Firms' Earnings Smoothing, Corporate Social Responsibilities, and Valuation

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ABSTRACT

Income smoothing via accounting discretion could improve or garble actual earnings information. Although managers prefer a less volatile earnings path and perceive lower risk for income smoothness, prior studies show that there is no discernible relation between smoothness and firm valuation. Recent literature documents that socially responsible firms behave differently from other firms in their earnings management and financial reporting. We conjecture that the reported earnings of smoothers that are socially responsible deviate less from their permanent earnings, thus their reported earnings are more value relevant. Our empirical tests show income-smoothing firms with higher corporate social responsibility (CSR) experience higher contemporaneous earnings-return relationship, greater Tobin's Q, and stronger current return-future earnings relationship. The results show that CSR is proved desirable as it adds a unique "quality dimension" to the smoothed earning and is useful for firm valuation.

Key Words: Earnings Smoothness, Corporate Social Responsibility, Earning and Return Relations, Firm Valuation

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1. Introduction

Earnings smoothing is at the forefront of executives' thinking. In the Graham, Harvey and Rajgopal (2005)'s survey of CFOs, several argue that "…you have to start with the premise that every company manages earnings" and the survey notes that an "overwhelming 96.9% of the respondents indicate that they prefer a smooth earnings path". Even though anecdotal evidence shows that business enterprises prevalently engage earnings smoothing and managers prefer smoothed earnings over time, the relationship between smoothed earnings and firm valuation remains questionable: On the one hand, smoothed earnings by managing reported earnings do not accurately represent economic earnings at every point of time (e.g., Goel and Thakor 2003; Jayaraman 2008). On the other hand, smoothing is associated with firm valuation because mangers' use of accounting discretion is to reveal more private information about firm's future earnings and cash flows (e.g., Chaney and Lewis 1995; Tucker and Zarowin 2006).

Recent studies have found that corporate socially responsible (CSR) firms behave differently from other firms in financial reporting and provide more value-relevant information. For instance, CSR disclosure improves analyst forecast accuracy (Dhaliwal, Radhakrishnan, Tsang, and Yang 2012); Firms that exhibit higher CSR score behave in a responsible manner to constrain earnings management, thereby delivering more transparent and reliable financial information to investors (Kim, Park, and Wier 2012); Firms with better CSR score exhibit cheaper equity financing (Ghoul, Guedhami, Kowk, and Mishra 2011), suggesting that firms with socially responsible practices have higher valuation and lower risk. Nevertheless, some argue that engagement in socially responsible activities, if costs exceed the benefits, would reduce the present value of a firm's cash flows (e.g., McWilliams and Siegel 2000; Mackey, Mackey, and Barney 2007; Renneboog, Ter Horst, and Zhang 2008), even though it is difficult to

estimate costs and benefits when relying on information that is voluntarily disclosed by firms (Sprinkle and Maines 2010).

Despite that corporate executives prefer less volatile earnings path,[1] income-smoothing firms are not associated with realized cost of capitals (McInnis 2010) or equity value (Rountree, Weston, and Allayannis 2008). A potential explanation of inconsistent market performance of smoothness is partially the reason that earnings smoothing is both informative and opportunistic. The lack of results in these two recent papers intrigues us to explore whether earnings smoothing is associated with value relevance when more quality information from different dimensions are otherwise available. Firms with higher social responsibility are more ethical in their reporting behaviors with less accounting manipulation, hence, we conjecture that smoothed earnings from high-CSR firms deviate less than real "undistorted" earnings thus their smoothed earnings are more value relevant and leads to higher firm valuation.

Our estimates of earnings smoothness use smoothing via total accruals and smoothing via discretionary accruals. Both measures emphasize that smoothness represents earnings management when it is measured relative to inherent or fundamental smoothness of the firm's operations. Operating cash flow smoothness is used to control for inherent smoothness.[2] We use information on corporate performance from Kinder, Lydenberg and Domini & Co. (hereafter as KLD), a social choice investment advisory firm), to assess social performance, along dimensions such as corporate governance, community, diversity, employee relations, environment, and

[1] Smoothing could be due to managers' personal incentives (e.g., their job security and compensations). Moreover, managers have incentives to smooth earnings to affect market perceptions of earnings volatility, and hence, the firm's stock prices (e.g., Levitt 1988; Goel and Thakor 2003).

[2] Empirical investigations are hampered by the difficulty associated with separating reported earnings into pre-smoothed earnings and the accrual component used to moderate reported earnings. While models of nondiscretionary accruals can be used to estimate earnings before those accruals, concerns have been raised that estimates of nondiscretionary accruals are associated with considerable measurement errors (e.g., Dechow et al. 1995; Thomas and Zhang 2000). Also, not all discretionary accruals are designed to smooth the reported earnings.

product. The KLD data has gained validity to become a widely accepted set of CSR measures, as it meets Carroll (1979)'s proposed model that delineates a firm's social obligations, including economic, legal, ethical, and discretionary responsibilities.[3]

To test differential effects of earnings smoothing and CSR on firm valuation, we employ the following major tests: 1) using Tobin's Q, we examine firm performance for firms with smoothness attribute and/or higher CSR. 2) We conduct the long-window value relevance test of earning smoothness from CSR firms, i.e., smoothness and CSR are two moderators in the earnings-return relationship tests. 3) We conduct the short-window earning response coefficients (ERC) test for market perception around earnings announcement. 4) We also employ the future earnings response coefficients-based regression method, the FERC model initiated by Collins et al. (1994) and used by Tucker and Zarowin (2006). Complementarily, we disaggregate CSR score to test different components of CSR for their individual effects on firm valuation when interacting with earnings smoothing.

Using a sample of 2,022 firms and 10,755 firm-year observations over the period 1993-2010, we find a negative correlation between CSR score and earnings smoothness, suggesting that CSR firms appear to reduce or avoid earnings manipulation through discretionary smoothing. In addition, we find a positive correlation between CSR score and Tobin's Q, implying that CSR firms appear to be higher firm performance as compared to non-CSR firms. Empirical results further indicate that CSR score significantly increase the value relevance of current earnings when investigated separately, and that smoothing alone moderately increases the value relevance of current earnings. In joint tests with smoothing, CSR score, and their interaction in the model, we find that smoothing is positive and significant when interacted with

[3] The KLD database takes a comprehensive approach that examines six dimensions related to social performance, namely, community, diversity, employee relations, the environment, human rights, and product characteristics, as well as controversial business issues.

CSR (i.e., when smoothers are socially responsible). The regression results hold for both long-window and short-window earnings-return relation tests.

Our FERC tests show that the stock returns of income-smoothing firms with higher CSR have higher future earnings response coefficients than smoothers with lower CSR, namely higher-CSR smoothness reflects more information about future earnings than lower-CSR smoothness. The results reveal that the joint attributes of smoothing and CSR represent a forward-looking indicator of the degree and stability of future profit streams and help investors to better evaluate future earnings news. Moreover, our tests show that smoothing alone does not result in higher market valuation, but income-smoothing firms with higher CSR score are strongly related to higher firm value (proxy by Tobin's Q). We interpret the results as evidence that high-CSR smoothness is more value-relevant and rewarded by the market with a premium in stock prices. Overall, our results are consistent with ethical concerns disciplining financial reporting and driving higher firm valuation.

This paper contributes to earnings management literature that shows mixed results about whether smoothing is informational or opportunistic. Smoothing could be driven by managerial discretion, rather than by economic fundamentals. The perception of smoothing by outside investors depends on other information quality. We join the debate about whether the earnings discretion available to managers raises or lowers the informativeness of earnings. It is a common notion that the discretion present in financial reporting successfully masks, at least for the short term, the underlying real firm performance. There may exist "value relevance ambiguity" if earnings are managed. Our study is the first to examine the association between earnings smoothing and its informativeness that can be interpreted by ethical reporting behaviors.

We also contribute the research of social responsibilities of corporate reporting. With the proliferation of CSR disclosures, many investors now use an investment strategy that explicitly considers CSR performance criteria in addition to traditional financial measures. Our results shed lights on the effects of CSR on the quality and valuation implication of earnings management. CSR is proved desirable as it adds a unique "quality dimension" to the smoothed earnings. In general, better CSR promotes firm-specific smoothness information. We find that smoothing is more informative with higher CSR score as more business ethics upholds the representational faithfulness of the reported earnings. Hence, CSR is decision useful by potentially strengthening the confidence of market participants, as investors appear to recognize this and accordingly react more positively to the smoothed earnings when the firm is more socially responsible. Our findings can be useful to investors in differentiating accurate and transparent financial information from less reliable information. Finally, evidence from this study can help regulators and investors better understand firms' business practices and reporting behaviors in light of CSR.[4]

In the next section, we discuss the related literature and develop our hypotheses. Section 3 describes the sample and variable measurements. Section 4 presents the main empirical results. Section 5 studies some robustness checks. In Section 6 we conclude.

2. Literature Review and Testable Hypotheses

2.1. Earnings Smoothing

[4] A prior work is done by Brown, Helland and Smith (2006) who document that for firms operating in industries with stringent regulations, an improved reputation regarding various CSR issues can induce more positive media coverage and more favorable treatment by regulators and policy makers. The practical implication of our results is to directly provide analysts and investors with a tool for identifying firms with different degrees of value-relevant earnings.

Income smoothing activities are pervasive and literature has documented evidence that firms actively engage in income smoothing (e.g., Beidleman 1973; Healy 1985; DeFond and Park 1997; Tucker and Zarowin 2006, among many others). Smoothing is managers' utilization of accounting discretion to moderate income stream variability.[5] Prior literature has documented evidence that managers prefer less volatile earnings (e.g., Ronen and Sadan 1981; DeFond and Park 1997; Graham et al. 2005). However, smoothness does not indicate good earnings quality. Smoothing can either improve or impair firm's actual earnings information.

Disagreement exists in the literature as to whether smoothness is a desirable property of accounting earnings for valuation effects. Beidleman (1973) asserts that smoothing is useful for internal budgeting and in reducing perceived riskiness among outsiders. Barnea et al. (1975) argue that smoother earnings allow outsiders to better predict future earnings. Ayra et al. (1998) and Sankar and Subramanyam (2001) view that income smoothing provides future related information about future profitability. Kirschenheiter and Melumad (2001) develop a model in which smoothing earnings is part of an equilibrium reporting strategy designed to increase the inferred precision of reported earnings. Similarly, the model by Chaney and Lewis (1995) predicts that the informativeness of earnings increases for firms with smooth income. They argue that smoothness can aid investors in assessing future prospects of firms by enhancing the

[5] Smoothing is the reduction of variability in reported earnings that would otherwise exist in the absence of some actions. Direct actions that smooth earnings commonly take the form of real strategic business decisions and cost management (Cohen et al. 2008; Roychowdhury 2006). Albrecht and Richardson (1990) describe two types of income smoothing, natural smoothing and intentional smoothing. The former is no manipulation by the managers. The type of intentional income smoothing, depends on managerial intent. Managers' application of available accounting discretion through the use of estimates, assumptions and alternative choices, is an effective way to smooth earnings. DeFond and Park (1997) find evidence that when a firm's current performance is poor (good) relative to expected future performance, managers tend to smooth income by increasing (decreasing) accruals, i.e., "borrow" future earnings for current period ("save" current earnings for future period). This type of income smoothing was notably referred to as the use of "*cookie jar*" reserves by the former SEC Chair Arthur Levitt (1998). Similar to DeFond and Park, Balsam et al. (1995) suggest that firms use discretion to time the adoption of income increasing accounting methods when the firm's change in ROA is lowest. Keating and Zimmerman (1999) also suggest that poorly performing firms use the discretion allowed in accounting standard adoption to their advantage.

usefulness of the information conveyed for predictive purposes. Tucker and Zarowin (2006) focus on the effect of income smoothing on earnings persistence and on the informativeness of future earnings. They find that income smoothing improves the efficiency of current stock prices in terms of incorporating future earnings information.

Other researches, however, cast earnings smoothing in a less favorable light. Trueman and Titman (1988) assert that by smoothing to influence stakeholders, smoothing reduces the information content of earnings announcements. Leuz et al. (2003) view that firm insiders protect their private control benefits by smoothing earnings to conceal firm performance. Bhattacharya et al. (2003) and Jayaraman (2008) contend that discretionary smoothing distorts the contemporaneous information content of earnings and cash flows, and leads to greater earnings opacity. Myers et al. (2007) offer evidence that firms use income smoothing as an earnings management tool to maintain artificially long strings of increasing earnings per share. In addition, LaFond et al. (2007) find that income smoothing adversely affects the transparency of accounting data, thus investors' willingness to trade is abated. In general, these studies consider that smoothness is artificial and represents opportunistic reporting. The above assertions appear to be based on an assumption that managers' unobservable smoothing actions introduce noise into the income series, lowering its informativeness.

More related to our paper are two recent studies of the relationship between earnings smoothness and firm valuation: The first paper by Rountree et al. (2008) presents empirical evidence that cash-flow volatility is negatively valued by investors. The magnitude of the effect is substantial with a 1% increase in cash-flow volatility, resulting in approximately a 0.15% decrease in firm value. They show that this increase, however, is not associated with earnings smoothing resulting from managers' accrual estimates. Their results are consistent with a

preference by the market for less volatile cash flows and suggest that managers' efforts to produce smooth financial statements add value, but only via the cash component of earnings. The second one by McInnis (2010) finds that earnings smoothness, in isolation or combined with other risk proxies, has no ability to explain average return, either at firm or the portfolio level. He interprets that analysts estimate the implied cost of capital (ICC) systematically too low (high) for firms with smooth (volatile) earnings. The lack of the relation between smoothing and stock returns means that firms fail to signal to the market, or the market reacts to the smoothed earnings as both informative and opportunistic. McInnis points out that the negative relationship between smoothness and ICC documented in Francis et al. (2004)[6] is driven by the bias in analysts' long-term earnings forecasts. This bias, however, could be attenuated by the availability of other sources of earnings information about smoothers.[7]

2.2. Corporate Social Responsibility

The perceived importance of corporate environmental, social, and governance programs has soared in recent years, as executives, investors, and regulators have grown increasingly aware that such programs can mitigate corporate crises and build reputations. Firms are increasingly and voluntarily engaging in actions that appear to further some social good, including environmental protection, community support, fair labor practices, etc. – all of which fall under the Corporate Social Responsibility (CSR) label (Stanford 2011). Though the

[6] Based on the Value-Line estimates of implied cost of capital (*ICC*), Francis et al. (2004) show that smoothing tends to reduce the *ICC* and thus smoothness is a desirable quality attribute. Prior studies examining the relation between returns and earnings attributes show that better earnings quality enjoys lower cost of capital, and market prices discretionary accruals (e.g., Subramanyam 1996).

[7] McInnis' findings are important because they call into question the wisdom of smoothing earnings to achieve a lower risk premium, particularly if such actions sacrifice economic value.

definition of CSR is not uncontested,[8] the definition offered by Carroll (1979) is most widely accepted: "The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time". Carroll's delineation of a firm's social responsibilities suggests that CSR firms should strive to make a profit, obey the law, be ethical, and, further, be a good corporate citizen by financially supporting worthy social causes.[9]

For a long time it has been presumed that CSR strategies were unlikely to reduce a company's vulnerability to firm risk (McGuire, Sundgren, and Schneeweis 1988)[10]. Market risk is generally of a macro-economic nature, and includes, for example, economic growth rate shocks, interest rate shocks, oil price shocks and inflation shocks. McGuire et al. (1988) suggest that the impact of social responsibility on measures of a firm's systematic risk may be minimal "since most events affecting a firm's level of social responsibility do not systematically affect all other firms in the marketplace", a position consistent with that of Cornell and Shapiro (1987). Barnett (2007) argues that it takes time for firms to acquire the capacity to influence stakeholders and therefore there might be a lag between investment in CSR strategies and a financial return. Barnett and Salomon (2012) provide some evidence to support Barnett's (2007) theory that the

[8] Nevertheless, no consensus has emerged to define whether and how such programs create shareholder value, how to measure that value, or how to benchmark financial performance from company to company (McKinsey Quarterly, February 2009).

[9] Alternatively, focusing on four main aspects of social reality, economics, politics, social integration, and ethics, Garriga and Mele (2004) classify CSR theories into four groups: (1) ethical theories, (2) political theories, (3) integrative theories, and (4) instrumental theories.

[10] Enquiry as to whether socially responsible actions by companies are financially rewarded has ensued since Friedman in his 1970 New York Times article re-ignited a debate that had simmered since the 1930s. Narver (1971) asserts the actual necessity of companies taking voluntary action to address 'external effects' if they are to be wealth maximizing. He elucidates that to ignore the changing expectations of a broad base of stakeholders can induce the capital market to perceive lower expected earnings and/or impute a higher risk factor resulting in a lower present value of the firm.

relationship between corporate social performance and corporate financial performance may be U-shaped.

Thanks to the proliferation of CSR disclosures, many investors now use an investment strategy that explicitly considers CSR performance criteria in addition to traditional financial measures. A recent report from the Social Investment Forum (2009) estimates that 12.2 percent of the $25.2 trillion in total assets under management in the U.S. during 2009 was involved in some strategy of socially responsible investing. Academic research has shown such supporting evidence as well, for instance, Edmans (2011) documents that employee satisfaction is positively correlated with shareholder returns. Using data on stock returns, he finds that a portfolio of the "100 Best Companies to Work for in America" generates an out-performance of between 2.1% and 3.5% per annum. Similarly, Banker and Mashruwala (2007) find that greater employee satisfaction is likely to translate into better future financial performance and firm growth. Ghoul et al. (2011) show that investment in improving responsible employee relations, environmental policies, and product strategies contributes substantially to reducing firms' cost of equity, and Dhaliwal et al. (2012) find that the CSR disclosures increase earnings informativeness to financial analysts.

2.3. Earnings Smoothing, Corporate Social Responsibility, and Firm Valuation

The properties of earnings category include smoothness, accruals, and investor responsiveness (Dechow et al. 2010). The market responsiveness to earnings category includes test of earnings response coefficient (ERC) as a measure of earnings informativeness or earnings quality. Smoothers' earnings should be more value-relevant if they are of higher quality. In fact, Bao and Bao (2004) argue that lower variability of earnings does not guarantee income smoothers' higher firm values. Instead, smoothers' earnings should be more value-relevant if

they are of high quality, i.e., earnings quality should be considered simultaneously. They find that quality earnings smoothers have the highest price-earnings multiple while non-quality non-smoothers have the lowest price-earnings multiple.

Not long ago accounting researchers have studied whether CSR could contain firms' misreporting behaviors. A notable work by Kim et al. (2012) reveals that socially responsible firms are less likely 1) to manage earnings through discretionary accruals, 2) to manipulate real operating activities, and 3) to be the subject of SEC investigations, as evidenced by Accounting and Auditing Enforcement Releases against top executives. However, Chih et al. (2008) examine CSR and earnings management and provide inconsistent results across different earnings management proxies. They show that CSR firms are more aggressive in accruals management but are less likely to engage in earnings smoothing and earnings loss avoidance.[11]

The negative association that Kim et al. (2012) document between CSR activities and earnings management is consistent with ethical managers engaging in both more CSR activities and less earnings management. It supports our presumption that CSR disclosure has become a relatively important source of reassessing individual firm's earnings information. Using CSR disclosures, investors can reassess the representational faithfulness of financial information provided by management. CSR score is useful to aid investor in distinguishing natural vs. opportunistic smoothing. Smoothed earnings reported by social responsible firms thus help strengthen investor confidence.

Effects of CSR disclosure on the information richness of income-smoothing firms have not been probed before. Hence, it is empirically unclear that how CSR affects the informativeness of smoothed earnings. High-quality earnings should be very informative about

[11] Kim et al. (2012) argue that the results in Chih et al. (2008) could be driven by these country differences rather than differences in CSR activities.

current performance, and indicate predictable information about the future. Informativeness requires that income smoothing not impair investors' information about a firm's future cash flows (Francis et al. 2004).[12] The purpose of our study is to examine whether higher-CSR smoothness raises the informativeness of earnings, as reflected in the earnings multiplier, while the higher multiplier is consistent with increased earnings informativeness (Ali and Zarowin 1992; Chaney and Lewis 1995).[13] Using one-year test window, and short-window ERC test around earnings announcements, we estimate the earnings-return relationship by regressing cumulative abnormal returns on unexpected earnings (wherein smoothness and CSR are two moderators in earnings value-relevance tests). Our first hypothesis is presented as:

H1: *Earnings-smoothing firms with higher CSR score are more strongly associated with the earnings-return relationship (than non-smoother with lower CSR score).*

Earnings volatility has been linked to the valuation of firms (e.g., Beidleman 1973; Gebhardt et al. 2001). Similarly, income smoothing indeed has been studied in the context of firm valuation as suggested by Dechow and Skinner (2000). Results, however, are mixed. Rountree et al. (2008) argue that smoothness is valued by the market only to the extent that it is supported by low cash flow volatility. While Hunt et al. (2000) prove that accrual accounting practices could lead to lower earnings volatility and smoothing via accruals management is associated with higher market value of equity. Tucker and Zarowin (2006) provide evidence that smoothing by discretionary accruals increases the informativeness of current prices in terms of

[12] Francis et al. (2004) echoes the FASB Statement No. 1 that describes that the financial reports should help in assessing the timing, magnitude, and uncertainty of future cash flows. For example, when managers use their private information about future income to smooth out transitory earnings fluctuation, they might make reporting choices opportunistically in order to avoid the fluctuation. If those reporting choices fail to convey information about the future cash flows, then the result will not be a reduction in information risk.

[13] The design reflects a joint test of the informativeness hypothesis and two maintained assumptions: First, the model to partition total accruals into discretionary accruals and non-discretionary accruals is well specified. Second, the market is efficient. There will be a market response if the current earnings deviates from the market's (or analysts') earnings expectations.

incorporating future earnings information. Bao and Bao (2004) find results that smoothers of higher earnings quality have the highest price-earnings multiples while non-quality non-smoothers have the lowest price-earnings multiples. Their results provide a practical implication that market participants should consider both smoothing behavior and other earnings quality together for firm valuation.

Information risk reflects "value ambiguity, or the degree to which a firm's value can be reasonably estimated by even the most knowledgeable investors…" (Jiang et al. 2005). If higher-CSR smoothness is more informative, it should unequivocally improve value relevance of income-smoothing firms. A firm's CSR activities are associated with a reduction of the firms' cost of equity (Ghoul et al. 2011), and positively related to financial performance (Dhaliwal et al. 2012).[14] Hence, CSR is linked with improved information set surrounding and lowers idiosyncratic risk of smoothers. In the same vein, increased transparency due to management ethics is demanded by market participants, and likewise they are attracted to firms with less opaque reporting. In addition, lower cost of capital also leads to higher firm value. As summed up, the availability to investors of a more responsible and reliable set of information about a firm's prospects would provide a richer context in the valuation of smooth earnings. Thus, there is likely a positive relation between CSR score and market value of smoothers.

We investigate the association between earnings smoothing and firm value related to ethical reporting. It is a natural extension of the test of earning-return relationship in the first hypothesis. Presumably ethical activities and smoothness are jointly determined to lead to real firm performance, and then our second hypothesis test is:

[14] Nevertheless, it is possible that ethical managers could still be engaging in CSR activities at the expense of shareholders. Moser and Martin (2012) argue that findings in Dhaliwal et al. (2012) do not preclude the possibility that some CSR activities are not profit-maximizing.

H2: *Higher firm value is strongly related to the interaction of both higher degrees of earnings smoothing and corporate social responsibilities.*

We use Tobin's Q as a proxy for firm value to test the valuation benefit associated with earnings smoothing, if the information set of smoothed earnings is reliable to the investor community. As a summary, the tests of the informativeness of higher-CSR smoothness are implemented with two different but closely related perspectives, namely the earnings-return relationship and market valuation tests.

3. Variables and Sample

3.1. Smoothness Measures

Smoothing is treated as a period-specific accounting choice. We construct two income smoothing measure, total accrual smoothing (*TAS*) and discretionary accrual smoothing (*DAS*). *TAS* is the volatility of income with respect to the volatility of cash flows, calculated at the annual level over rolling six-year windows ending in the current fiscal year. The more income smoothing, the more the variability of cash flows with respect to the variability of income, hence the higher ratio would signify a smoother income stream. This measure has been used in Francis et al. (2004) and McInnis (2010). The difference is that they calculate operating cash flows from operating income less total accruals, and their total accruals are obtained from the balance sheet variables. We use operating cash flows directly from the cash flow statements since the data are available for our sample period in this study.[15] We also use the reciprocal value to ease the interpretation of results.

$$TAS_{i,t} = \frac{Std.Dev.(CFO_{it})}{Std.Dev.(NI_{it})} \quad (1)$$

[15] Total accrual is measured using the cash flow method per Hribar and Collins (2002): Income before extraordinary items (*ib*) less cash flows from operations less cash flows from extraordinary items (*oancf-xidoc*).

where *NI* is net income before extraordinary items, *CFO* is cash flows from operations less cash flows from extraordinary items, both are scaled by lagged total assets.

DAS is the negative correlation between the change in discretionary accruals and the change in pre-discretionary income based on Jones (1991) accrual model, adjusted by a firm's performance (Kothari et al. 2005).

$$TAcc_{it} = a_1\left(\frac{1}{Asset_{it-1}}\right) + a_2\Delta Sales_{it} + a_3 PPE_{it} + a_4 ROA_{it} + \varepsilon_{it} \quad (2)$$

where the total accruals (*TAcc*), change in sales (*ΔSales*), and net property, plant and equipment (*PPE*) are all scaled by the beginning-of-year total assets. Return on assets (*ROA*) is the performance matching control variable. The equation (2) is estimated cross-sectional each year within the same industry group (by two-digit SIC) to obtain the fitted value of accruals and the estimation errors. The fitted value is the non-discretionary accruals, and the difference between the observed value and the fitted value, i.e., the residual $\hat{\varepsilon}_t$, is the discretionary accruals predicted (*DAP*). Pre-discretionary income (*PDI*) is defined as net income minus discretionary accruals. *DAS* is the negative correlation of a firms' change in discretionary accruals and its change in pre-discretionary income, with six-year rolling window.

$$DAS_{it} = -Corr(\Delta DAP_{it},\ \Delta PDI_{it}) \quad (3)$$

The *DAS* measure above is similarly used by Leuz et al. (2003), Tucker and Zarowin (2006) and Myers et al. (2007). The underlying intuition is that the variability of cash flows is smoothed through the usage of accruals. Therefore, a more negative correlation would signify a smoother income stream in relationship to the underlying fundamental. The two measures of smoothness differ in that *TAS* measure captures income smoothing effect through total accruals, whereas *DAS* measure captures income smoothing effect through discretionary accruals.

3.2. Firm Social Activities Metrics

Our social responsibility measures are based on data from Kinder, Lydenburg, and Domini (2006; KLD thereafter), which has been widely used to measure CSR activities. We consider six social performance related dimensions: corporate governance, community, diversity, employee relations, environment and product. We exclude the areas of human rights and firearms because the two areas are not available before 2002.[16] Researchers assess these dimensions in order to determine if a company is socially responsible. KLD compiles information on CSR beginning in 1991 and since 1993 the data has become steadily increasing.

Besides, we control "reputation" in our multivariate analysis, following Kim et al. (2012). We obtain the list of firms included in Fortune's America's Most Admired Companies from Fortune Magazine issues from the same 1993 through 2011, since KLD's evaluation of CSR performance can also be potentially influenced by a firm's reputation. We also include firm governance metrics, as corporate governance is a distinct construct from CSR, and it can affect firms' financial reporting behaviors and earnings informativeness.

3.3. Sample Descriptions

We collect the financial statement data from Compustat database, the stock returns/prices from CRSP, and consensus earnings forecasts from I/B/E/S. We select sample by searching through the CRSP files for ordinary single class common stocks, and require the sample firms to be public with a share code of 10 or 11 and to be a single class stock.[17] To remain in the sample, we further require a firm-month to have non-missing return data on CRSP and non-missing values for the Compustat accounting variables. We require that at least 20 firms within each industry-year (2-digit SIC code) for obtaining the earnings smoothing (both *TAS* and *DAS*). We

[16] KLD data exclude screen categories including alcohol, gambling, military contracting, nuclear power, and tobacco. They use a combination of surveys, financial statements, and articles in the popular press and academic journals, as well as government reports, to assess strengths and concerns in social performance dimensions.

[17] We also exclude the holding firms, the ADRs, and the limited partnerships.

then match KLD data with the Compustat database, and we exclude observations of financial institutions (SIC codes 6000-6999) because characteristics of accruals differ in these firms. Our final sample covers the period of 1993 to 2010, 2,022 individual firms for a total of 10,755 firm-year observations.

Table 1 provides the descriptive statistics of the main variables we use in analysis. Table 1 provides the descriptive statistics of the main variables we use in the analysis. The mean (median) Tobin's Q is 2.038 (1.616). We include two different measures of smoothing, DAS and TAS, the mean (median) DAS is 0.704 (0.882), and the mean (median) TAS is 1.686 (1.248), matching with McInnis (2010) for *TAS* and Tucker and Zarowin (2006) for *DAS*. The mean (median) value of aggregate CSR score is 0.059 (0.000). We now examine our five subcategories for CSR component score: the mean of community relation rating (ComScore) is 0.095; mean of diversity ratings (DivScore) is 0.347; mean of employee relations ratings (EmpScore) is -0.083. The results indicate that there is still much room for firms to improve firm value through improving employee relations (see Edmans 2011). Our sample mean of environment ratings (EnvScore) is -0.139 and mean of product ratings (ProScore) is -0.162. These score indicate that half of firms below median have much more their environment and product concerns than strengths. They may need to improve their environment ratings and product ratings to become more social responsible corporate citizens.

3.4. Correlation Results

Table 2 reports the pairwise correlations between Tobin's Q, smoothing measures (DAS and TAS), CSR score and other control variables. Four results are noteworthy. First, the two proxies for earnings smoothing are 69.7% (Pearson) or 43.4% (Spearman) positively correlated at 1% level, indicating that firms that engage in discretionary smoothing also have higher TAS,

and a further is needed to check the differential effects between the two measures. Second, the Tobin's Q is positively correlated with CSR score at 1% level. Thus, the correlation results provide preliminary evidence that firms' social activities are generally value-enhancing. Third, Tobin's Q and DAS are weakly correlated (also, Tobin's Q and TAS are negatively associated), which directly shows that smoothness does not relate to firm performance and also implies that investors may need better quality information to value firm in addition to smoothness. Fourth, CSR score is negatively related to smoothness, indicating CSR firms are less likely to smooth out earnings.

3.5. Sorting Results

To test whether CSR and smoothing (DAS or TAS) could impact firm value, we calculate Tobin's Q mean values within quintiles for both CSR score ranking and smoothing ranking. We first sort and partition all firms on the basis of CSR ranking. We then calculate Tobin's Q mean separately for each smoothing ranking quintile for all CSR ranking based quintiles mentioned above. Table 3 reports Tobin's Q for CSR / smoothing sorting. Within each DAS quintile in Panel A, Tobin's Q shows an increasing pattern when CSR score increases from the lowest quintile to the highest quintile. For example, in the third quintile of DAS, Tobin's Q increases from 1.629 for lowest CSR ranking quintile to 2.349 for highest CSR ranking quintile, with t-value of 10.29. A similar pattern is observed when we use TAS to replace DAS (as shown in Panel B). In the third TAS ranking based quintile, Tobin's Q increases from 1.755 for lowest CSR ranking quintile to 2.392 for highest CSR ranking quintile. The difference is both economically and statistically significant. The Tobin's Q difference between the highest CSR quintile and lowest CSR quintile is 0.637 (0.637/1.755 = 36.3%), and the t-value is 8.64. This

indicates that there is a strong association between CSR score and firm value, which is in line with existing literature (e.g., Dhaliwal et al. 2012).

When we look at Table 3 the other way, within each quintile of CSR ranking in Panel A, Tobin's Q does not show clearly increasing or decreasing pattern across DAS based-rankings. However, from Panel B, within each CSR ranking based quintile, Tobin's Q seems to show a decreasing pattern with the increasing of TAS. This is supportive to Table 2 correlation results. Considering Panel A and B together, we conclude that financial markets value total accrual smoothing more than discretionary accrual smoothing, implying that it is necessary for market participants to get additional information set to integrate smoothing information into their valuation process.

4. Empirical Results

4.1. Earning-Return Relation Tests

Table 4 Panel A reports the results from a panel data regression testing the earnings-return relation. Models 1 to 2 are reduced models (excluding interaction variables) and Model 3 is the full (three-way) model in equation (4):[18]

$$SAR_{it} = a_1 + a_2 UE_{it} + a_3 DAS_{it} + a_4 DAS_{it} \times UE_{it} + a_5 CSRScore_{it} + a_6 CSRScore_{it} \times UE_{it} + a_7 DAS_{it} \times CSRScore_{it} + a_8 DAS_{it} \times CSRScore_{it} \times UE_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it}. \quad (4)$$

In Model 1, we regress size-adjusted cumulative abnormal return (*SAR*) on unexpected earnings (*UE*) and the interaction of *DAS* and *UE*. The interaction α_4, *DAS*×*UE*, has a moderate coefficient of 0.037 (t=1.62, p-value>10%), indicating that smoothing does not significantly strengthen the contemporaneous earnings-return relation (CERR), consistent with McInnis

[18] Our sample is an unbalanced panel. Our specifications include fixed effects in the form of time dummies and industry dummies based on the two-digit SIC codes. For brevity, estimates of the dummy variables' coefficients are not reported.

(2010) who documents a weak relation between smoothness and average stock returns, and with Rountree et al. (2008) who document no price effect for earnings smoothness. Model 2 adds an interaction of the *CSRScore* and *UE* (α_6= 0.087, t=2.10, p-value<5%), and shows evidence that CSR alone improves CERR significantly. Model 3, a fully interacted model, provides evidence that smoothing alone does not increase the earnings-return relation (t-value of α_4 is 1.16), but CSR strongly increases the earnings-relation relation (t-value of α_6 is 2.02). More interestingly, the joint interaction of smoothing and CSR increases the CERR significantly, with a positive and strongly significant coefficient, α_8 = 0.102 (t=4.38, p-value<1%) on the joint interaction.

In summary, the results of Table 4 Panel A show that, on average, CSR score increases the contemporaneous earnings-return relation but smoothing alone does not. In addition, the combination of smoothing and CSR strongly improves the contemporaneous earnings-return relation, as predicted in our hypothesis. For a sensitivity tests, we find that results hold when DAS is substituted by TAS. We also eliminate outliers with the absolute value of studentized residuals greater than two (involving less than 2% of the observations), and re-run our tests. The results are qualitatively close. As an alternative specification, we also perform the tests by regressing abnormal returns on unexpected earnings using the change relative to the previous year (assuming that annual earnings follow a random walk time series process). The results and conclusions from this specification are not different in any material way from using analyst forecasts to approximate unexpected earnings.

Although our study mainly focuses on the long-window earnings-return relation, it is important to have a "sharp" test to explore whether investors react more strongly to smoothed earnings and/or to high-CSR earnings around earnings announcements. This is because returns around earnings announcements directly capture whether and how investors price certain

attributes of reported earnings. In addition, measuring returns over a short-event window makes it relatively easier to control for other determinants of returns, such as adverse firm-specific corporate events.

We calculate a short-window earnings surprise UE^S as the difference between actual earnings per share and the most recent analyst forecast prior to the earnings announcement, deflated by stock price. Our short-window abnormal return is the compounded daily raw return ± 1 day around the annual earnings announcement minus the daily return on the portfolio of firms with the same size and book-to-market ratio (two size and three *B2M* portfolios make a total of six portfolios). We obtain the daily returns (and cutoff points) for the size and book-to-market portfolios from Professor Kenneth French's data library.[19]

$$SAR_{it} = a_1 + a_2 UE_{it} + a_3 DAS_{it} + a_4 DAS_{it} \times UE_{it} + a_5 CSRScore_{it} + a_6 CSRScore_{it} \times UE_{it} + a_7 DAS_{it} \times CSRScore_{it} + a_8 DAS_{it} \times CSRScore_{it} \times UE_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it}. \quad (5)$$

Table 4 Panel B shows results of ERC regression of earnings announcement returns. The results in Models 1-3 suggest that there is a greater market reaction to unexpected earnings when earnings quality increases, as evidenced by a significantly positive relation between abnormal returns and the interaction of earnings factors with earnings shocks. Specially, the results of Models 1 and 2 show market prices moderately positively associated with earnings smoothness, but not as strongly as they are with CSR score. The results of Model 3 indicate that CSR suppresses smoothness, $CSRScore \times UE^S > DAS \times UE^S$ (α_6=0.029 t=1.91 greater than α_4=0.014 t=1.07), the significance is the strongest for $DAS \times CSRScore \times UE^S$ (α_8=0.054 t=3.77). The results in Panel B concur with those of the long-window test mentioned earlier.

[19] The data library is available at http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html

Interestingly, the relation of long-window is stronger than the short-widow one, evidenced by R^2 and significance of coefficient estimates. We also use quintile ranked variables to replace raw factors of smoothness / CSR, the results are essentially similar. Taken together, both the long-window and the short-window tests show that CSR score improves the contemporaneous earnings-return relation more than smoothing alone does, and smoothness becomes more value relevant in combination with higher CSR score.

4.2. Impact of CSR and Smoothing on Firm Performance

We use Tobin's Q as a proxy of firm value to test the impact of CSR and smoothing. The regression model for this test is specified in the following equation:

$$TobinQ_{it} = a_0 + a_1 CSRScore_{it} + a_2 DAS_{it}(or\ TAS_{it}) + a_3 CSRScore_{it} \times DAS_{it}(or\ TAS_{it}) + Controls_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it} \quad (6)$$

where *CSRScore* is measured as an aggregate variable of the strengths and concerns, and *DAS* is a measure of earning smoothing. We also use TAS as an alternative smoothing measure to do robustness check and test the different effects between the two smoothing measures. Other control variables include firm size, profitability, leverage, R&D expenses, advertising expenditures, cash flow volatility, sales growth, accruals level, market beta, governance score, and firm risks,[20] and are described in Appendix. Year and industry dummy variables are also included for controlling various macro-economic conditions.

Table 5 presents regressions of Tobin's Q. In model (4), we examine the association between firms' Tobin's Q and firms' aggregate CSR score with the interaction with earning smoothing. The coefficients on CSR score and smoothing interaction are positive and significant at the 5% level (α_3 = 0.036, t=2.56, and p-value<5%), suggesting that Tobin's Q is positively associated with the interaction of CSR score and smoothing. The separate coefficients on either

[20] Basically, we follow Rountree et al. (2008) methodology to conduct firm value test.

CSR score or smoothing are not significant, indicating that firm performance may not be associated with either CSR or smoothing alone, which is consistent with existing work (e.g., Barnett 2007; Rountree et al. 2008).[21] The results are consistent when we use both raw CSR score (columns 1 and 3) and CSR dummy variable (columns 2 and 4), and when we use DAS (column 1 and 2) and TAS (columns 3 and 4) as our proxies for smoothing. The same pattern is observed across the four model specifications.

The joint role of CSR score and smoothness is economically meaningful. Specifically, in column (2), for firms with higher CSR score, when their smoothness increases by 1%, firm performance as measured by Tobin's Q will increase by 0.137% ($\alpha_3 = 0.137$, t=2.59, and p-value<1%). This result indicates that the reported earnings of smoothers that are socially responsible are more value-enhancing. We infer that market participants could differentiate smoothed earnings from natural smoothing or from garbled reporting, for firms' reporting behaviors with or without high social responsibilities, and then they respond more positively to those financial numbers that deviate less from permanent "economic" earnings.

Table 6 presents regression tests of subcategories of CSR and smoothing on Tobin's Q. We use the same model as in equation (6) except replacing aggregate CSR score and CSR dummy variables with their individual component score and dummy variables. We use ComScore, DivScore, EmpScore, EnvScore, and ProScore to present community relations ratings, diversity ratings, employee relations ratings, environment ratings, and product ratings. Columns (1) presents regressions of Tobins' Q on dimensional CSR raw score and DAS, columns (2) presents regressions of Tobin's Q on dimensional CSR raw score and TAS, columns (3) presents regressions of Tobin's Q on dimensional CSR dummy variables and DAS, and

[21] Recall Barnett (2007) theorizes that the relationship between corporate social responsibilities and corporate financial performance may be U-shaped. Rountree et al. (2008) conclude that earnings smoothness has no effect on Tobin's Q.

column (4) presents regressions of Tobin's Q on dimensional CSR and TAS. It seems that the coefficients on employee relation ratings and smoothing interaction are both statistically significant and economically significant. For example, in column (1), the coefficient on the interaction of employee relation rating and DAS is 0.105 at 1% significant level, and the coefficient on employee relation rating is -0.073 at 1% significant level. This indicates that for each employee relation rating increase, when earning smoothing increases 1%, firm Tobin's Q will increase by 0.032% (0.105% - 0.073%). The positive association between firm value and interaction between employee relations ratings and smoothing are in line with the abnormal return results in Table 5. In fact, our CSR components results are consistent with Edmans (2011). Taking the results in Table 5 and Table 6 together, we conclude that the net impact of overall CSR activities could be profitable, but some individual CSR projects could still be unprofitable.

5. Additional Tests

5.1. FERC Model

For earnings-return relationship test, it is better to investigate the association between current-year stock returns and future earnings for firms with different degrees of smoothing / social responsibilities, beyond our main tests of the concurrent earnings-return relation. We assume that the FERC should be higher for firms with higher-CSR smoothness. The model is based on:

$$Ret_{it} = a_1 + a_2 X_{it} + a_3 X_{it-1} + a_4 X_{it3} + a_5 Ret_{it3} + a_6 DAS\ or\ TAS_{it} + a_7 DAS\ or\ TAS_{it} \times X_{it} + a_8 DAS\ or\ TAS_{it} \times X_{it-1} + a_9 DAS\ or\ TAS_{it} \times X_{it3} + a_{10} DAS\ or\ TAS_{it} \times Ret_{it3} + a_{11} CSR_{it} + a_{12} CSR_{it} \times DAS\ or\ TAS_{it} + a_{13} CSR_{it} \times X_{it-1} + a_{14} CSR_{it} \times X_{it3} + a_{15} CSR_{it} \times Ret_{it3} + a_{16} CSR_{it} \times DAS\ or\ TAS_{it} + a_{17} CSR_{it} \times DAS\ or\ TAS_{it} \times X_{it} + a_{18} CSR_{it} \times DAS\ or\ TAS_{it} \times X_{it-1} + a_{19} CSR_{it} \times DAS\ or\ TAS_{it} \times X_{it3} + a_{20} CSR_{it} \times DAS\ or\ TAS_{it} \times Ret_{it3} + a_{21} SIZE_{it} + a_{22} B2M_{it} + a_{23} StdCFO_{it} + a_{24} SIZE_{it} \times X_{it3} + a_{25} B2M_{it} \times X_{it3} + a_{26} StdCFO_{it} \times X_{it3} + Year\ \&\ IndustryDummies + \varepsilon_{it}, \quad (7)$$

where Ret_t is ex-dividend stock return during fiscal year *t*; X_t is earnings per share for fiscal year *t*, deflated by the stock price at the beginning of the year; X_{t-1} is earnings per share, adjusted for stock splits and stock dividends for fiscal year *t-1*, deflated by the stock price at the beginning of the year; X_{t3} is the sum of earnings per share for fiscal year *t+1* through *t+3*, deflated by the stock price at the beginning of the year; Ret_{t3} is annually compounded stock return for fiscal year *t+1* through *t+3*. Refer to Appendix for other variable descriptions.

Table 7 presents the regression results of stock return on CSR score and earning smoothness. We use the FERC model as in equation (7) to estimate the joint impact of CSR score and smoothness on current stock return. Again, we use ComScore, DivScore, EmpScore, EnvScore, and ProScore to presents community relations ratings, diversity ratings, employee relations ratings, environment ratings, and product ratings. We use aggregate CSR score and aggregate CSR dummy variables in column (1) through column (4). The coefficient (a_{12}) on the interaction term between high CSR dummy variable and DAS is 0.032 at 5% significant level, which indicates that for firms with high CSR there will be extra 3.2 basis points risk adjusted return when firm increases smoothness by 1%. The impact of CSR and TAS on stock returns is not as strong as the impact of CSR and DAS, but still positive and significant. The interaction terms with raw CSR score have similar results. Column (2) shows that the coefficient on the interaction term between high CSR dummy variable and TAS is 0.006 at 5% significant level, which indicates that for firms with high CSR there will be extra 0.6 basis points risk adjusted return when firm increases smoothness by 1%. Column (3) shows that the marginal CSR effects interaction with DAS is 0.009 at 1% significance level, which means that for each point that a firm's CSR score improves, when the firm' DAS increase by 1%, the firm's stock return will increase by 0.9 basis points. A similar but weaker effect is observed on the interaction between

CSR score and TAS, Column (4) shows that the corresponding coefficient is 0.002 at 5% significance level, which means that for each point that a firm's CSR score improves, when the firm' TAS increase by 1%, the firm's stock return will increase by 0.2 basis points. It is evident that high CSR firms' earning smoothing is more value relevant, and CSR treated DAS effects is stronger than CSR treated TAS.

Columns (5) presents regressions of fiscal year return on dimensional CSR dummy variables score and DAS, columns (6) presents regressions of fiscal year return on dimensional CSR dummy variables and TAS, columns (7) presents regressions of fiscal year return on dimensional CSR raw score and DAS, and column (8) presents regressions of fiscal year return on dimensional CSR raw score and TAS. The coefficients on employee relation ratings, diversity, community relations ratings, and smoothing interaction seem to impact stock return. For example, in column (5), the coefficient on the interaction of employee relation rating dummy variable and DAS is 0.038 at 10% significant level. This indicates that for firms with high employee relation ratings, when earning smoothing increases 1%, firm stock return will increase by 3.8 basis points. The positive association between value and interaction between employee relations ratings and smoothing are in line with the abnormal return results in Table 5. In column (6), the coefficient on the interaction of community relations ratings dummy variable and TAS is 0.014 at 5% significant level. This indicates that for firms with high community relations ratings, when earning smoothing increases 1%, firm stock return will increase by 1.4 basis points. In column (7), the coefficient on the interaction of diversity ratings score and DAS is 0.010 at 5% significant level. This indicates that for every 1 point increase of diversity rating, when smoothness increases 1%, stock returns will correspond to 1 basis point increase.

Interestingly, product rating and smoothing interaction does not impact stock return in any case. It may imply that product rating is very transparent in competitive product market, thus the real product related information has been priced timely whenever it is available. So product rating from KLD could no longer change prices when it is released.

5.2. The SOX Effects on the Valuation of CSR and Smoothness

The SOX Act was passed to improve the integrity of financial reports, and it makes CEO and CFO personally liable to the financial reports. We posit that management will provide better quality financial reports in post-SOX era, thus earning smoothing carries more fundamental underlying value-related information, and firms with low CSR ratings will be impacted more because their reports used to carry less value-related information pre-SOX. Cohen et al. (2008) document that accrual-based earnings management increased steadily from 1987 until the passage of the Sarbanes-Oxley Act (SOX) in 2002, followed by a significant decline after the passage of SOX. We add the SOX indicator variable in the following model equation (control effects are same as in equation 4):

$$TobinQ_{it} = a_0 + a_1 CSRScore_{it}(or\ CSRHi_{it}) + a_2 DAS_{it}(or\ TAS_{it}) + a_3 CSRScore_{it}(or\ CSRHi_{it}) \times DAS_{it}(or\ TAS_{it}) + a_4 SOX_t + a_5 CSRScore_{it}(or\ CSRHi_{it}) \times DAS_{it}(or\ TAS_{it}) \times SOX_t + Controls_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it}. \quad (8)$$

Table 8 presents the regression results of CSR score and earning smoothness joint impact on firm value post-SOX. Our interest of research is the coefficient (a_5) on the interaction of CSR, SOX, and DAS or DAS. It turns out to be significantly negative ($CSRHi_{it} \times DAS_{it} \times SOX_t$, a_5 is -0.157 at 5% significant level), which indicates that firms with low CSR improve the information quality in smoothness, relatively compared to firms with high CSR post-SOX.

However, when we look at the coefficient on the interaction of CSR and DAS together, we find that the main results still holds. The sum of a_3 and a_5 is still positive. The interaction term coefficient between CSR dummy variable and smoothing (DAS) is 0.256 at 1% level, and the interaction term coefficient among CSR dummy variable, smoothing (DAS), and SOX is -0.157 at 5% level. These suggest that for firms with high CSR there will be a 0.246% increase in Tobin's Q when firm's smoothness increases by 1%. The effects of CSR on smoothing information quality are still both economically and statistically significant post-SOX. For firms with high CSR there will be 8.9 basis points increase in Tobin's Q when firm's smoothness increases by 1%. Similar results are observed when we use CSR raw score and a different smoothing measure (i.e., TAS).

5.3. Other Additional Tests

We conduct sensitivity tests to check that our main results hold after controlling other additional concerns. We also isolate the effect of ethical motivation from other CSR incentives, such as, reputation concern and real earnings management, which could also drive a positive impact of CSR and earning smoothing on firm value. We control for reputation indicator and real earnings activities metrics (see Roychowdhury 2006) in our multivariate analysis. We also control, in our main tests of the earnings-return relationship, 1) for income-smoothing firms' information environment, proxy by the percentage of institutional ownership and the number of analyst providing earnings forecasts (Barnea and Rubin 2010); 2) a loss dummy, (or delete the loss firms) as low value-relevance for firm loss (Basu 1997). These results, un-tabulated, do not affect the conclusions drawn from our main tests.

Though, basically TAS and DAS are highly correlated and our results do not indeed alter whether we use TAS or DAS. We remain inquisitive to explore a delicate difference, if any, of

the two smoothness proxies. Compared to DAS, TAS is more a real earning smoothing measure. However, DAS could measure "abnormal" managed earning smoothing. We find that the coefficients of interaction between DAS and CSR for firm value regressions and firm short/long-run earnings-return regressions are more economically significant than the coefficients of the interaction between TAS and CSR. The results enforce the evidence that ethical dimension of CSR could improve the information quality of earning.

To address endogeneity concerns, we employ a natural experiment to test the joint impact of CSR and smoothing. In some states, constituency laws (CL) were enacted in the 1980s and early 1990s to extend the fiduciary duty of the board of directors beyond maximizing shareholder value, and to protect constituencies other than shareholders from the externalities associated with hostile takeovers (see Alexander et al. 1997). The laws allowed corporate directors to consider not only the interests of shareholders, but also other nonfinancial stakeholders (e.g. employees and community) when deciding whether to approve or resist a takeover. These laws basically made firms in these states take their stakeholders other than their shareholders more in consideration when making decisions. The managers in these states were empowered to increase their overall attention to stakeholders, while not being concerned that they will be sued by shareholders for abusing their fiduciary duties. Firms in these states are endogenously more CSR activities than their peers in other states without such CL enacted. Our results show that the effects of CSR on earning smoothing information quality in these states with CL enacted are not as strong as firms in other states, that is to say, spontaneous CSR firms tend to provide better quality information through their smoothing.

6. Conclusions

This paper extends the literature on income smoothing by investigating whether corporate social responsibilities affect the informational property of smoothed earnings. Since smoothing is related to unknown managerial incentives and business strategies (Trueman and Titman 1988; Sankar and Subramanyam 2001), it has mixed effects on earnings informativeness to corporate outsiders (Dechow et al. 2010). We conjecture that socially responsible firms that expend effort and resources in implementing CSR practices to meet ethical expectations of society are likely to contain earnings manipulation and provide more transparent financial information. Thus, smoothed earnings reported by ethnical management are more value relevant.

Empirically, we find that smoothness does not significantly improve the earnings-return relation, and smoothness does not turn into higher firm value. Our findings suggest that the market does not reward smoothers, which is opposed to the findings of Hunt et al. (2000), as well as against the anecdotal evidences, e.g., in Graham et al. (2005). More importantly, we find that higher-CSR smoothness incrementally improves the earnings-return relation, and is also positively and significantly associated with firm performance, consistent with our two hypotheses under study. Our paper demonstrates that the common perception among CFOs in their sample that smooth earnings produce a market premium is related to ethical reporting. The practical implication of the results is to provide analysts and investors with a tool for identifying firms with different degrees of value-relevant earnings.

Our research designs are based on the market efficiency theory, the model testability of discretionary accruals, the reliability and completeness of CSR measures and categories. Our research does not consider managers' incentives for disclosing CSR information and for income smooth reporting, and does not consider other earnings quality proxies (e.g., conservatism) as

smoothing is the most common earnings management tool (e.g., Graham et al. 2005). Socially responsible firms seem to consider the long-term view for the CSR effects, so the valuation could be time-varying. We implement the FERC methodology, long or short window value relevance test, and concurrent Tobin's Q tests. We do not specially address the strength of different test methodology, but generally our results are conclusive that smoothing is more informative with ethical reporting behaviors.

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APPENDIX

Variable Definitions

DAS	=	Discretionary accrual smoothing, following Tucker and Zarowin (2006).
TAS	=	Total accrual smoothing; following Francis et al. (2004) and McInnis (2010).
TobinQ	=	Tobin's Q ratio, calculated as (*at* + *prcc_f* × *csho*–*ceq*)/*at*.
CSRScore	=	Net score of CSR ratings, calculated as the sum of strengths minus the sum of concerns for community relations, diversity, employee relations, environment, and product dimensions of KLD corporate social responsibility index; we exclude human rights and firearms dimensions because the data is not available before 2002.
GovScore	=	Net score of corporate governance ratings, calculated as the total strengths minus the total concerns in corporate governance dimension of KLD rating data.
ComScore	=	Net score of community relations ratings, calculated as the total strengths minus the total concerns in community relations dimension of KLD rating data.
DivScore	=	Net score of diversity ratings, calculated as the total strengths minus the total concerns in diversity dimension of KLD rating data.
EmpScore	=	Net score of employee relations ratings, calculated as the total strengths minus the total concerns in employee relations dimension of KLD rating data.
EnvScore	=	Net score of environment ratings, calculated as the total strengths minus the total concerns in environment dimension of KLD rating data.
ProScore	=	Net score of product ratings, calculated as the total strengths minus the total concerns in product dimension of KLD rating data.
CSRHi	=	CSR ratings dummy variable, equals 1 when *CSRScore* is greater than median, 0, otherwise.
ComHi	=	Community relations ratings dummy variable, equals 1 when *ComScore* is greater than median, 0, otherwise.
DivHi	=	Diversity ratings dummy variable, equals 1 when *DivScore* is greater than median, 0, otherwise.
EmpHi	=	Employee relations ratings dummy variable, equals 1 when *EmpScore* is greater than median, 0, otherwise.
EnvHi	=	Environment ratings dummy variable, equals 1 when *EnvScore* is greater than median, 0, otherwise.
ProHi	=	Product ratings dummy variable, equals 1 when *ProScore* is greater than median, 0, otherwise.
SAR	=	One-year window size-adjusted cumulative abnormal return.

DAR	=	Daily abnormal returns (-1, +1) around earnings announcements, calculated as the raw daily return from the CRSP minus the daily return on the portfolio of firms with approximately the same size and book-to-market ratio. We obtain the daily returns (and cutoff points) for the size and B2M portfolios from Professor Kenneth French's data library, based on classification of the population into six (two size and three B2M) portfolios.
SIZE	=	The natural log of market value of equity (*csho* × *prcc_f*).
M2B	=	The natural log of the ratio of market to book, *SIZE* – log(*ceq*).
ROA	=	Return of asset, net income before extraordinary items (*ib*), scaled by lagged assets.
CFO	=	Operating cash flows, (*oancf* – *xidoc*), scaled by lagged assets.
StdCFO	=	Standard deviation of operating cash flows, scaled by lagged assets, over rolling 6 years.
RetVol	=	Standard deviation of daily stock return over the current year.
TotAcc	=	Total accruals, (*ib* – *oancf* + *xidoc*), scaled by lagged assets.
InstOwn	=	The natural log of one plus the percentage of institutional ownership. Institutional ownership is defined as the percentage of stocks held by all 13F-filing institutional shareholders at the end of last quarter.
Analyst	=	The natural log of one plus the number of analysts providing earnings estimates.
BETA	=	Stock beta, estimated over a 60-month period with logged monthly returns including distributions.
SysRisk	=	Systematic risk, calculated as beta squared multiplied by the variance of CRSP value-weighted index return.
IdioRisk	=	Idiosyncratic risk, calculated as the residual risk from market model utilizing up to 60-month of monthly return and CRSP value-weighted index return as a proxy for market return.
LOSS	=	A dummy variable, 1 if net income before the extraordinary items is negative, 0, otherwise.
Leverage	=	Total long-term debt scaled by stockholders' equity.
R&D	=	The intensity of research and development expenses, scaled by lagged sales.
CAPX	=	Capital expenditure, scaled by lagged sales.
RevGrow	=	Annual growth of revenues, change of revenues scaled by lagged revenues.
XAD	=	Advertising costs, scaled by lagged sales.
AGE	=	The natural logarithm of (1 + the number of years since the firm first appears in the CRSP database).
SOX	=	A dummy variable of the passage of SOX Act, equals 1 if the sample observations are after 2003, 0 otherwise.

TABLE 1

Descriptive Statistics

Variable	Mean	S.D.	5%	Q1	Median	Q3	95%
TobinQ	2.038	1.285	0.921	1.219	1.616	2.370	4.728
DAS	0.704	0.416	-0.300	0.633	0.882	0.967	0.995
TAS	1.686	1.436	0.404	0.826	1.248	2.004	4.605
CSRScore	0.059	2.295	-3.000	-1.000	0.000	1.000	4.000
GovScore	-0.265	0.722	-1.000	-1.000	0.000	0.000	1.000
ComScore	0.095	0.574	-1.000	0.000	0.000	0.000	1.000
DivScore	0.347	1.263	-1.000	-1.000	0.000	1.000	3.000
EmpScore	-0.083	0.942	-1.000	-1.000	0.000	0.000	2.000
EnvScore	-0.139	0.832	-2.000	0.000	0.000	0.000	1.000
ProScore	-0.162	0.674	-1.000	0.000	0.000	0.000	1.000
SIZE	7.588	1.570	5.317	6.406	7.453	8.597	10.415
SysRisk	0.003	0.005	0.000	0.001	0.001	0.003	0.013
IdioRisk	0.014	0.014	0.002	0.005	0.009	0.017	0.043
BETA	1.095	0.739	0.129	0.588	0.961	1.449	2.585
ROA	0.041	0.090	-0.078	0.027	0.053	0.101	0.162
Leverage	0.549	0.727	0.000	0.032	0.343	0.751	1.836
RevGrow	0.126	0.215	-0.150	0.020	0.094	0.189	0.513
Analyst	0.580	0.665	0.000	0.000	0.693	1.099	1.792
TotAcc	-0.054	0.066	-0.158	-0.079	-0.047	-0.020	0.038
InstOwn	0.232	0.086	0.114	0.193	0.241	0.274	0.301
StdCFO	0.084	0.285	0.015	0.031	0.055	0.095	0.217
StdNI	0.067	0.164	0.007	0.019	0.036	0.075	0.210
M/B	0.477	0.394	-0.085	0.167	0.354	0.553	0.896

This table presents the descriptive statistics of variables of interest from 10,755 observations during 1993-2010. Please refer to Appendix for variables descriptions. All continuous variables (except logged variables) are winsorized at the 1% and 99% percentiles each year.

TABLE 2

Correlations among Key Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.TobinQ		0.003#	-0.052	0.174	-0.024	0.513	0.227	0.940	-0.395	0.027	0.164	0.095	-0.017!
2. DAS	0.002#		0.697	-0.058	0.053	0.179	0.097	0.014#	0.050	-0.265	-0.306	-0.289	-0.047
3. TAS	-0.068	0.434		-0.017!	0.045	0.174	0.088	-0.041	0.085	-0.309	-0.243	-0.267	-0.004
4. CSRScore	0.160	-0.049	-0.006#		-0.022*	0.110	0.182	0.175	-0.050	-0.038	-0.058	-0.122	0.010#
5. GovScore	-0.014#	0.044	0.046	-0.024#		-0.009#	-0.328	-0.067	-0.092	-0.055	0.019*	0.103	-0.210
6. ROA	0.242	0.193	0.120	0.086	0.000#		0.285	0.443	-0.263	-0.181	-0.097	-0.193	0.066
7. SIZE	0.219	0.102	0.038	0.227	-0.314	0.295		0.299	0.246	-0.207	-0.336	-0.502	0.461
8. M/B	0.825	0.016!	-0.063	0.191	-0.060	0.231	0.322		-0.177	0.008#	0.114	0.041	0.013#
9. Leverage	-0.224	-0.040	0.030	-0.059	-0.066	-0.176	0.068	-0.030		-0.188	-0.280	-0.257	0.171
10. BETA	0.056	-0.252	-0.259	-0.030	-0.048	-0.218	-0.210	0.016!	-0.032		0.367	0.464	-0.044
11. StdCFO	0.065	-0.134	-0.037	-0.027	0.020*	-0.079	-0.093	0.046	-0.029	0.132		0.615	-0.083
12. IdioRisk	0.165	-0.217	-0.202	-0.095	0.112	-0.265	-0.387	0.105	-0.011	0.509	0.190		-0.134
13. Analyst	-0.050	-0.025	-0.043	-0.002	-0.188	0.086	0.440	-0.009	0.062	-0.048	-0.016!	-0.145	

This table presents Pearson (above the diagonal) and Spearman (below the diagonal) correlations among variables of interests. Refer to Appendix for variable descriptions. All correlations are significant at the 1% level except those with superscript "*" indicating 1%~5% level, "!" indicating 5%~10% level, and "#" indicating ≥ 10% level. The correlation analysis is based on a sample size of 10,755 observations during the period of 1993-2010 fiscal years.

TABLE 3
Tobin's Q in CSR/Smoothing Quintile

Panel A: Tobin's Q within CSR/DAS quintiles matrix

	CSR Score Quintiles						
DAS	Low	2	3	4	High	High-Low	*t-stat*
Low	1.768	1.987	2.261	1.898	2.292	0.524	*6.83*
2	1.625	1.860	2.133	2.008	2.283	0.658	*10.47*
3	1.629	1.945	2.043	1.996	2.349	0.720	*10.29*
4	1.589	1.943	2.005	1.989	2.321	0.732	*10.94*
High	1.754	1.908	1.977	1.936	2.289	0.535	*7.27*
High-Low	-0.015	-0.079	-0.284	0.038	-0.003		
t-stat	*-0.24*	*-1.25*	*-2.35*	*0.62*	*0.03*		

Table 3 Panel A presents the Tobin's Q average in two-way quintiles based on CSR Ranking and discretionary smoothing ranking. We first sort all Tobin's Q into quintiles according to earning smoothness (DAS), and then we sort all Tobin's Q in each earning smoothness quintile into quintiles according to CSR score ranking. We report the mean of Tobin's Q in each quintile cell. The bottom rows presents the Tobin's Q mean values only based on the quintiles according to CSR ranking.

Panel B: Tobin's Q within CSR/TAS quintiles matrix

	CSR Score Quintiles						
TAS	Low	2	3	4	High	High-Low	*t-stat*
Low	1.731	1.955	2.083	1.915	2.376	0.645	*8.86*
2	1.675	1.981	2.223	2.078	2.343	0.669	*9.90*
3	1.755	1.971	2.175	2.018	2.392	0.637	*8.64*
4	1.639	1.948	2.020	1.965	2.401	0.762	*10.60*
High	1.569	1.796	1.910	1.848	2.006	0.437	*7.15*
High-Low	-0.162	-0.159	-0.173	-0.068	-0.370		
t-stat	*-3.22*	*-2.64*	*-1.60*	*-1.10*	*-4.43*		

Table 3 Panel B presents the Tobin's Q average in two-way quintiles based on CSR Score Ranking and total accrual smoothing ranking. We first sort all Tobin's Q into quintiles according to earning smoothness (TAS), and then we sort all Tobin's Q in each earning smoothness quintile into quintiles according to CSR score ranking. We report the mean of Tobin's Q in each quintile cell. The bottom rows presents the Tobin's Q mean only based on the quintiles according to CSR ranking.

TABLE 4

CSR and Smoothing on the Earnings-Return Relation

Panel A: Long-window-earnings-return relationship test

	Prediction	(1)	(2)	(3)
Intercept		0.009***	0.010***	0.010***
		(5.43)	(5.51)	(5.78)
UE	+	0.308***	0.294***	0.280**
		(4.23)	(3.60)	(3.09)
DAS	?	0.011		0.002
		(1.49)		(0.47)
DAS×*UE*	?	0.037*		0.014
		(1.62)		(1.16)
CSRScore	?		0.007*	0.002
			(1.92)	(0.69)
CSRScore×*UE*	+		0.087**	0.073**
			(2.10)	(2.02)
DAS×*CSRScore*	+			0.013*
				(2.01)
DAS×*CSRScore*×*UE*	+			0.102***
				(4.38)
Year and Industry Dummies		Yes	Yes	Yes
Adj. R^2 (Obs. = 10,755)		0.054	0.058	0.065

Table 4 Panel A presents the regression results of CSR score and earning smoothness, the two moderators, for one-year-long earnings-return relationship test of our sample during 1993-2010. The regression is based on the model equation:

$SAR_{it} = a_1 + a_2 UE_{it} + a_3 DAS_{it} + a_4 DAS_{it} \times UE_{it} + a_5 CSRScore_{it} + a_6 CSRScore_{it} \times UE_{it} + a_7 DAS_{it} \times CSRScore_{it} + a_8 DAS_{it} \times CSRScore_{it} \times UE_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it}.$

SAR is annually cumulative size-adjusted abnormal return and *UE* is earnings surprise based on I/B/E/S forecast consensus. Refer to Appendix for detailed variable descriptions. All t-statistics are calculated with two-way clustered standard errors by firm and by year. T-values are in parentheses. ***, **, and * denote the regression coefficient is statistically significant at two-tailed 1%, 5%, and 10% level, respectively.

TABLE 4 <continued>

CSR and Smoothing on the Earnings-Return Relation

Panel B: Short-window around earnings announcements ERC test

	Prediction	(1)	(2)	(3)
Intercept		-0.013***	-0.012***	-0.010***
		(-6.98)	(-6.57)	(-4.50)
UE^S	+	0.417***	0.382***	0.361**
		(4.55)	(3.77)	(3.70)
DAS	?	0.009		0.001
		(1.45)		(0.24)
$DAS \times UE^S$	?	0.031*		0.014
		(1.87)		(1.07)
CSRScore	?		0.008*	0.003
			(1.54)	(0.52)
$CSRScore \times UE^S$	+		0.036**	0.029*
			(2.12)	(1.91)
$DAS \times CSRScore$	+			0.009
				(1.72)
$DAS \times CSRScore \times UE^S$	+			0.054***
				(3.77)
Year and Industry Dummies		Yes	Yes	Yes
Adj. R^2 (Obs. = 10,755)		0.039	0.041	0.047

Table 4 Panel B presents the regression results of CSR score and earning smoothness, the two moderators, for 3-day window around earnings announcements ERC test of our sample during 1993-2010. The regression is based on the model equation:

$$DAR_{it} = a_1 + a_2 UE^s_{it} + a_3 DAS_{it} + a_4 DAS_{it} \times UE^s_{it} + a_5 CSRScore_{it} + a_6 CSRScore_{it} \times UE^s_{it} + a_7 DAS_{it} \times CSRScore_{it} + a_8 DAS_{it} \times CSRScore_{it} \times UE^s_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it}.$$

DAR is (±1 dates centering earnings announcements) daily abnormal return and UE^S is earnings surprise based on I/B/E/S forecast consensus. Refer to Appendix for detailed variable descriptions. All t-statistics are calculated with two-way clustered standard errors by firm and by year. T-values are in parentheses. ***, **, and * denote the regression coefficient is statistically significant at two-tailed 1%, 5%, and 10% level, respectively.

TABLE 5
Impact of CSR and Smoothing on Tobin's Q

Variables	(1)	(2)	(3)	(4)
CSRScore	-0.019		-0.009	
	(-1.27)		(-0.82)	
DAS	0.032	-0.046		
	(0.88)	(-1.08)		
CSRScore×DAS	0.036**			
	(2.56)			
CSRHi		-0.059		-0.012
		(-1.15)		(-0.30)
CSRHi×DAS		0.137***		
		(2.59)		
TAS			0.004	-0.013
			(0.44)	(-1.00)
CSRScore×TAS			0.010**	
			(2.14)	
CSRHi×TAS				0.029*
				(1.69)
SIZE	0.246***	0.248***	0.248***	0.248***
	(8.09)	(8.13)	(8.09)	(8.11)
ROA	7.072***	7.071***	7.091***	7.091***
	(10.48)	(10.41)	(10.56)	(10.50)
Leverage	-0.114***	-0.113***	-0.113***	-0.113***
	(-3.23)	(-3.16)	(-3.18)	(-3.16)
R&D	2.565***	2.565***	2.569***	2.568***
	(8.89)	(8.82)	(8.91)	(8.86)
XAD	1.685**	1.736**	1.728**	1.770**
	(2.11)	(2.17)	(2.16)	(2.20)
SysRisk	0.028	0.028	0.029	0.029
	(1.43)	(1.42)	(1.45)	(1.45)
IdioRisk	0.288*	0.282*	0.287*	0.288*
	(1.83)	(1.79)	(1.83)	(1.83)
StdCFO	-0.185***	-0.185***	-0.180***	-0.179***
	(-6.06)	(-6.08)	(-5.83)	(-5.84)
BETA	-0.050	-0.052	-0.054	-0.054
	(-0.63)	(-0.67)	(-0.68)	(-0.68)
RevGrow	0.041	0.040	0.038	0.037
	(0.43)	(0.42)	(0.39)	(0.38)
TotAcc	-3.453***	-3.456***	-3.467***	-3.466***
	(-9.58)	(-9.53)	(-9.46)	(-9.50)
GovScore	0.125***	0.127***	0.127***	0.128***
	(5.84)	(5.92)	(5.97)	(6.02)
Year & Industry Dummies	Yes	Yes	Yes	Yes
Observations	10,755	10,755	10,755	10,755
Adj. R^2	0.514	0.517	0.513	0.516

This table presents the regression results of testing the effects of CSR score and earning smoothness on Tobin's Q for our sample during 1993-2010. The regression is based on the model equation:

$$TobinQ_{it} = a_0 + a_1 CSRScore_{it} + a_2 DAS_{it}(or\ TAS_{it}) + a_3 CSRScore_{it} \times DAS_{it}(or\ TAS_{it}) + Controls_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it}.$$

Refer to Appendix for variable descriptions. All t-statistics are calculated with two-way clustered standard errors by firm and by year. T-values are in parentheses. ***, **, and * denote the regression coefficient is statistically significant at two-tailed 1%, 5%, and 10% level, respectively. For columns (3) and (4), we use TAS to substitute DAS. For columns (1) and (3), we use raw CSR score. However, we use CSR dummy variable in columns (2) and (4), where CSRHi equals 1 when CSR is greater than the median (by year and SIC2 industry classification), 0, otherwise.

TABLE 6

Impact of CSR Components and Smoothing on Tobin's Q

	(1)	(2)	(3)	(4)
Variables	CSRScore ×DAS	CSRScore ×TAS	CSRHi ×DAS	CSRHi ×TAS
ComScore	0.019	-0.004	-0.151	-0.117*
	(0.30)	(-0.10)	(-1.17)	(-1.67)
DivScore	-0.066**	-0.067***	-0.016	-0.045
	(-2.49)	(-3.22)	(-0.25)	(-0.88)
EmpScore	-0.073***	-0.043**	-0.077	-0.074
	(-2.93)	(-2.15)	(-0.89)	(-1.27)
EnvScore	0.048	0.076**	-0.210***	-0.117*
	(1.34)	(2.55)	(-2.81)	(-1.73)
ProScore	0.127**	0.108***	0.139	0.170*
	(2.38)	(3.44)	(1.05)	(1.96)
Smoothness (DTA or TAS)	0.043	-0.001	-0.001	-0.010
	(1.11)	(-0.07)	(-0.02)	(-0.93)
ComScore ×Smoothness	-0.014	0.009	0.109	0.027
	(-0.18)	(0.55)	(0.67)	(1.20)
DivScore ×Smoothness	0.012	0.006	-0.030	0.004
	(0.35)	(0.81)	(-0.37)	(0.19)
EmpScore ×Smoothness	0.105***	0.028***	0.125*	0.054**
	(3.89)	(3.60)	(1.89)	(2.32)
EnvScore ×Smoothness	0.027	-0.006	0.155*	0.015
	(0.68)	(-0.52)	(1.73)	(0.66)
ProScore ×Smoothness	-0.013	0.005	-0.009	-0.022
	(-0.20)	(0.38)	(-0.06)	(-0.56)
SIZE	0.287***	0.288***	0.256***	0.257***
	(9.01)	(9.03)	(8.41)	(8.43)
ROA	6.907***	6.929***	7.063***	7.084***
	(10.26)	(10.40)	(10.35)	(10.49)
Leverage	-0.103***	-0.102***	-0.115***	-0.115***
	(-3.04)	(-2.98)	(-3.27)	(-3.26)
R&D	2.521***	2.520***	2.569***	2.571***
	(8.63)	(8.69)	(8.82)	(8.89)
XAD	1.993**	2.016**	1.954**	1.984**
	(2.52)	(2.52)	(2.46)	(2.49)
SysRisk	0.027	0.027	0.028	0.028
	(1.40)	(1.42)	(1.42)	(1.39)
IdioRisk	0.289*	0.288*	0.297*	0.289*
	(1.84)	(1.86)	(1.87)	(1.86)
StdCFO	0.192***	0.189***	0.182***	0.179***
	(6.31)	(6.15)	(6.02)	(5.84)
RevGrow	0.005	0.002	0.029	0.028
	(0.05)	(0.02)	(0.29)	(0.28)
TotAcc	-3.400***	-3.410***	-3.493***	-3.499***
	(-9.16)	(-9.02)	(-9.45)	(-9.45)
Year & Industry Dummies	Yes	Yes	Yes	Yes
Observations	10,755	10,755	10,755	10,755
Adj. R^2	0.521	0.521	0.515	0.515

Table 5 presents the regression results of testing the effects of CSR score and earning smoothness on Tobin's Q for our sample during 1993-2010. The regression is based on the model equation:

$$TobinQ_{it} = a_0 + a_{1-5}CSRScoreComponent_{it} + a_6 DAS_{it}(or\ TAS_{it}) + a_{7-11}CSRScoreComponent_{it} \times DAS_{it}(or\ TAS_{it}) + Controls_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it},$$

where CSRScore stands for all five dimensions of CSR (*ComScore, DivScore, EmpScore, EnvScore,* and *ProScore*), and Smoothness stands for either TAS (in Columns 2 and 4) or DAS (in Columns 1 and 3).All t-statistics are calculated with two-way clustered standard errors by firm and by year. ***, **, and * denote the regression coefficient is statistically significant at two-tailed 1%, 5%, and 10% level, respectively. Refer to Appendix for variable descriptions. The dependent variable is Tobin's Q for all four columns. CSRScore means that the raw score of the five dimensions of CSR score (*ComScore, DivScore, EmpScore, EnvScore,* and *ProScore*) are used in the regressions. Smoothness in the independent variable list includes two different smoothing measures (*TAS* and *DAS* as noted below column numbers). For columns (1) and (2), we use raw CSR component score individually. However, we use CSR dimensions dummy variables in columns (3) and (4), where CSRHi equals 1 when a firm's CSR component score is greater than the median (by year and SIC2 industry classification), 0, otherwise.

TABLE 7

Impact of CSR and Smoothing on Stock Return with the FERC Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
CSRHi×DAS	0.032**							
	(2.39)							
CSRHi×TAS		0.006**						
		(2.09)						
CSRScore×DAS			0.009***					
			(3.42)					
CSRScore×TAS				0.002**				
				(2.30)				
ComScore×DAS					0.041	0.014**	-0.005	0.004
					(1.64)	(2.22)	(-0.34)	(1.00)
DivScore×DAS					-0.008	-0.004	0.010***	0.002
					(-0.58)	(-0.89)	(2.92)	(0.71)
EmpScore×DAS					0.038*	0.010	0.020	0.003
					(1.83)	(1.45)	(1.30)	(1.09)
EnvScore×DAS					0.014	0.006	-0.005	-0.001
					(0.58)	(1.50)	(-0.62)	(-0.39)
ProScore×DAS					0.031	0.010	0.006	0.002
					(0.67)	(1.07)	(0.59)	(0.88)
DAS	-0.053***		-0.035*		-0.045**		-0.035**	
	(-2.81)		(-1.94)		(-2.36)		(-2.19)	
TAS		-0.006		-0.003		-0.006		-0.004
		(-1.44)		(-0.59)		(-1.23)		(-0.82)
CSRHi	-0.034**	-0.022*						
	(-2.14)	(-1.81)						
CSRScore			-0.008**	-0.005*				
			(-2.48)	(-1.71)				
ComScore					-0.044	-0.039*	0.008	-0.002
					(-1.52)	(-1.65)	(0.62)	(-0.19)
DivScore					-0.009	-0.009	-0.018***	-0.013**
					(-0.52)	(-0.66)	(-3.41)	(-2.15)
EmpScore					-0.041**	-0.030*	-0.018	-0.009
					(-2.47)	(-1.75)	(-1.30)	(-1.07)
EnvScore					-0.024	-0.024	0.014*	0.011**
					(-1.00)	(-1.31)	(1.81)	(2.06)
ProScore					-0.021	-0.014	0.007	0.007
					(-0.50)	(-0.64)	(1.09)	(1.53)
All the other variables and dummies entering the regression are omitted.								
Observations	8,962	8,962	8,962	8,962	8,962	8,962	8,962	8,962
Adj. R^2	0.224	0.223	0.224	0.223	0.224	0.223	0.225	0.224

This table presents the regression results of testing the effects of CSR score and earning smoothness on the future earnings-current return relationship (as of the FERC model). The regression is estimated based on the model equation:

$$Ret_{it} = a_1 + a_2 X_{it} + a_3 X_{it-1} + a_4 X_{it3} + a_5 Ret_{it3} + a_6 DAS\ or\ TAS_{it} + a_7 DAS\ or\ TAS_{it} \times X_{it} + a_8 DAS\ or\ TAS_{it} \times X_{it-1} + a_9 DAS\ or\ TAS_{it} \times X_{it3} + a_{10} DAS\ or\ TAS_{it} \times Ret_{it3} + a_{11} CSR_{it} + a_{12} CSR_{it} \times DAS\ or\ TAS_{it} + a_{13} CSR_{it} \times X_{it-1} + a_{14} CSR_{it} \times X_{it3} + a_{15} CSR_{it} \times Ret_{it3} + a_{16} CSR_{it} \times DAS\ or\ TAS_{it} + a_{17} CSR_{it} \times DAS\ or\ TAS_{it} \times X_{it} + a_{18} CSR_{it} \times DAS\ or\ TAS_{it} \times X_{it-1} + a_{19} CSR_{it} \times DAS\ or\ TAS_{it} \times X_{it3} + a_{20} CSR_{it} \times DAS\ or\ TAS_{it} \times Ret_{it3} + a_{21} SIZE_{it} + a_{22} B2M_{it} + a_{23} StdCFO_{it} + a_{24} SIZE_{it} \times X_{it3} + a_{25} B2M_{it} \times X_{it3} + a_{26} StdCFO_{it} \times X_{it3} + Year\ \&\ IndustryDummies + \varepsilon_{it},$$

where Ret_t is ex-dividend stock return during fiscal year *t*; X_t is earnings per share for fiscal year *t*, deflated by the stock price at the beginning of the year; X_{t-1} is earnings per share, adjusted for stock splits and stock dividends for fiscal year *t-1*, deflated by the stock price at the beginning of the year; X_{t3} is the sum of earnings per share for fiscal year *t+1* through *t+3*, deflated by the stock price at the beginning of the year; Ret_{t3} is annually compounded stock return for fiscal year *t+1* through *t+3*. Refer to Appendix for other variable descriptions. All t-statistics are calculated with two-way clustered standard errors by firm and by year. ***, **, and * denote the regression coefficient is statistically significant at two-tailed 1%, 5%, and 10% level, respectively.

Columns (1)-(4) show the regression results for aggregate CSR score. Columns (5)-(8) show the regression results for different dimensions of CSR. For columns (3), (4), (7), and (8), we use raw CSR score. We use CSR dummy variables in columns (1), (2), (5) and (6), where CSRHi equals 1 when aggregate CSR score or individual component score is greater than the median (by year and SIC2 industry classification), 0, otherwise. We ignore the coefficients for other variables, their interactors or dummies, for simplicity.

TABLE 8

SOX Effect on the Impact of CSR and Smoothing on Tobin's Q

	(1)	(2)	(3)	(4)
CSRHi	-0.055		-0.004	
	(-1.10)		(-0.10)	
DAS	-0.042	0.028		
	(-1.00)	(0.76)		
CSRHi×DAS	0.246***			
	(2.86)			
SOX	-0.049	-0.117	-0.095	-0.120
	(-0.68)	(-1.51)	(-1.17)	(-1.50)
CSRHi×DAS×SOX	-0.157**			
	(-2.46)			
CSRScore		-0.021		-0.007
		(-1.35)		(-0.69)
CSRScore×DAS		0.066***		
		(2.72)		
CSRScore×DAS×SOX		-0.044***		
		(-2.61)		
TAS			-0.014	0.001
			(-1.05)	(0.09)
CSRHi×TAS			0.046**	
			(2.17)	
CSRHi×TAS×SOX			-0.029*	
			(-1.92)	
CSRScore×TAS				0.018**
				(2.33)
CSRScore×TAS×SOX				-0.013*
				(-1.88)
SIZE	0.260***	0.259***	0.260***	0.261***
	(9.11)	(9.01)	(9.09)	(8.97)
ROA	7.064***	7.059***	7.087***	7.081***
	(10.25)	(10.31)	(10.31)	(10.39)
Leverage	-0.115***	-0.117***	-0.117***	-0.117***
	(-3.56)	(-3.63)	(-3.59)	(-3.61)
SysRisk	0.021	0.020	0.021	0.021
	(1.00)	(0.98)	(1.02)	(1.01)
IdioRisk	0.396**	0.400**	0.408**	0.404**
	(2.43)	(2.48)	(2.50)	(2.50)
StdCFO	0.183***	0.184***	0.178***	0.178***
	(6.18)	(6.16)	(5.99)	(5.98)
RevGrow	0.069	0.073	0.067	0.071
	(0.74)	(0.79)	(0.71)	(0.76)
TotAcc	-3.292***	-3.291***	-3.304***	-3.305***
	(-10.46)	(-10.45)	(-10.32)	(-10.31)
Fixed Effects	Yes	Yes	Yes	Yes
Observations	10,755	10,755	10,755	10,755
Adj. R^2	0.506	0.506	0.505	0.505

This table presents the regression results of CSR score and earning smoothness on Tobin's Q with the SOX Act effect. The regression is based on the model equation:

$$TobinQ_{it} = a_0 + a_1 CSRScore_{it}(or\ CSRHi_{it}) + a_2 DAS_{it}(or\ TAS_{it}) + a_3 CSRScore_{it}(or\ CSRHi_{it}) \times DAS_{it}(or\ TAS_{it}) + a_4 SOX_t + a_5 CSRScore_{it}(or\ CSRHi_{it}) \times DAS_{it}(or\ TAS_{it}) \times SOX_t + Controls_{it} + Year\ \&\ Industry\ Dummies + \varepsilon_{it}.$$

All t-statistics are calculated with two-way clustered standard errors by firm and by year. ***, **, and * denote the regression coefficient is statistically significant at two-tailed 1%, 5%, and 10% level, respectively. Refer to Appendix for variable descriptions. We use DAS as an earning smoothing measure in columns (1) and (2). For columns (3) and (4), we use TAS to substitute DAS. For columns (2) and (4), we use raw CSR score. We use CSR dummy variable in columns (1) and (3), where CSRHi equals 1 when CSR is greater than the median (by year and SIC2 industry classification), equals 0, otherwise.