Financial Participation Plans, Corporate Social Responsibility and Earnings Management

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-- ABSTRACT --

Numerous previous studies have been investigating the relationship between corporate social responsibility (CSR) and earnings management (EM). These studies found both a positive and negative relationship: thus, the results are mixed and do not show consistency. This study aims to explain why these findings differ, by investigating financial participation plans as a third variable influencing this relationship. A sample of 198 European listed companies is used, and multiple regression analyses are performed researching the singular relationship between CSR and EM, between financial participation plans and CSR, and the possible moderation effect of these plans on the relationship between CSR and EM. The results of these regression analyses suggest that managers whose compensation is more equity-based are less likely to engage in EM, but these findings only holds for accrual-based EM as proxy. The results of the regressions performed for the other hypotheses are insignificant, wherefore no other conclusions can be derived.

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1   Introduction

"On April 20, 2010 the Deepwater Horizon drilling rig, operated by the British energy company BP, exploded and subsequently sank two days later. The explosion that occurred in the Gulf of Mexico killed 11 workers and caused millions of liters of crude oil to gush into the ocean. The accident is the largest offshore oil spill in the US history with devastating environmental and economic consequences for thousands of people in the region of the Gulf of Mexico" (Lin-Hi & Blumberg, 2011).

The oil spill incident in the Gulf of Mexico is known as one of the world's largest environmental disasters in history (Arora & Lodhia, 2015). The oil spill caused enormous damage to wildlife, the local communities and to companies that depended on the Gulf of Mexico in their day-to-day businesses (Cherry & Sneirson, 2011). Additionally, it negatively affected the financial performance of BP and probable the company's reputation would be damaged (Arora & Lodhia, 2015). Previous scandals, like Enron and Ahold, raised awareness among the business community that a company's reputation is a critical element for corporations (Calegari et al., 2010). As a response to the probable negative impact on BP's reputation by the incident, BP started to disclose their superior quality of their management in non-financial reports in an attempt to distract the public's attention away from the environmental incident (Arora & Lodhia, 2015).

Furthermore, this incident increased interest by investors to the management of companies and the environmental and societal performance of companies (Lin-hi & Blumberg, 2011). The increased interest in non-financial performance resulted in more sustainable behavior in the business environment: a large variety of sustainable business initiatives have been applied, such as the higher focus on the decrease of carbon emissions by companies (Simnet et al., 2009). One way to inform shareholders about the non-financial performance is a corporate social responsibility (CSR) report (Dahlsrud, 2008). CSR reports focus on non-financial categories like environmental performance, human rights and product responsibility (Simnet et al., 2009). The past years the number of firms disclosing CSR reports has increased: Grant Thornton (2008) states that disclosing CSR is not only for large corporations, but for all businesses. Atkins (2006) suggests that the reporting of CSR adds incremental information about the firm, making the firm more transparent. The disclosure of CSR reports is voluntary and there are no requirements for CSR reports; wherefore the

credibility of CSR reports is more questionable than that of financial reports, which are based on standards such as GAAP or IFRS (Simnet et al., 2009). Therefore, other studies suggest that CSR reporting could be used to mislead the investors; for example by using it as a distracting mechanism, like BP did after the oil spill (Arora & Lodhia, 2015). Thus, CSR reporting could be used by managers for achieving their self-interest. Kim et al. (2012) suggest that when the manager pursuits self-interest or egoism, CSR can become window-dressing for using earnings management (hereafter EM); then CSR reporting creates the impression that a firm is transparent, while it is actually used for covering up EM (Kim et al., 2012; Idowu et al., 2015). EM includes that firms can manage their earnings by using either accrual-based or real earnings management (Braam et al., 2015). Accrual-based EM manages the earnings by changing the accounting methods or estimates within the GAAP (Dechow & Schrand, 2010), while real EM modifies the execution of real business transactions (Roychowdhury, 2006).

The relationship between CSR and EM has been examined in the literature. Gras-Gil et al. (2016) used a sample of Spanish non-financial companies and found a negative relationship between CSR practices and EM. Scholtens & Kang (2012) examined the association between EM with CSR and investor protection in ten Asian countries, they found that Asian firms with better CSR are less engaged with EM and that investor protection is negatively associated with EM but positively associated with CSR practices. Kim et al. (2012) investigated the effect of CSR on both accrual-based and real EM, and found that CSR is negatively associated with both forms of EM. Alternatively, Prior et al. (2008) found a positive impact of CSR on EM practices by using archival data from a multi-national panel sample. Siueia and Wang (2019) found a significant and positive relationship between CSR and EM in the Mozambican extractive industry. Muttakin et al. (2015) investigated the relationship between CSR and EM in emerging economies and found that managers manage earnings when they disclose more CSR.

Previous studies mainly focus on the singular relationship between CSR and EM in one specific country or continent, resulting in mixed and inconsistent outcomes regarding the singular relationship. Therefore, a knowledge gap exists about the explanation why the results are mixed and inconsistent. This study aims to contribute why this relationship might differ by investigating the influence of a third variable in this relationship: namely financial participation plans. Financial participation plans include that the employees will participate

in the financial results: so having the right to a part of the firm's profit. The most common example of a financial participation plan is that the manager's compensation is equity-based. These financial participations plans are used as a way to align upper management incentives with the interest of shareholders (Bergstresser & Philippon, 2006). Recently, it has been suggested that these financial participation plans could increase the incentives for managers to use EM (Bergstresser & Philippon, 2006). To investigate the influence of financial participation plans on CSR and EM, the following research question is formulated: *How do financial participation plans affect the engagement in EM and the relationship between CSR and EM?*

The relationship between CSR and EM, and the influence of financial participation plans on EM and the relationship between CSR and EM will be investigated by using a sample of 198 European listed firms in 2017. The results prove some support for a negative influence of financial participation plans and the engagement in EM, nevertheless this finding only holds for accrual-based EM. Unfortunately, the results do not provide support for the other hypothesized relationships. The remainder of the paper is organized as follows: In the second section of this study, literature regarding EM, CSR and financial participation plans will be discussed to develop the hypotheses. In the third section the research method used is described, and in the fourth section the results of the regression analyses will be discussed. Finally in section fifth, some concluding comments, a number of limitations and suggestions for further research will be discussed.

2   Literature overview and hypotheses development

2.1   Earnings Management

To reduce the information asymmetry in the agency between managers and shareholders, the management discloses (non-)financial reports to inform the shareholders about the management's performance (Imhoff, 2003). The reports are of a high quality when they are relevant, reliable and timely (Sheifer & Vishny, 1997). When reports are of better quality, shareholders are more able to monitor the managers (Shleifer & Vishny, 1997). For financial reports, standards like the International Financial Reporting Standards (IFRS) are made for improving the quality of these reports. However, managers still have the opportunity to manage their earnings. Healy and Wahlen (1999) give the following definition of earnings management: "*EM occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting number*"

Healy and Wahlen (1999) argue that there are three main motivations for managers to engage in EM. First, there are capital market motivations, which suggest that EM is used for influencing the short-term stock price performance. Second, there are contracting motivations, implying that managers use EM when there are compensation and lending contracts depending on the financial report. Third, they argue that there are regulatory motivations for using EM: then EM is used to circumvent industry regulations, to reduce the risk of being investigated, to reduce the chance of an intervention by anti-trust regulators and finally used for tax planning purposes. Kasanen et al. (1996) found evidence that reaching dividend-based target earnings could be another motivation for managers to engage in EM. Additionally, several institutional factors are influencing the likelihood of engaging in EM by managers: Burgstahler et al. (2006) found that managers of public firms less often engage in EM than managers of private firms do, that there is less EM in countries with strong legal systems, that there is less EM in countries with stronger investor protection and finally that a more developed capital market structure results in less EM among public firms. EM can be divided into two different forms: accrual-based EM and real EM (Cohen & Zarowin, 2010; Dechow et al., 1995).

2.1.1 *Accrual-Based Earnings Management*

Accrual-based EM includes that the manager selects accounting policies from a set of generally accepted policies to achieve the earnings objectives (Braam et al., 2015; Dechow & Schrand, 2010). In accrual-based EM, there is a difference between discretionary and non-discretionary accruals. The non-discretionary accruals are determined by a firm's business model, its operational setting and by accounting guidelines that do not allow managerial decision-making (Braam et al., 2015). Contrary, the discretionary accruals allow managerial decision-making because they are subject to the manager's preferences and not required by accounting policies (Christensen et al., 2013). The use of these discretionary accruals to manage the earnings does not directly affect the cash flows, wherefore accrual-based EM has no real economic consequences (Hong & Andersen, 2011). An example of accrual-based EM is that managers could over or underestimate their estimations of warranty liabilities: this will change the accruals part of earnings but does not have actual impact on future cash flows (Hong & Andersen, 2011).

2.1.2 *Real Earnings Management*

Contrary, real EM has an actual direct impact on a firm's cash flows because it includes that managers undertake actions that change the timing or structuring of operations (Roychowdhury, 2006). These actions deviate from normal business practices and are undertaken with the objective of meeting certain earnings thresholds, such as manipulating sales, reducing discretionary expenditures and overproducing inventory to decrease the cost of goods sold (Braam et al., 2015). Real EM directly influences the firm's performance and operations wherefore it is supposed to be more expensive than accrual-based EM (Graham et al., 2005; Kim & Sohn, 2013; Cohen et al., 2008). But an advantage of real EM is that this method is more difficult to be detected by auditors and regulators because it directly affect cash flows (Roychowdhury, 2006). Additionally, real EM can be applied during the whole year, while accrual-based EM only can be applied to specific times and periods (Zang, 2012).

In the literature, prior studies have found evidence that the two EM methods used by firms for managing earnings are substitutes (Cohen et al., 2008; Cohen & Zarowin, 2010; Zang, 2012). Other studies have examined the choice between real EM and accrual-based EM; Braam et al. (2015) found that political connected firms are more likely to engage in real EM than engaging in accrual-based EM. Cohen et al. (2008) suggest that a reason for firms to be more likely to engage in accrual-based EM could be that it is less expensive than real EM.

Achleitner et al. (2014) found that family firms are more likely to engage in accrual-based EM than non-family firms, because real EM could damage the durable value of the firm.

2.2   Corporate Social Responsibility

CSR can be defined in many different ways, Dahlsrud (2008) collected in total 37 different definitions of CSR. All these different definitions were consistent with five dimensions where CSR is related to: 1) the stakeholders dimension, 2) the social dimension, 3) the economic dimension, 4) the voluntariness dimension and 5) the environmental dimension. The definition of CSR supposed by the Commission of the European Communities of 2001 is in line with these five dimensions: "CSR is a concept where companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis". In recent years, CSR emerged and resulted in a more sustainable behavior in the business environment. To reward sustainable behavior, awards are given to the most corporate social responsible organizations: such as the BBBA award for Corporate Social Responsibility. Every year, this organization gives this award to a corporate social responsible member judged by using eleven different checklists (see figure 1).

Figure 1: Corporate Social Responsibility Measurement by BBBA

Corporate Social Responsibility

		Example
Checklist 1	Policy and Planning	106
Checklist 2	Management Systems	70
Checklist 3	Employees and HR	63
Checklist 4	Supply Chain	73
Checklist 5	Health and Safety	89
	Economic total	*401*
Checklist 6	Water	43
Checklist 7	Energy	62
Checklist 8	Waste Management	63
Checklist 9	Pollution Control	43
	Environment total	*211*
Checklist 10	Community Engagement	70
Checklist 11	Contribution to Local Development	42
	Social Total	*112*

Annual total	724
Annual max	1080
Percent	67.0

Numerous studies researched the arguments for firms to voluntary act in a more responsible way. For example, García-Sánchez & García-Meca (2017); Fombrun & Stanley (1990); Verschoor (2005) and Linthicum et al. (2010) suggest that CSR is a form of reputation-building or maintenance: when a firm values its reputation, it can inhibit the firm from engaging in socially unacceptable activities (Kim et al., 2012). Other studies (e.g., Jones, 1995; Bozzolan et al., 2015; Waddock & Graves, 1997) suggest that a higher CSR of the firm leads to a higher spending of resources on a higher value creation of the firm: thus, engaging in CSR-activities has a positive effect on firm value. These studies are mainly based on the argument that investors consider CSR in their investments: when a firm engages in CSR, it will be more attractive for investors to invest. Porter and Kramer (2002) state that firms have a moral obligation to engage in sustainable behavior because this will benefit all; even when this sustainable behavior is not profitable for the firm itself.

2.2.1   Corporate Social Responsibility and Earnings Management

Ethical theory suggests that firms with higher CSR behave more responsible while reporting their financial statements (Malik, 2015). In line with this, Hong & Andersen (2011) found that firms with a higher CSR have better quality accruals and engage less in real EM; Kim et al. (2012) suggest that the reasons why CSR firms are less likely to engage in EM is that the managers of those firms are incentivized to behave ethically. Bozzolan et al. (2015) state that because CSR is positively related to the firm's performance, there is less need by managers to engage in EM to reach the target earnings. Gyungmin & Ho-Young (2013) find that firms with more corporate donations have lower discretionary accrual, and that this negative relationship is more pronounced when firms issue CSR reports. Gras-Gil et al. (2016) show evidence that engaging in socially responsible activities improves stakeholder satisfaction, what has a positive effect on corporate reputation and also has a negative impact on the use of EM. Scholtens & Kang (2012) also find that Asian firms with relatively good CSR are significantly less engaged in EM. Based on these studies, the following hypothesis is developed:

H1A: CSR has a negative relationship with the engagement in EM.

However, García-Sánchez & García-Meca (2017) argue that CSR could be used in an opportunistic manner by managers to hide corporate delinquency. In line with this opportunism theory, Siueia & Wang (2019) find that the influence of positive CSR strengths

scores is much stronger than the negative CSR concerns scores in reducing earnings quality, what means is consistent with the idea that opportunistic managers use the disclosure of CSR as a strategic device to engage in EM. Gargouri et al. (2010) argue that firms with higher CSR are more likely to engage in EM because the focus on CSR is associated with costly investments, and thus that the profit will decrease without using EM. Salewski & Zülch (2014) find that firms with high CSR ratings are more likely to engage in EM to report bad news less timely and to have lower quality accruals. Prior et al. (2008) argue that managers who manipulate earnings can deal with stakeholder activism and vigilance by resorting to CSR practices; their results agree with this theory by finding a positive impact of EM practices on CSR. Martinez-Ferrero et al. (2013) argue that firms could use CSR to mask their use EM in the financial reports, what is known as *window-dressing*. Therefore, the following hypothesis is developed:

H1B: CSR has a positive relationship with the engagement in EM.

2.3   Financial Participation Plans

The central tension in the separation between ownership and control is that a conflict of interests occurs between the firm's dispersed owner-investors and the managers hired to determine firm's investment projects and payout decisions (Bergstresser & Philippon, 2006). The agency theory describes this situation as the principal-agent problem. This theory is about the situation when one party (the principal) delegates work to another party (the agent), who will perform that work for the principal (Eisenhardt, 1989). The relationship between the principal and agent is called the "agency" (Jensen, 1994), and agency costs could increase in this relationship: what results in a lower firm efficiency (Jensen and Meckling, 1976). Agency costs can increase when the principal and agent can have both the interest to maximize their own utility: thus a conflict of interest (Jensen, 1994). To align the interests between the manager and principal, consequently reducing the agency costs, managers should be monitored or managers should be incentivized (Bergstresser & Philippon, 2006). One incentive can be that the managers' compensation is equity-based, such as stock grants and stock options (Bergstresser & Philippon, 2006). Aligning the interests by using equity-based compensation for managers is better known as financial participation plans (Conte & Svejnar, 1988). The past decades there have been an enormous increase in financial participation plans for managers: the median exposure of CEO compensation to

stock prices tripled between 1980 and 1994, and doubled again between 1994 and 2000 (Bergstresser and Philippon, 2006). The increase in financial participation plans came in response to the belief that managers were under-incentivized, as well as to changes in the tax code that increased the attractiveness of performance-based compensation (Bergstresser & Philippon, 2006).

2.3.1 Financial Participation Plans and Earnings Management

Klein (1987) argues that there are three main impacts of financial participation plans on managers' attitude and behavior: (1) The ownership impact, which implies that trough the fact of receiving a share of the firm makes the managers develop the feeling of co-ownership and this psychological ownership will make them act more accordingly. (2) The motivation impact, which includes that managers deliver extra effort to higher the stock prices and therefore will receive a higher compensation. (3) The commitment impact, which is about the alignment of interests wherefore the manager will act upon the common interest: what is expressed by a manager's higher focus on the firm's profit and profitability. This focus on profitability implies that managers choose actions that will increase the firm's intrinsic value what consequently will increase the manager's equity-based compensation (Burns & Kedia, 2003). Wagner et al. (2003) did research based on data from a large retail organization on the effects of financial participation plan: they found that ownership beliefs are positively related to employee's behavior and attitudes toward the organization what is conform the theory of Klein (1987).

Following the theory of Klein (1987), Poutsma and Braam (2012) investigated the relationship between financial participation plans and firm financial performance. They used a Dutch longitudinal panel data set of non-financial listed companies and concluded that broad-based profit-sharing plans and combinations of broad-based profit sharing and share plans are positively related with firm financial performance relative to companies without financial participation plans. Additionally, Kalmi et al. (2005) used data from a survey of listed firms in Finland, Germany, the Netherlands and the United Kingdom to investigate this relationship and found as well that financial participation plans positively affect firm performance. Furthermore, Lee et al. (2006) studied the relationship between firms' earnings performance and EM: they found that the engagement in EM is negatively associated with earnings performance. Similarly, Mahmud et al. (2009) found that the

earnings quality of Malaysian public listed firms have positive a positive association with firm performance. Therefore, the following hypothesis is developed:

**H2A: Financial participation plans have a negative relationship with the engagement in EM.**

Alternatively, Goldman and Slezak (2006) developed an agency model in which financial participation plans are described as a double-edged sword: these plans can induce managers to exert productive effort, which will improve firm value, but also can motivate managers to divert valuable firm resources to mispresent performance. Because the managerial wealth is sensitive to the share price, this can focus managerial attention on the share price (Burns & Kedia, 2003). This attention may cause managers to choose actions that will increase the share price without increasing the firm's real intrinsic value (Burns & Kedia, 2003).

Cheng and Warfield (2005) examine the relationship between managers' equity-incentive arising from stock-based compensation and EM; they find that managers with equity incentives are more likely to use EM to report earnings that meet or beat analysts' forecast. Additionally, Bergstresser and Philippon (2006) provide evidence that the use of discretionary accruals to manage the earnings is more pronounced at firms where the managers' compensation is more equity-based. Burns and Kedia (2003) use a sample of firms that announced restatements of their financial statements and find evidence that financial participation plans are positively related with financial restatements. Equally, Armstrong et al. (2013) suggest that financial participation plans provide managers with incentives to misreport, but not because they tie the managers' wealth to equity value; but because they tie the managers' wealth to equity risk. The following hypothesis is developed:

H2B: Financial participation *plans have a positive relationship with the engagement in EM.*

A moderator is a variable that affects the direction and/or strength of a relationship between two other variables, thus a moderator is a third variable that affects the zero-order correlation between two other variables (Baron & Kenny, 1986). The moderator model of Baron and Kenny (1986) is visualized in figure 2 below.

Figure 2: The Moderator Model by Baron and Kenny (1986)

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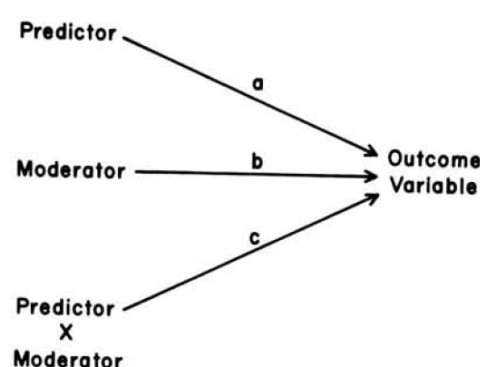
The moderator model has three causal paths that feed into the outcome variable: the impact of the predictor variable (path a), the impact of the moderator variable (path b) and the interaction of these two variables (path c). When there is a moderator effect, path c will be significant. The main effects for the predictor and moderator (path a and b) may also be significant, but the significance of these effects is not directly relevant conceptually to testing the moderator effect (Baron & Kenny, 1986). Furthermore, it is desirable that the moderator variable is uncorrelated with both the predictor and the outcome variable (Baron & Kenny, 1986). Another requirement is that the moderator and predictor variable should be at the same level in regard to their role as causal variables antecedent or exogenous to certain criterion effects (Baron & Kenny, 1986). The moderator effect could be a possible explanation for the mixed results found in the existing literature regarding the relationship between CSR and EM. Therefore, the following hypothesis is developed:

H3: Financial participation plans have a moderation effect on the relationship between CSR and EM.

3 Research method

3.1 Conceptual model

Figure 3: The Conceptual Model
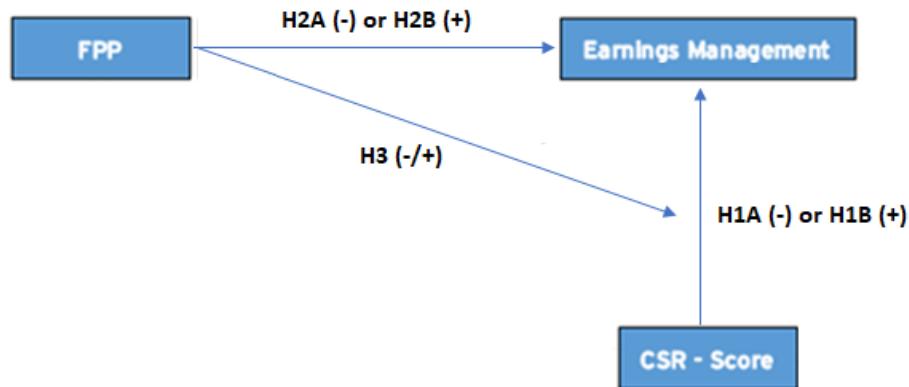
3.2 Dependent variable: Earnings Management

In this research, EM is the dependent variable. In the literature, there has been made a distinction between two different forms of EM: namely accrual-based and real EM. Therefore, two different measures of EM are needed.

3.2.1 Accruals-Based Earnings Management

Accruals-based EM can be measured by taking the discretionary part of the adjustments to accruals into account. Numerous prior studies (e.g. Kim et al., 2012; Jones, 1991; Bruynseels & Cardinaels, 2013) used discretionary accruals as a measure for earnings quality and EM. The focus is on the discretionary accruals because the discretionary accruals allow managerial decision-making (Christensen et al., 2013). To calculate the discretionary accruals, the modified Jones model will be used. Prior research has proved that this model is the best model for measuring the amount of accruals-based EM (Dechow et al., 1995). Within the modified Jones model, firstly the total amount of accruals have to be calculated for each firm with the following formula[1] (Collins & Hribar, 2002; Dechow et al., 1995):

$$TA_{it} = \Delta CA_{it} - \Delta CL_{it} - \Delta CASH_{it} + \Delta STDEBT_{it} - DEP_{it} \qquad (1)$$

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[1] The variables used are explained in table 1.

After the total accruals are calculated, the next step is to calculate the amount of non-discretionary accruals by performing a regression on the following model[1]:

$$\frac{TA_{it}}{ASSETS_{it-1}} = \alpha + \beta 1 \frac{1}{ASSETS_{it-1}} + \beta 2 \frac{\Delta SALES_{it}}{ASSETS_{it-1}} + \beta 3 \frac{PPE_{it}}{ASSETS_{it-1}} + \varepsilon_{it} \quad (2)$$

This regression will be performed for each firm. In this regression, the error term ($\varepsilon_{it)}$ has to be calculated: this is the difference between the calculated total accruals (model 1) and the estimated total accruals of the performed regression (model 2). This error term indicates the amount of discretionary accruals (Braam et al., 2015). Because EM can be used for either income-increasing as well as income-decreasing, the absolute value of the discretionary accruals are used (Kim et al., 2012). The higher the amount of absolute discretionary accruals, the more engagement in accrual-based EM by a firm (Cohen et al., 2008).

3.2.2 Real Earnings Management

Real EM is defined as management actions that deviate from normal business practices undertaken for purposes of meeting or beating certain earnings thresholds (Roychowdhury, 2006; Kim et al., 2012). Based on prior studies (e.g. Braam et al., 2015; Roychowdhury, 2006), real EM can be measured by the combination of three different proxies: the abnormal level of cash flow from operations, the abnormal level of production costs and the abnormal level of discretionary expenses. The abnormal level can be estimated by calculating the differences between the actual levels and the estimated normal levels of these proxies Roychowdhury, 2006). The estimated normal levels of the three proxies can be calculated as follows:

(1) The normal levels of cash flow from operations can be calculated with the following equation[1]:

$$\frac{CFO_{it}}{ASSETS_{it-1}} = \alpha + \beta 1 \frac{1}{ASSETS_{it-1}} + \beta 2 \frac{SALES_{it}}{ASSETS_{it-1}} + \beta 3 \frac{\Delta SALES_{it}}{ASSETS_{it-1}} + \varepsilon_{it}$$

The abnormal level of CFO (RM_CFO), which is due to the acceleration of the timing of sales through increases in price discounts or due to more lenient credit terms (Braam et al., 2015; Roychowdhury, 2006), can be measured by the error term (ε_{it}). This error term reflects the difference between the actual level and the normal level. Lower residuals indicate unusually low levels of CFO, what is associated with more sales manipulation to increase the reported level of earnings (Braam et al., 2015).

(2) The normal level of production costs can be calculated with the following equation[1]:

$$\frac{PROD_{it}}{ASSETS_{it-1}} = \alpha + \beta 1 \frac{1}{ASSETS_{it-1}} + \beta 2 \frac{SALES_{it}}{ASSETS_{it-1}} + \beta 3 \frac{\Delta SALES_{it}}{ASSETS_{it-1}} + 3 \frac{\Delta SALES_{it-1}}{ASSETS_{it-1}} + \varepsilon_{it}$$

The abnormal level of production costs (RM_PROD), which occurs because of the overproduction of inventory, resulting in a reduction of cost of goods sold (Braam et al., 2015; Roychowdhury, 2006), can be measured by the error term (ε_{it}). This error term reflects the difference between the actual level and the normal level. Positive residuals indicate overproduction, which is associated with production cost manipulation resulting in lower cost of goods sold (Braam et al., 2015).

(3) The normal level of discretionary expenses can be calculated with the following equation[1]:

$$\frac{DISX_{it}}{ASSETS_{it-1}} = a + \beta 1 \frac{1}{ASSETS_{it-1}} + \beta 2 \frac{SALES_{it}}{ASSETS_{it-1}} + \beta 3 \frac{\Delta SALES_{it}}{ASSETS_{it-1}} + \varepsilon_{it}$$

The abnormal level of discretionary expenses (RM_DISX), which is generated as a result of decreasing discretionary expenses such as advertising, research and development and administrative (SG&A) expenses (Braam et al., 2015; Roychowdhury, 2006), can be measured by the error term (ε_{it}). This error term reflects the difference between the actual level and normal level. Lower residuals indicate that firms lower the discretionary expenses to manage the reported level of earnings upwards (Braam et al., 2015).

These three proxies will be combined into one proxy (REM), which measures the amount of real EM, and which will be made an absolute value. A firm with a high value of REM is associated with a higher engagement in real EM than a firm with a lower value of REM. The combined proxy REM is calculated as follows[1]:

$$REM = RM_{PROD} - RM_{CFO} - RM_{DISX}$$

3.3 Independent variables: CSR and Financial Participation Plans

3.3.1 CSR

The first independent variable is the CSR of firms. This variable is measured by using the CSR scores derived from the Eikon database (Alsaadi et al., 2016). This database includes the reports of public companies located all over the world. The CSR score is estimated by the

average of the environmental, governance, economic and social performance scores. The equally weighted average is calculated and used as a measurement for the CSR-score of a company. The variable CSR will be divided in high and low by using a dummy variable in the regressions, where CSR scores above the median will be 1 and scores below the median will be 0.

3.3.2   Financial Participation Plans

The other independent variable is the amount of financial participation plans of firms. To access the presence of financial participations plans, data can be accessed from the database BoardEX. This database has a variable that measures the ratio of equity linked compensation earned to total compensation earned. A higher ratio means that the salary is more equity linked, what indicates a higher amount of financial participation plans by the firm. The variable equity-linked compensation will be divided in high and low by using a dummy variable in the regressions, where observations above the median will be 1 and observations below the median will be 0.

3.4   Control variables

In the regressions firm-specific control variables are used, these variables control for other possible influences on the relationship between EM, CSR and financial participation plans. Based on prior literature (e.g. Kim et al., 2012; Roychowdhury, 2006; Prior et al., 2008), the size of the firm is used as a control variable. The firm size is measured by the amount of total assets of the firm in year t. According to Kim et al. (2012), leverage can also be an incentive for managers to engage in EM. Therefore, leverage is another control variable added. Gyungmin & Ho-Young (2013) show that leverage has indeed a positive relationship with EM. The firm's leverage is calculated by dividing the long-term debts by the total assets. Consistent with Braam et al. (2015), net income is used as a control variable. Furthermore, return on assets is used as a control variable: Bear et al. (2010) state that ROA is able to measure how efficiently the management can generate new income. Finally, there is controlled for the firm's industry and firm's country.

3.5   Hypotheses and Regressions

H1A: CSR has a negative relationship with the engagement in EM.
H1B: CSR has a positive relationship with the engagement in EM.

To test these hypotheses, the following regression model is used[1]:

$$EM = \alpha + \beta1 CSR + \beta2 CONTROLS + \varepsilon$$

When $\beta1$ appears to be negative, then H1A is confirmed; meaning that a higher CSR score will decrease the likelihood of a firm to engage in EM. If $\beta1$ appears to be positive, then H1B is confirmed: when a firm has a higher score of CSR, the firm is more likely to engage in EM.

H2A: Financial participation plans have a negative relationship with the engagement in EM

H2B: Financial participation plans have a positive relationship with the engagement in EM

To test these hypotheses, the following regression model is used[1]:

$$EM = \alpha + \beta1 FPP + \beta2 CONTROLS + \varepsilon$$

When $\beta1$ appears to be negative, then H1A is confirmed; meaning that a higher degree of financial participation plans will decrease the likelihood of a firm to engage in EM. If $\beta1$ appears to be positive, then H1B is confirmed: when a firm has a higher score of CSR, the firm is more likely to engage in EM.

H3: Financial participation plans have a moderation effect on the relationship between CSR and EM

To test this hypothesis, the following regression model is used[1]:

$$EM = \alpha + \beta1 CSR + \beta2 FPP + \beta3 CSR * FPP + \beta4 CONTROLS + \varepsilon$$

When $\beta3$ appears to be significant, then H3 is confirmed: there is a moderation effect of financial participation plans on the relationship between CSR and EM.

Table 1: Definitions of Variables

Name variable	Definition
Variables required to calculate TA_{it}	
TA_{it}	Total accruals of firm i in year t
ΔCA_{it}	The change in current assets of firm i between year t and year $t-1$
ΔCL_{it}	The change in current liabilities of firm i between year t and year $t-1$
$\Delta CASH_{it}$	The change in cash and cash equivalents of firm i between year t and year $t-1$
$\Delta STDEBT_{it}$	The change in short-term debt included in the current liabilities of firm i between year t and year $t-1$

DEP_{it}	Depreciation and amortization expenses of firm i in year t

Table 1: Definitions of Variables (continued)

Name variable	Definition
Variables required to calculate DA	
TA_{it}	Total accruals of firm i in year t
$ASSETS_{it-1}$	The total amount of assets of firm i at the end of year t-1
$\Delta SALES_{it}$	The change in sales of firm i between year t and year t-1
PPE_{it}	The total amount of property, plant and equipment of firm i at the end of year t
Variables required to calculate REM	
RM_{PROD}	Abnormal level of production costs
RM_{CFO}	Abnormal level of cash flow from operations
RM_{DISX}	Abnormal level of discretionary expenses
CFO_{it}	The net cash receipts resulting from operations from the operations of firm i in year t
$PROD_{it}$	The cost of goods of firm i in year t
$DISX_{it}$	The amount of discretionary expenses of firm i in year t
$ASSETS_{it-1}$	The total amount of assets of firm i at the end of year t-1
$SALES_{it}$	The amount of sales of firm i between year t at the end of year t
$\Delta SALES_{it}$	The change in sales of firm i between year t and year t-1
$\Delta SALES_{it-1}$	The change in sales of firm i between year t-1 and year t-2
Dependent variables	
DA	Amount of discretionary accruals, calculated using the modified Jones Model.
REM	Amount of real earnings management
Independent variables	
CSR	Dummy variable of a high or low CSR-score, which measures the sustainability of the firms. Companies with a score above the median will be 1 and companies below the median will be 0
FPP	Dummy variable of the financial participation plans, measured by the manager's equity-linked compensation divided by the total compensation. Companies with a score above the median will be 1 and companies below the median will be 0
CSR*FPP	Interaction effect between CSR and FPP
Control variables	
LNASSETS	Logarithm of the total assets of the company
LEVERAGE	A company's leverage, calculated by dividing the total liabilities by the total assets

ROA	A company's return on assets
NETINCOME	A company's net income

3.6   Data Sample

The four different hypotheses will be tested using a data set consisting of 196 listed firms in 2017. The dataset contains information about the financial participation plans for 589 managers. The year 2017 is used as the year to study, because for this year the most data was available in de databases. The dataset only consists of industrial companies, because financial companies are excluded from the sample; these financial companies are monitored by corporate governance regulations and therefore the measurement of accruals is different compared to industrial companies (Kim et al., 2012). The data on the financial participation firms are derived from database BoardEX. Accordingly, the data are matched with the CSR ratings from the Thomson Reuters Asset 4 database. Finally, the data are matched with the companies' financial data derived from database Orbis. An overview of the number of firms resulting from the matching of the databases is given in table 3.

Table 2: Data selection

	Firms
Data about equity linked compensation in 2017 (Board EX)	803
LESS: Unknown CSR scores (Thomas Reuters Eikon)	-426
LESS: Unknown financial information (Orbis)	-179
Number of companies in combined dataset	198

Table 3: Division companies across countries

Country	*Number of companies*	*Percent of sample (%)*
Belgium	1	0.51
Bermuda	1	0.51
England	132	66.67
France	15	7.58
Germany	19	9.60
Jersey	2	1.01
Luxembourg	1	0.51
Netherlands	4	2.02
Ireland	12	6.06
Scotland	6	3.03
Spain	1	0.51

Sweden	1	0.51
Switzerland	3	1.52
Total	**198**	**100**

Table 4: Division companies across industries

Industry	Number of companies	Percent of sample (%)
Aerospace & Defense	4	2.02
Automobiles & Parts	9	4.55
Beverages	3	1.52
Business Services	15	7.58
Chemicals	6	3.03
Clothing & Personal Products	5	2.53
Construction & Building Materials	17	8.59
Consumer Services	1	0.51
Containers & Packaging	2	1.01
Diversified Industrials	2	1.01
Electricity	3	1.52
Electronic & Electrical Equipment	7	3.54
Engineering & Machinery	8	4.04
Food & Drug Retailers	2	1.01
Food Producers & Processors	8	4.04
Forestry & Paper	1	0.51
General Retailers	11	5.56
Health	5	2.53
Household Products	3	1.52
Information Technology Hardware	4	2.02
Leisure & Hotels	12	6.06
Media & Entertainment	8	4.04
Mining	10	5.05
Oil & Gas	6	3.03
Pharmaceuticals and Biotechnology	11	5.56
Real Estate	7	3.54
Software & Computer Services	6	3.03
Specialty	3	1.52
Steel & Other Metals	4	2.02
Telecommunication Services	4	2.02
Tobacco	2	1.01
Transport	4	2.02
Utilities - Other	5	2.53
Total	**198**	**100**

4 Results

4.1 Descriptive statistics

The descriptive statistics of the dependent, independent and control variables used in the regression analyses are summarized in table 5 below. The descriptive statistics display the number of observations, the mean, the standard deviation, the minimum and the maximum of the variables. The averages of both the dependent proxy variables are comparable to the existing literature (e.g. Braam et al., 2015). The independent variables are dummy variables and are divided based on the median: scores above the median are 1 and equal to or below the median a 0. Therefore, these variables have a mean of 0.5, a minimum of 0 and a maximum of 1.

Table 5: Descriptive statistics for the variables used in the analyses

Variable	N	Mean	Std. Dev.	Min	Max
Dependent variables					
DA	198	0.053	0.067	0	0.553
REM	198	0.328	0.300	0	1.892
Independent variables					
CSR	198	0.5	0.501	0	1
FPP	198	0.5	0.501	0	1
Control variables					
LNASSETS	198	15.753	1.739	11.879	20.726
LEVERAGE	198	0.199	0.137	0	0.615
ROA	198	4.982	11.178	-114.351	32.160
NETINCOME	198	1484693	4183895	-3968811	5.07E+07

4.2 Pearson correlation between variables

The Pearson correlations between the variables that will be used in the regressions are presented in table 6 below. The Pearson correlations show the correlation coefficients between the dependent, independent and control variables. For Pearson correlations, the minimum value is -1 and the maximum value is 1. When the correlation coefficient has a higher value than 0.5 or lower than -0.5, this indicates a moderate till (very) high association between the variables (Mukaka, 2012). The table shows some significant correlations, but these significant correlations-coefficients are not higher than 0.5 or lower than -0.5 and therefore do not have a large strength. The correlation between net income and the assets is

almost 0.5, and this correlation can be logically explained by the fact that larger companies with more assets often have a higher net income than smaller companies. The regression analyses performed are also tested for multicollinearity by using the variance inflation factor (VIF). The VIF is a measure used for the degree of multicollinearity of the one independent variable with the other independent variables in a regression. Most commonly, a VIF higher than 10 is associated as an indication of multicollinearity (O'Brien, 2007). The VIF-values of the variables used in the regressions do not exceed the threshold of 10, what indicates that there is no multicollinearity between them.

	DA	REM	CSR	FPP	LNASSETS	LEVERAGE	ROA	NETINCOME
DA	1							
SIG	-							
REM	0.024	1						
SIG	0.737	-						
CSR	-0.013	-0.030	1					
SIG	0.855	0.681	-					
FPP	-0.086	0.121*	0.051	1				
SIG	0.228	0.088	0.480	-				
LNASSETS	-0.188***	-0.202***	0.319***	0.037	1			
SIG	0.008	0.004	0.000	0.604	-			
LEVERAGE	-0.114	-0.201***	0.023	-0.010	0.136*	1		
SIG	0.111	0.005	0.751	0.887	0.056	-		
ROA	-0.441***	0.049	-0.077	0.024	0.093	0.081	1	
SIG	0.000	0.489	0.280	0.733	0.194	0.256	-	
NETINCOME	-0.052	-0.0615	0.061	0.066	0.481***	0.059	0.214***	1
SIG	0.468	0.3892	0.390	0.359	0.000	0.408	0.002	-

*$p<0.1$, ** $p<0.05$ and *** $p<0.01$*

Table 6: Pearson correlations of the variables

4.3 Results of regressions for testing hypotheses

Regression to test hypotheses 1A and 1B:
$EM = \alpha + \beta 1 CSR + \beta 2 CONTROLS + \varepsilon$

Regression to test hypotheses 2A and 2B:
$EM = \alpha + \beta 1 FPP + \beta 2 CONTROLS + \varepsilon$

Regression to test hypothesis 3:

$$EM = \alpha + \beta1CSR + \beta2FPP + \beta3CSR * FPP + \beta4CONTROLS + \varepsilon$$

The results of the linear regressions for testing the hypotheses are presented in table 7 below.

Table 7: Regression results for testing the hypotheses

Variable	Pred. Sign	Hypotheses 1A+1B		Hypotheses 2A+2B		Hypothesis 3	
		DA	REM	DA	REM	DA	REM
CSR	+/-	-0.0133	0.0567			-0.0179	-0.0180
		(-1.21)	(1.06)			(-1.10)	(0.22)
FPP	+/-			-0.0185*	0.0553	-0.0225	-0.0033
				(-1.68)	1.01	(-1.56)	(-0.05)
CSR*FPP	?					0.0139	0.1179
						(0.65)	(1.13)
LNASSETS	-	-0.0079*	-0.0203	-0.0077*	-0.0189	-0.0071	-0.0268
		(-1.87)	(-0.98)	(-1.88)	(-0.93)	(-1.65)	(-1.26)
LEVERAGE	-	-0.0510	-0.3189	-0.0526	-.0323	-0.052	-0.2947
		(-1.23)	(-1.56)	(-1.28)	(-1.58)	(-1.25)	(-1.44)
ROA	-	-0.0024***	0.0010	-0.0024***	0.0008	-0.0025***	0.0006
		(-5.29)	(0.45)	(-5.27)	(0.35)	(-5.36)	(0.25)
NETINCOME	-	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		(1.28)	(0.27)	(1.22)	(0.32)	(1.27)	(0.32)
Country dummies		Included	Included	Included	Included	Included	Included
Industry dummies		Included	Included	Included	Included	Included	Included
Constant		0.2151*	0.3153	0.1420	0.3118	0.2067*	0.4655
		(1.79)	(0.62)	(1.19)	(0.61)	(1.69)	(0.89)
N		198	198	198	198	198	198
R^2		0.3725	0.2461	0.3782	0.2457	0.3835	0.2562

T-values between parentheses
* p<0.1, ** p<0.05 and *** p<0.01
See table 1 for the definitions of the variables

For each hypothesis, two different regressions are run; one regression with accrual-based EM as the dependent variable and one with real EM as the dependent variable. Each individual regression consists of the total of 198 different companies. The regression for testing the relationship between CSR and EM with accrual-based EM as the dependent variable show a negative coefficient of CSR on EM, what supports the existing literature suggesting that firms with higher CSR behave more responsible while reporting their

financial statements (e.g. Malik, 2015; Hong & Andersen, 2011; Kim et al., 2012). Unfortunately, the coefficient is insignificant; it does not indicate that the results are not due to random chance, wherefore none of the theories about the relationship between CSR and EM is supported. A possible explanation for the insignificant coefficient of CSR is that in the sample there is not made a distinction in the managers' purpose of disclosing CSR. In the existing literature is made a distinction between two motivations for disclosing CSR: one implies that disclosing CSR adds incremental information about the firm, making the firm more transparent, and one that disclosing CSR could be used as *window-dressing*. In the sample there is not made a distinction between these two motivation for disclosing CSR, what possible could explain the insignificance of the coefficient. But, in this regression analysis two of the control variables in this regression are significant: the negative coefficient of the logarithm of total assets is slightly significant, and ROA has a strong significant negative coefficient. These significant coefficients suggest that companies with a higher number of total assets and a higher return on assets of a firm, have lower discretionary accruals and thus engage less in EM. The r-squared of this regression is 0.3725 what includes that 37,25% of the variance is explained by this model. The results of the regression analysis investigating the influence of CSR on real EM show a positive effect of CSR on EM, supporting the literature which suggests that CSR could be used as *window-dressing* (e.g. García-Sánchez & García-Meca, 2017; Suieia & Wang, 2019; Gargouri et al., 2010; Martinez-Ferrero et al., 2013). But again, the coefficient of CSR is insignificant. The negative relationship between CSR and accrual-based EM and the positive relationship between CSR and real EM suggests a possible substitute effect between real and accrual-based EM. In both regressions the coefficient of CSR is insignificant, meaning that possible substitution effect could not be concluded. This regression explains 33,74% of the variance, and the control variable return on assets has a strong significant negative coefficient. Thus, the results of both regressions analyses of the relationship between CSR and EM do not show a significant influence of CSR on EM wherefore none of the theories about this relationship can be confirmed.

The regression results for testing the influence of financial participation plans on EM with accrual-based EM as the dependent variable show that financial participation plans have a negative coefficient on EM. Because this coefficient is slightly significant, these results support the theories suggesting that financial participation plans will have a positive impact on the managers' behavior and attitudes toward the organization. Further, in this regression

the logarithm of total assets also has a slightly significance and return on assets is strong significant. This regression explains 37,82% of the variance. When this relationship is investigated with real EM as the dependent variable, the regression analysis explains 33,83% of the variance and shows a positive insignificant coefficient for financial participation plans. This positive effect on EM supports the theory of financial participation plans as a double-edged sword: these plans could motivate managers to misrepresent performance. The positive relationship between financial participation plans and real EM and the negative relationship between financial participation plans and accrual-based EM again suggests a possible substitute effect between real and accrual-based EM, but in the regression with real EM as the dependent variable none of the variables is significant except return on assets. Based on these two regression analyses investigating the relationship between financial participation plans and EM, a negative relationship is suggested.

For testing the possible moderation effect of financial participation plans on the relationship between CSR and EM, both independent variables and an interaction term are included in the regressions. The interaction term is created by multiplying CSR with financial participation plans. When the interaction term appears to be significant, this will indicate a moderation effect. Both regressions with either real or accrual-based EM as the dependent variable show a positive interaction term, but both are insignificant. Again, return on assets is the only (strong) significant variable influencing EM. Therefore, based on these two regression analyses, there is not found a moderation effect of financial participation plans on the relationship between CSR and EM.

4.4   Robustness

This section provides additional tests for validating the robustness of the results presented in table 7. To test the robustness of the results in table 7, two other regression analyses are done. One of the additional regression analyses does not use a dummy for measuring CSR and financial participation plans, but uses the real value of the CSR score and the percentage of the managers' equity-based compensation to total compensation. The other additional regression analysis uses the real value of real and accrual-based EM instead of the absolute values. Table 8 below presents the results of the regression analyses with the real values of DA and REM used for testing the hypotheses. Some coefficients of the independent variables in table 8 show other directions than table 7 shows, but none of these

coefficients is significant. The control variable return on assets is negative and strong significant in each regression analysis, what is consistent with the results in table 7. Because the main results in table 8 are insignificant, it could not be concluded that the results in table 7 are not robust.

Table 8: Regression results for testing the hypotheses using the real values of DA and REM

Variable	Pred. Sign	Hypotheses 1A+1B		Hypotheses 2A+2B		Hypothesis 3	
		Real value of DA	Real value of REM	Real value of DA	Real value of REM	Real value of DA	Real value of REM
CSR	+/-	0.0088	-0.0390			0.0089	-0.1147
		(0.60)	(-0.52)			(0.40)	(-1.03)
FPP	+/-			0.0123	0.0525	0.0126	0.0134
				(0.82)	(0.70)	(0.64)	(0.14)
CSR*FPP	?					-0.0038	0.1154
						(-0.13)	(0.79)
LNASSETS	-	0.0028	-0.0002	0.0027	-0.0094	0.0021	-0.0076
		(0.49)	(-0.01)	(0.48)	(-0.33)	(0.36)	(-0.26)
LEVERAGE	-	-0.0028	-0.4109	-0.0027	-0.3920	-0.0019	-0.3811
		(-0.05)	(-1.45)	(-0.05)	(-1.38)	(-0.03)	(-1.34)
ROA	-	-0.0032***	-0.0088***	-0.0032***	-0.0084***	-0.0032***	-0.0092***
		(-5.23)	(-2.82)	(-5.33)	(-2.74)	(-5.08)	(-2.89)
NETINCOME	-	0.0000	-0.0000	0.0000	-0.0000	0.0000	-0.0000
		(0.10)	(-1.00)	(0.13)	(-1.01)	(0.11)	(-0.96)
Country dummies		Included	Included	Included	Included	Included	Included
Industry dummies		Included	Included	Included	Included	Included	Included
Constant		-0.1146	0.3410	-0.1104	0.1726	-0.1064	0.5279
		(-0.81)	(0.41)	(-0.79)	(0.21)	(-0.74)	(0.63)
N		198	198	198	198	198	198
R^2		0.2919	0.3374	0.2934	0.3383	0.2945	0.3431

T-values between parentheses
* p<0.1, ** p<0.05 and *** p<0.01
See table 1 for the definitions of the variables

Table 9 below presents the results of the regression analyses with the real values of CSR and FPP used, instead of dummies, for testing the hypotheses. Most coefficients of the independent variables in table 9 show the same direction as the coefficients in table 7, but again none of these coefficients is significant. The control variable return on assets shows a strong significant negative effect in most regression analyses, and the logarithm of assets

Variable	Pred. Sign	Hypotheses 1A+1B		Hypotheses 2A+2B		Hypothesis 3	
		DA	REM	DA	REM	DA	REM
Real value of CSR	+/-	-0.0003	0.0006			-0.0000	0.0001
		(-1.25)	(0.52)			(-0.05)	(0.04)
Real value of FPP	+/-			-0.0208	0.1295	0.0076	0.0812
				(-0.63)	(0.80)	(0.09)	(0.19)

shows a medium significant negative effect in one regression analysis. These significant coefficients are consistent with the coefficients presented in table 7. Again, it could not be concluded that the results in table 7 are not robust because the main results in table 9 are insignificant.

*CSR*FPP*	?					-0.0005	0.0008
						(-0.34)	(0.12)
LNASSETS	-	-0.0074	-0.018	-0.0090**	-0.1621	-0.0067	-0.0206
		(-1.72)	(-0.84)	(-2.21)	(-0.81)	(-1.49)	(-0.93)
LEVERAGE	-	-0.0512	-0.3266	-0.0517	-0.3124	-0.0561	-0.3044
		(-1.24)	(-1.60)	(-1.24)	(-1.52)	(-1.32)	(-1.46)
ROA	-	-0.0024***	0.0008	-0.0023***	0.0007	-0.0024***	0.0007
		(-5.29)	(0.37)	(-5.15)	(0.30)	(-5.04)	(0.32)
NETINCOME	-	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
		(1.24)	(0.30)	(1.26)	(0.27)	(1.21)	(0.28)
Country dummies		Included	Included	Included	Included	Included	Included
Industry dummies		Included	Included	Included	Included	Included	Included
Constant		0.1482	0.2726	0.1623	0.2486	0.1272	0.3119
		(1.43)	(0.53)	(1.57)	(0.49)	(1.06)	(0.53)
N		198	198	198	198	198	198
R^2		0.3729	0.2418	0.3680	0.2436	0.3748	0.2449

T-values between parentheses

* p<0.1, ** p<0.05 and *** p<0.01

See table 1 for the definitions of the variables

Table 9: Regression results for testing the hypotheses using the real values of CSR and FPP

5   Conclusion & Discussion

In the existing literature, numerous studies have been performed on the singular relationship between CSR and EM. These studies do not show consistency because the results are mixed: both a positive and negative relationship between CSR and EM has been found. This study aims to understand why the findings differ by investigating the influence of financial participation plans on the relationship as a third variable. Using a sample of 198 European listed firms, multiple regression analyses are performed researching the singular relationship between CSR and EM, the singular relationship of financial participation plans an EM, and the possible moderation effect of financial participation plans on the relationship between CSR and EM. The findings support the theory that managers whose compensation is more equity-based are less likely to engage in EM. Nevertheless, this finding holds for accrual-based EM only. A possible reason for this negative relationship is that accrual-based EM is more risky because it is easier to detect, wherefore managers with more equity-based compensation will substitute accrual-based EM for real EM: but unfortunately, this substitute effect is insignificant in the regressions. Because the other results are insignificant, the relationship between CSR and EM and a possible moderation effect of FPP on that relationship cannot be derived from the regressions.

This research contributes to the existing literature by showing a negative effect of financial participation plans and that there might be a substitution effect for managers with more equity-based compensation between accrual-based EM and real EM. This finding suggest that in further research examining the influence of financial participation plans on EM, a division has to be made between accrual-based and real EM. Even though this study does not find a significant moderation effect of financial participation plans on the relationship between CSR and EM, it can encourage for further research investigating this possible moderation effect.

There are also several limitations to this study. First of all, this study does not make a division between CSR used in an opportunistic manner and CSR used to be more transparent. This limitation could be the explanation why the results do not show a significant relationship between CSR and EM. The data sample used in this study also has some limitations. Firstly, the data sample in this study only includes data from one year (2017). By using only one year data, the possible time effects influencing the relationships are not observed. Secondly, the data sample consists of only 198 observations, what is relatively

small compared to the data samples in the existing literature. In further research, the sample could be expanded and could include observations from multiple years. To conclude, future research should take these limitations of this study in account for further investigating the relationship between CSR and EM, and the influence of financial participation plans on EM and the relationship between CSR and EM.

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