

Do the FASB's Standards add Shareholder Value?

Urooj Khan
Assistant Professor
609 Uris Hall
Columbia Business School
3022, Manhattan, NY
Email: uk2117@columbia.edu

Bin Li
Assistant Professor
Naveen Jindal School of Management
University of Texas at Dallas
800 West Campbell Road
Richardson, TX 75080-3021
Email: bin.li2@utdallas.edu

Shivaram Rajgopal
Schaefer Chaired Professor of Accounting
Goizueta Business School
Emory University
1300 Clifton Road NE
Atlanta, GA 30322
Email: shivaram.rajgopal@emory.edu

Mohan Venkatachalam
Professor
Fuqua School of Business
100 Fuqua Drive
Durham, NC 27708
Email: vmohan@duke.edu

September 24, 2014
Very preliminary and incomplete
Please do not quote without permission
Comments welcome

Abstract:

We examine the cost effectiveness, from the shareholders' perspective, of 21 significant accounting standards passed by the FASB during 1973-2007. In particular, we evaluate (i) the stock market reactions of affected firms surrounding the events that changed the probability of the passage of these standards; and (ii) whether such reactions are related, in the cross-section, to affected firms' agency problems, information asymmetry, contracting costs and estimation risk changes. We find that the average FASB standard causes a -1.67% drop in share prices of affected firms suggesting that (i) firms choose accounting policies designed to maximize firm value; and (ii) the FASB imposed significant and binding constraints on the reporting choices of the affected firms. Only four standards resulted in a statistically significant decrease in estimation risk of the affected firms. However, in the cross-section, market reactions around the event dates related to passage of these standards are higher (lower) for (i) firms that are not followed (followed) by equity analysts; or (ii) firms that enjoy (suffer) a reduction (increase) in estimation risk.

We appreciate financial support from our respective institutions. We appreciate comments from Sharon Katz and Stephen Penman on an earlier draft.

Do the FASB's Standards add Shareholder Value?

1.0 Introduction

Four decades have passed since the Financial Accounting Standards (FASB) was established as the designated private sector organization for setting up standards governing financial reporting for corporate America. During this time period, over 160 standards have been issued along with several supporting AICPA bulletins, interpretations and statement of positions that are intended to offer implementation and supportive guidance to standards. The FASB claims that “such standards are important to the efficient functioning of the economy because decisions about the allocation of resources rely heavily on credible, concise, and understandable financial information.”¹ However, little is known whether the promulgation of standards has had a beneficial impact on capital market participants, especially investors. The purpose of this paper is provide evidence on this issue by evaluating whether noteworthy standards passed by the FASB over a period of 1973-2007 were cost effective, as reflected by the stock returns of firms affected by these standards.

The FASB acknowledges that financial reporting comes at a cost including but not limited to the cost of preparing and auditing the financial information. Thus, a key principle guiding the FASB's issuance of standards is that the benefit from the expected improvement in the quality of information available to users justifies the cost of preparing and disseminating that information.² However, it is not obvious whether the implementation costs imposed by the FASB on firms are worth the purported benefit of making the financial statements more useful to the users. Chief Financial Officers (CFOs) have lamented that financial reporting has degenerated into a compliance exercise with deadweight costs imposed on their companies to follow GAAP (Dichev et al. 2013). Others have criticized that (i) Generally Accepted

¹<http://www.fasb.org/facts/>.

²<http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1351027336339> – last accessed on June 9, 2014.

Accounting Principles (GAAP) is written by the FASB, a top down body, rather than being “generally accepted” (Benston et al. 2006); (ii) the FASB seeks the conceptually right deductive answer, instead of relying on industry best practices or conventions (Institute of Chartered Accountants of England and Wales 2006); and (iii) the FASB’s monopoly in creating accounting rules potentially increases firms’ cost of capital (e.g., Dye and Sunder 2001; Sunder, 2002; Benston et al.; 2003; and Kothari et al. 2010).

The ideal research design to investigate the overall value creation by the FASB is to compare outcomes with regulation against a regime without. A skeptic can argue that a pure voluntary reporting regime will involve costs that might well outweigh its benefits including (i) a race to the bottom in terms of reporting quality; (ii) firms incurring costs to ensure the credibility of the accounting system they choose; and (iii) firms choosing not to disclose, to manipulate, to lie, which are observed even with regulatory penalties that are currently in place. While this might very well be the case, such a purely voluntary reporting system is unobservable to the empiricist. Hence, we opt for the second best option available to us, which is the evaluation of the abnormal stock returns of firms affected by accounting standards. Whether mandatory disclosure necessarily improves value is unclear. As pointed out by Winston (2006), this is not to argue that we cannot find instances where firms have harmed stakeholders by exploiting private financial information. However, it is not obvious that mandatory standard setting has successfully mitigated this problem.

Our implemented research design relies on the evaluation of the abnormal stock returns of firms affected by various accounting standards benchmarked against returns to unaffected firms for the dates on which the probability of the passage or the repeal of such standards changed. The timing of the debate and the passage of standards generates potentially informative inter-temporal variation in the expected effects of these standards. If firms chose

their accounting policies to maximize firm value, imposing binding reporting choices and constraints on their choices will lead to declines in firm values (Demsetz and Lehn 1985). However, if market participants expect the accounting or disclosure requirements mandated by the individual standards to produce decision-relevant information that is deemed to be cost-beneficial, we expect positive abnormal excess returns for firms affected by the standards relative to the unaffected firms. In particular, following Shleifer and Wolfenzon (2002), if accounting standards unexpectedly reduce the manager's ability to divert a firm's resources for personal gain, we predict a one-time increase in stock price of affected firms surrounding the announcement of the standard. On the other hand, if the standards impose greater costs on the affected firms, either by increasing contracting costs, compliance costs, estimation risk or other unspecified costs for investors, we expect negative abnormal returns for affected firms when standards get promulgated.

To provide empirical evidence, we restrict our attention to 21 noteworthy accounting standards issued by the FASB that have been the subject of prior academic studies. We use these prior studies as the basis for identifying 249 event dates associated with these standards. For each standard, we combine the market reaction across the relevant event dates to assess equity investor perceptions of cost-benefit tradeoffs.³ We find insignificant or negative stock market price reactions on event dates related to the passage of 17 of the 21 standards we examine. When we aggregate the event dates across all standards, the affected firms experience a statistically significant average excess abnormal return of -1.67%, suggesting that, on average, these standards are shareholder value-decreasing events. Hence, one interpretation of this result is that firms chose accounting policies to maximize firm value prior to the passage of these

³ In combining the events, we are careful to sign each event date either positively or negatively depending on whether the event increases or decreases the likelihood of passing the standard.

standards and the costs of complying with these mandated standards outweighed the benefits, as measured by stock returns.

In addition to the first moment of the return distribution, we also examine whether affected firms experience a decrease in estimation risk following the issuance of standards. We find a decrease in estimation risk following the issuance of only four of the 21 standards examined. Thus, in general, we find little evidence of value creation from FASB's standard setting activities over the period 1973-2007. If anything, our results based on stock market perceptions suggest that the benefits of accounting standards largely are outweighed by the compliance, contracting or other costs.

Next, we examine whether certain subsamples of the affected firms experience positive stock price reactions around the passage of these standards. In particular, we identify situations where we expect firms to benefit the most from these standards – particularly firms with greater agency issues, higher information asymmetries between the managers and the market, firms with lower contracting costs and firms that ex post experience a reduction in estimation risk. Here, we find some evidence that opaque firms and firms that experience a reduction in estimation risk are most likely to benefit from standards.

It is important to clarify that the value loss we document is unlikely to be attributable purely to agency concerns. That is, our evidence is not entirely consistent with the argument that FASB's disclosure standards made managers reveal bigger liabilities or future costs than the market anticipated. If that were the case, one has to wonder why the market keeps underestimating the firm's future undisclosed obligations over the fairly long sample period covering the years 1973-2007. As Shleifer and Wolfenzon (2002) point out, we would actually expect an increase in share prices of firms affected by mandatory disclosure if such disclosure forced managers to reveal unflattering news about the firm. This is because investors would have

discounted the stock price before such disclosure, fearing the worst. Moreover, we are unable to find statistical associations between the stock price reaction to the passage of the standards and the firm's agency problems.

Our paper follows a long tradition of accounting and finance research that empirically evaluates the impact of mandatory disclosure regulation, in particular, the effect of the Securities Act of 1933 and the Exchange Act of 1934 on stock prices (Stigler 1964, Friend and Herman 1964, Robbins and Werner 1964, and Benston 1973). Recent notable attempts at similar evaluations include an analysis of mandatory disclosure requirements by OTC firms (Bushee and Leuz 2005, Greenstone et al. 2006) and the passage of the Sarbanes Oxley Act in 2002 (Zhang 2007 and Li et al. 2008). In the international context, Armstrong et al. (2010) find that firms in the European Union that reported poor quality financial statements and are domiciled in common law countries experience more positive stock reactions to the events leading to the adoption of IFRS.

We acknowledge that prior studies have investigated the economic consequences of the passage of significant FASB standards individually (see Appendix A for a list of published papers). Our paper differs from these studies in three respects. First, unlike these studies, our focus is on the aggregate output of standards promulgated by the FASB, as opposed to any one individual standard. In this sense, we perform an evaluation, akin to a meta-analysis, of the stock price implications of the collective set of significant standards promulgated by the FASB. We are more interested in assessing whether collectively the significant outputs of the FASB over time influence shareholder value of affected firms.⁴

⁴ One could argue that the literature on the declining information content of accounting numbers over time (e.g., Ramesh and Thiagarajan 1995, Collins, Maydew and Weiss, 1997, Lev and Zarowin 1999, and Ely and Waymire 1999, Francis and Schipper 1999, Dichev and Tang 2008, Rajgopal and Venkatachalam 2012, Givoly, Hayn and Katz 2013) also speaks to the efficacy of accounting numbers for stock and bond valuation as it potentially takes into account all of 160 accounting or so standards passed by the FASB. However, unlike our setting, that literature

Second, we emphasize the average stock price effects of all the events associated with standards, as opposed to cross-sectional variation in stock returns across affected firms based on contracting or political costs, often the focus of prior work. In particular, the average stock price effects across all events associated with a standard are seldom reported or emphasized in prior research but is important to evaluate the assumption that firms chose their accounting policies optimally to maximize firm value before the mandatory imposition of FASB standards. Finally, we expand the sources of cross-sectional variation in the stock price effects of standards beyond classic contracting motivations to include the impact of agency costs, information asymmetry, inefficient capital investments by firms and estimation risk.

Our study is subject to three important limitations. First, we only consider the costs and benefits of FASB standards, as perceived by equity shareholders of the firms most affected by these standards. Hence, we cannot explicitly comment on the value created (or destroyed) to other stakeholders. It is quite plausible that the shareholder value loss of -1.67% that we document, on average, is more than offset by the value gained by other stakeholders such as bond holders, suppliers, employees or even the taxpayer. However, we cannot measure such welfare changes, if any, with any degree of assurance.⁵ At the very least, we contribute to the debate on the effectiveness of the FASB by documenting a cost to one significant stakeholder: the equity shareholder.

(i) does not explicitly isolate the role of standards; and (ii) in particular, has a hard time separating the impact of changes in the underlying business models of firms over time relative to the efficacy of the accounting standards in capturing the firms' operations (Srivastava 2014, Donelson, Jennings and McInnis 2011, and Dichev, Graham, Harvey and Rajgopal 2013).

⁵ For instance, conducting a similar set of event studies using bond prices is not practicable. The TRACE database, which contains data on the prices of publicly traded bonds, is well populated only around 2005 and that time limitation restricts any potential analysis to one standard in our sample period. The other option is to use the Mergent FISD database. But, Mergent only has data related to bond trades of insurance companies. Moreover, these databases cover only the largest firms that issue bonds and a sizable sample of bonds does not trade for extended periods of time. In fact, the bonds of several firms do not even trade around their own earnings announcements.

Second, our study focuses only on a non-random set of 21 standards that have been investigated by prior academic work. We implicitly assume that authors and editors, via their publication decisions, have chosen to focus on the most important output of the FASB. Last but not the least, we acknowledge that assessing costs and benefits of regulation is a contentious and an inherently difficult endeavor (e.g., Schipper 2010 and Cochrane 2013). Hence, we view our evidence as an introductory but not a conclusive contribution to the debate on the desirability of reporting requirements mandated by standard setters.

The remainder of the paper is organized as follows. Section 2 discusses the background and hypotheses. Research design and variable measurement are discussed in Section 3. Section 4 describes the data and presents the empirical findings. Section 5 concludes.

2. Institutional and Theoretical Background

2.1 Evolution of the FASB

Zeff (2005) argues that the FASB's precursor, the Accounting Principles Board (APB), was eventually undone by at least three visible instances when industry lobbyists prevented the APB from issuing accounting standards related to (i) the accounting for marketable securities opposed by the insurance industry; (ii) long term leases opposed by the leasing industry; and (iii) costs of exploration and drilling of oil and gas opposed by the petroleum industry. The APB consisted primarily of part time accounting practitioners who were members of the American Institute of Certified Public Accountants (AICPA). In 1971, the Wheat Study Group, appointed by the AICPA, recommended that an independent, full time standard setting body (FASB) overseen by the Financial Accounting Foundation (FAF) should replace the APB. This private standard setting body was expected to have a large research staff, follow an elaborate due process and have a sizeable budget financed by donations from the FAF and the sale of publications. The FASB succeeded the APB on July 1, 1973. In Accounting Series Release 150,

the SEC acknowledged FASB's leadership role in setting accounting standards. Unlike the APB, the members of the FASB were not required to be Certified Public Accountants (CPAs) and two of the initial seven members of the FASB did not hold a CPA degree.

In promulgating standards, the FASB follows a due process that usually starts with placing a research project on an accounting issue in the FASB's agenda followed by the publication of discussion memoranda on that topic. Next, the FASB holds public hearings and seeks feedback from the public. These hearings and feedback lead to proposals (exposure drafts) followed by comment letters from various constituents and public roundtable discussions. The Board then re-deliberates the proposal before issuing the final accounting standard. As its first standard, in 1974 the FASB issued SFAS 2 on accounting for research and development (R&D) costs mandating firms to expense R&D costs. As of 2012, the FASB has issued more than 160 standards. We turn next to a discussion of the theory underlying why disclosure regulation potentially affects firms' stock prices in the economy.

2.2 Theory and hypothesis development

The classical view of regulation related to disclosure and standard setting is that intervention by a quasi-regulatory body such as the FASB is unnecessary or even harmful as market forces will ensure that firms provide the optimal amount of information and make appropriate accounting choices and disclosures. The intuition for this view is based on Grossman and Hart (1980) who model a world in which a firm has private information about the quality of a product and disclosure is costless. In such a world, firms will voluntarily reveal information about product quality so as to ensure that customers do not confuse them with firms that supply lower quality products.

Along similar lines, Watts and Zimmerman (1986) argue that private contracts between a firm's manager and stakeholders combined with the threat of litigation for performance failures

will ensure efficient levels of disclosure and accounting quality. Enforcement via litigation will be more effective in repeated game settings where the agents have greater incentives to worry about reputation losses. In such a scenario, firms provide the appropriate levels of disclosure or use equilibrium accounting choices and hence, standards that require more disclosures or change the accounting method (i) give away valuable information to competitors and hence lowers firm value; or (ii) imposes implementation costs that are not worth the benefits of providing such information, either for stewardship or valuation. Hence, if firms chose their accounting policies to maximize firm value, imposing binding reporting choices and constraints on their choices will lead to declines in values (Demsetz and Lehn 1985).

Regulation can benefit firm value under certain circumstances, however. Shleifer and Wolfenzon (2002) propose a model where private contracts cannot effectively deter diversion of the firm's profits by the manager to increase his personal utility. They consider a setting where an entrepreneur is interested in bringing his ideas to the market. To raise outside capital, the entrepreneur is willing to sell a fraction of the firm. However, the entrepreneur cannot commit to a policy of not diverting the firm's profits for private gain. Outside investors rationally price protect themselves against this expected diversion and accordingly pay the entrepreneur a "less than first-best" price for their stake in the firm. Consider the introduction of a new regulation that mitigates such expected diversion perhaps via better disclosure and reporting practices. In this scenario, the entrepreneur diverts fewer resources and loses as a result. Investors gain because lower diversion implies higher dividends. Recall that the price investors paid for their shares in the firm incorporated expectations of higher diversion. Hence, such regulation can cause a one-time increase in the stock prices of firms.

Our paper tests whether the public announcement of increased regulation through new reporting and disclosure standards passed by the FASB is associated with an increase in the stock

prices of firms affected by the relevant standard. The implicit assumption is that these standards, on average, reduce the potential diversion of the firm's profits by managers. To the extent that the costs associated with compliance are sufficiently lower than the benefits from reduced agency costs, we should observe a positive market reaction surrounding the events leading up to the issuance of the standard.

Apart from the broad theoretical reasons for how standards can increase firm value, advocates and critics have articulated several specific claims about the FASB's function. The FASB's website argues that FASB standards are essential to the efficient functioning of the U.S. economy because investors, creditors, donors, and other users of financial reports require credible, transparent, comparable, and unbiased financial information. They assert that "an associated principle guiding the FASB is to issue standards only when the expected improvement in the quality of the information provided to users—the benefit—justifies the cost of preparing and providing that information." That is, the FASB strives to improve financial reporting in the most cost-effective manner.⁶

In addition to the self-stated benefits of standards issued by the FASB, one can argue that without the FASB, disputes between managers and stakeholders on accounting and reporting issues would be potentially resolved through a costly litigation process. Lambert (2010) asks "who do you want to decide what a standard really says - the accounting standard setters or courts?" Moreover, Glaeser and Shleifer (2003) suggest that a regulator such as the FASB might be an efficient means of public enforcement provided that the regulator is less vulnerable to subversion by powerful interested private parties than alternate institutional arrangements such as courts.

⁶ <http://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1351027336339> – last accessed on June 6, 2014.

Critics have complained about the sheer complexity of the standards issued by the FASB. The chief executives of the six largest audit firms (PricewaterhouseCoopers, KPMG, Deloitte & Touche, Ernst & Young, BDO, and Grant Thornton) have argued that the FASB's rules produce financial statements that virtually no one understands (DiPiazza et al. 2006). That is, instead of promoting transparency, the FASB's standards lead to arguably more opaque and complex financial statements. A recent survey of CFOs on the FASB's standard setting process laments that "reporting has degenerated into a compliance exercise with deadweight costs" (Dichev et al. 2013). The ICAEW (2013) laments that disclosure overload is a concern for most market participants.

The other criticism that is often leveled against the FASB is the quest for the "correct" and "deductive" answer to an accounting question without regard for existing norms and conventions on how to account for a particular transaction. For instance, the Institute of Chartered Accountants of England and Wales (2006) states "financial reporting measurement is therefore a matter of evolving conventions, not something to which there are immutably right and wrong answers. Yet the dominant style of thinking about measurement requirements hitherto has been a deductive one. It tends to assume that there is a theoretically correct answer, and then considers how this can be implemented in practice."

Finally, critics have complained for a long time about the monopoly power that the FASB holds on issuing accounting standards. Sunder (2002), for instance, argues that "replacing the current monopoly by multiple accounting rule makers who compete for the allegiance and fees from the reporting firms will help develop better rules and lower cost of capital." Other authors have echoed this sentiment (Dye and Sunder 2001; Benston et al. 2003; and Kothari et al. 2010). Benston et al. (2006) point to the "the lack of empirical evidence to support [the] belief that investors have been better served by financial accounting since standard setting became a

government-directed and enforced enterprise.” We attempt to provide such evidence in this paper.

In sum, the above stated arguments suggest that if investors consider the issuance of each new accounting standard by the FASB as costly and not cost-beneficial for enterprises, the abnormal return around the passage of such standards will be negative. On the other hand, if the promulgation of standards is cost-beneficial, as suggested by the FASB, or if those standards unexpectedly reduce managerial diversion, as in Shleifer and Wolfenzon (2002), we would expect abnormal returns to be positive. This leads us to our main hypothesis in the study:

H₁: If the passage of various FASB standards imposes net costs (net benefits) on firms, the cumulative abnormal return around the events leading up to the passage of such standards will be negative (positive).

Next, we consider whether the FASB’s standards help resolve the uncertainty about the parameters associated with the return-generating process. The traditional asset pricing models assume that investors, when optimizing over the risk-return space, know the probability distribution of the expected returns of various assets. However, in reality, these parameters have to be estimated based on available information. This estimation risk, as modeled by Klein and Bawa (1976, 1977), Levy (1978) and Kumar et al. (2008), can either increase or decrease following issuance of accounting standards due to increased or decreased uncertainty about future cash flows resulting in an increase or decline in stock prices.

Prior research (e.g., Collins et al. 1981) suggests that the FASB’s standards influence investors’ estimation risk for the companies affected by these standards. The intuition is that if the standard were to provide higher quality information, estimation risk for the affected stocks would fall which, in turn, would lead to higher expected returns. Specifically, the passage of new accounting standards can increase uncertainty and decrease the ability of investors to estimate these parameters in two ways: (i) managers may start managing earnings or cash flows

to get around the effects of the new standard; and (ii) managers might change the firm's investment and consumption decisions to circumvent the impact of the standard on reporting earnings (as shown in Graham, Harvey Rajgopal 2005 and Shroff 2014). An alternate perspective is that mandatory accounting standards can decrease estimation risk if such standards can increase the comparability of firms' reporting policies and hence allow investors to discriminate between high- and low-quality firms (Armstrong et al. 2010; Covrig et al. 2007).

We draw on recent advances in the estimation risk literature and focus in particular on the methodology suggested by Kumar et al. (2008). Kumar et al. (2008) analyze the effects of estimation risk on the cross section of stock returns and firms' cost of capital when investors learn from information of uncertain quality (or precision). They demonstrate that asset prices, firms' beta factors, and the market risk premium are estimation-risk dependent and respond to changes in the quality of information. Hence, we posit that:

H₂: If the passage of various FASB standards results in better (poorer) information about uncertain parameters of return-generating process we should expect the passage of standards to decrease (increase) estimation risk.

2.3 Cross-sectional implications

In this section we explore cross-sectional differences in the valuation effects of FASB's accounting standards based on the extent of agency problems, levels of information asymmetry, contracting costs and estimation risk.

2.3.1 Role of agency costs

We predict that the pricing effect of the issuance of an accounting standard would be more positive for firms that suffer higher agency costs. For instance, Ke et al. (2003) document that insiders possess and trade on knowledge of specific and economically significant accounting disclosures as long as two years prior to the disclosure. Aboody et al. (2005) find that insiders trade profitably in firms with poor earnings quality and opaque financial statements. This

evidence suggests that FASB standards that require more disclosure and improve transparency in reporting can decrease the ability of insiders to divert profits for private gains. Hence, firms suffering greater agency costs would experience positive cumulative abnormal returns around the events related to the passage of standards.

On the other hand, dissenting evidence suggests that a “one-size fits all” reporting policy imposed by the FASB can actually increase the ability of insiders to divert profits from the firm. Aboody and Lev (2000) argue that insider profits from trading in R&D intensive firms are greater than those in non R&D intensive firms, partly because SFAS 2 requires all firms to expense R&D, regardless of whether such projects are likely to be profitable. If this tendency were to generalize to the average FASB standard, we expect to find negative cumulative abnormal returns around the events related to the passage of FASB standards for firms that suffer from higher agency costs. This leads to the following hypothesis.

H_{3a}: If the passage of various FASB standards entails net benefits for firms with higher agency costs the abnormal returns around the events leading up to the passage of such standards for such firms will be greater for these firms.

2.3.1.1 Empirical proxy for agency costs

At the outset, it is worth pointing out that we are constrained in our choice of proxies for cross-sectional drivers of the stock price reaction to several accounting standards. First, our proxy variables need to be computable for firms in diverse industries. This is because the FASB’s standards tend to represent a combination of general purpose standards (e.g., SFAS 109 on Accounting for Income Taxes) and industry-centric ones (e.g., SFAS 19 for the oil and gas industry). Second, data to compute the proxies are required for a long time period spanning the years 1973-2007. Therefore, we are forced to rely mostly on databases such as CRSP, COMPUSTAT and to some extent IBES that have a large coverage of data to construct our

proxies. We are unable to use databases whose coverage starts more recently such as Execucomp (database on executive compensation) or Boardex (database on board composition).

We construct two proxies for agency costs: (i) conservative accounting practices; and (ii) the market's valuation of cash holdings held by a firm.⁷ Extant literature documents that conservative accounting is associated with (i) reduced agency conflicts between bondholders and shareholders (Ahmed et al. 2002); (ii) fewer insider directors and a greater number of outside directors (Ahmed and Duellman 2007); (iii) higher managerial ownership (LaFond and Roychowdhury 2008); (iv) lower information asymmetry between the manager and the market maker (LaFond and Watts 2008); (v) stronger corporate governance (Lara et al. 2009); and (vi) more profitable acquisitions (Francis and Martin 2010). Considering the totality of evidence reported thus far in the literature, we rely on the degree of conservative accounting in each firm as a proxy for the agency problems confronting them. To empirically operationalize this variable, we compute a firm-year measure of accounting conservatism. Following Francis et al. (2004), we estimate the following regression specification using 10-year rolling windows for each firm-year.

$$X/P_{it} = \gamma_{0it} + \gamma_{1it} \text{Neg}_{it} + \gamma_{2it} \text{Ret}_{it} + \gamma_{3it} \text{Neg}_{it} \times \text{Ret}_{it} + \epsilon_{it} , \quad (1)$$

where X/P is income before extraordinary items (Compustat: IB) deflated by market value of equity (Compustat: PRCC_F \times CSHO) at the end of year t, Ret is the 12-month compounded stock return ending on the earnings announcement date (press release) of year t, Neg equals one if Ret is negative, and zero otherwise. Observations without 10-year history of data are excluded. The conservatism measure for each firm-year is calculated as $(\gamma_{3it} + \gamma_{2it})/|\gamma_{2it}|$ with higher values of conservatism proxying for more conservative accounting practices.

⁷ Details on the estimation of all variables are presented in Appendix B.

Next, we draw from Masulis et al. (2009) and use the stock market's valuation of a firm's cash balances as a proxy for agency costs. The intuition is based on the idea that cash is one of the largest assets on a company's balance sheet and managers have a lot of latitude as to how and when to spend it. Hence, the market's valuation of a firm's cash balance is most likely influenced by agency conflicts between the manager and the shareholders. Therefore, a dollar of cash on the balance sheet might be worth less than a dollar to outside shareholders as they expect managers at firms with greater agency problems to spend more of that cash in the pursuit of private benefits. Masulis et al. (2009) confirm that firms whose valuation of cash balances is lower are associated with a greater divergence between insiders' control rights and the corresponding cash flow rights. Following Pinkowitz et al. (2006), Faulkender and Wang (2006), and Masulis et al. (2009), we rely on the following specification to estimate this measure.

$$FV/NA_{it} = \delta_{0it} + \delta_{1it}Cash/NA_{it} + \delta_{2it}EBIT/NA_{it} + \delta_{3it}R\&D/NA_{it} + \delta_{4it}DIV/NA_{it} + \delta_{5it}INT/NA_{it} + u_{it} \quad (2)$$

where FV is firm value that equals market value of equity plus total liabilities (Compustat: PRCC_F×CSHO + LT), NA is net assets that equal total assets minus cash holdings (Compustat: AT - CHE), Cash is cash holdings (Compustat: CHE), EBIT is earnings before interest and taxes (Compustat: EBIT), R&D is research and development expenditure (Compustat: XRD; if missing, it is set to zero), DIV is total dividend on common shares outstanding (Compustat: DVC), and INT is interest expense (Compustat: XINT).⁸ We estimate equation (2) using a 10-year rolling window for each firm-year, and require 10-years of continuous data. δ_1 measures the value of per dollar cash holdings for each firm-year with higher values of δ_1 implying lower agency costs.

2.3.2 Role of information asymmetry

⁸ If dividends or interest expense is missing they are set to zero.

One of the necessary conditions for managers to divert the firm's resources for personal gain is the presence of asymmetric information between the manager and the investor. We would expect effective accounting standards to lower information asymmetry between the manager and the investor and thus create value for firms that report opaque financials. Mueller et al. (2011) find that real estate firms in Europe that mandatorily adopted IAS 40 related to the fair value disclosures of long lived assets experienced greater declines in information asymmetry relative to a control group of real estate firms that voluntarily provided such fair value data. Mohd (2005) finds that information asymmetry, proxied as bid-ask spread and share turnover, decreased for software firms that were forced to adopt SFAS 85 which required firms to capitalize software costs after the software project reaches technological feasibility.

If accounting standards, on average, reduce information asymmetry, which, in turn, lowers the insiders' ability to divert profits for personal gain, we expect to observe positive cumulative abnormal returns around events related to the passage of FASB standards for firms that suffer from higher information asymmetry before the standard was passed. However, if the standards leave information asymmetry unaffected, we expect no abnormal returns around such FASB events. Our hypothesis stated in alternate form is as follows:

H_{3b}: If the passage of various FASB standards entails net benefits for firms with high information asymmetry between the manager and the investor, the abnormal returns surrounding the events leading up to the passage of such standards will be higher for high information asymmetry firms.

2.4.2.1 Empirical proxy for information asymmetry

We use the presence of analyst coverage and dispersion in analyst forecasts as proxies for information asymmetry between the manager and the shareholder. Frankel and Li (2004) find that the profitability and intensity of insiders' traders is negatively associated with the presence of analyst coverage. Leuz (2003) relies on dispersion in analyst forecasts as a proxy for

information asymmetry. Following these studies, we use the presence of analyst coverage and dispersion in analyst forecasts as proxies for information asymmetry.

2.3.3 Contracting costs

Watts and Zimmerman (1986), among others, have argued that firms choose accounting and reporting policies in contracts with counterparts, such as suppliers, debt holders and even managers (via compensation contracts), in a wealth maximizing manner. More specifically, absent agency problems, managers will choose investment and financing decisions in conjunction with the accounting and reporting policies in an optimal manner as to maximize firm value. Under such a scenario, a “one-size-fits all” accounting or reporting policy imposed by the standard setter is likely to increase the deadweight costs associated with the need to comply with the new standard either through re-contracting or through a change in investment decisions. Such increased contracting costs lead to lower expected future cash flows and a consequent decline in the firms’ stock price. Hence, we expect to observe negative cumulative abnormal returns around the events related to the passage of FASB standards for firms that suffer from higher contracting costs. The hypothesis formally stated is as follows:

H_{3c}: If the passage of various FASB standards imposes net contracting costs on firms, for firms with higher contracting costs, the abnormal returns around the events leading up to the passage of such standards will be lower.

2.3.3.1 Empirical proxy for contracting costs

We follow prior literature and use leverage as our first proxy of debt-contracting costs (Fields et al. 2001). In addition, we employ a measure of contracting costs that is based on the ex-ante level of a firm’s investment efficiency. In particular, we are interested in evaluating whether the imposition of “one-size-fits all” reporting system affected the optimal mix of investment and consumption of resources in the firm. For instance, researchers posit that SFAS 2’s requirement of mandatorily expensing R&D leads to under investment in R&D (Shehata

1991; Lev 2003). If a standard indeed creates incentives for firms to sub-optimally alter their investment strategies, then the affected firms are more likely to suffer a negative stock price reaction around the events surrounding the issuance of the standard. Thus, we predict that firms that are ex ante efficient will experience lower abnormal returns. Alternatively, the standards potentially forces firms that were previously sub-optimal to correct their inefficient investment policies. In that case, the firms which were suboptimal in their investing strategy in the pre-standard era could experience positive stock price reactions.

Following Hubbard (1998) and Richardson (2006), we estimate the deviation from a firm's expected level of investment as per the following model as a measure of under or over-investment.

$$INVEST_{it} = \rho_0 + \rho_1 NEG_{it-1} + \rho_2 SALEGR_{it-1} + \rho_3 NEG_{it-1} \times SALEGR_{it-1} + \vartheta_{it} \quad (3)$$

where *INVEST* is the sum of research and development expenditure (Compustat: XRD), capital expenditure (Compustat: CAPX), and acquisition expenditure (Compusat: AQC) less cash receipts from sale of property, plant and equipment (Compustat: SPPE) multiplied by 100 and scaled by lagged total assets (Compustat: AT); *SALEGR* is the sales growth rate (Compustat: SALE); *NEG* is an indicator variable that equals one for negative sales growth, and zero otherwise. The financial industry is excluded (SIC codes: 6000-6999). This approach has the advantage of considering acquisitions, capital expenditures and asset sales in the measure of investment. Moreover, we add R&D expenses to *INVEST* to make the measure as comprehensive as possible.

We estimate equation (3) for each Fama-French 49 industry but require at least 20 observations in a year. We then sort firms into quartiles based on the magnitude of the residuals (i.e., deviations from predicted investment) for each industry-year. Firm-year observations in the top quartile (i.e., the most positive residuals) are classified as over-investment firms. Those in

the bottom quartile (i.e., the most negative residuals) are classified as under-investment firms. We define investment efficiency as an indicator variable that equals one if the residual from equation (3) is in the top quartile or the bottom quartile in a given year, and zero otherwise.

2.3.4 Role of estimation risk

If accounting standards help reduce investors' estimation risk of the return generating process by making accounting information more transparent and helpful in assessing future uncertainties about a firm's cash flows, then such a reduction should be more salient when the ex-ante benefits of changes in estimation risk are highest. That is, we predict that the market reaction to promulgation of standards should be greater for firms that are most likely to have a greater reduction in estimation risk.

That is we hypothesize that:

H_{3d}: If the passage of various FASB standards generates net benefits on firms, for firms with greater reduction in estimation risk, the abnormal returns around the events leading up to the passage of such standards will be higher.

3.0 Research Design and Variable Measurement

To test our first hypothesis that standard setting creates shareholder value, we examine whether the cumulative abnormal returns surrounding the event dates for (i) each of the standards and; (ii) collectively across standards are positive. Because the standards do not affect all the firms in the economy equally, we restrict the analysis to firms that are most "affected" by each standard. If the affected firms experience positive cumulative abnormal returns, we can conclude that investors perceive positive net benefits to the introduction of the new accounting standard.

We use abnormal returns for three days surrounding each event date relating to the 21 FASB standards evaluated by us. To compute the abnormal return, we use a standard four-factor model (e.g., Greenstone et al. 2006).⁹

$$R_{it} - R_{ft} = \alpha_{it} + \beta_{1i}(R_{mt} - R_{ft}) + \beta_{2i}SMB_t + \beta_{3i}HML_t + \beta_{4i}UMD_t + \varepsilon_{it} \quad (4)$$

where R_{it} is daily return for firm i , R_{ft} is daily risk-free rate, and R_{mt} is daily market return on date t . SMB_t is the Fama-French size factor, HML_t is the Fama-French book-to-market factor, and UMD_t is the momentum factor.

To estimate daily abnormal returns for a firm in year τ , we estimate the parameters in equation (4) for each firm i (i.e., $\hat{\beta}_{1i}$, $\hat{\beta}_{2i}$, $\hat{\beta}_{3i}$, and $\hat{\beta}_{4i}$) using returns in year $\tau - 1$. We are careful to exclude the 3-day window around any event date relating to a standard in year $\tau - 1$. Using the estimated parameters we calculate daily abnormal returns ($\hat{\alpha}_{it}$) for all the days in the 3-day window around event date t in year τ , that is, $\hat{\alpha}_{it} = (R_{it} - R_{ft}) - [\hat{\beta}_{1i}(R_{mt} - R_{ft}) + \hat{\beta}_{2i}SMB_t + \hat{\beta}_{3i}HML_t + \hat{\beta}_{4i}UMD_t]$. Because each event date relating to a particular standard signifies either an increased or a reduced likelihood of a FASB standard being promulgated, we multiply the abnormal return for each date by ρ where $\rho = 1$ when the likelihood of passing the standard increases or does not change, and $\rho = -1$ when the likelihood of passing the standard decreases. This allows us to aggregate the abnormal returns, for a single standard, across different event dates for each firm.

Next, we compute the cumulative abnormal returns (CAR) for each firm by aggregating the abnormal returns (i.e., $CAR_i = \sum_t(\rho \times (\hat{\alpha}_{it-1} + \hat{\alpha}_{it} + \hat{\alpha}_{it+1}))$) surrounding all event dates for a given standard. We are careful to eliminate duplicate and overlapping dates when computing the cumulative abnormal returns. Similarly, we eliminate duplicate and overlapping dates across all

⁹ Our results are robust to different CAR measures using various return models, such as CAPM and Fama-French three-factor model.

standards to compute the overall valuation effect of the FASB standards for firm i because in a few cases, event windows for two different standards overlap. Finally, we evaluate the average of the firm-specific cumulative abnormal returns for each standard to test our first hypothesis.¹⁰

The abnormal return measurement for the “affected” firms may not capture the “true” abnormal returns if the return generating process is not fully described by model (4). Therefore, we benchmark the cumulative abnormal returns of the affected firms against a set of unaffected (control) firms. To the extent that other omitted factors affect returns of all firms in a similar manner, the difference between the abnormal returns for affected firms and those for unaffected returns would provide another representation of the abnormal returns related to the issuance of standards.

We follow a similar approach when examining changes in estimation risk before and after the issuance of standards. Consistent with prior research (Kumar et al. 2008), we use the standard deviation of a market model beta as our measure of estimation risk. We estimate estimation risk parameter before and after the date on which the probability of passage of an accounting standard changed. The market model beta and its standard deviation are calculated using the following OLS market model:

$$r_{it} = \beta_{0it} + \beta_{1it}r_{mt} + \epsilon_{it} \quad (5)$$

where r_{it} is the return on the firm i 's stock and r_{mt} is the return on the market portfolio. β_1 is the market β . We estimate separate OLS regressions for each sample firm over the 26-week period before and after a FASB standard related event date. In other words, the pre- and post-event date betas (β) and estimation errors of beta (σ^2_β) are therefore calculated for each firm and event date.

Following Kumar et al. (2008), we compute the change in estimation risk as the change in (σ^2_β) the standard error of β in the regression of equation (5) for the post-standard period

¹⁰ As an alternative to using the cumulative abnormal returns for each firm we also consider the average abnormal returns for each event date across all firms. Our inferences using this alternative method are similar.

relative to the pre-standard period. We use the 26 weeks prior to the first event for a given standard to estimate σ^2_β for the pre-period and 26 weeks after the last event for that standard to estimate σ^2_β for the post period. Note that, for different firms, the first and last event dates of a standard may be different due to availability of data. As before, we consider (i) the changes in estimation risk for the affected firms, and (ii) benchmark the changes in estimation risk against that for the unaffected firms, akin to a difference-in-difference design.

For the cross-sectional tests where we examine differences in the returns consequences as a function of firm characteristics, we estimate the following regression:

$$\text{CAR_DIFF}_{it} = \gamma_0 + \gamma_1 X_{it} + \omega_{it} , \quad (6)$$

where CAR_DIFF_{it} is the three-day cumulative abnormal returns of the affected firm i minus the average of the three-day cumulative abnormal returns of the unaffected firms around event date t . X_{it} captures each of the empirical proxies for agency problems, information asymmetry, contracting costs and changes in estimation risk discussed earlier. We measure X_{it} over the 365 day period prior to the event date. We predict the coefficient γ_1 to be negative in regressions where X proxies for agency costs, information asymmetry or contracting costs consistent with market returns being greater for firms with higher levels of agency problems, information asymmetry and contracting costs.¹¹ In the cross-sectional regression related to the change in estimation risk, we also expect γ_1 to be negative, consistent with market returns being less positive for firms with higher levels of estimation risk.

4.0 Data and Empirical Results

¹¹ Note that the prediction is negative because a higher value of the proxies translates to a lower level of the construct being measured. For example, a higher value of *Conserv*, one of our proxies for agency costs, implies lower agency costs.

In this section, we first describe the accounting standards that we consider for our empirical analysis and the manner in which we identify the relevant event dates for each of those standards. We then discuss sample selection and our empirical findings.

4.1. FASB standards and event dates

Since 1973, FASB has issued more than 160 standards. Instead of analyzing the exhaustive set of standards, we restrict our attention to important accounting standards examined by the prior academic literature. Specifically, we search peer-reviewed accounting and finance journals and identify published studies that investigate economic consequences of specific accounting standards (see Appendix A for a list). We limit our analysis to standards examined in published academic literature for two reasons. First, standards not examined by academic researchers are perhaps unlikely to be economically important and hence, not worthy of academic attention. If we are unable to find economically meaningful findings for these standards it is unlikely that we will find meaningful results for a broader set of standards. Second, published papers usually provide details on the event dates providing us with a credible source of event dates leading up to the standard's issuance. These academic papers are subjected to a peer review process and therefore, the event dates used in the papers are less likely to be influenced by the subjectivity associated with identifying important announcement dates and the possibility of confounding events. The event dates capture important events that are likely to influence investors' expectations regarding the passing of a standard. Examples of key events include release of FASB votes, release of Exposure Drafts, issuance of the final standard, and first-time media mentions of significant events affecting the probable passage of standards in established outlets such as the Wall Street Journal and the New York Times.

We are able to identify 39 published papers across 14 different journals that report event dates for 21 different standards (Table 1 lists the standards we examine).^{12,13} The earliest event dates studied in the selected papers relate to SFAS No. 2, Accounting for research and development costs, and the most recent pertain to SFAS No. 158, Employer's accounting for defined benefit pension and other postretirement plans. Across the 21 standards, the studies identify 249 event dates spanning the period 1973-2007. There is wide variation in the number of event dates for each standard. They range from one for SFAS No. 96, Accounting for income taxes, to 52 for SFAS No. 91, Accounting for nonrefundable fees and costs associated with originating or acquiring loans and initial direct costs of leases.

4.2 Sample description

To generate our sample we begin with all available firms that have daily stock return data on CRSP over the period January 1, 1972 to December 31, 2007. From this overall sample, we identify firms "affected" by each standard. We are unable to use prior research studies as a source for isolating the "affected" firm sample because these studies usually focus on a small number of hand collected firms and the list of such firms is not typically published by the authors (e.g., Salatka 1989; Wasley and Linsmeier 1992; Espahbodi et al. 2002).¹⁴ Instead, we use a set of standard specific criteria to classify the sample into firms that are most and least affected by an accounting standard.

¹² The three fair value accounting related standards, SFAS 105, 107 and 115, are an outcome of the three-phase project on fair value accounting project of the FASB. We examine these three standards as a group because deliberations related to all three standards often occurred on the same day (see Cornett et al. 1996 for a detailed description of the related events). However, we count them as three different standards.

¹³ Accounting Series Release (ASR) 253 issued by the SEC reversed FASB's decision to eliminate full cost accounting for oil and gas firms as proposed under SFAS 19. For the purpose of our study, event days on which the likelihood that accounting proposed under ASR 253 increased are coded as an increase in the probability of reversal of rules proposed under SFAS 19.

¹⁴ It is quite plausible that the benefits and costs of a new standard affect all firms and in particular, the market portfolio of the diversified investor. However, it would be difficult to isolate the impact of a standard on the entire market portfolio.

For standards that are industry-specific, we restrict our analysis to industries impacted by such standards. To identify the affected firms, we rely on the Fama and French (1997) industry classification. For example, we select oil and gas firms as affected firms for SFAS 19 and ASR 253, real estate firms for SFAS 66, utilities for SFAS 90, and banks for SFAS 91, 105, 107, 115, and 133. Within the specific industry that is affected by a standard, we classify the firms as “affected” based on firm size or the degree to which a firm is likely to be affected by a specific accounting attribute associated with that standard. Unaffected (control) firms for these standards constitute the remaining firms in that industry. For example, with regard to SFAS 91, which changed the accounting for nonrefundable loan fees, we classify firms belonging to the banking industry, whose ratio of loans to total assets is above (below) the industry median, as affected (unaffected) firms.

For standards that are likely to impact a broader cross-section of firms, we partition the sample based on certain firm characteristics to identify firms that are most likely to be impacted by a standard. For example, in the case of SFAS 2 that requires expensing of research and development (R&D) expenses, we choose firms with above median R&D expenses (Compustat: XRD), subsequent to the promulgation of the standard (i.e., year 1975). We do not use the R&D expenses prior to the standard because we are likely to exclude firms that capitalized R&D expenditures – the very firms that will be affected by SFAS 2. As another example, in the case of SFAS 96 that mandated the balance sheet method of determining income taxes that resulted in differing amounts of deferred tax assets and liabilities. We classify firms that are above (below) the median of the absolute amount of deferred taxes to total assets as ‘affected’ (unaffected) firms. The classification criteria for each of the standards examined in the study are summarized in Table 2.

We acknowledge that this classification scheme has its limitations as it is based purely on machine readable data. Specifically, we cannot isolate early adopters of a standard that might experience a different stock price reaction relative to the average firm. Also, unlike a carefully hand-picked set of firms most likely to be affected by the standard, our classification scheme introduces measurement error by including firms that are not affected by the standard.¹⁵ Unfortunately, these limitations cannot be easily overcome because (i) authors of prior studies do not publish the list of firms they examine; and (ii) identifying early adopters or highly targeted samples for some of the older standards is prohibitively expensive. We believe, however, that the absence of a targeted sample selection strategy is likely to bias towards finding zero abnormal returns and no changes in estimation risk for the affected firms. Our benchmark of using unaffected firms as a set of control firms mitigates this concern somewhat.

4.2 Empirical results

4.2.1 Event-day cumulative abnormal returns across standards

Our first test evaluates whether market participants believe that the passage of standards individually and collectively create value for firms that are most affected by those standards. We begin with an analysis of cumulative abnormal returns (CAR) surrounding the event dates for the affected firms alone. Results presented in Table 3 indicate that, benchmarked to zero abnormal returns, ten standards are associated with abnormal returns for the affected firms. Of these, four standards are associated with positive returns (SFAS 8, SFAS 90, SFAS 94 and SFAS 158) whereas six standards (SFAS 2, SFAS 19/ASR 253, SFAS 91) and the three fair value standards, SFAS 105, 107 and 115) are associated with negative returns.

¹⁵ For instance, Vigeland (1981) examines the impact of SFAS 2 by focusing on 122 firms that make an accounting change from a deferral method of accounting for R&D to the mandatory expensing method prescribed by SFAS 2. So, his sample consists exclusively of firms that are most affected by the mandatory expensing of R&D charges.

However, while the abnormal returns for affected firms control for the standard risk factors they do not control for unknown risk factors that affect such firms. If we believe that the standard risk factors inadequately describe the returns generating process, a conservative approach to detecting the abnormal return attributable to these standards would demand differencing out returns related to a control group of firms. Therefore, we next control for the returns experienced by the unaffected firms surrounding the same event dates. Column (3) of Table 3 reports that the difference in the average cumulative abnormal returns (CAR) surrounding the event dates for the affected firms relative to the unaffected firms is statistically different from zero for six of the 21 standards examined.¹⁶ Five of the standards experiencing significant abnormal returns, however, are negative: (i) -5.69% return for the R&D standard, SFAS 2 (t-statistic = -5.65); (ii) -15.8% for the set of three fair value standards in the banking industry, SFAS 105, 107 and 115 (t-statistic = -3.15);¹⁷ and (iii) -1 % for SFAS 123, the standard requiring disclosure of stock option expenses. The only standard associated with an increase in stock prices is SFAS 96, related to the accounting for income taxes.

Reither (1998) reports that in a survey of the of best and worst accounting standards as perceived by the participants of the 1996 AAA FASB conference, SFAS 2 was rated as one of the worst five standards arguing, for instance, that “SFAS 2 reduced flexibility at too high a price (loss of information content) and it precludes many companies from attempting to measure and recognize large economic assets.” On the other hand, the fair value based standards did not feature among the worst standards in this survey. However, Dichev et al. (2013) report widespread disaffection for fair value based standards among the CFO community.

¹⁶ Note that the CARs are expressed as a percentage.

¹⁷ Other research is consistent with the apparently large abnormal return on the passage of fair value standards. For instance, the cumulative abnormal return for Cornett et al.’s (1996) sample of banks used to study the economic consequences of the fair value standards for the event dates used in that study is -14.11%. The magnitude of the overall return across all standards reduces from -1.67% to -0.88%. Moreover, the reported results from the cross-sectional tests are also unaffected when these fair value standards are excluded from the estimation.

The remaining 17 standards studied appear to be economic non-events, at least for the investors of affected firms. Across all standards, the average excess abnormal returns for affected firms relative to the unaffected firms is -1.67% and that return is statistically significant at the 5% level (t-statistic = -1.91). Together our results suggest that for most of the standards there is no significant market reaction when considered individually. If anything, on average, the FASB's key standards are associated with a small decline in stock prices of affected firms. One interpretation of this evidence is that the FASB's standards are not perceived as cost-beneficial by the stock market. The data provides evidence that the FASB's standards imposed significant and costly constraints on the affected firms.

4.2.2 Changes in estimation risk across standards

Results presented in Table 4 indicate that in 13 of the 21 standards the affected firms experienced an increase in estimation risk during the time period following the issuance of the standards. Estimation risk declines for the affected firms in only five of the standards (SFAS 8, SFAS 19/ASR253, SFAS 34, SFAS 133 and SFAS 158). However, one cannot draw strong conclusions from this analysis because estimation risk may have changed due to other uncontrolled factors. To address this issue, we consider a difference-in-difference design where we use the change in estimation risk of unaffected firms as our benchmark to control for common forces that influence all firms in the economy. Results indicate that the unaffected firms also experience significant changes in estimation risk from the pre-standard period to the post-standard period. The difference-in-difference tests suggest that in more than half the standards (i.e., 13 of them), the change in estimation risk surrounding the issuance of standards is not statistically significant. Of the remaining eight, in four of the standards (SFAS 19/ASR 253, SFAS 34, SFAS 133 and SFAS 158), affected firms experience an increase in estimation risk relative to the unaffected firms and in the other four standards (SFAS 8, SFAS 87, SFAS 96 and

SFAS 109), affected firms experience a decrease in estimation risk. Thus, our evidence suggests no clear overall pattern in the changes in estimation risk. Hence, on the whole, it is unclear that the key FASB standards systematically changed estimation risk in one direction or the other.

4.2.3 Cross-sectional analysis

4.2.3.1 Results related to the average standard

Finally, we turn to an analysis of the four factors hypothesized to affect the cross-sectional variation in returns for the affected firms: (i) agency problems, proxied by the extent of conservative accounting (Conserv) and the market valuation of cash balances (Cash value); (ii) information asymmetry, proxied by the presence of analyst following (DAF) and the extent of dispersion in analysts' forecasts (Dispersion); (iii) contracting costs, proxied by leverage, over investment (over-invest) and underinvestment (under-invest); and (iv) changes in estimation risk, proxied by the change in the standard errors of firms' betas (σ^2_β) in the period surrounding the standard.

Panel A of Table 5 presents the descriptive statistics of the variables used to estimate equation (6) related to the affected firms. The key dependent variable used in the regressions is CAR_DIFF. To estimate CAR_DIFF, we begin by removing observations with missing values of firm size, book-to-market, ROA, and annual stock returns in the fiscal year before an event date. Then we calculate the three-day cumulative abnormal return (CAR) for each firm and event date, as outlined in Appendix B. Next, we isolate the unaffected firms using the criteria described in Table 2 and estimate UCAR. UCAR is the average three-day CAR for all unaffected firms on an event date and it is estimated for each event date in our sample (i.e., 249 observations of UCAR in Panel A of Table 5 corresponding to 249 event dates examined in the study). CAR_DIFF on each event date equals the three-day CAR for affected firms minus the UCAR on that event date. The number of usable observations for CAR_DIFF is 140,436 across

all the event dates of the 21 standards that we analyze. On average, the 3-day CAR for the affected firms on an event day is 0.03% across all the standards.

Our mean conservatism estimate of 3.285 is higher than 0.547 reported by Francis et al. (2004), although the median values are the same (median = 1.00). In addition, our mean estimate is closer to the one reported in Basu (4.66) and Givoly and Hayn (2000) (who report a range of 1.7 to 25.8). During the same period, these firms earn an average (median) return on asset of 2.7% (4.5%). The affected firms have an average (median) leverage of 0.26 (0.24) and are followed by at least one analyst in 67% of the firm-years in our sample (mean DAF = 0.67). The mean (median) value of cash is \$ 1.84 (\$1.32).

Panel B of Table 5 reports the results of the cross-sectional analysis that relates CAR_DIFF on proxies for agency costs, information asymmetry, contracting costs and changes in estimation risk. We include industry-fixed effects and year-fixed effects to control for industry and time effects. Standard errors are clustered at the firm level to address serial correlation in the error terms.

We begin by estimating regressions where we include the proxies for the above effects one at a time as independent variables. We do so because including all the proxies in the model simultaneously reduces the number of usable observations considerably due to non-availability of data. The number of observations for the regressions where independent variables are included one at a time ranges from 50,250 for a specification that considers value of a firm's cash to 113,141 for the change in estimation risk regression. When all the variables are included simultaneously the number of usable observations falls to 10,552. Further, our analysis is restricted to only 45 (out of a total of 249) event dates for this specification of the regression model due to missing data. So, we are reluctant to place too much emphasis on the findings from the combined regression specification.

The results of the regressions where the independent variables are introduced one at a time suggest that the firms that benefit the most from FASB's standard setting process are those that have relatively higher information asymmetry and those that ex post experience a decrease in estimation risk. In particular, when DAF and the interaction between DAF and Dispersion are included as independent variables, the coefficient on DAF is -0.14 and statistically significant (t-statistic = -2.56). This evidence suggests that the abnormal stock price reactions attributable to the affected firms are lower (higher) when the affected firms are followed (not followed) by equity analysts. Hence, this result is consistent with H_{3b} and the argument that FASB standards lower information asymmetry between the managers and investors, thus creating value for firms that are more opaque. However, this finding can also be interpreted to mean that well followed firms incur potential implementation costs to comply with the FASB standards without generating commensurate informational benefits.

We also find evidence consistent with our hypothesis about changes in estimation risk (i.e., H_{3d}). In the regression model that includes $\Delta\beta$ (as a control variable to account for the shift in market beta around event days) and $\Delta\sigma_\beta^2$ (the proxy for change in estimation risk), the coefficient on $\Delta\sigma_\beta^2$ is -0.25 and statistically significant (t-statistic = -4.63) suggesting that investors of affected firms whose estimation risk is reduced (increased) by the FASB standards perceive the benefits related to the passage of the new standard to outweigh (be dominated by) the associated costs.

Using a much smaller sample, the results from the regression that includes all the proxies simultaneously offers support only for the contracting cost hypothesis. The coefficient on Leverage is -0.86 and statistically significant (t-statistic = -2.34) suggesting that firms with higher contracting costs experience lower returns around events that increase the probability of new FASB standards. This is consistent with the notion that firms which are forced to comply

with the standard experience potential renegotiation of contracts or changes in investment and consumption decisions that are suboptimal. The coefficients on DAF and $\Delta\sigma_{\beta}^2$ are in the predicted direction, but are not statistically significant. However, as mentioned before, we interpret this analysis with caution because the number of usable observations is relatively small.

4.2.3.2 Results related to individual standards

Next, we estimate individual cross-sectional regressions by introducing the proxies related to our hypotheses one at a time for each standard that we examine. We do so because the event dates pertaining to the 21 standards included in our analysis are not evenly distributed. They range from just one for SFAS 96 to 52 for SFAS 91 (see Table 1). Therefore, it is possible that the results documented in Panel B of Table 5 are excessively influenced by one or a few standards. However, lack of availability of data for specific variables used in the regressions constrains the specific number of observations that are usable for each regression. The specific variables for which data are unavailable are tabulated in panel A of Table 6. The results of the cross-sectional regressions for each standard are reported in panel B of Table 6.

The results in panel B of Table 6 are broadly consistent with those reported earlier in Table 5. Of all the hypotheses considered, the coefficient related to estimation risk ($\Delta\sigma_{\beta}^2$) is consistently as predicted in the negative direction. In particular, the estimation risk hypothesis is supported in the case of six (SFAS 2, SFAS 8, SFAS 13, SFAS 96, SFAS 109, and SFAS 123) of the 21 standards, with t-statistics ranging from -1.78 to -4.00. In one case (SFAS 19 and ASR 253), the coefficient on $\Delta\sigma_{\beta}^2$ is positive and statistically significant (t-statistic = 2.43), inconsistent with our expectations. Hence, the estimation risk result is perhaps the strongest we can document.

The coefficient on DAF (the proxy for information asymmetry) is in the predicted direction (i.e., negative) and statistically significant in the regressions for two out of the 13

standards (SFAS 123 and SFAS 158) for which data is available to estimate DAF.¹⁸ However, two of the coefficients on DAF assume positive coefficients, inconsistent with the hypothesis that FASB standards reduce information asymmetry between the manager and the market. These two standards are SFAS 87 (t-statistic = 1.67) and SFAS 96 (t-statistic = 3.54).

We find mixed evidence related to the contracting cost hypothesis (i.e., H_{3c}). The coefficient on Leverage is negative and statistically significant for three standards (SFAS 52, SFAS 109 and SFAS 133), as predicted, with t-statistics ranging from -2.03 to -2.65. However, in five cases (SFAS 2, SFAS 33 and the set of fair value standards (SFAS 105, 107 and 115), the coefficient on Leverage is positive and statistically significant, with t-statistics ranging from 1.80 to 2.53. Hence, the impact of a particular standard on leverage appears to vary depending on the standard making it difficult therefore to draw generalizable conclusions about the average standard or all standards combined.

We only find marginal support for the agency cost hypothesis (i.e., H_{3a}). The coefficients on Cash Value are in the predicted direction and statistically significant for two (SFAS 2 and SFAS 87), whereas the coefficient on Conserve is statistically significant in the predicted direction for one (SFAS 91) standard. This evidence provides some support for the argument that firms with higher ex-ante agency costs benefit from FASB's standard setting activities.

In sum, the results suggest that firms with reductions in estimation risk and to some extent, opaque firms, are likely to benefit the most from FASB standards. With respect to other firm characteristics (such as agency problems or high contracting costs), the evidence is mixed or not consistent across all standards.

5.0 Conclusions

¹⁸ Our proxies for information asymmetry, DAF and Dispersion, are estimated using data from I/B/E/S. Since this data only becomes available from year 1982 we are unable to estimate DAF and Dispersion for standards with event dates in earlier years.

The FASB has been the designated private sector standard setter since 1973. However, little is known about the whether the FASB's pronouncements are cost-beneficial for the investors of the firms affected by these pronouncements. This paper examines whether FASB adds shareholder value through its standard setting activities. Specifically, we evaluate the stock returns of firms affected by 21 accounting standards on the dates when the probability of the passage or repeal of such standard changes. We also examine the impact of these standard related events on the changes in estimation risk and whether firms with a hypothesized set of attributes related to agency costs, information asymmetry, contracting frictions, and estimation risk in the cross-section are more likely to benefit from FASB standards.

We find little evidence of shareholder value creation from the FASB's standard setting activities. With the exception of four standards, affected firms experience insignificant or negative stock returns on events related to promulgation of the standards examined by us. In aggregate, there is not much evidence suggesting that passage of standards resulted in positive economic consequences for the affected firms. If anything, the overall decline of -1.67% on share prices suggests that the FASB imposed binding and significant constraints on the reporting choices of firms affected by the particular standards. On average, FASB standards resulted in no reduction in estimation risk for the affected firms. If the individual standards are considered, four standards are associated with increased estimation risk whereas four are associated with decreased estimation risk. However, in the cross-section, there is some evidence that the benefits seemed to outweigh the costs associated with new standards for firms that were more opaque or were likely to experience a reduction in estimation risk following the passage of standards.

We contribute to the literature investigating the impact of mandatory disclosure regulations, in general, and the literature that studies the economic consequences of accounting

standards, in particular. Our study is one of the first meta-analysis of the overall value added by FASB since its creation in 1973.

References:

- Aboody, D., and B. Lev. 2000. Information asymmetry, R&D, and insider gains. *The Journal of Finance* 55 (6): 2747-2766.
- Aboody, D., J. Hughes, and J. Liu. 2005. Earnings quality, insider trading and cost of capital. *Journal of Accounting Research* 43 (5): 651-673.
- Ahmed, A.S., B.K. Billings, R.M. Morton, and M. Stanford-Harris. 2002. The role of accounting conservatism in mitigating bondholder-shareholder conflicts over dividend policy and in reducing debt costs. *The Accounting Review* 77(4): 867-890.
- Ahmed, A. S., and S. Duellman. 2007. Accounting conservatism and board of director characteristics: An empirical analysis. *Journal of Accounting and Economics* 43 (2-3): 411-437.
- Armstrong, C.S., M.E. Barth, A.D. Jagonlizer, and E.J. Riedl. 2010. Market reaction to the adoption of IFRS in Europe. *The Accounting Review* 85(1): 31-61.
- Basu, S. 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics* 24: 3-37.
- Beatty, R. P., and J. R. M. Hand. 1992. The causes and effects of mandated accounting standards: SFAS no. 94 as a test of the level playing field theory. *Journal of Accounting, Auditing, and Finance* 7 (4): 509-530.
- Benston, G. 1973. Required disclosure and the stock market: An evaluation of the Securities Exchange Act of 1934. *American Economic Review* 63 (1): 132-155.
- Benston, G., M. Bromwich, R. Litan, and A. Wagenhofer. 2003. *Following the Money: The Enron Failure and the State of Corporate Disclosure*. Washington, DC: AEI-Brookings Joint Center for Regulatory Studies.
- Benston, G., M. Bromwich, R. Litan, and A. Wagenhofer. 2006. *Worldwide Financial Reporting: The Development and Future of Accounting Standards*. New York: Oxford University Press.
- Biddle, G. C., G. Hillary, and R. S. Verdi. 2009. How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics* 48 (2-3): 112-131.
- Bushee, B.J., and C. Leuz. 2005. Economic consequences of SEC disclosure regulation: Evidence from the OTC bulletin board. *Journal of Accounting and Economics* 39: 233-264.
- Chen, F., O.-K. Hope, Q. Li, and X. Wang. 2011. Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review* 86 (4): 1255–1288.
- Cheng, T. T. 1986. Standard setting and security returns: A time series analysis of FAS no. 8 events. *Contemporary Accounting Research* 3 (1): 226-241.

Cochrane, J. 2013. Cost-benefit analysis as a framework for financial regulation. Available at http://faculty.chicagobooth.edu/john.cochrane/research/papers/benefits_costs.pdf

Collins, D. W., and W. T. Dent. 1979. The proposed elimination of full cost accounting in the extractive petroleum industry: An empirical assessment of the market consequences. *Journal of Accounting and Economics* 1: 3-44.

Collins, D. W., M. S. Rozeff, and D. S. Dhaliwal. 1981. The economic determinants of the market reaction to proposed mandatory accounting changes in the oil and gas industry. *Journal of Accounting and Economics* 3 (1): 37-71.

Collins, D. W., M. S. Rozeff, and W. K. Salatka. 1982. The SEC's rejection of SFAS no. 19: Tests of market price reversal. *The Accounting Review* 57 (1): 1-17.

Collins, D., E. Maydew, and I. Weiss, 1997. Change in the value-relevance of earnings and book values over the past forty years. *Journal of Accounting & Economics* 34: 43-64.

Cornett, M. M., Z. Rezaee, and H. Tehranian. 1996. An investigation of capital market reactions to pronouncements of fair value accounting. *Journal of Accounting and Economics* 22 (1): 119-154.

Covrig, V. L., M. J. DeFond, and M. Hung. 2007. Foreign mutual funds holdings, and the voluntary adoption of international accounting standards. *Journal of Accounting Research* 45 (1): 41-70.

Dechow, P., Hutton, A., Sloan, R., 1996. Economic consequences of Accounting for stock-based compensation. *Journal of Accounting Research* 34: 1-20.

Demsetz, H. and K. Lehn. 1985. The structure of corporate ownership: causes and consequences. *Journal of Political Economy* 93: 1155-1177.

Dichev, I., J. Graham, C. Harvey and S. Rajgopal. 2013. Earnings Quality: Evidence from the Field. *Journal of Accounting and Economics* 56(2-3): 1-33.

Dichev, I. D. & Tang V.W. 2008. Matching and the changing properties of accounting earnings over the last 40 years. *The Accounting Review* 83 (6), 1425-1460.

Donelson, D. C., Jennings, R., & J. McInnis. 2011. Changes over time in the revenue-expense relation: Accounting or economics? *The Accounting Review* 86 (3), 945-974.

DiPiazza, S. A., D. McDonnell, W. G. Parrett, D. Rake, F. Samyn, and J. S. Turley. 2006. Global capital markets and the global economy: A vision from the CEOs of the international audit networks. Available at http://www.cybsoc.org/CEO_Vision.pdf (last accessed on March 25, 2014).

Dittmar, A.K., and J. Mahrt-Smith. 2007. Corporate governance and the value of cash holdings. *Journal of Financial Economics* 83,599–634.

- Dyckman, T. R., and A. J. Smith. 1979. Financial accounting and reporting by oil and gas producing companies. *Journal of Accounting and Economics* 1: 45-75.
- Dye, R. A., and S. Sunder. 2001. Why not allow FASB and IASB standards to compete in the U.S.? *Accounting Horizons* 15 (3): 257-271.
- El-Gazzar, S. M. 1993. Stock market effects of the closeness to debt covenant restrictions resulting from capitalization of leases. *The Accounting Review* 68 (2): 258-272.
- Ely, K., and G. Waymire, 1999. Accounting standard-setting organizations and earnings relevance: Longitudinal evidence from NYSE common stock, 1927-93. *Journal of Accounting Research* 37: 293-318.
- Espahbodi, H., P. Espahbodi, and H. Tehranian. 1995. Equity price reaction to the pronouncements related to accounting for income taxes. *The Accounting Review* 70: 655-668.
- Espahbodi, H., P. Espahbodi, Z. Rezaee, and H. Tehranian. 2002. Stock price reaction and the value relevance of recognition versus disclosure: The case of stock-based compensation. *Journal of Accounting and Economics* 33 (3): 343-373.
- Fama, E., and K. French. 1997. Industry cost of equity. *Journal of Financial Economics* 43: 153-193.
- Faulkender, M., and R. Wang. 2006. Corporate financial policy and the value of cash. *The Journal of Finance* 61 (4): 1957-1990.
- Fields, T. D., T. Z. Lys, and L. Vincent. 2001. Empirical research on accounting choice. *Journal of Accounting and Economics* 31 (1-3): 255-307.
- Francis, J., R. LaFond, P. M. Olsson, and K. Schipper. 2004. Cost of equity and earnings attributes. *The Accounting Review* 79 (4): 967-1010.
- Francis J., and K. Schipper, 1999. Have financial statements lost their relevance? *Journal of Accounting Research* 37: 319-352.
- Francis, J. R., and X. Martin. 2010. Acquisition profitability and timely loss recognition. *Journal of Accounting and Economics* 49 (1-2): 161-178.
- Frankel, R., and X. Li. 2004. Characteristics of a firm's information environment and the information asymmetry between insiders and outsiders. *Journal of Accounting and Economics* 37: 229-259.
- Fried, A. N. 2013. An event study analysis of Statement of Financial Accounting Standards no. 158. *Accounting and Finance Research* 2 (2): 45-58.
- Friend, I., and E. Herman. 1964. The S.E.C. through a glass darkly. *The Journal of Business* 37: 382-405.

- Garlicki, T. D., F. J. Fabozzi, and R. Fonfeder. 1987. The impact of earnings under FASB 52 on equity returns. *Financial Management* 16 (3): 36-44.
- Givoly, D., and C. Hayn. 2000. The changing time-series properties of earnings, cash flows and accruals: Has financial reporting become more conservative? *Journal of Accounting and Economics* 29: 287-320.
- Givoly, D., C. Hayn, and S. Katz. 2013. The changing relevance of accounting numbers to debt holders over time. Working paper, Columbia University.
- Glaeser, E. L. and A. Shleifer. 2003. The rise of the regulatory state. *Journal of Economic Literature* 41: 401-425.
- Gopalakrishnan, V., and T. F. Sugrue. 1992. Economic consequences of pension policy deliberations (SFAS no. 87): An empirical assessment of debt-covenant hypothesis. *Journal of Business, Finance and Accounting* 19 (5): 751-775.
- Graham, J. R., C. R. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3-73.
- Greenstone, M., P. Oyer, and A. Vissing-Jorgensen. 2006. Mandated disclosure, stock returns, and the 1964 Securities Acts amendments. *Quarterly Journal of Economics* 121 (2): 399-460.
- Grossman, S. J. and O.D. Hart. 1980. Disclosure laws and takeover bids. *The Journal of Finance* 35 (2): 323-334.
- Houmes, R., B. Boylan, and I. Chira. 2011. The valuation effect of Accounting Standard 158 on firms with high and low financial risk. *Atlantic Economic Journal* 39 (1): 47-57.
- Hubbard, R. G. 1998. Capital-market imperfections and investment. *Journal of Economic Literature* 36: 193-225.
- Hughes, J. S., and W. E. Ricks. 1984. Accounting for retail land sales: Analysis of a mandated change. *Journal of Accounting and Economics* 6: 101-132.
- Hughes, J. S., and W. E. Ricks. 1986. Market reactions to mandated interest capitalization. *Contemporary Accounting Research* 2 (2): 222-241.
- Institute of Chartered Accountants in England and Wales [ICAEW]. 2006. Measurement in Financial Reporting. Available at <http://www.icaew.com/~media/Files/Technical/Financial-reporting/Information%20for%20better%20markets/IFBM/Measurement%20in%20financial%20reporting.pdf> (last accessed on March 10, 2014).
- Institute of Chartered Accountants in England and Wales [ICAEW]. 2013. Financial Reporting Disclosures: Market and Regulatory Failures. Available at <http://www.icaew.com/~media/Files/Technical/Financial-reporting/Information%20for%20better%20markets/frd-final.pdf> (last accessed on July 30, 2014).

- Ke, B., S. Huddart, and K. Petroni. 2003. What insiders know about future earnings and how they use it: Evidence from insider trades. *Journal of Accounting and Economics* 35 (3): 315-346.
- Khurana, I. 1991. Security market effects associated with SFAS no. 94 concerning consolidation policy. *The Accounting Review* 66 (3): 611-621.
- Kim, D. H., and D. A. Ziebart. 1991. An investigation of the price and trading reactions to the issuance of SFAS no. 52. *Journal of Accounting, Auditing and Finance* 6 (1): 35-47.
- Klein, R. W., and V. S. Bawa. 1976. The effect of estimation risk on optimal portfolio choice. *Journal of Financial Economics* 3 (3): 215-231.
- Klein, R. W., and V. S. Bawa. 1977. The effect of limited information and estimation risk on optimal portfolio diversification. *Journal of Financial Economics* 5 (1): 89-111.
- Kothari, S.P., K. Ramanna, and D. Skinner. 2010. Implications for GAAP from an analysis of positive research in accounting. *Journal of Accounting and Economics* 50: 246-286.
- Kumar, P, S. M. Sorescu, R. D. Boehme, and B. R. Danielsen. 2008. Estimation risk, information, and the conditional CAPM: Theory and evidence. *Review of Financial Studies* 21 (3): 1037-1075.
- LaFond, R., and S. Roychowdhury. 2008. Managerial ownership and accounting conservatism. *Journal of Accounting Research* 46 (1): 101-135.
- LaFond, R., and R. L. Watts. 2008. The information role of conservatism. *The Accounting Review* 83 (2): 447-478.
- Lambert, R. 2010. Discussion of "Implications for GAAP from an analysis of positive research in accounting." *Journal of Accounting and Economics* 50 (2-3): 287-295.
- Lara, J. M. G., B. G. Osma, and F. Penalva. 2009. Accounting conservatism and corporate governance. *Review of Accounting Studies* 14 (1): 161-201.
- Larcker, D. F. and L. Revsine. 1983. The oil and gas accounting controversy: An analysis of economic consequences. *The Accounting Review* 58 (4): 706-732.
- Leuz, C. 2003. IAS versus U.S. GAAP: Information asymmetry-based evidence from Germany's new market. *Journal of Accounting Research* 41 (3): 445-472.
- Lev, B. 1979. The impact of accounting regulation on the stock market: The case of oil and gas companies. *The Accounting Review* 54 (3): 485-503.
- Lev, B. 2003. Remarks on the measurement, valuation, and the reporting of intangible assets. *Economic Policy Review* 9: 17-22. Federal Reserve Bank of New York.

- Levy, H. 1978. Equilibrium in an imperfect market: A constraint on the number of securities in the portfolio. *American Economic Review* 68: 643-658.
- Li, H., M. Pincus, S. Rego. 2008. Market reaction to events surrounding the Sarbanes-Oxley Act of 2002 and earnings management. *Journal of Law and Economics* 51 (1): 111-134.
- Lys, T. 1984. Mandated accounting changes and debt covenants: The case of oil and gas accounting. *Journal of Accounting and Economics* 6 (1): 39-65.
- Martin, L. A., C. Subramaniam, and R. L. Vigeland. 2000. The effects of SFAS no. 90 on nuclear electric utilities. *Accounting Horizons* 14 (2): 191-209.
- Masulis, R. W., C. Wang, and F. Xie. 2009. Agency problems at dual-class companies. *The Journal of Finance* 64 (4): 1697-1727.
- Mian, S. L., and C. W. Smith, Jr. 1990. Incentives associated with changes in consolidated reporting requirements. *Journal of Accounting and Economics* 13: 249-266.
- Mittelstaedt, H. F., W. D. Nichols, and P. R. Regier. 1995. SFAS No. 106 and benefit reduction in employer-sponsored retiree health care plans. *The Accounting Review* 70 (4): 535-556.
- Mohd, E. 2005. Accounting for software development costs and information asymmetry. *The Accounting Review* 80 (4): 1211-1231.
- Moyer, S., and L. Kelly. 1995. Accounting for loan fees: Stock market reactions to policy-making deliberations. *Journal of Accounting and Public Policy* 14: 87-113.
- Mueller, K. A., E. J. Riedl, and T. Sellhorn. 2011. Mandatory fair value accounting and information asymmetry: Evidence from the European real estate industry. *Management Science* 57 (6): 1138-1153.
- Noreen, E., and J. Sepe. 1981. Market reactions to accounting policy deliberations: The inflation accounting case. *The Accounting Review* 56 (2): 253-269.
- Opler, T., L. Pinkowitz, R. Stulz, and R. Williamson, 1999. The determinants and implications of corporate holdings of liquid assets. *Journal of Financial Economics* 52,3-46.
- Pinkowitz, L., R. Stulz, and R. Williamson. 2006. Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis. *The Journal of Finance* 61 (6): 2725-2751.
- Ramesh, K., and R. Thiagarajan, 1996. Inter-temporal decline in earnings response bondholders' perspective. *Journal of Accounting and Economics* 35 (2): 227-254.
- Rajgopal, S. and M. Venkatachalam. 2011. Financial reporting quality and idiosyncratic volatility over the last four decades. *Journal of Accounting and Economics* 51(1-2): 1-20.

- Reither, C. L. 1998. What are the best and the worst accounting standards? *Accounting Horizons* 12 (3): 283-292.
- Rezaee, Z. 1990. Capital market reactions to accounting policy deliberations: An empirical study of accounting for foreign currency translation 1974-1982. *Journal of Business Finance and Accounting* 17 (5): 635-648.
- Rezaee, Z., P. Malone, and G. Homaifar. 1992. An assessment of event study methodologies using daily stock returns. *Journal of Applied Business Research* 8 (1): 78-82.
- Rezaee, Z., R. P. Malone, and R. F. Briner. 1993. Capital market response to SFAS no. 8 and 52. *Journal of Accounting, Auditing and Finance* 8 (3): 313-329.
- Richardson, S. 2006. Over-investment of free cash flow. *Review of Accounting Studies* 11: 159-189.
- Robbins, S., and W. Werner. 1964. Professor Stigler revisited. *Journal of Business* 37 (4): 406-413.
- Salatka, W. K. 1989. The impact of SFAS no. 8 on equity prices of early and late adopting firms. *Journal of Accounting and Economics* 11 (1): 35-69.
- Schipper, K. 2010. How can we measure the costs and benefits of changes in financial reporting standards? *Accounting and Business Research* 40(3): 309-327.
- Shehata, M. 1991. Self-selection bias and the economic consequences of accounting regulation: An application of two-stage switching regression to SFAS No. 2. *The Accounting Review* 66 (4): 768-787.
- Shleifer, A., and D. Wolfenzon. 2002. Investor protection and equity markets. *Journal of Financial Economics* 66 (1): 3-27.
- Shroff, N. 2014. Corporate investment and changes in GAAP. Working paper, MIT.
- Smith, A. J. 1981. The SEC "Reversal" of FASB Statement No. 19: An investigation of information effects. *Journal of Accounting Research* 19: 174-211.
- Srivastava, A. 2014. Why have measures of earnings quality changed over time? *Journal of Accounting and Economics* 57:196-217.
- Stigler, G. J. 1964. Public regulation of the securities markets. *Journal of Business* 37 (2): 117-142.
- Sunder, S. 2002. Regulatory Competition for Low Cost-of-Capital Accounting Rules. *Journal of Accounting and Public Policy* 21: 147-149.
- Thapa, S. B., and C. L. Brown. 2005. The impact of FAS 133, accounting for derivatives and hedging, on financial institution returns. *Journal of Commercial Banking and Finance* 4: 91-97.

Vigeland, R. 1981. The market reaction to statement of Financial Accounting Standard no. 2. *The Accounting Review* 56 (2): 309-325.

Wasley, C. E., and T. J. Linsmeier. 1992. A further examination of the economic consequences of SFAS No. 2. *Journal of Accounting Research* 30 (1): 156-164.

Watts, R. L. and J. L. Zimmerman. 1986. Positive accounting theory. Prentice-Hall, Englewood Cliffs, N.J.

Winston, C. 2006. Government Failure versus Market Failure. Microeconomics Policy Research and Government Performance. A E I - B r o o k i n g s J o i n t C e n t e r f o r R e g u l a t o r y S t u d i e s.

Zeff, S. A. 2005. The evolution of U.S. GAAP. *The CPA Journal* 75 (1).

Ziebart, D. A., and D. H. Kim. 1987. An examination of the market reactions associated with SFAS no. 8 and SFAS no. 52. *The Accounting Review* 62 (2): 343-357.

Zhang, I.X. 2007. Economic consequences of the Sarbanes-Oxley Act of 2002. *Journal of Accounting and Economics* 44 (1-2): 74-115.

Appendix A: Related event studies

This appendix lists the studies investigating the economic consequences of various FASB standards that we use to identify the relevant event dates for each standard. We restrict our search to studies published in peer-reviewed accounting and finance journals. We exclude studies that do use entire weeks and/or months as events, as opposed to specific days, to avoid the influence of possible confounding events on our inferences.

SFAS 2 – Accounting for research and development costs

1. Vigeland, R. 1981. The market reaction to statement of Financial Accounting Standard no. 2. *The Accounting Review* 56 (2): 309-325.
2. Wasley, C. E., and T. J. Linsmeier. 1992. A further examination of the economic consequences of SFAS no. 2. *Journal of Accounting Research* 30 (1): 156-164.

SFAS 8 – Accounting for the translation of foreign currency transactions and foreign currency financial statements;

SFAS 52 – Foreign currency translations

3. Cheng, T. T. 1986. Standard setting and security returns: A time series analysis of FAS no. 8 events. *Contemporary Accounting Research* 3 (1): 226-241.
4. Ziebart, D. A., and D. H. Kim. 1987. An examination of the market reactions associated with SFAS no. 8 and SFAS no. 52. *The Accounting Review* 62 (2): 343-357.
5. Garlicki, T. D., F. J. Fabozzi, and R. Fonfeder. 1987. The impact of earnings under FASB 52 on equity returns. *Financial Management* 16 (3): 36-44.
6. Salatka, W. K. 1989. The impact of SFAS no. 8 on equity prices of early and late adopting firms. *Journal of Accounting and Economics* 11 (1): 35-69.
7. Rezaee, Z. 1990. Capital market reactions to accounting policy deliberations: An empirical study of accounting for foreign currency translation 1974-1982. *Journal of Business Finance and Accounting* 17 (5): 635-648.
8. Kim, D. H., and D. A. Ziebart. 1991. An investigation of the price and trading reactions to the issuance of SFAS no. 52. *Journal of Accounting, Auditing and Finance* 6 (1): 35-47.
9. Rezaee, Z., P. Malone, and G. Homaifar. 1992. An assessment of event study methodologies using daily stock returns. *Journal of Applied Business Research* 8 (1): 78-82
10. Rezaee, Z., R. P. Malone, and R. F. Briner. 1993. Capital market response to SFAS no. 8 and 52. *Journal of Accounting, Auditing and Finance* 8 (3): 313-329.

SFAS 13 – Accounting for leases

11. El-Gazzar, S. M. 1993. Stock market effects of the closeness to debt covenant restrictions resulting from capitalization of leases. *The Accounting Review* 68 (2): 258-272.

SFAS 19 – Financial accounting and reporting by oil and gas companies

12. Lev, B. 1979. The impact of accounting regulation on the stock market: The case of oil and gas companies. *The Accounting Review* 54 (3): 485-503.
13. Collins, D. W., and W. T. Dent. 1979. The proposed elimination of full cost accounting in the extractive petroleum industry: An empirical assessment of the market consequences. *Journal of Accounting and Economics* 1: 3-44.
14. Dyckman, T. R., and A. J. Smith. 1979. Financial accounting and reporting by oil and

- gas producing companies. *Journal of Accounting and Economics* 1: 45-75.
15. Collins, D. W., M. S. Rozeff, and D. S. Dhaliwal. 1981. The economic determinants of the market reaction to proposed mandatory accounting changes in the oil and gas industry. *Journal of Accounting and Economics* 3: 37-71.
 16. Larcker, D. F. and L. Revsine. 1983. The oil and gas accounting controversy: An analysis of economic consequences. *The Accounting Review* 58 (4): 706-732.
 17. Lys, T. 1984. Mandated accounting changes and debt covenants: The case of oil and gas accounting. *Journal of Accounting and Economics* 6 (1): 39-65.
 18. Smith, A. J. 1981. The SEC "Reversal" of FASB Statement No. 19: An investigation of information effects. *Journal of Accounting Research* 19: 174-211.
 19. Collins, D. W., M. S. Rozeff, and W. K. Salatka. 1982. The SEC's rejection of SFAS no. 19: Tests of market price reversal. *The Accounting Review* 57 (1): 1-17.

SFAS 33- Financial reporting and changing prices

20. Noreen, E., and J. Sepe. 1981. Market reactions to accounting policy deliberations: The inflation accounting case. *The Accounting Review* 56 (2): 253-269.

SFAS 34 – Capitalization of interest costs

21. Hughes, J. S., and W. E. Ricks. 1986. Market reactions to mandated interest capitalization. *Contemporary Accounting Research* 2 (2): 222-241.

SFAS 66 – Accounting for retail land sales

22. Hughes, J. S., and W. E. Ricks. 1984. Accounting for retail land sales: Analysis of a mandated change. *Journal of Accounting and Economics* 6: 101-132.

SFAS 87 – Employer's accounting for pensions

23. Gopalakrishnan, V., and T. F. Sugrue. 1992. Economic consequences of pension policy deliberations (SFAS no. 87): An empirical assessment of debt-covenant hypothesis. *Journal of Business, Finance and Accounting* 19 (5): 751-775.

SFAS 90 – Regulated enterprises: Accounting for abandonments and disallowances of plant costs

24. Martin, L. A., C. Subramaniam, and R. L. Vigeland. 2000. The effects of SFAS no. 90 on nuclear electric utilities. *Accounting Horizons* 14 (2): 191-209.

SFAS 91 – Accounting for nonrefundable fees and costs associated with originating or acquiring loans and initial direct costs of leases

25. Moyer, S., and L. Kelly. 1995. Accounting for loan fees: Stock market reactions to policy-making deliberations. *Journal of Accounting and Public Policy* 14: 87-113.

SFAS 94 – Consolidation of all majority-owned subsidiaries

26. Mian, S. L., and C. W. Smith, Jr. 1990. Incentives associated with changes in consolidated reporting requirements. *Journal of Accounting and Economics* 13: 249-266.
27. Khurana, I. 1991. Security market effects associated with SFAS no. 94 concerning consolidation policy. *The Accounting Review* 66 (3): 611-621.
28. Beatty, R. P., and J. R. M. Hand. 1992. The causes and effects of mandated accounting standards: SFAS no. 94 as a test of the level playing field theory. *Journal of Accounting, Auditing, and Finance* 7 (4): 509-530.

SFAS 96 – Accounting for income taxes; and

SFAS 109 – Accounting for income taxes

29. Espahbodi, H., P. Espahbodi, and H. Tehranian. 1995. Equity price reaction to the pronouncements related to accounting for income taxes. *The Accounting Review* 70 (4): 655-668.

SFAS 105 – Disclosure of information about financial instruments with off-balance sheet risk and financial instruments with concentration of credit risk;

SFAS 107 – Disclosures about fair value of financial instruments; and

SFAS 115 – Accounting for certain investments in debt and equity securities

30. Cornett, M. M., Z. Rezaee, and H. Tehranian. 1996. An investigation of capital market reactions to pronouncements on fair value accounting. *Journal of Accounting and Economics* 22: 119-154.
31. Beatty, A., S. Chamberlain, and J. Magliolo. 1996. An empirical analysis of the economic implications of fair value accounting for investment securities. *Journal of Accounting and Economics* 22: 43-77.

SFAS 106 – Employer’s accounting for postretirement benefits other than pensions

32. Espahbodi, H., E. Strock, and H. Tehranian. 1991. Impact on equity prices of pronouncements related to nonpension postretirement benefits. *Journal of Accounting and Economics* 14: 323-346.
33. Khurana, I. K., and M. L. Loudder. 1994. The economic consequences of SFAS 106 in rate-regulated enterprises. *The Accounting Review* 69 (2): 364-380.
34. D’Souza, J. 2000. The stock price impact of mandated accounting charges on rate-regulated firms. *Review of Accounting Studies* 5: 235-257.

SFAS 123 – Share based payments

35. Dechow, P. M., A. P. Hutton, and R. G. Sloan. 1996. Economic consequences of accounting for stock-based compensation. *Journal of Accounting Research* 34 (1): 1-20.
36. Espahbodi, H., P. Espahbodi, Z. Rezaee, and H. Tehranian. 2002. Stock price reaction and value relevance of recognition versus disclosure: The case of stock-based compensation. *Journal of Accounting and Economics* 33: 343-373.

SFAS 133 – Accounting for derivative instruments and hedging activities

37. Thapa, S. B., and C. L. Brown. 2005. The impact of FAS 133, accounting for derivatives and hedging, on financial institution returns. *Journal of Commercial Banking and Finance* 4: 91-97.

SFAS 158 – Employer’s accounting for defined benefit pension and other postretirement plans

38. Houmes, R., B. Boylan, and I. Chira. 2011. The valuation effect of Accounting Standard 158 on firms with high and low financial risk. *Atlantic Economic Journal* 39 (1): 47-57.
39. Fried, A. N. 2013. An event study analysis of Statement of Financial Accounting Standards no. 158. *Accounting and Finance Research* 2 (2): 45-58.

Appendix B: Variable definitions

This table provides the details of the estimation of the various variables.

Variable	Definition
(1) Dependent variables	
Cumulative abnormal returns (CAR)	$R_{it} - R_{ft} = \alpha_{it} + \beta_{1i}(R_{mt} - R_{ft}) + \beta_{2i}SMB_t + \beta_{3i}HML_t + \beta_{4i}UMD_t + \varepsilon_{it} ,$ <p>where R_{it} is daily return for firm i, R_{ft} is daily risk-free rate, and R_{mt} is daily market return at date t. SMB_t is the the Fama-French size factor, HML_t is the Fama-French book-to-market factors, and UMD_t is the momentum factor at date t.</p> <p>To calculate daily abnormal returns in year t, we first exclude all the days in the 3-day window around each event date in year $t-1$, and use the rest of the days to estimate the parameters in equation (1) for each firm. Next, we use the estimated parameters of year $t-1$ to calculate daily abnormal returns (α_{it}) for all the days in the 3-day window around each event date in year t. Finally, we aggregate the abnormal returns over the event window to compute the cumulative abnormal returns (CAR). When the likelihood of passing the standard increases on date t, we multiply CAR by +1; when the likelihood decreases, we multiply it by -1.</p> <p>In particular, we calculate the 3-day CARs for each event date in the process of issuing a standard. To calculate the CARs for each standard, we eliminate all the duplicate days across all 3-day windows for that standard. To calculate the CARs for all standards combined, we eliminate all the duplicate days across all 3-day windows for all the standards (sometimes the event days for two separate standards have overlapping). 3-day UCAR is the average 3-day CAR for all unaffected firms on each event date.</p>
(2) Independent variables	
Firm-level conservatism	$X/P_{it} = \gamma_{0it} + \gamma_{1it}Neg_{it} + \gamma_{2it}Ret_{it} + \gamma_{3it}Neg_{it} \times Ret_{it} + \varepsilon_{it} ,$ <p>where X/P_{it} is income before extraordinary items (Compustat: IB) deflated by market value of equity (Compustat: PRCC_F \times CSHO) at the end of year t, Ret_{it} is the 12-month compounded stock returns ending on the earnings announcement date (press release) of year t, Neg_{it} equals to one if $Ret_{it} < 0$ and zero otherwise.</p> <p>Following Francis et al. (2004), we estimate equation (2) using 10-year rolling window for each firm-year. Observations without 10-year history of data are excluded. The conservatism measure for each firm-year is calculated as $(\gamma_{3it} + \gamma_{2it})/ \gamma_{2it}$.</p>
Firm-level value of cash	$FV/NA_{it} = \delta_{0it} + \delta_{1it}Cash/NA_{it} + \delta_{2it}EBIT/NA_{it} + \delta_{3it}R\&D/NA_{it} + \delta_{4it}DIV/NA_{it} + \delta_{5it}INT/NA_{it} + v_{it} ,$ <p>where FV_{it} is firm value that equals market value of equity plus total liabilities (Compustat: PRCC_F \times CSHO + LT), NA_{it} is net assets that equal total assets minus cash holdings (Compustat: AT - CHE), $Cash_{it}$ is cash holdings (Compustat: CHE), $EBIT_{it}$ is earnings before extraordinary items (Compustat: EBIT), $R\&D_{it}$ is research and development expenditures (Compustat: XRD; if missing, it is set to zero), DIV_{it} is total dividends on common shares (Compustat: DVC), and INT_{it} is interest expenses (Compustat: XINT).</p> <p>Equation (3) is a parsimonious version of the second equation in Pinkowitz et al. (2006). We estimate equation (4) use 10-year rolling window for each firm-year, and require 10-year continuous data. δ_{1it} measures the value of per dollar cash holdings for each firm-year.</p>

Leverage	Firm leverage ratio that equals total debt over total assets (Compustat: (DLTT + DLC)/AT).
Analyst following dummy (DAF)	A dummy variable that equals one if the firm has at least one analyst forecast for annual EPS in year t , and zero otherwise.
Analyst forecast dispersion	Standard deviation of analyst forecasts for current year annual EPS scaled by average forecast of current annual EPS (I/B/E/S detailed file). This variable is replaced with zero when we are unable to estimate the dispersion of analyst forecasts. We require at least two annual EPS forecasts to compute the variable.
Over-investment/under-investment	<p>We estimate a firm's deviation from the expected level of investment per Biddle et al. (2009) and Chen et al. (2011).</p> $Invest_{it} = \alpha_0 + \alpha_1 Neg_{it-1} + \alpha_2 SaleGrowth_{it-1} + \alpha_3 Neg_{it-1} \times SaleGrowth_{it-1} + \epsilon_{it}$ <p>where $Invest_{it}$ is the sum of new investment in machinery, equipment, vehicles, land, buildings, and research and development expenditures, less the sale of fixed assets, and scaled by total assets for firm i and year t. $SaleGrowth_{it}$ is the annual sales growth rate for firm i in year $t-1$. The indicator variable Neg_{it-1} takes the value of one for negative sales growth, and zero otherwise.</p> <p>The model is estimated for each Fama-French 49 industry (except the financial industry) j and year t with at least 20 observations. The residual value $\hat{\epsilon}_{it}$ represents deviation from the expected level of investment for firm i and year t. We sort $\hat{\epsilon}_{it}$ into quartiles for each industry-year. Over-investment (under-investment) is an indicator variable that equals one if the residual is in the top (bottom) quartile in a given year, and zero otherwise.</p>
Beta and its estimation error	<p>Pre- and post-event date betas and estimation errors are calculated using the CAPM following Kumar et al. (2008).</p> $r_{it} = \alpha_i + \beta_i r_{mt} + e_{it}$ <p>where r_{it} is the stock return for firm i in week t and r_{mt} is the weekly market return. Two independent OLS regressions are estimated for each firm: (i) for the 26-week period before (-26, -1), and (ii) for the 26-week period after each event date (+1, +26). The weekly firm and market returns are computed as the buy-and-hold returns after excluding all 3-day windows of any other FASB event dates in the period. We require at least 2 trading days for each week and at least 14 weeks in the 26-week estimation period.</p> <p>$\Delta\beta$ is the first difference of β_i, that is, β_{post} minus β_{pre}. The estimation error (σ_β^2) is the standard error of β in the regression. $\Delta\sigma_\beta^2$ is the first difference of σ_β^2 that is $\sigma_{\beta, post}^2$ minus $\sigma_{\beta, pre}^2$. To calculate $\Delta\beta$ ($\Delta\sigma_\beta^2$) for each firm-standard, we use β_{pre} ($\sigma_{\beta, pre}^2$) before the first event date and β_{post} ($\sigma_{\beta, post}^2$) after the last event date for firm i and standard j.</p>

Table 1: FASB standards

This table lists the different FASB standards and the number of event dates pertaining to each standard examined in the paper. The event dates are derived from published studies examining the economic consequences of these standards and are listed in Appendix A. ^a We examine SFAS 105, 107 and 115 as a group because they were an outcome of FASB's project on fair value and deliberations related to all three standards often occurred on the same day. ^b ASR 253, issued by the SEC, reversed FASB's decision to eliminate full cost accounting for oil and gas firms as proposed under SFAS 19. Event days on which the likelihood that accounting proposed under ASR 253 will become effective increased are coded to reflect an increase in the probability of reversal of SFAS 19.

Accounting standard	Content	Period	Number of event dates
SFAS 2	Accounting for research and development costs	1973/12/31 - 1975/01/01	6
SFAS 8	Accounting for the translation of foreign currency transactions and foreign currency financial statements	1972/06/30 - 1979/01/31	32
SFAS 52	Accounting for the translation of foreign currency transactions and foreign currency financial statements	1980/04/01 - 1981/12/08	12
SFAS 13	Accounting for leases	1974/06/10 - 1976/12/03	7
SFAS 19 and ASR 253 ^b	Financial accounting and reporting by oil and gas companies	1977/07/15 - 1978/08/30	8
SFAS 33	Financial reporting and changing prices- Significant events pertaining to inflation accounting policy changes	1974/01/18 - 1979/01/11	9
SFAS 34	Capitalization of interest cost	1974/06/21 - 1979/12/10	14
SFAS 66	Accounting for retail land sales	1970/02/02 - 1973/01/10	10
SFAS 87	Employer's accounting for pensions	1981/02/19 - 1985/03/22	8
SFAS 90	Regulated enterprises: Accounting for abandonments and disallowances of plant costs	1986/05/28 - 1986/12/31	3
SFAS 91	Accounting for nonrefundable fees and costs associated with originating or acquiring loans and initial direct costs of loans	1983/09/21 - 1986/12/31	52
SFAS 94	Consolidation of all majority owned subsidiaries	1982/02/03 - 1987/11/02	8
SFAS 96	Accounting for income taxes	1986/09/03	1
SFAS 109	Accounting for income taxes	1990/10/02 & 1991/06/06	2
SFAS 105, 107, and 115 ^a	Fair value accounting	1989/07/21 - 1993/05/28	38
SFAS 106	Employers' accounting for postretirement benefits other than pensions	1984/07/05 - 1990/12/19	11
SFAS 123	Accounting for stock-based compensation	1992/01/22 - 1995/10/23	13
SFAS 133	Accounting for derivative instruments and hedging activities	1996/06/20 - 1999/06/15	9
SFAS 158	Employer's accounting for defined benefit pension and other postretirement plans	2005/06/15 - 2006/09/30	6

Table 2: Identification of affected firms

This table lists the criteria used to identify affected firms for the various FASB standards studied in the paper.

Accounting standard	Criteria to select affected firms
SFAS 2	Ex-post R&D expenditures to total equity (Compustat: XRD/(CEQ + TXDITC)) is above market median in year 1975.
SFAS 8	Absolute value of cumulative translation adjustment (Compustat: RECTA) to total equity is above market median (market median is zero; using year 1982)
SFAS 52	Absolute value of cumulative translation adjustment (Compustat: RECTA) to total equity is above market median (market median is zero; using year 1982)
SFAS 13	Lease expenses/rental expense (Compustat: XRENT) to total equity is above market median in year t.
SFAS 19 and ASR 253	Net PP&E (Compustat: PPENT) is above the median value in the Oil & gas industry (Fama-French 49 industry: 30) in year t.
SFAS 33	Absolute value of CPI beta is above market median. I use data in year 1969 - 1973 to estimate CPI beta. $Ret_{it} = \alpha_{CPI,i} + \beta_{CPI,i} \Delta CPI_t + \omega_{it}$, where Ret_{it} is firm i 's monthly stock return, and ΔCPI_t is the change in consumer price index in month t . We estimate the regression using the monthly data at the firm level over the period 01/1969 - 12/1973, because event dates of SFAS 33 start in January, 1974. We require at least 30 observations for estimating each regression.
SFAS 34	Ex-post interest capitalized (Compustat: INTC) to total equity is above market median in year 1980.
SFAS 66	The ratio of balance sheet accruals to average total assets (Compustat: AT) is below the median value in the real estate industry (Fama-French 49 industry: 47) in year t.
SFAS 87	Pension and retirement expense (Compustat: XPR) to total equity is above market median in year t.
SFAS 90	The book-to-market ratio (Compustat: (CEQ + TXDITC)/PRCC_F × CSHO) is above the median value in the utilities industry (Fama-French 49 industry: 31) in year t.
SFAS 91	The ratio of net loans to total assets (Compustat: LNTAL/AT) is above the median value in the banking industry (Fama-French 49 industry: 45) in year t.
SFAS 94	Minority interest on balance sheet (Compustat: MIB) to total equity above market median (market median is zero) in year t.
SFAS 96	The absolute value of the ratio of deferred taxes (Compustat: TXDB) to total assets is above market median in year t.
SFAS 105, 107, and 115	The highest quartile of total assets (Compustat: AT) in the banking industry (Fama-French 49 industry: 45) in year t.
SFAS 106	Pension and retirement expense (Compustat: XPR) to total equity is above market median in year t.
SFAS 109	The absolute value of the ratio of deferred taxes (Compustat: TXDB) to total assets is above market median in year t.
SFAS 123	The ratio of common stock reserved for conversion stock option to total common stock outstanding (Compustat: CSHRSO/CSHO) is above market median in year t.
SFAS 133	The highest quartile of total assets (Compustat: AT) in the banking industry (Fama-French 49 industry: 45) in year t.
SFAS 158	Distance between the pension funded status and the balance sheet reported amount (Compustat: PBPRO - PPLAO) to total assets is above market median in year t.

Table 3: Cumulative abnormal returns surrounding event dates for each of the FASB standards

This table reports the average cumulative abnormal return (CAR) for the affected and the unaffected firms on the event dates pertaining to the various FASB standards. The difference in the CAR between the affected and unaffected firms is reported under the column CAR difference. The details of estimating CAR are provided in Appendix B. T-statistics in bold represent significance at 10% level or less based on two-sided p-values. ^aMean CAR is the arithmetic mean of the average CARs for all the standards reported above. The t-statistic associated with the Mean CAR is estimated as the square root of 19 multiplied by the mean of the average CARs and scaled by the associated standard deviation.

Standards issued by FASB	Affected firms			Unaffected firms			CAR difference	
	N	CAR	t-stat.	N	CAR	t-stat.	CAR	t-stat.
SFAS 2	988	-2.096	-3.01	985	3.596	4.95	-5.692	-5.65
SFAS 8	536	1.809	1.65	1,554	1.161	1.46	0.648	0.48
SFAS 13	1,891	0.134	0.50	1,984	-0.025	-0.11	0.159	0.46
SFAS 19 and ASR 253	103	-7.537	-5.86	104	-4.508	-2.10	-3.029	-1.21
SFAS 33	2,404	0.402	1.37	2,511	0.021	0.09	0.381	1.02
SFAS 34	1,006	0.154	0.29	2,556	0.818	2.07	-0.664	-1.01
SFAS 52	558	-0.223	-0.41	1,739	-1.179	-2.67	0.956	1.37
SFAS 66	23	-0.213	-0.10	28	2.171	0.78	-2.384	-0.67
SFAS 87	1,988	0.120	0.60	2,190	0.205	0.99	-0.085	-0.30
SFAS 90	98	0.908	2.46	98	1.169	2.46	-0.261	-0.43
SFAS 91	61	-3.108	-1.67	56	-0.002	0.00	-3.105	-1.24
SFAS 94	1,156	0.792	2.43	6,355	1.212	7.12	-0.420	-1.14
SFAS 96	2,447	-0.093	-0.95	2,230	-0.612	-4.15	0.518	2.93
SFAS 105, 107, and 115	79	-14.138	-3.11	264	1.711	0.79	-15.849	-3.15
SFAS 106	2,959	-0.084	-0.41	3,249	-0.015	-0.07	-0.069	-0.23
SFAS 109	2,722	-0.044	-0.32	2,747	0.265	1.44	-0.309	-1.35
SFAS 123	4,345	0.315	0.99	4,415	1.293	4.55	-0.978	-2.29
SFAS 133	240	0.099	0.17	732	1.065	2.69	-0.967	-1.37
SFAS 158	1,008	0.862	3.22	1,012	1.355	5.62	-0.493	-1.37
Mean CAR ^a	1,295	-1.155	-1.35	1,832	0.511	1.37	-1.665	-1.91

Table 4: Change in estimation risk surrounding event dates for each of the FASB standards

This table reports the change in beta and estimation risk following the promulgation of the various FASB standards for the affected and unaffected firms. The difference in the change in estimation risk for the affected and unaffected firms is reported under the column Diff-in-Diff. Details on the estimation of Beta and the estimation error of beta are provided in Appendix B. T-statistics in bold represent significance at 10% level or less based on two-sided p-values.

Standards issued by FASB	Affected firms	Freq.	Beta (β)						Estimation error of beta (σ_β^2)					
			After	Before	Change (Δ)	<i>t-stat.</i>	Diff. in Diff.	<i>t-stat.</i>	After	Before	Change (Δ)	<i>t-stat.</i>	Diff. in Diff.	<i>t-stat.</i>
SFAS 2	Yes	980	0.901	1.203	-0.302	-11.13	-0.135	-3.60	0.552	0.417	0.135	20.39	-0.007	-0.66
	No	976	0.837	1.004	-0.167	-6.43			0.546	0.404	0.142	17.72		
SFAS 8	Yes	535	1.037	1.128	-0.092	-2.04	-0.067	-1.20	0.626	0.701	-0.075	-5.48	-0.091	-5.18
	No	1,527	0.940	0.965	-0.024	-0.73			0.823	0.808	0.016	1.45		
SFAS 13	Yes	1,884	0.750	0.961	-0.211	-7.80	-0.027	-0.78	0.781	0.647	0.134	15.45	0.013	1.13
	No	1,977	0.742	0.926	-0.184	-8.30			0.672	0.551	0.121	15.77		
SFAS 19 and ASR 253	Yes	101	1.217	1.130	0.088	1.00	-0.415	-2.64	0.358	0.514	-0.156	-7.73	0.228	5.35
	No	102	1.328	0.826	0.502	3.86			0.566	0.949	-0.384	-10.25		
SFAS 33	Yes	2,366	0.875	1.363	-0.488	-19.60	-0.309	-9.74	0.865	0.618	0.246	30.32	-0.004	-0.41
	No	2,482	0.681	0.860	-0.178	-9.06			0.689	0.439	0.251	34.61		
SFAS 34	Yes	1,003	1.045	0.991	0.054	2.03	-0.126	-3.78	0.417	0.521	-0.104	-14.79	0.025	2.66
	No	2,549	1.050	0.870	0.180	9.08			0.527	0.655	-0.129	-20.92		
SFAS 52	Yes	558	0.906	1.115	-0.210	-7.00	0.140	3.80	0.453	0.353	0.100	12.45	0.006	0.56
	No	1,736	0.856	1.205	-0.350	-16.26			0.600	0.506	0.094	13.94		
SFAS 66	Yes	20	0.893	1.604	-0.711	-4.73	-0.457	-1.67	0.628	0.649	-0.021	-0.20	0.012	0.09
	No	26	1.270	1.525	-0.255	-1.12			0.667	0.701	-0.034	-0.41		
SFAS 87	Yes	1,971	0.721	0.736	-0.015	-0.66	0.071	2.11	0.627	0.467	0.159	21.86	-0.032	-2.94
	No	2,137	0.694	0.780	-0.086	-3.39			0.743	0.552	0.192	23.19		
SFAS 90	Yes	98	0.700	0.500	0.200	4.17	-0.016	-0.23	0.328	0.317	0.011	0.77	0.015	0.70
	No	95	0.609	0.392	0.217	4.23			0.323	0.327	-0.004	-0.24		
SFAS 91	Yes	61	0.815	0.609	0.206	2.73	-0.123	-1.10	0.404	0.369	0.034	1.67	0.043	1.59
	No	56	0.852	0.523	0.329	3.95			0.348	0.357	-0.009	-0.50		
SFAS 94	Yes	1,153	0.745	0.877	-0.132	-4.43	0.021	0.65	0.572	0.510	0.062	6.26	-0.005	-0.48
	No	6,270	0.676	0.829	-0.153	-10.77			0.658	0.591	0.067	13.03		
SFAS 96	Yes	2,348	0.802	0.700	0.102	5.29	-0.036	-1.01	0.612	0.479	0.134	22.24	-0.067	-5.54
	No	2,106	0.743	0.606	0.137	4.61			0.952	0.751	0.201	19.04		
SFAS 105, 107, and 115	Yes	79	1.175	0.919	0.256	2.26	-0.243	-1.62	0.853	0.419	0.434	6.44	-0.036	-0.42
	No	262	0.950	0.451	0.499	5.06			1.194	0.725	0.469	9.40		
SFAS 106	Yes	2,917	0.668	0.812	-0.144	-7.39	0.017	0.62	0.687	0.570	0.117	13.87	0.004	0.36
	No	3,185	0.606	0.767	-0.161	-7.95			0.771	0.659	0.112	12.18		
SFAS 109	Yes	2,692	0.538	0.878	-0.340	-12.90	0.039	0.82	0.842	0.558	0.284	32.85	-0.202	-11.58
	No	2,667	0.370	0.750	-0.379	-9.58			1.371	0.885	0.487	32.09		
SFAS 123	Yes	4,272	0.670	0.806	-0.136	-4.07	0.060	1.32	1.509	1.158	0.351	21.58	-0.004	-0.19
	No	4,343	0.492	0.687	-0.196	-6.25			1.360	1.005	0.355	22.33		
SFAS 133	Yes	237	0.749	0.680	0.069	1.73	-0.035	-0.74	0.326	0.374	-0.048	-3.78	0.033	2.05
	No	726	0.329	0.225	0.104	4.12			0.390	0.471	-0.081	-8.09		
SFAS 158	Yes	987	1.051	1.208	-0.157	-5.47	-0.024	-0.64	0.482	0.503	-0.021	-2.84	0.026	2.49
	No	1,004	0.933	1.065	-0.132	-5.24			0.442	0.488	-0.047	-6.19		

Table 5: Cross-sectional analysis*Panel A. Descriptive statistics*

This table reports the descriptive statistics for the sample of affected firms. Details on the estimation of variables are provided in Appendix B.

Variable	N	Mean	Std. Dev.	P5	Q1	Median	Q3	P95
3-day CAR	140,436	0.025	5.238	-8.035	-2.387	-0.158	2.125	8.806
3-day UCAR ¹⁹	249	0.030	0.803	-0.765	-0.215	0.016	0.320	0.865
CAR_DIFF	140,436	-0.023	5.238	-8.092	-2.452	-0.192	2.095	8.754
Conservatism	21,494	3.285	24.124	-14.108	-0.735	1.000	3.480	27.364
Cash value	22,301	1.844	5.883	-6.562	-0.290	1.342	3.600	11.537
Leverage	47,375	0.257	0.186	0.000	0.108	0.239	0.374	0.604
Over-investment	10,878	0.227	0.419	0.000	0.000	0.000	0.000	1.000
Under-investment	10,878	0.226	0.418	0.000	0.000	0.000	0.000	1.000
DAF	28,321	0.671	0.470	0.000	0.000	1.000	1.000	1.000
Dispersion	27,516	0.353	0.805	0.000	0.000	0.219	0.368	1.111
$\Delta\beta$	136,742	-0.052	1.351	-2.114	-0.633	-0.039	0.541	1.963
$\Delta\sigma_{\beta}^2$	136,742	0.107	0.482	-0.463	-0.104	0.044	0.230	0.873

¹⁹ For each event date, we calculate the average 3-day CAR for all unaffected firms (249 observations of UCAR in Panel A of Table 5). CAR_DIFF on each event date equals 3-day CAR of affected firms minus UCAR.

Table 5: Cross sectional analysis

Panel B: Cross-sectional regressions

This table reports the results of cross-sectional regressions where the dependent variable is the difference between the 3-day CAR of the affected and unaffected firms surrounding all the event dates for the standards that we examine. All regressions include industry- and year-fixed effects. Details on the estimation of variables are provided in Appendix B. The standard errors are clustered at the firm level and the t-statistics are reported in parentheses. *, **, *** represent significance at 10%, 5%, and 1% levels based on two-sided p-values.

	Predicted sign	Dependent Variables = CAR_DIFF						
Conserv	(-)	-0.00 (-0.53)						0.00 (0.17)
Cash Value	(-)		-0.00 (-0.54)					-0.07 (0.64)
Leverage	(-)			0.06 (0.58)				-0.86*** (-2.34)
Over-Invest	(-)				0.07 (0.83)			0.09 (0.71)
Under-Invest	(-)				0.06 (0.65)			0.16 (1.16)
DAF	(-)					-0.14** (-2.56)		-0.15 (-1.19)
DAF*Dispersion	(+)					0.01 (0.27)		0.08 (0.92)
$\Delta\beta$							-0.04** (-2.17)	-0.02 (-0.41)
$\Delta\sigma_p^2$	(-)						-0.25*** (-4.63)	-0.19 (-1.36)
Industry FE		Included	Included	Included	Included	Included	Included	Included
Year FE		Included	Included	Included	Included	Included	Included	Included
N		52,994	50,250	116,158	87,619	74,805	113,141	10,552
Adjusted R²		0.003	0.005	0.004	0.003	0.002	0.003	0.002

Table 6: Cross-sectional analysis of standard by standard

Panel A. Table highlighting data filters for regressions reported in panel B to follow

The table below shows which variables dropped out when estimating a regression for each standard, reported later in panel B, Table 6.

Standards issued by FASB	1	2	3	4		5		6	
	Conserv	Cash Value	Leverage	Over- Invest	Under- Invest	DAF	DAF*Disper	$\Delta\beta$	$\Delta\sigma_{\beta}^2$
SFAS 2				No obs.	No obs.	No obs.	No obs.		
SFAS 13						No obs.	No obs.		
SFAS 19 and ASR 253						No obs.	No obs.		
SFAS 33						No obs.	No obs.		
SFAS 34						No obs.	No obs.		
SFAS 66	No obs.	No obs.		No obs.	No obs.	No obs.	No obs.		
SFAS 87									
SFAS 90				No obs.	No obs.				
SFAS 91				N/A*	N/A*				
SFAS 94									
SFAS 105, 107, and 115				N/A*	N/A*				
SFAS 106									
SFAS 123									
SFAS 133				N/A*	N/A*				
SFAS 158						No obs.	No obs.		
SFAS 8						No obs.	No obs.		
SFAS 52									
SFAS 96									
SFAS 109									

*we eliminate the banking industry when calculating over- and under-investments.

Table 6: Cross-sectional analysis of standard by standard

Panel B: Cross-sectional regressions

This table reports the results of six regressions where the dependent variable is the difference between the 3-day CAR of the affected and unaffected firms surrounding the event dates and the independent variables comprise the variables included in each column. All regressions include industry- and year-fixed effects. Details on the estimation of variables are provided in Appendix B. The standard errors are clustered at the firm level and the t-statistics are reported in parentheses. *, **, *** represent significance at 10%, 5%, and 1% levels based on two-sided p-values. Data filters circumscribing the data used to estimate regressions for each standard are reported in panel A, Table 6.

	1	2	3	4		5		6	
	Conserv (-)	Cash Value (-)	Leverage (-)	Over-Invest (-)	Under-Invest (-)	DAF (-)	DAF*Dispersion (+)	$\Delta\beta$	$\Delta\sigma_{\beta}^2$ (-)
SFAS 2	0.005 (0.58)	-0.035* (-1.75)	2.130** (2.48)	No obs.	No obs.	No Obs.	No Obs.	0.206 (1.26)	-1.126* (-1.93)
SFAS 8	-0.004 (-1.39)	0.008 (1.29)	-0.061 (-0.19)	-1.099** (-2.18)	-1.138 (-1.58)	No obs.	No Obs.	-0.26 (-0.37)	-0.582* (-1.88)
SFAS 13	-0.012 (-1.29)	-0.006 (-0.42)	0.306 (0.93)	No Obs.	No obs.	No Obs.	No Obs.	0.060 (1.02)	-0.607*** (-2.70)
SFAS 19 and ASR 253	-0.009 (-1.18)	-0.015 (-0.84)	-0.973 (-0.94)	-2.826 (-1.43)	2.829 (1.00)	No Obs.	No Obs.	0.424* (1.91)	2.733** (2.43)
SFAS 33	0.001 (0.17)	-0.004 (-0.38)	0.775** (2.53)	0.841 (1.39)	0.720 (1.08)	No obs.	No obs.	0.013 (0.23)	0.139 (0.71)
SFAS 34	0.002 (0.54)	-0.004 (-0.48)	0.291 (0.94)	0.064 (0.15)	-0.989 (-1.54)	No Obs.	No Obs.	-0.163** (-2.32)	-0.359 (-1.36)
SFAS 52	0.004 (0.98)	-0.003 (-0.46)	-0.849*** (-2.65)	0.020 (0.10)	-0.126 (-0.42)	No Obs.	No Obs.	0.015 (0.20)	-0.308 (-1.07)
SFAS 66	No Obs.	No Obs.	2.293 (1.12)	No Obs.	No Obs.	No Obs.	No Obs.	-0.001 (-0.00)	-2.143 (-1.24)
SFAS 87	-0.000 (-0.05)	-0.020** (-2.57)	-0.115 (-0.42)	0.057 (0.33)	-0.269 (-1.43)	0.224* (1.67)	0.059 (0.55)	-0.071 (-1.53)	0.132 (0.69)
SFAS 90	0.001 (0.15)	0.002 (0.05)	1.684 (1.14)	No Obs.	No Obs.	0.355 (1.12)	-1.249*** (-3.78)	-0.336 (-1.16)	-0.563 (-0.51)
SFAS 91	-0.003** (-2.11)	-0.461 (-1.12)	-1.042 (-1.63)	N/A	N/A	-0.051 (-0.37)	-0.006 (-0.05)	0.064 (0.59)	0.044 (0.18)
SFAS 94	-0.001 (-0.26)	0.018 (0.80)	0.315 (0.67)	0.294 (0.77)	-0.159 (-0.39)	-0.051 (-0.28)	0.025 (0.28)	-0.058 (-0.59)	0.461 (1.34)
SFAS 96	-0.005 (-1.08)	-0.033 (-1.22)	0.471 (0.70)	0.386 (0.85)	0.156 (0.30)	0.825*** (3.54)	-0.086 (-0.55)	-0.074 (-0.56)	-0.815* (-1.78)
SFAS 105, 107, and 1115	0.001 (0.23)	-0.111 (-0.16)	0.989* (1.80)	N/A	N/A	-0.265 (-0.75)	-0.001 (-0.01)	-0.177 (-0.93)	-0.658 (-0.89)
SFAS 106	-0.000 (-0.11)	-0.001 (-0.07)	-0.226 (-0.99)	-0.224 (-1.40)	0.087 (0.52)	-0.117 (-1.35)	0.023 (0.36)	0.053 (1.06)	-0.088 (-0.57)
SFAS 109	-0.002 (-0.43)	0.005 (0.26)	-1.454*** (2.98)	-0.022 (-0.06)	-0.261 (-0.69)	0.296 (1.43)	-0.065 (-0.41)	-0.278*** (-3.09)	-0.803*** (-2.64)
SFAS 123	0.002 (0.80)	-0.001 (-0.07)	-0.252 (-1.07)	0.158 (1.02)	0.312* (1.70)	-0.316*** (-3.22)	0.036 (0.75)	-0.042* (-1.91)	-0.286*** (-4.00)
SFAS 133	-0.001 (-0.47)	-0.093 (-0.56)	-0.943** (-2.03)	N/A	N/A	0.448 (1.03)	-0.306 (-0.43)	0.212 (1.28)	-0.173 (-0.23)
SFAS 158	0.001 (0.34)	-0.001 (-0.12)	-0.620 (-1.70)	0.246 (0.84)	-0.518* (-1.92)	-0.484*** (-3.05)	-0.012 (-0.12)	-0.016 (-0.25)	-0.280 (-1.09)