$

Table 7 reports the results for the additional regression analysis. Our CSR variable SR is still significant, at a better significance level ($p < 0,05$) compared to our main model ($p < 0,1$). Meanwhile, GRI is close to significant at the 0,1 level. As shown in the table, the interaction variables have positive coefficients, which would suggest that high visibility would weaken the negative relationship between CSR disclosure and absolute discretionary accruals (ABS_DA). However, the coefficients are not significant for any of the interaction variables. This suggest that visibility has no significant moderating effect on the relationship between EM and CSR disclosure.

Table 7 Additional Regression Analysis with Visibility as Interaction Variable

	1	2
SR	-0,018 (0,041 **)	
GRI		-0,010 (0,422)
HIGH_VIS	-0,002 (0,908)	0,000 (0,987)
SR*HIGH_VIS	0,019 (0,135)	
GRI*HIGH_VIS		0,011 (0,476)
Control variables	included	included
R2	0,1859	0,1832
n	324	324
VIF-range	1,13-4,14	1,15-4,14

Two regressions are presented. Number 1 and 2 shows the regressions for each of our CSR variables SR and GRI. *, **, *** indicate statistical significance at the 0.1, 0.05 or 0.01 levels respectively, based on two-tailed tests with robust standard errors. P-values are shown in parenthesis.

We also conduct an analysis of the interaction effect of visibility based on our remaining CSR variables (CSRtot, CSRenv and CSRsoc). We base this analysis on the group variables described in table 5, for high and low CSR disclosure. The untabulated results are similar to those reported in table 7, showing insignificant coefficients for the interaction variables.

5. Conclusion

We examine whether CSR reporting behavior is associated with financial reporting behavior. We hypothesize a negative relationship between CSR disclosure and EM (*the transparent reporting hypothesis*), based on ethical, cultural, reputational and external monitoring theories. The opposite hypothesis, which is that of a positive relationship between the two, is based on opportunistic use of CSR disclosure as a shield against the negative consequences of EM. We test our hypotheses on a sample of Swedish listed firms and we proxy EM by discretionary accruals. We use five different variables to measure CSR disclosure, including an index derived from a content analysis.

In our bivariate analyses, we find a negative and significant relationship between CSR disclosure and EM, across all our CSR variables. In our multivariate regression analysis, we find a negative and significant relationship for one CSR variable (SR). This result is robust to the inclusion of several control variables that may serve as determinants of EM. This indicates that firms that issue a separate CSR report are less likely to engage in EM through accruals manipulation. For our remaining four CSR variables we find no significant relationship between EM and CSR disclosure in our main model. Furthermore, we do not find that visibility has any significant moderating effect on the relationship between EM and CSR disclosure.

In sum, we find some support for *the transparent reporting hypothesis*. However, it is only for one CSR variable that the results are robust to our control variables, and for that reason the results should be interpreted with caution. Based on our results we find no support for *the opportunistic reporting hypothesis* and consequently we can reject that hypothesis.

Limitations and future research

Some limitations with our study should be acknowledged. It is worth noting that both EM and CSR are complex constructs with measurement challenges (Hong & Andersen, 2011). Other measures may capture other aspects of EM and CSR respectively. In our study we have focused on discretionary accruals, however we have not considered real activities EM, which sometimes may be used by firms as a substitute to accruals manipulation (Roychowdhury, 2006; Cohen et al., 2008). Prior studies on the relationship between CSR disclosure and EM have focused exclusively on discretionary accruals, rather than real activities EM. Future research can potentially fill this gap. It is also possible that GRI-based measures do not capture all relevant aspects of CSR disclosure (Gamerschlag et al., 2011). We study firms in Sweden, which is a country with high levels of CSR reporting and a strong commitment to CSR. Country-specific differences can arguably affect the relationship (Kim et al., 2012) and therefore it is relevant for future research to study this area in other contexts.

We acknowledge that managers can influence both discretionary accruals and voluntary CSR disclosure, resulting in a potential endogeneity issue. Such issues are not uncommon in the research areas of CSR and EM.¹² Although not required by law, voluntary CSR disclosure is often necessary and important for firms in order to avoid political costs and to acquire critical resources (Gamerschlag et al., 2011; Hahn & Kühnen, 2013). Consequently, we expect voluntary CSR disclosure to be highly driven by exogenous factors. However, to the extent that CSR disclosure is determined strategically by managers in relation to discretionary accruals, we advise caution in the interpretation of our results. Future research may consider instrumental variables and 2SLS regression, in order to deal with potential endogeneity. Moreover, future research can potentially take advantage of the new EU legislation on CSR disclosure, in order to better isolate the exogenous effects.

Our empirical results do not capture the relative impact of the theoretical arguments. Future research may examine the impact of ethics and culture compared to external monitoring pressures and reputational considerations. Considering our results, future research can also examine the possibility of a non-linear relationship between CSR disclosure and EM. This may be relevant considering our strong results across all CSR variables in the analysis based on quartiles of discretionary accruals.

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¹² Prior studies that recognize potential endogeneity issues in the areas of CSR and EM include for example Huang & Watson (2015), Dechow et al. (2010), Dhaliwal et al. (2012), Yu (2008) and Martínez-Ferrero et al. (2016).

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