DOES CSR REPORTING DESTROY FIRM VALUE?

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EMPIRICAL EVIDENCE ON GRI-ALIGNED EUROPEAN FIRMS

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Summary
This paper contributes to the existing literature about the effects of Corporate Social Responsibility (CSR) on market valuation. In particular, we investigate the impact of sustainability reporting under the global reporting initiative (GRI) on the firm value of non-financial EUROSTOXX 600 firms. Our findings show that the highest level of GRI-aligned reporting (GRI A+) has a negative and significant influence on the firm value of smaller or less profitable firms. However, no significant impact is detected for larger and more profitable firms. These results may reflect the high costs of implementing GRI A+-level reporting for smaller or less profitable firms.

Keywords:
Corporate Social Responsibility; Sustainability Accounting; Global Reporting Initiative; market valuation; Tobin's q; capital market

1. INTRODUCTION

Numerous academic researchers with various methodologies have attempted to answer the question of whether corporate social responsibility has a measurable impact on firm value. Several analyses, such as Guenster *et al.* (2011), refer to eco-efficiency, the ability to increase firm value while consuming fewer natural resources, as a proxy for CSR. Kempf and Osthoff (2007) suggest an approach based upon an independent rating service which focuses on the assessment of corporate social performance across a range of dimensions related to stakeholder concerns as provided by Kinder, Lydenberg, Domini & Co., Inc (KLD). Additionally, socially responsible investment (SRI) funds are used as a proxy for CSR. Kempf and Osthoff (2008) state that SRI funds have a higher ethical ranking than standard funds and find no evidence that these funds are being used as window dressing strategies.
This prior research has mainly concentrated on the impact of CSR measures on firm value. It is, however, still important to examine the influence of CSR reporting on firm value, which is the main objective of our study. Therefore we suggest using the Global Reporting Initiative (GRI) as a proxy for this. The GRI was set up with the aim of creating a standard for corporate reporting on environmental, social and economic performance. From the beginning, the objective of GRI has been to integrate sustainability into capital markets. Issues such as the protection of the biosphere, the sustainable use of natural resources, the reduction and disposal of wastes, energy conservation and the observation of human rights issues were as important as financial aspects. A standardized sustainability reporting framework was intended to promote environmentally and ethically responsible practices among firms. This framework is the most widely used standardized sustainability reporting framework in the world, used by over 3,000 worldwide organizations today. The fact that the GRI framework can be used by firms of all sizes, from small to multinational, means that data on a wide distribution of firms is available. The differentiation between three GRI application levels constitutes an objectively measurable indicator for three levels of CSR-reporting maturity.
Our empirical analysis is based on the years 2007 to 2010 and focuses on firms listed in the EUROSTOXX 600 excluding financial firms. We find evidence that reports providing the highest degree of

GRI reporting (A+) result in an approximately 17% lower firm value, which is proxied by Tobin's *q*. It seems that the smaller or less profitable firms of our sample drive the magnitude of this finding, because our results show that the negative effect is only statistically significant for these firms alone. Therefore, extensive CSR reporting is not recommended, unless firms have reached a sufficient size and profitability. In contrast, we assume that investors in larger firms tolerate the costs of high CSR engagement and its reporting. As these firms are subject to greater media attention and are more frequently in the public eye, a loss in reputation could reduce firm value.

The remainder of the paper is organized as follows. In the second section, we give an overview of related research. In the third section, we describe ways in which CSR measures and reporting might influence firm value. Fourth, we describe the CSR data, the financial data and the research methodology. Subsequently, we present the results of our research and discuss the empirical analysis. The last chapter concludes the paper with recommendations for future research.

2. LITERATURE OVERVIEW

CSR and its impact on market valuation have been widely discussed in prior research. Apart from multiple qualitative research papers, many quantitative attempts have based their empirical analysis on regression models. The literature can be divided into three categories: acknowledging positive, negative or mixed/ neutral impact of CSR on firm value.

(i) Positive findings

Studies stating a positive relationship usually focus on management decisions, on environmental impact or on investors' point of view.

Moskowitz (1972), the pioneer of CSR research, examined the impact of CSR on management decisions. His investigation provides evidence for a positive influence of CSR on a firm's market value. Hence, CSR could be considered as an indicator for good management, which ultimately leads to better performance. Bowman and Haire (1975) took a different point of view and argued that CSR practice itself does not result in higher profits, but that it increases sensitivity for environmental factors. McGuire *et al.* (1988) find evidence that CSR is more closely related to prior financial performance than to subsequent financial performance of the firm. They also measured a high interrelation between firms' systematic business risks and CSR. Using Tobin's *q* as criterion for financial implications, Wang and Choi (2010) more recently find a significant positive influence of CSR on a firm's financial performance, which is caused not only by the level of corporate social performance, but also by its consistency.

Another group of researchers focuses on environmental aspects. Blacconiere and Patten (1994) highlight the relationship between environmental disclosures and market valuation. They conclude that capital markets may view extensive environmental disclosure as an indicator for positive proactive management. Porter and van der Linde (1995) also interpret the way firms deal with environmental problems as an indicator for their overall competiveness. Hart and Ahuja (1996) investigate the relationship between emission reduction and firms' performances. They conclude that efforts preventing pollution reach the highest yield for return on equity (ROE) within only one to two years after initiation. Russo and Fouts (1997) provide evidence for a positive link between environmental and economic performance. However, this relationship is biased by industry growth, with a higher return on environmental performance ratio in high-growth industries. Dowell *et al.* (2000) examine the influence of environmental disclosure on firm value and find that firms with a high level of environmental reporting have a higher Tobin's *q*. Konar and Cohen (2001) perceive an increase in firm value by the reduction of toxic chemicals emission. They find a negative correlation between bad environmental performance and intangible asset value. As already mentioned, Guenster *et al.* (2011) have also recently reported a positive relationship between eco-efficiency (leading to operating performance), and market values. Furthermore, they suggest that market's valuation of environmental activities is time variant.

Investors' interests in the topic would of course be strengthened if CSR activities would in fact regularly led to higher profits. Waddock and Graves (1997) find evidence for this empirical linkage between firms' corporate social performance and their prior financial performance, as well as their future financial performance. According to Collins and Porras (1994), visionary firms have a better relationship with their stakeholders. Graves and Waddock (2000) additionally acknowledge a financial outperformance of those firms. Moreover, Kempf and Osthoff (2007) analyse the effect of CSR on portfolio performance. Their

results suggest a valuable effect of providing CSR information. These authors also show that a simple trading strategy based on this publicly available information leads to abnormal returns.

(ii) Negative findings

Based on the idea that CSR initially generates costs, some researchers provide negative results. Vance (1975) concludes that there is a negative relationship between marketplace performance and socially responsible firm rankings. He was followed by Mahapatra (1984), who examines investors' views on pollution control expenditures; he finds that they do not reward the firms for CSR activities. Wright and Ferris (1997) investigate the influence of divestment of South African business units on firm value and conclude that there is a negative effect on shareholder value. Boyle *et al.* (1997) analyse the defence industry from the investors' perspective and show a negative effect of CSR on future cash flows. Preston and O'Bannon (1997) analyse the data of 68 US firms and find a negative but insignificant relationship between CSR and financial performance. All these studies conclude that investments in social performance may lead to a lower financial value of the firm.

(iii) Mixed or neutral findings

In addition to the statistically significant positive or negative findings, there are some papers with both positive and negative effects and others with neutral findings: that is, neither positive, nor negative, nor any significant outcomes. Alexander and Buchholtz (1978) find no significant relationship between CSR and firm value. Confirming this result, Aupperle *et al.* (1985) do not find a relationship between social responsibility and financial performance. McWilliams and Siegel (2000) find evidence for a neutral direct relationship between CSR and profitability; however, according to their data, CSR seems to correlate highly with research and development (R&D) expenses, which complicates the isolation of the effect of CSR on firm performance. King and Lenox (2002) provide evidence for a positive relationship between pollution reduction and financial profits; however, they were unable to prove a direct causality. They show that firms in industries which cause less pollution have a higher Tobin's *q*, but confounding effects from fixed firm attributes may blur the relationship.

Hillman and Keim (2001) test the influence of stakeholder management and social issue participation on shareholder value. They conclude that shareholder wealth is increased by better relations to primary stakeholders, such as employees, customers, suppliers and communities. However, investing in social issues is not related to primary stakeholders and may therefore not create additional firm value. Renneboog *et al.* (2008) show that risk-adjusted returns of socially responsible investment (SRI) funds are not statistically different from the performance of conventional funds. From this point of view, potential underperformance of SRI funds is not directly caused by any ethical factors. Finally, Scholtens and Zhou (2008) reject a positive relation between financial performance and social strength. They also provide evidence that a firm's financial risk is significantly related to its stakeholder concerns and conclude that this risk is highly affected by behaviour which is not perceived to be socially responsible.

3. THEORETICAL BACKGROUND AND DEVELOPMENT OF HYPOTHESES

Most of the studies from the literature review provide evidence for a positive relationship of CSR to firm value. We therefore start with the following hypothesis concerning GRI-aligned reports and its association to firm value.

H_1: The issuing of externally assured GRI-aligned CSR reports is positively related to firm value.

Creating trust among stakeholders and investment in social capital are crucial factors (Habisch *et al.,* 2004). Reliability, credibility and fairness are important but not easily measurable characteristics for signalling the intention of CSR awareness and the ability of CSR reporting. Customers are invariably attracted and retained by these "intangible" assets. We expect that the magnitude of a firm's CSR awareness will increase with firm size. It seems logical that large firms with well-known brand names are more affected by this aspect than firms which receive less attention from the public and media, for example because they only address other firms as customers. The following aspects underpin this assumption.

Defending reputation. An increasing number of customers take the environmental and social responsibility of a firm into account during their purchase decision processes. In the past, firms which did

not take such matters seriously have suffered dramatic consequences. Royal Dutch Shell's plans to dispose of its oil storage buoy "Brent Spar" in the North Sea in 1995 and Nike's manufacturing under inhuman labour conditions in sweatshops in the late 90s are just two examples of firms which underestimated customer reactions to controversial business decisions. With a growing social network mentality and an increasing number of globally active NGOs, customers today are even better informed of corporate actions. According to Fombrun *et al*. (2000), a firm that neglects the negative influence of reputation losses may face growing difficulties, including a decline in revenue or difficulties in accessing financial capital.

Developing reputation. Following Herremans *et al.* (1993) a firm should be aware that not only securing, but also developing reputation can be supported by CSR, in the sense of a steady corporate sustainable development. Competitive constraints lead to a continuous pressure to improve. This can lead to a growing perception of the subjective or the objective environmental and social needs of potential customers. A firm can demonstrate its sensitivity to welfare issues in order to stand out against its competitors.

W*ar for talents.* As assumed by Waddock and Graves (1997), CSR activities can also be an important success factor in a firm's struggle for talents. According to Bhattacharya *et al.* (2008), both attracting new and motivating and retaining current employees is more challenging than ever before. The attractiveness of a firm as employer is based on not measurable attributes such as credibility, reliability and employee satisfaction, which may be supported by CSR activities. Consequently, as Hamann *et al.* (2009) show, employees are important addressees for CSR activities of small and medium firms.

The aspects mentioned above lead us to the conclusion that size might be an important influencing factor when considering the relationship between firm value and GRI reporting. This is reflected in our second hypothesis:

H_2: The influence of externally assured GRI-aligned reports on firm value is dependent on firm size.

At all stages of corporate strategic decision making, firms have to consider their profitability to survive in a competitive market environment. This also applies to CSR. Even beyond the more general factors mentioned above, reported CSR activities might have very tangible effects on profitability and growth. The following aspects should support this expectation.

C*ost reduction.* Critics of CSR argue that it is nothing more than a waste of money, which generates high costs and therefore negatively affects profitability (Friedman, 1970). Therefore, investors might punish that course of action by disinvesting. In contrast, according to McGuire *et al.* (1988), the financial advantages of CSR activities should be considered in the long run. In the case of product life cycle costs, there are several very tangible savings originating from CSR activity, for example the reduction of water and energy consumption, lower costs for transportation and packaging., These are obviously linked to less environmental pollution and a reduction of carbon dioxide emissions.

Financial resources. Critical accidents, such as the Exxon Valdez and the Deepwater Horizon oil spills cause tremendous financial damage. Financial losses also sensitize investors to risks arising from insufficient care about the ethical quality of a firm's corporate actions. Hence, this will be capitalized in credit negotiations and will have an impact on interest rates and have economic consequences within the firm. On the contrary, an adequate awareness of potential Environmental, Social and Governance (ESG) may also result in a better financial performance.

As already proposed, we assume that economic reasons for implying CSR in a firm's ultimate strategy depend on firm profitability. Therefore, with our third hypothesis we examine the interdependence between GRI reports and firm value, and how this is affected by firm profitability.

H_3: The influence of externally assured GRI-aligned reports on firm value is affected by firm profitability.

4. DATA AND METHODOLOGY

The empirical analysis of this study investigates the relationship between CSR reporting and firm value. Our sample includes 488 non-financial EUROSTOXX 600 firms[1] and is based on the years 2007 – 2010.

[1]Due to their unique balance sheet structure we exclude financial companies from the analysis.

(i) Global Reporting Initiative data

Issuing a dedicated CSR or sustainability report is a relatively recent corporate practice, having emerged only during the last 15 years (Bebbington *et al.* 2008). As already stated above, we find a body of literature examining the relation between CSR reporting and firm value. For the measurement of CSR awareness, we use dummy variables indicating GRI reporting of a firm. GRI published its GRI G3 sustainability reporting guidelines in 2006. Hence, we start our investigation in 2007, in order to ensure a representative number of reporting firms.

Besides GRI, researchers have used different measures for assessing a firm's CSR engagement, e.g. the KLD Index (Kinder, Lydenberg, Domini & Co., Inc.), the Fortune reputation survey or the DJSI (Dow Jones Sustainability Index). Following Gamerschlag *et al.* (2011) and Clarkson *et al.* (2008), we choose GRI here, because it is the world's most adopted sustainability reporting framework. Up to 2011, 80% of the world's largest 250 firms have provided a GRI-aligned CSR report (KPMG, 2011). Three different versions of GRI sustainability reporting guidelines have been published since its launch. Their latest update, the GRI G3.1-guidelines, was issued in March 2011. The next version GRI G4 is not expected to be published until 2013.

GRI guidelines provide a definition of relevant sustainability information for all stakeholders. They are divided into two parts, one part clarifies how firms have to report and a second part defines what firms should report about. The latter part is split into firms' profile disclosures, disclosures on firms' management approach and specified performance indicators regarding the following categories: economic, environmental and social (subclassified in labour, human rights, society and product responsibility). Furthermore, GRI provides industry-specific sector supplement performance indicators. According to the congruence between reported information and the above-mentioned requirements, firms have to state their GRI application level, "GRI A", "GRI B" or "GRI C", where "GRI A" indicates the highest level of sustainability reporting. It is recommended to seek external assurance of these reports. Firms which do so may add a "+" to their application level.[2]

In order to ensure data quality and to eliminate a potential source of errors, we only use GRI A+, GRI B+ and GRI C+ as indicators for GRI application levels, thus external assured sustainability reports. Assuming firms' awareness of the importance of financial as well as sustainability reporting, we eliminate reports not attested by third parties. We believe that the assurance of sustainability reports should be treated in the same way as general financial reports. Consequently, stock-listed firms should have their CSR reports externally assured as a matter of course. The GRI G3 data is directly sourced from the GRI homepage.

Table 1 summarises the 1,926 GRI firm year observations included in our dataset. The number of firms reporting under GRI considerably increases over time, from 30 in 2007 to 89 in 2010. Overall, more than 12% of the observations refer to firms reporting under GRI application levels. Most notably, there is a significant rise of GRI A+ reports in the observed periods, from 16 in 2007 to 59 in 2010. The number of GRI B+ and GRI C+ reports is rather low, with 68 (28,3%) and 19 (7,9%) observations for all examined years, respectively, compared to 153 (63,8%) GRI A+ reports. This proportion is in accordance with GRI+ reports worldwide when considering the same period (GRI A+: 981 (58,4%); GRI B+: 494 (29,4%); GRI C+: 206(12,2%)).

Table 1

Summary of EUROSTOXX 600s' GRI reports (excluding financials).

	2007	**2008**	**2009**	**2010**	**Total**
Number of firms not reporting under GRI	451	426	415	394	1,686
Number of firms reporting under GRI	30	52	69	89	240
-GRI A+ application level	*16*	*33*	*45*	*59*	*153*
-GRI B+ application level	*9*	*14*	*20*	*25*	*68*
-GRI C+ application level	*5*	*5*	*4*	*5*	*19*

[2]For detailed information on GRI see: www.globalreporting.org.

Total	481	478	484	483	1,926

Notes:
The table reports the number of non-financial firms reporting under GRI in general, as well as under GRI A+, GRI B+ and GRI C+, observed in the publishing years 2007, 2008, 2009 and 2010.

(ii)Firm value
We use the Tobin's *q* ratio of a firm (*tq*) for estimating firm value. Our *tq*-measurement is based on the procedure of Lewellen and Badrinath (1997). In addition to other existing approaches, they propose a proper identification of the vintages of fixed assets that allows an improved measure of fixed asset replacement costs. In doing so, we compute *tq* as ratio of the market value of the firm's financing divided by the amount of its net assets measured at replacement costs:

$$tq = \frac{Total\ market\ value\ of\ outstanding\ securities}{Total\ replacement\ cost\ of\ net\ assets} \quad (1)$$

The numerator for our *tq* is calculated as the sum of the market value of a firm's common stock and the book value of preferred stock, short-term debt and long-term debt. The denominator consists of the total value of a firm's assets, less the book value of inventories and fixed assets plus the estimated replacement costs of fixed assets less all liabilities other than short- and long-term debt.
According to Lewellen and Badrinath (1997), the replacement costs of fixed assets (RCF_t) is defined as the sum of new asset investments (I_t) made during the last five years (n=5), considering a characteristic five-year economic life, and taking into account an inflation rate of 10% p.a. (i). Hence, our RCF can be computed as follows:

$$RCF_t = \sum_{t=1}^{5}\left[\left(I_t \times \frac{t}{n}\right) \times (1+i)^{n-t}\right] \quad (2)$$

Alternatively, we use the average inflation rate in Europe from 2003 to 2010 of 2.1875% in a robustness test,[3] because it could be argued that 10% may be too high. Furthermore, we use different definitions for computing Tobin's *q* in order to further verify robustness. According to Bris *et al.* (2009) we use the total assets of a firm as denominator for our second Tobin's *q* measure (*tq2*). Based on prior research, *tq3* is a simple market-to-book-ratio as used in Rountree *et al.* (2008) and *tq4* is the price-to-book-ratio. Similar to Allayannis and Weston (2001) and Guenster *et al.* (2011), we finally apply an industry-adjusted Tobin's *q* (*iq*), which is measured by the difference between *tq* and the industry-mean *q*. The data for all Tobin's *q* variables is sourced from Thomson Reuters Datastream.
(iii)Model specification
The regressions of our empirical analysis are based on a Tobin's *q* framework, which is also applied by Yanbo and Jorion (2006), amongst others. In general, the model is able to estimate the relationship of a set of factors on firm valuation. For example, Rountree *et al.* (2008) investigate the impact of cash flow volatility on firm values. In our case, we begin our analysis by regressing Tobin's *q* on different GRI indicators. These univariate models can be written as

$$ln(tq)_{it} = \beta_0 + \beta_1 GRI_{it} + u_{it}, \quad (3)$$

where *tq* is the above-mentioned Tobin's *q* as defined by Lewellen and Badrinath (1997). Due to the skewness of *tq* (mean of 1.90 vs. median of 1.46) we use the natural logarithm of the variable, which is consistent with prior research (Allayannis and Weston, 2001). In a first analysis, *GRI* refers to a dummy variable signalling general GRI reporting of a firm, regardless of which GRI level has been applied. In

[3]Following equation (2) we take 2003 as starting year of computing RCF and 2010 as ending year. The source of inflation data is EuroStat.

subsequent analyses, GRI indicates firms reporting under the GRI A+, GRI B+ or GRI C+ application level, respectively. Based on prior research, we include a standard set of other determinants of firm value in a multivariate regression, which is shown in equation (4):

$$ln(tq) = \beta_0 + \beta_1 GRI_{it} + \beta_2\, ln(sales)_{it} + \beta_3 div_{it} + \beta_4 growth_{it} + \beta_5 rd_{it} + \\ +\beta_6 debt_{it} + \beta_7 foreign_{it} + \beta_8 profit_{it} + u_{it}. \qquad (4)$$

According to Bris *et al.* (2009) and Cheung and Wei (2006), amongst others, we use *firm size* as a control variable, which is proxied by the natural logarithm of total sales (*ln(sales)*). We use this definition instead of total assets, because total assets are also included in the denominator of Tobin's *q* and might thereby lead to simultaneity problems. However, in a robustness analysis, the natural logarithm of total assets will also be applied. Based on prior research we expect a negative coefficient for this variable. We control for *access of a firm to the capital markets*, by including a dummy variable that equals one if a firm pays a dividend and zero, otherwise (*div*). If a firm intends investment projects and has restricted access to capital markets we expect a higher Tobin's *q*. Yanbo and Jorion (2006) argue that these firms will tend to select only projects with positive net present values. Dividend payments will reduce liquid funds that could – alternatively – be used for investments. Hence, a negative impact on firm value is expected. Firm value should further be related to *future investment opportunities* of a firm (Rountree *et al*., 2008). Therefore, prior research often includes the capital expenditures of a firm divided by total sales as well as research & development (R&D) expenses divided by total assets. The R&D variable additionally controls for hidden assets as well as intangible assets. We will augment the model with both variables (*growth* and *rd*) and expect a positive coefficient, respectively. Assuming *differences in the capital structure* of the firms of our sample, which might influence firm valuation, according to Bris *et al.* (2009), we use the debt-to-equity ratio as a proxy (*debt*). Most recent literature provides evidence for a negative relationship (e.g. Villalonga and Amit, 2006). In order to take *geographic diversification* into account, we augment the model with the ratio of foreign sales to total sales (Allayannis and Weston (2001)). Several theories, e.g. the internalization theory, indicate that geographic diversification increases firm values. Morck and Yeung (1991) provide evidence for this positive relation. Finally, we control for *profitability*, which is proxied by the return on assets of firm (*profit*). It seems logical that firms with higher profitability should provide higher firm value. Hence, we expect a positive sign of the *profit* coefficient.

The data for all control variables is also sourced from Thomson Reuters Datastream. To eliminate the effects of outliers, we have winsorised our raw data (except the dummy variables) at the top and bottom 5%. All estimates are based on fixed effects regressions. We use this approach, because our GRI variables provide enough time variation and the F-Test, the Lagrange Multiplier and the Hausman test indicate that the assumptions of the pooled OLS regression and the random effects model have to be rejected, respectively (for example, estimating equation (4) including GRI A+, results in a p-value amounting to 0.0000 for all tests). According to the tests, our model/data is influenced by fixed firm-specific as well as time-specific effects. These effects have to be absorbed in order to avoid a correlation between the residual errors and other regressors. For example, if a firm provides a high degree of CSR without reporting under GRI, this effect should be captured by firm dummies. Furthermore, as suggested by Petersen (2009) and Gow *et al.* (2010) our regressions are based on firm-clustered standard errors, instead of White (1980) standard errors, Newey and West (1987) standard errors or Fama-MacBeth (1973) regressions.

Table 2
Summary of descriptive statistics

	Obs.	**Mean**	**Std.**	**25%**	**Median**	**75%**
tq	1,926	1.900	1.465	0.892	1.464	2.454
gri=1	*240*	*1.711*	*1.184*	*0.990*	*1.373*	*2.002*
gri=0	*1,686*	*1.927*	*1.499*	*0.874*	*1.491*	*2.503*
tq2	1,926	1.243	0.802	0.682	1.026	1.558
tq3	1,880	2.758	1.912	1.340	2.180	3.470

tq4	1,883	2.732	1.896	1.310	2.160	3.410
itq	1,926	-0.010	1.262	-0.893	-0.263	0.461
gri	1,926	0.125	0.330	0.000	0.000	0.000
gria	1,926	0.079	0.270	0.000	0.000	0.000
grib	1,926	0.035	0.185	0.000	0.000	0.000
gric	1,926	0.010	0.099	0.000	0.000	0.000
assets (€mn)	1,926	19.094	30.208	2.513	5.794	21.124
sales (€mn)	1,926	11.139	15.050	1.834	4.840	12.882
div	1,926	0.845	0.362	1.000	1.000	1.000
growth	1,926	0.072	0.078	0.022	0.042	0.089
rd	1,926	0.013	0.022	0.000	0.001	0.018
debt	1,926	69.961	69.259	21.372	49.036	91.689
foreign	1,926	0.567	0.308	0.366	0.617	0.826
profit	1,926	7.618	5.727	3.610	6.520	10.410

Notes:
The table reports the descriptive statistics for all variables included in our empirical analysis, where *tq* our main Tobin's q which is based on Lewellen and Badrinath (1997). For *tq2*, the denominator of *tq* is replaced by the total assets of a firm. *lntq3* and *lntq4* are the market-to-book ratio and price-to-book ratio of a firm, respectively.
itq is the industry-adjusted *q* which is the difference between *tq* and the industry mean of *tq*, respectively. *gri* is a dummy variable which is one for GRI reporters and zero otherwise. *gria*, *grib* and *grib* are dummy variables indicating GRI A+, GRI B+ and GRIC+ reporters, respectively. *sales* refers the total sales of a firm and *assets* to the total assets of a firm. *div* is a dummy variable which is one if a firm pays a dividend and zero otherwise. *growth* are the capital expenditures of a firm divided by total sales. *rd* are the research & development expenses of a firm divided by total assets. *debt* refers to the debt-to-equity ratio of a firm. *foreign* is the ratio of foreign sales divided by total sales of a firm and *profit* is the return on assets of a firm.

5. EMPIRICAL ANALYSIS

(i)Descriptive statistics

Table 2 reports the descriptive statistics of the applied variables. The mean of Tobin's *q* (*tq*) equals 1.90 for the whole sample. For GRI reporters, it amounts to 1.71 compared to 1.93 for non-GRI reporters. Considering *tq* over the time frame of our analysis, the ratio decreases from 2.29 in 2007 to 1.57 in 2008. It can be clearly seen that the financial crisis negatively influences firm value in 2008. In 2009 and 2010, the firm values rise to 1.85 and 1.91 respectively, which may partly bea result of the huge bailout and stimulus packages issued by the European governments. These events/effects should be absorbed by the time dummies of our estimation method.

Subsequently, we calculate the correlations between the different regressors and between the regressors and *tq*. We cannot observe any critical correlation between our variables. The correlation coefficients are far below the critical value of 80%. For example, for equation (4), the highest correlation amounts to 56%. Additionally, we calculated the variance inflation factors (VIF) for the equations. Considering equation (4), the mean VIF amounts to 1.16 and the highest VIF to 1.26. These values are far below the critical value of around 10.

(ii) Univariate and multivariate tests
The following univariate regressions analyse the mentioned *tq* difference between GRI reporters and non-GRI reporters. *Table 3* presents the results for the different GRI variables. Model (1) regresses Tobin's *q* on the mentioned dummy variable indicating GRI reporting and zero otherwise. Model (2), (3) and (4)

include dummy variables signalling application level GRI A+, GRI B+ or GRI C+ respectively. Model (5) includes all these three dummy variables.

Table 3
Results – univariate tests

Dep. Variable:ln(tq)	**Model (1)**	**(2)**	**(3)**	**(4)**	**(5)**
gri	-0.094*				
	(-1.91)				
gria		-0.166***			-0.170***
		(-2.93)			(-2.73)
grib			0.02		-0.027
			(0.44)		(-0.53)
gric				0.076	0.026
				(1.13)	(0.37)
Constant	0.375***	0.378***	0.356***	0.357***	0.380***
	(26.18)	(28.45)	(29.49)	(29.70)	(25.96)
R-squared	0.34	0.34	0.33	0.33	0.34
No of obs.	1,926	1,926	1,926	1,926	1,926

Notes:
The table presents the results for the equation $ln(tq)_{it} = \beta_0 + \beta_1 GRI_{it} + u_{it}$, where ***ln(tq)*** is the natural logarithm of our main Tobin's q which is based on Lewellen and Badrinath (1997). In Model (1), ***GRI*** refers to a dummy variable indicating GRI reporters. Model (2), (3) and (4) use a dummy variable signalling GRI A+, B+ and C+, respectively. Model (5) examines all three GRI applications levels. The t-values are reported beneath the coefficient estimates in parentheses; they are computed using heteroscedasticity- and autocorrelation-consistent standard errors (standard errors clustered by firm as described in Petersen (2009)). The coefficient estimates are based on fixed effects within regressions including firm and time specific effects. Statistical significance at the 1%, 5%, and 10% levels is denoted by ***, **, and *, respectively.

Model (1) shows a negative relationship between *tq* and the GRI reporting. However, the coefficient is only significant to the 10% level. Therefore, we will not interpret this negative coefficient. In contrast, the results of model (2) clearly provide evidence that GRI A+ negatively affects firm values. This relationship is confirmed by model (5). The coefficient amounts to -0.17, in both model (2) and (5), and is negative and significant at the 1% level. For the GRI B+ and C+ application level, we cannot find a significant relationship (neither positive nor negative). However, one reason might be the low number of GRI B+ and C+ reporters within our sample.

Table 4
Results – multivariate tests

Dep. Variable: ln(tq)	**Model (1)**	**(2)**	**(3)**	**(4)**	**(5)**
gri	-0.097**				
	(-1.98)				

gria		-0.167*** (-2.96)			-0.173*** (-2.80)
grib			0.004 (0.09)		-0.041 (-0.83)
gric				0.111** (2.09)	0.057 (0.94)
lnsales	-0.170*** (-2.60)	-0.172*** (-2.64)	-0.169** (-2.57)	-0.172*** (-2.62)	-0.175*** (-2.67)
div	0.066* (1.78)	0.064* (1.71)	0.067* (1.80)	0.068* (1.81)	0.064* (1.72)
growth	1.483*** (2.91)	1.506*** (2.97)	1.438*** (2.83)	1.447*** (2.86)	1.517*** (2.99)
rd	1.912 (0.70)	1.971 (0.72)	1.839 (0.67)	1.832 (0.66)	1.969 (0.72)
debt	0.000 (-1.07)	0.000 (-1.05)	0.000 (-1.18)	0.000 (-1.20)	0.000 (-1.05)
foreign	0.107* (1.76)	0.106* (1.79)	0.108* (1.76)	0.109* (1.79)	0.107* (1.80)
profit	0.013*** (5.30)	0.013*** (5.29)	0.013*** (5.32)	0.013*** (5.34)	0.013*** (5.30)
Constant	0.280** (2.04)	0.285** (2.08)	0.268* (1.95)	0.272** (1.97)	0.290** (2.12)
R-squared	0.39	0.39	0.38	0.39	0.39
No of obs.	1,926	1,926	1,926	1,926	1,926

Notes:
The table presents the results for the equation $ln(tq) = \beta_0 + \beta_1 GRI_{it} + \beta_2\, ln(sales)_{it} + \beta_3 div_{it} + +\beta_4 growth_{it} + \beta_5 rd_{it} + \beta_6 debt_{it} + \beta_7 foreign_{it} + \beta_8 profit_{it} + u_{it}$, where ***ln(tq)*** is the natural logarithm of our main Tobin's q which is based on Lewellen and Badrinath (1997). In Model (1), ***GRI*** refers to a dummy variable indicating GRI reporters. Model (2), (3) and (4) use a dummy variable signalling GRI A+, B+ and C+, respectively. Model (5) examines all three GRI applications levels. ***lnsales*** is the natural logarithm of the total sales of a firm. ***div*** is a dummy variable which is one if a firm pays a dividend and zero otherwise. ***growth*** are the capital expenditures of a firm divided by total sales. ***rd*** are the research & development expenses of a firm divided by total assets. ***debt*** refers to the debt-to-equity ratio of a firm. ***foreign*** is the ratio of foreign sales divided by total sales of a firm and ***profit*** is the return on assets of a firm. The t-values are reported beneath the coefficient estimates in parentheses; they are computed using heteroscedasticity- and autocorrelation-consistent standard errors (standard errors clustered by firm as described in Petersen (2009)). The coefficient estimates are based on fixed effects within regressions including firm and time specific effects. Statistical significance at the 1%, 5%, and 10% levels is denoted by ***, **, and *, respectively.

Based on these first results, we have to reject our first hypothesis. We cannot provide evidence for a positive relationship. Instead, our results suggest a negative yet insignificant relationship between firm values and overall externally assured GRI reporting. Reporting under GRI A+ is associated with lower firm values of around 17%. Hence, firms with the highest CSR awareness seem to be punished by investors, due to their higher costs for e.g. more expensive CSR conform product cycles, switching costs for CSR or costs for the CSR training of their employees. However, this negative relation might result from the short time frame of our analysis. As already indicated in our data section and hypothesis development, the high

awareness of CSR is a fairly recent development (GRI G3 has existed since 2006) and a negative relationship might turn into a positive one, when CSR actions, for example, lead to a reduction of water and energy consumption, lower costs for transportation and packaging in the long run.
The multivariate regressions confirm our univariate results, which is shown in *Table 4*. The variable indicating GRI A+ still amounts to around -0.17 and is still highly significant. For the general GRI indicator, the coefficient amounts to around -0.1 and is now significant to the 5% level. The results for GRI B+ are still in line with the univariate results. Regarding GRI C+, model (4) provides evidence for a positive and significant relation to *tq*. However, the results are not robust to model (5). Moreover, our estimates provide evidence for the expected negative effect of firm size (*ln(sales)*), which has been shown in prior literature (e.g. Lang and Stulz (1994) or Servaes (1996)). Furthermore, our results confirm the strong and consistent positive effect of growth on market valuation (e.g. Yanbo and Jorion (2006) or Yermack (1996)). The highly significant coefficient amounts to around 1.5 in all models. As expected, we find a negative relation between access to capital markets (*div*) and *tq*. However, the coefficient is only significant to the 10% level. Similar to Yanbo and Jorion (2006) our results cannot confirm a significant coefficient for the capital structure of a firm (*debt*). Our results cannot provide evidence for relationships between market values, and R&D (*rd*) and geographic diversification (*foreign*), respectively. However, we confirm the existing literature regarding a positive and significant influence of the profitability on firm values. The coefficient for profit amounts to 0.013 for all models and is significant to the 1% level, respectively. Including all these control variables, the R-Squared increases by around 5 percentage points to levels of 39%.

(iii)Size analysis: larger vs. smaller firms
In our second hypothesis, we state that the influence of externally assured GRI-aligned reports on market valuation is dependent on firm size. For this purpose, we estimate the two equations by dividing the sample at the median of total assets in order to be able to differentiate between larger and smaller firms. Additionally, we estimate the equations for the firms within the lowest and the highest quartile of total assets. As our univariate and multivariate tests only provide clear evidence for a consistent and significant relation between *gria* and *tq*, we will only run the size regressions for the GRI A+ variable.
The results are shown in *Table 5*. When dividing at the median we find evidence for both, the univariate and multivariate regressions that the GRI A+ coefficient is only negative and significant for the smaller firms of our sample. The coefficient is -0.31 for the univariate model and -0.32 for the multivariate model. These coefficients are much higher than those provided in *Table 4*. It seems that the smaller firms of our sample drive the magnitude of the initial coefficients. Considering the regressions based on the highest and lowest quartile of total assets, we can confirm the median analysis. The coefficient for GRI A+ application level even decreases to -0.57 and -0.58 for the univariate and multivariate model respectively. Regarding all other coefficients of the multivariate model, the results only confirm the significant relation between profitability and firm values. Taken as a whole, we can confirm our second hypothesis. The effects of GRI-aligned reports on market valuation are dependent on firm size, because we only find evidence for a negative relation when considering small firms. It seems that investors do not punish extensive CSR reporting of larger firms. These firms are more often in the public eye and receive more media attention than smaller firms. Therefore, investors anticipate that defending and developing a good reputation is very important issues for them. The past has shown that a loss in reputation resulting from a lack of interest in ecological sustainability could lead to a decline in revenue as well as firm value. In contrast, smaller firms reporting under GRI A+-level may also raise doubts about the seriousness of a CSR perspective which focuses on formal standards rather than on procedural implementation into a business culture. Hence, it seems that overambitious CSR reporting destroys firm value.

(iv)Profitability analysis: profitable vs. less profitable firms
In order to test our third hypothesis, we divide the sample at the median of return on assets of a firm. We also provide results for the lowest and highest quartile of return on assets. In doing so, we are able to investigate differences between profitable and less profitable firms of our sample. Our results (*Table 6*) only provide evidence for a negative and significant relation between market values und GRI A+ reporting when considering less profitable firms. The *gria* coefficient of the multivariate analysis amounts to -0.13 and -0.15 for the median analysis and quartile analysis respectively. They are significant to the 1% and 5% level, respectively. This result cannot be observed for the univariate model. Nevertheless, we consider our assumption to be justifiable. Several value relevance studies based on the Ohlson (1995)

model found that observing datasets that include firms which are not profitable might lead to different results when comparing univariate and multivariate regressions. Risk factors captured by control variables play an essential role when considering this type of firm (Darrough and Ye (2007), amongst others). This aspect is confirmed by our coefficient for growth, which is only significant and positive for less profitable firms.

Table 5

Size analysis: larger vs. smaller firms

Panel A: Split at the median of total assets

	univariate model		**multivariate model**	
Dep. Variable: ln(tq)	**larger firms**	**smaller firms**	**larger firms**	**smaller firms**
gria	-0.065	-0.312**	-0.07	-0.317**
	(-1.35)	(-2.34)	(-1.61)	(-2.36)
lnsales			-0.141	-0.234**
			(-1.57)	(-2.21)
div			0.019	0.124*
			(0.57)	(1.89)
growth			1.573***	1.037
			(2.77)	(1.11)
rd			-0.175	1.956
			(-0.06)	(0.50)
debt			0.000	0.000
			(-0.61)	(-1.60)
foreign			0.115	0.066
			(1.32)	(0.89)
profit			0.011***	0.015***
			(3.00)	(4.72)
Constant	0.242***	0.708***	0.328	0.613***
	(16.16)	(35.54)	(1.36)	(3.47)
R-squared	0.34	0.38	0.4	0.44
Noofobs.	963	963	963	963

Panel B: Lowest and highest quartile of total assets

	univariate model		**multivariate model**	
Dep. Variable: ln(tq)	**larger firms**	**smaller firms**	**larger firms**	**smaller firms**
gria	-0.084	-0.569***	-0.066	-0.581***
	(-1.50)	(-5.28)	(-1.24)	(-5.21)
lnsales			-0.005	-0.054
			(-0.05)	(-0.25)
div			-0.021	0.158
			(-0.76)	(1.24)
growth			0.608	1.624
			(0.82)	(1.03)
rd			4.5	-0.651
			(1.63)	(-0.11)
debt			0.000	0.000
			(0.45)	(-1.16)
foreign			-0.073	0.16
			(-0.80)	(1.53)
profit			0.019***	0.017***
			(3.17)	(3.57)
Constant	-0.039**	0.900***	-0.216	0.436*
	(-2.03)	(28.02)	(-0.63)	(1.69)
R-squared	0.37	0.35	0.42	0.44

Noofobs.	481	481	481	481

Notes:

The table presents the results for the equations $ln(tq)_{it} = \beta_0 + \beta_1 GRI_{it} + u_{it}$and $ln(tq) = \beta_0 + \beta_1 GRI_{it} + \beta_2\, ln(sales)_{it} + \beta_3 div_{it} + +\beta_4 growth_{it} + \beta_5 rd_{it} + \beta_6 debt_{it} + \beta_7 foreign_{it} + \beta_8 profit_{it} + u_{it}$, where ***ln(tq)*** is the natural logarithm of our main Tobin's q which is based on Lewellen and Badrinath (1997). *GRI* refers to a dummy variable indicating GRI A+ reporters. *lnsales* is the natural logarithm of the total sales of a firm. *div* is a dummy variable which is one if a firm pays a dividend and zero otherwise. *growth* are the capital expenditures of a firm divided by total sales. *rd* are the research & development expenses of a firm divided by total assets. *debt* refers to the debt-to-equity ratio of a firm. *foreign* is the ratio of foreign sales divided by total sales of a firm and *profit* is the return on assets of a firm. The t-values are reported beneath the coefficient estimates in parentheses; they are computed using heteroscedasticity- and autocorrelation-consistent standard errors (standard errors clustered by firm as described in Petersen (2009)). The coefficient estimates are based on fixed effects within regressions including firm and time specific effects. Statistical significance at the 1%, 5%, and 10% levels is denoted by ***, **, and *, respectively.

Hence, it can be concluded that we can also confirm our third hypothesis. The results suggest that the influence of externally assured GRI-aligned reports on market valuation is affected by firm profitability, because only when considering less profitable firms, a negative relation between GRI A+ and firm values can be confirmed. In this case, investors penalise high CSR awareness. They seem to presume that unprofitable firms should concentrate on stabilising financial figures and invest their money in future investment growth instead. This assumption is supported by the highly positive and significant coefficient for *growth*, which increases from 1.5 (*Table 4*) to more than 2.6 in the quartile analysis.

Table 6

Profitability analysis: profitable vs. less profitable firms

Panel A: Split at the median of return on assets

	univariate model		**multivariate model**	
Dep. Variable: ln(tq)	**profitable**	**less profitable**	**profitable**	**less profitable**
gria	-0.107	-0.106*	-0.108	-0.134***
	(-1.19)	(-1.93)	(-1.26)	(-2.61)
lnsales			-0.197	-0.163
			(-1.39)	(-1.35)
div			0.114	0.036
			(1.26)	(0.70)
growth			1.118	1.911***
			(1.07)	(3.22)
rd			3.605	0.629
			(0.71)	(0.16)
debt			0.000	0.000
			(-0.70)	(0.06)
foreign			0.135	0.07
			(1.64)	(0.90)
profit			0.015***	0.013*
			(2.70)	(1.89)
Constant	0.687***	0.079***	0.471	0.135
	(33.56)	(3.95)	(1.50)	(0.54)
R-squared	0.43	0.26	0.47	0.32
Noofobs.	964	962	964	962

Panel B: Lowest and highest quartile of return on assets

	univariate model		**multivariate model**	
Dep. Variable: ln(tq)	**profitable**	**less profitable**	**profitable**	**less profitable**
gria	-0.031	-0.098	0.033	-0.147**
	(-0.36)	(-0.85)	(0.31)	(-2.38)

lnsales			-0.232	-0.089
			(-0.82)	(-0.43)
div			0.302	0.034
			(1.11)	(0.31)
growth			0.377	2.626***
			(0.16)	(3.43)
rd			2.733	-0.417
			(0.40)	(-0.04)
debt			-0.001*	0.001
			(-1.87)	(0.63)
foreign			0.13	0.012
			(0.84)	(0.11)
profit			0.015	0.006
			(1.33)	(0.22)
Constant	0.865***	-0.287***	0.51	-0.331
	(21.85)	(-7.07)	(0.72)	(-0.77)
R-squared	0.4	0.15	0.46	0.21
Noofobs.	481	481	481	481

Notes:

The table presents the results for the equations $ln(tq)_{it} = \beta_0 + \beta_1 GRI_{it} + u_{it}$and $ln(tq) = \beta_0 + \beta_1 GRI_{it} + \beta_2\, ln(sales)_{it} + \beta_3 div_{it} + +\beta_4 growth_{it} + \beta_5 rd_{it} + \beta_6 debt_{it} + \beta_7 foreign_{it} + \beta_8 profit_{it} + u_{it}$, where ***ln(tq)*** is the natural logarithm of our main Tobin's q which is based on Lewellen and Badrinath (1997). *GRI* refers to a dummy variable indicating GRI A+ reporters. *lnsales* is the natural logarithm of the total sales of a firm. *div* is a dummy variable which is one if a firm pays a dividend and zero otherwise. *growth* are the capital expenditures of a firm divided by total sales. *rd* are the research & development expenses of a firm divided by total assets. *debt* refers to the debt-to-equity ratio of a firm. *foreign* is the ratio of foreign sales divided by total sales of a firm and *profit* is the return on assets of a firm. The t-values are reported beneath the coefficient estimates in parentheses; they are computed using heteroscedasticity- and autocorrelation-consistent standard errors (standard errors clustered by firm as described in Petersen (2009)). The coefficient estimates are based on fixed effects within regressions including firm and time specific effects. Statistical significance at the 1%, 5%, and 10% levels is denoted by ***, **, and *, respectively.

(v) Robustness

All robustness analyses confirm the results regarding the negative effect of GRI A+ reporting on market valuation. *Table 7* reports the results for the mentioned alternative Tobin's *q* calculations. For the three completely different Tobin's *q* approaches (*lntq2*-*lntq4*) the coefficient for GRI A+ reporting is around -0.13. The analysis based on industry-adjusted *q* measures (*itq*), even provides a *gria* coefficient of -0.23, which is significant to the 5% level. The coefficient for firm size is also negative and significant for *tq2* and *itq*. We consider this result as robust, because *tq3* and *tq4* cannot really reflect the theoretical assumptions of Tobin's *q*. The positive and significant relation between firm values and growth can only be confirmed by the industry-adjusted *q* analysis. However, we find a positive and significant effect of *profit* for all dependent variables.

Table 7

Robustness tests – different Tobin's *q*

	Dependent variable				
	lntq	**lntq2**	**lntq3**	**lntq4**	**itq**
gria	-0.167***	-0.135***	-0.135**	-0.130**	-0.232**
	(-2.96)	(-3.11)	(-2.07)	(-2.02)	(-2.43)

lnsales	-0.172***	-0.170***	0.018	-0.009	-0.258**
	(-2.64)	(-2.87)	(0.25)	(-0.12)	(-2.29)
div	0.064*	0.044	0.01	0.028	0.035
	(1.71)	(1.36)	(0.31)	(0.90)	(0.70)
growth	1.506***	0.588	0.265	0.161	1.891**
	(2.97)	(1.38)	(0.65)	(0.39)	(2.00)
rd	1.971	2.349	1.212	1.584	2.1
	(0.72)	(0.91)	(0.37)	(0.48)	(0.38)
debt	0.000	0.000	0.001**	0.001***	-0.001
	(-1.05)	(-0.31)	(2.56)	(2.61)	(-1.49)
foreign	0.106*	0.128**	0.130*	0.115*	0.220*
	(1.79)	(2.23)	(1.76)	(1.66)	(1.89)
profit	0.013***	0.014***	0.008**	0.009***	0.019***
	(5.29)	(6.26)	(2.58)	(2.89)	(3.90)
Constant	0.285**	-0.002	0.853***	0.879***	-0.092
	(2.08)	(-0.02)	(6.41)	(6.77)	(-0.38)
R-squared	0.39	0.43	0.48	0.48	0.30
Noofobs.	1,926	1,926	1,880	1,883	1,926

Notes:

The table presents the results for the equation $ln(tq) = \beta_0 + \beta_1 GRI_{it} + \beta_2\, ln(sales)_{it} + \beta_3 div_{it} + +\beta_4 growth_{it} + \beta_5 rd_{it} + \beta_6 debt_{it} + \beta_7 foreign_{it} + \beta_8 profit_{it} + u_{it}$, where ***ln(tq)*** (in the first regression) is the natural logarithm of our main Tobin's q which is based on Lewellen and Badrinath (1997). In the other regressions the dependent variable is replaced by *lntq2* (the denominator of *tq* is replaced by the total assets), *lntq3* (Market-to-book ratio of a firm), *lntq4* (Price-to-book ratio of a firm) and *itq* (Industry-adjusted *q* which is the difference between *tq* and the industry mean of *tq*, respectively). *GRI* refers to a dummy variable indicating GRI A+ reporters. *lnsales* is the natural logarithm of the total sales of a firm. *div* is a dummy variable which is one if a firm pays a dividend and zero otherwise. *growth* are the capital expenditures of a firm divided by total sales. *rd* are the research & development expenses of a firm divided by total assets. *debt* refers to the debt-to-equity ratio of a firm. *foreign* is the ratio of foreign sales divided by total sales of a firm and *profit* is the return on assets of a firm. The t-values are reported beneath the coefficient estimates in parentheses; they are computed using heteroscedasticity- and autocorrelation-consistent standard errors (standard errors clustered by firm as described in Petersen (2009)). The coefficient estimates are based on fixed effects within regressions including firm and time specific effects. Statistical significance at the 1%, 5%, and 10% levels is denoted by ***, **, and *, respectively.

In addition to the fixed effects model we also estimate the random effects model via feasible generalized least squares estimation (untabulated). The coefficients for *gria* are similar to the fixed effects estimations. They amount to -0.15 and -0.12 and are significant to the 1% and 5% level for the univariate and multivariate model respectively.

As already mentioned, due to simultaneity problems regarding total assets, we have proxied *firm size* by the total sales of a firm. However, including the natural logarithm of total assets (untabulated) instead of total sales in a further robustness check leads to identical results for all coefficients of the multivariate model. The highly significant coefficient for *ln(assets)* amounts to -0.31 compared to -0.17 for sales in *Table 4*.

In a final sensitivity analysis, we compute *tq* based on another assumption for the inflation rate (2.1875%) and estimate the univariate and multivariate model without winsorising the data. Once again, the untabulated results are robust.

6. CONCLUSION

In the last decades, the awareness of CSR has raised in the world of business, politics and academic research. In particular, a growing need for transparency has changed the expectations regarding not only financial statements, but also CSR reports. This is shown in an increasing number of firm reports published in alignment with the GRI framework. Concerning our sample the EUROSTOXX 600, the number of examined non-financial firms reporting in alignment with GRI increased from 30 in 2007 to 89 in 2010. We are the first to provide an analysis of the interdependence between GRI-aligned reports and firm value measured by Tobin's *q*. Furthermore, we compare the effects of GRI-aligned reports on firm value for different firm sizes and for different profitability levels.

Our results provide evidence for a significantly negative influence of GRI A+ reporting on firm value. However, this influence only remains statistically significant for smaller or less profitable firms. It seems that the smaller or less profitable firms of our sample drive the results for the whole dataset. For larger or more profitable firms we cannot find a significant relation of GRI A+ to firm value.

Our results suggest that extensive CSR reporting is not to be recommended if firms have not reached a sufficient size and profitability. In these cases, the costs of implementing GRI A+ levels may simply be too high compared to the gains achieved from CSR reporting. Smaller and less profitable firms which focus on formal standards rather than on procedural implementation into a business culture seem to be punished by investors. In contrast to Dowell *et al.* (2000), we further suggest that substandard performers should not publish a high-level GRI report. However, it seems that investors tolerate extensive CSR measures of larger firms. These firms receive more media attention and publicity, and for this reason a loss of reputation due to low CSR awareness has a negative effect on firm value.

Further research is required to refine these results. Based on previous literature, benefits originating from CSR reporting may be time-variant. Due to the fact that GRI G3 guidelines have only been available since 2006, we suggest long-term studies as well as investigations of less detailed CSR reports such as GRI B+- and GRI C+-reports.

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