Do Changes in Financial Reporting Standards Alter Capital Allocations? An Industry-Focused Analysis

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Abstract

This study examines whether the introduction of industry-specific standards, introduced by the FASB between 1975 and 2011, is associated with greater capital flows to firms in affected industries. Employing a staggered difference-in-differences design, we predict and find an, on average, increase in firms' capital growth in years following the introduction of the relevant industry accounting standard. We also find evidence that this finding is at least partly attributable to the introduction of such standards being associated with an increase in financial statement comparability and financial reporting transparency. Additional findings show that capital flows primarily to firms revealing stronger prospects (growth opportunities) after the introduction of industry-specific standards. We also find that real investment increases following the introduction of industry-specific standards, but the growth in investment does not occur before the growth in capital that firms presumably require to finance such investment opportunities.

Key words: Capital flows; Industry-specific standards; Comparability; Transparency

JEL codes: G14, G21, G28, M41, M48

Data Availability: Data are available from the public sources cited in the text.

I. INTRODUCTION

The Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) both state that the objective of financial statements is to improve decision-making by existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. The boards further state that this objective can be met by providing investors with information that improves the transparency of firms' financial reporting and thereby better enables investors to compare the economic prospects of firms (FASB 2018, para. OB2-OB3). The question of whether changes in financial accounting standards improve capital market participants' ability to use financial reporting when making their capital allocation decisions is largely unexplored. To address this question, we test whether implementation of industry-specific standards are associated with greater capital growth (i.e., changes in a firm's long-term debt and equity capital) for firms in affected industries.

We focus on how changes in industry-specific accounting standards affect capital growth rather than changes in accounting standards that generally affect firms in most industries for three reasons. First, disentangling the effects on capital growth of the introduction of standards from other factors is less challenging when those standards apply to specific industries. This is because focusing on industry-specific standards allows us to create a control group of firms in unaffected industries. Second, examining industry standards has the advantage that the introduction dates for standards apply to particular industries at different points in time, which makes it easier to separate the effects of the standards from other macroeconomic factors. Consequently, because industry-specific standards apply to particular industries at different points in time, the economic effects on a particular industry can be better isolated, thereby increasing the power of tests for the standards' effects on capital growth. Third, examining the

economic effects of industry-specific standards has the potential to inform the accounting policy debate on rules- versus principles-based standards, because industry-specific standards tend to be more rules-based than general standards.

A rationale frequently articulated by accounting standard setters for the introduction of industry-specific standards is to aid financial market participants' decision making by increasing financial statement transparency and comparability for firms within a given industry (see Appendix I for examples of basis for conclusions provided in the standards). An expected direct benefit of such improvements in financial reporting is an increase in the willingness of financial markets to provide capital to firms in the affected industry. Hence, we begin our analysis by first examining whether the introduction of industry-specific standards results in an increase in financial statement comparability and reporting transparency. We do this by estimating regressions in which the key explanatory variable is an indicator variable that denotes fiscal years in which the industry-specific standard is effective. We identify industry-specific accounting standards introduced by the FASB between 1975 and 2011 and the affected industries based on Khan et al. (2018). We test for changes in comparability by examining whether the explanatory power of industry-averaged accounting amounts for firm-specific stock prices, stock returns, and subsequent cash flows from operations are higher after the implementation of industry-specific standards. We test for changes in transparency by investigating whether the introduction of industry-specific accounting standards is associated with an increase in stock liquidity. Findings indicate that both financial statement comparability and stock liquidity increase after the implementation of industry-specific standards.

We next test our primary research question, i.e., whether the introduction of an industry-specific accounting standard leads to an increase in capital growth for firms within affected

industries. As with the comparability and financial reporting transparency tests, the key explanatory variable is an indicator variable that denotes fiscal years in which the industry-specific standard is effective. We measure capital growth as the year-to-year change in firm's long-term debt and equity capital, and test whether firms in affected industries experience greater capital growth following implementation of an industry-specific standard. Based on a sample of 153,137 U.S. non-financial firms, compared to firms in unaffected industries and to firms in affected industries in the years prior to implementation of the standard, firms in an affected industry enjoy an increase of approximately 3.5% in capital growth, on average, after the implementation of the industry-specific standard.

Our fixed effects and control variables allow us to interpret this result as an incremental effect of industry-specific accounting standards on capital growth beyond other factors such as sales growth, firm profitability, or other capital needs. We also conduct a variety of tests that support the validity of the parallel trends assumption underlying our primary estimation. Findings from these tests show an increase in capital growth for firms in affected industries immediately after but not before implementation of the relevant standard. Furthermore, additional tests reveal that both debt and equity capital growth increase following implementation of the industry standards.

We estimate a series of specifications in which we permit our indicator variable to vary depending on whether a standard relates to a codification of existing AICPA industry guidance, whether a standard is one of the early industry standards issued by the FASB, and whether a standard is an initial or subsequent standard for a particular industry. As expected, we find that codification of existing AICPA guidance is associated with no significant change in capital growth, which suggests that such standards provide no new information to capital providers.

Even though it is possible that the early industry standards were more informative to capital providers, findings indicate that both early and later standards are associated with significant increases in capital growth for firms in affected industries. Lastly, we find that both initial and subsequent industry standards are associated with significant increases in capital growth.

The aforementioned tests do not distinguish firms within an industry in the sense that all firms are assumed to be identically affected in terms of capital growth following implementation of the industry standard. Although in a poorer information environment, capital providers might nonetheless be able to distinguish to a degree which firms represent better investment opportunities, it is possible that implementation of an industry standard enables them to identify better which firms within an industry are more deserving of receiving funds. We test this conjecture in two ways. First, we partition firms in an industry into "good" and "bad" investment opportunities based on Tobin's Q and sales growth revealed in the years following implementation of the industry standard. Findings show that growth in capital following implementation of the industry standard obtains only for the firms we identify *ex post* as good investment opportunities. Second, we identify firms as being relatively capital constrained prior to implementation of the industry standard and provide evidence that the probability of staying in the relatively capital constrained group is significantly smaller after implementation of the standard.

Our findings are the first to show that firms in specific industries and their capital providers benefit from the introduction of industry-specific standards. As such, our findings are relevant to accounting standard setters and regulators, as they provide evidence that changes in financial accounting standards achieve the desired goal of enabling investors to make informed capital allocation decisions. To the extent that industry-specific standards generally are more

rules-based than standards with wider application, our findings also provide evidence that, in certain circumstances, rules-based standards can help investors make their capital allocation decisions.

Our findings also complement the literature on financial reporting and investment efficiency (e.g., Biddle and Hilary 2006, Biddle et al. 2009, Chen et al. 2011, Badertscher et al. 2013, Shroff 2017). In contrast to the prior literature, our study provides direct evidence for the link between financial reporting and capital investment by investors rather than implying that growth in a firm's real investment establishes a link between financial reporting and capital growth (Roychowdhury et al., 2019, p. 4). For example, Shroff (2017) finds that the introduction of standards, on average, increases real investment, and attributes this finding largely to managers gaining a better understanding of their own firms' investment prospects. However, Shroff (2017) leaves unresolved the question of whether, and the extent to which, investors are willing to provide capital to fund real investment growth as a result of the information provided by introduction of the new standards. In supplemental analyses we provide evidence that real investment increases following the introduction of industry-specific standards, but the growth in real investment does not occur before the growth in capital that firms presumably require to finance such investment opportunities.

The remainder of the paper is organized as follows. The next section discusses related literature and provides our predictions. Section III presents our research design, section IV describes our sample and data, and section V presents our results. Section VI provides concluding remarks.

II. INSTITUTIONAL BACKGROUND, RELATED LITERATURE AND PREDICTIONS

2.1 Institutional Background

In its Concepts Statement No. 8, when developing accounting standards, the FASB identifies comparability and understandability as two key qualitative characteristics that enhance the usefulness of financial statement information. In particular, regarding comparability, in Concepts Statement No. 8, the FASB observes:

> "Users' decisions involve choosing between alternatives, for example, selling or holding an investment, or investing in one reporting entity or another. Consequently, information about a reporting entity is more useful if it can be compared with similar information about other entities and with similar information about the same entity for another period or another date." (FASB 2018, para. QC20)

Furthermore, the FASB points out that the lack of comparability makes it difficult for financial statement users, particularly equity investors and creditors, to make financial comparisons among enterprises. This leads the FASB to conclude that a principle reason for the development of new accounting standards is to address comparability concerns arising from firms using different accounting methods for similar transactions (FASB 2018, para. QC20). Regarding understandability, the FASB states that accounting standards should result in financial statements that classify, characterize, and present information in ways that make them understandable to financial statement users (FASB 2018, para. QC30).

Although most standards issued by the FASB are intended to be applied to all firms, the FASB also issues standards that apply either specifically to firms in particular industries or address accounting comparability and transparency issues that are found predominantly in a limited number of industries. For example, SFAS 19, *Financial Accounting and Reporting by Oil and Gas Producing Companies*, which was issued in 1977, establishes standards of financial accounting and reporting for the oil and gas producing activities of a business enterprise. In its basis for conclusions, the FASB stated that existing pronouncements did not explicitly or comprehensively establish standards of financial accounting and reporting. This led to there

being considerable variation within the industry about what firms disclosed about their oil and gas producing activities, and that by issuing the standard, the resulting financial reporting practices would be more uniform across the industry (FASB 1977). Following similar reasoning, the FASB has issued standards that apply to firms in a number of industries, including mining, construction, airlines, utilities, and real estate. Appendix I presents extracts of basis for conclusion focusing on comparability and transparency from a selection of industry-specific standards.

Some of the standards issued by the FASB codify existing industry guidance issued by the AICPA. For example, SFAS 66, *Accounting for Sales of Real Estate*, adopts the specialized profit recognition principles of the existing AICPA Industry Accounting Guides, *Accounting for Profit Recognition on Sales of Real Estate and Accounting for Retail Land Sales,* and AICPA Statements of Position 75-6 and 78-4 (FASB 1982). For some industries, the FASB has introduced more than one industry-specific standard. For example, in 1988, the FASB issued SFAS 90, *Regulated Enterprises—Accounting for Abandonments and Disallowances of Plant Costs*, which addresses accounting issues that apply to firms in the utilities industry that were not dealt with in the initial standard, SFAS 71, *Accounting for the Effects of Certain Types of Regulation*, which was issued in 1984.

2.2 Related Literature and Predictions

Before an industry standard is implemented there is an equilibrium amount of capital supplied by capital providers that meets industry demand for capital. Such an equilibrium depends on the quality of information available to capital providers (Diamond and Verrecchia 1991). Other things equal, the lower is the quality of information, the greater is the information asymmetry between firms and capital providers, and the lower is the amount of capital that will

be provided at a given price. Biddle and Hilary (2006) and Biddle et al. (2009) provide evidence in support of this notion by showing that firms with higher levels of financial reporting quality—i.e., higher levels of transparency—make higher levels of real investment than those with lower quality, other things equal. The authors attribute these findings to financial reporting quality mitigating capital constraints arising from information asymmetry between the firm and external providers of capital. However, as Roychowdhury et al. (2019) notes, their findings can be attributable to multiple mechanisms, such as reduced adverse selection and moral hazard, improved managerial learning, and increased spillover effects from peers.

A distinguishing feature of our study is that, in contrast to the literature linking financial reporting and investment efficiency (e.g., Biddle and Hilary 2006, Biddle et al. 2009, Chen et al. 2011, Badertscher et al. 2013, Shroff 2017), our study seeks to provide evidence for the link between financial reporting and capital investment by investors. Such a link cannot be inferred by observing a link between financial reporting and investment efficiency. For example, Shroff (2017) finds that the introduction of standards, on average, increases real investment, and attributes this finding largely to managers gaining a better understanding of their own firms' investment prospects.[1] Shroff (2017) leaves unresolved the question of whether, and the extent to which, investors are willing to provide capital to fund real investment growth as a result of the information provided by the introduction of new standards.

Another distinguishing feature of our study is that we focus on the effects of introducing industry-specific standards rather than those that apply more generally. Doing so permits us to more easily disentangle the effects on capital growth of the introduction of standards from other

[1] As an illustration, Shroff (2017) conjectures and provides evidence that managers appear to learn about their own firms' non-pension postemployment obligations following the issuance of Statement of Financial Accounting Standards No. 106, *Employers' Accounting for Postretirement Benefits other than Pensions* (FASB, 1990).

macroeconomic factors. This, in turn, permits us to more precisely assess the timing when capital and real investment growth occur. Finding that the former occurs before the latter would be confirmatory evidence that the growth in real investment is the result of improvement in accounting enabling firms to acquire the capital they need to finance their investment opportunities. Such a finding would not rule out the possibility that the new standards enable managers to understand better their investment opportunities, but such improvements in managerial understanding likely need to be accompanied by improved understanding by outside capital providers as well for such investments to be undertaken.[2]

If accounting standard setters are correct that there are industry-specific impediments that investors face using financial statement data when making investment decisions, then introduction and implementation of an industry-specific standard that reduces such impediments should lower the information processing costs investors (and information intermediaries such as financial analysts) face. Gao et al. (2019) provides theoretical support for the notion that the adoption of common accounting standards generates both a "precision effect," i.e., transparency, and a "network effect," i.e., comparability. When firms in an industry use common standards, investors can gain a better understanding of a given firm's financial performance and more readily compare the financial statements of firms within the industry.

Hence, we make two predictions. First, implementation of an industry-specific accounting standard results in an increase in comparability for firms in the affected industry. Second, we predict that the implementation of an industry-specific accounting standard results in

[2] Our study of the effects of industry-specific standards has similar advantages in drawing inferences in comparison to the studies examining the effects of introduction of a body of standards, e.g., International Financial Reporting Standards. A widely acknowledged drawback of such studies is the difficulty of disentangling the effects of the new financial reporting system from the effects of macroeconomic and regulatory developments that were concurrent with the introduction of the new system.

an increase in transparency, which we measure as stock price liquidity. Although an increase in accounting transparency associated with implementation of such a standard is expected to reduce the information asymmetry between investors and managers, it is also likely to reduce information asymmetry among investors. This is because high quality information will be more readily available, which reduces the incentive for individual investors to engage in costly information acquisition, which manifests as an increase in stock price liquidity.

Furthermore, if these predictions are correct, i.e., that the implementation of industry-specific standards reduces information costs faced by investors, this should lead to greater capital flows to firms in affected industries. Other things equal, a reduction in information processing costs arising from either an increase in transparency or comparability (or both) should manifest in the industry supply curve of capital shifting to the right, lowering the cost of capital for firms and increasing the equilibrium amount of capital supplied. Hence, we predict that implementation of industry-specific accounting standards on average results in an increase in capital provided to firms in the affected industries. Testing this prediction is the main purpose of this study.

It is likely the case that not all firms within an industry will be equally affected by implementation of an industry-specific standard. Before introduction of the standard, investors will use available information to determine which firms are likely to make better use of capital than others. To the extent that the information environment before the standard is implemented is insufficiently rich to permit investors to distinguish reliably between firms with good and bad prospects, a partial pooling equilibrium will result. If the standard increases either comparability or transparency (or both), then investors are likely to respond by increasing capital available to the firms they now identify as stronger prospects. This can occur by introducing more capital

into the industry by directing it toward the good firms and/or by reducing the amount of capital supplied to the bad firms. Thus, we predict that following implementation of an industry-specific standard, capital growth increases for firms that investors identify *ex post* as good investments, and capital growth either decreases or is unchanged for those identified *ex post* as bad investments.

Although we predict that implementation of industry-specific standards on average results in an increase in capital growth for firms in affected industries, it is possible that not all standards have equal effects. In particular, standards that codify existing industry guidelines issued by the AICPA are likely to result in little substantive changes in financial statement information available to investors. In addition, if the standards issued early in the life of the FASB addressed reporting issues for industries that the FASB identified as requiring immediate attention, it is possible that later standards would provide less useful information to investors than earlier ones. Lastly, we test whether a subsequent industry-specific standard has an incremental effect on capital growth beyond the initial standard.

Although we predict that annual changes in capital are greater after firms in the affected industry implement a standard that affects that industry's accounting practices, the question arises as to whether we should expect both equity and debt capital providers to be affected. There is a substantial literature that suggests that debt capital providers have access to information about the firm that is not necessarily available to equity investors (Bharath et al. 2008, Beatty et al. 2009, Plumlee et al. 2015). Hence the information provided by financial statements following implementation of a new industry standard may have less of an impact on debt capital providers. However, literature also suggests that firms seek to maintain an optimal capital structure that balances the tax benefits of debt against the costs of bankruptcy posed by having fixed claims

(Hovakimian et al. 2004, Leary and Roberts 2005). To the extent that being able to raise additional equity as a result of the introduction of an industry standard enables firms also to increase their debt capacity, debt is likely to increase as well. Hence, because it is an empirical matter whether debt also increases following introduction of an industry-specific standard, we use the sum of changes in both debt and equity when conducting our tests.[3]

III. RESEARCH DESIGN

3.1 Inter-firm Comparability

The basic notion of comparability in US GAAP is that accounting amounts are comparable if, when two firms face similar economic outcomes, the firms report similar accounting amounts. Following Barth et al. (2012), we define accounting amounts as being comparable if they explain the same variation in economic outcomes. We test whether comparability within an industry is enhanced after the introduction of industry-specific standards by investigating whether the explanatory power of accounting amounts for stock prices, stock returns, and subsequent cash flows from operations is higher. To test the prediction, we adapt the approach of Barth et al. (2012) to create measures of comparability within an industry, and then test whether comparability increases within affected industries following the implementation of industry-specific standards.

To create the comparability measures, following Barth et al. (2012), for each industry-year, we regress stock price, stock return, and cash flow for each firm-year on the industry average of the relevant accounting-based explanatory variables. Each average excludes the firm-year from the industry average. Stock price is regressed on earnings and equity book value; stock

[3] As described below, we conduct additional tests to assess whether both debt and equity contribute to an increase in capital growth following implementation of new industry standards.

return on earnings and change in earnings; and operating cash flow on earnings deflated by total assets.

$$P_{it} = \beta_0 + \beta_1 AVG\_BVE_{jt} + \beta_2 AVG\_NI_{jt} + \varepsilon_{it} \quad (1a)$$

$$RETURN_{it} = \beta_0 + \beta_1 AVG\_NI_{jt} + \beta_2 AVG\_\Delta NI_{jt} + \varepsilon_{it} \quad (1b)$$

$$CF_{it+1} = \beta_0 + \beta_1 AVG\_NI/AVG\_TA_{jt} + \varepsilon_{it} \quad (1c)$$

P_{it} is the stock price at the end of the fiscal year-end, and *i* and *t* refer to firm and year. $RETURN_{it}$ is the cumulative percentage change in stock price over the fiscal year, adjusted for dividends and stock splits. CF_{it+1} is operating cash flows of the next fiscal year. The other variables are: AVG_NI_{jt} is the average net income per share of the other firms in the 3-digit SIC industry; AVG_BVE_{jt} is average book value of equity per share of the other firms in the 3-digit SIC industry; AVG_TA_{jt} is average total assets of the other firms in the 3-digit SIC industry, $AVG\_\Delta NI_{jt}$ is average change in net income over the year of the other firms in the 3-digit SIC industry. We estimate Equations (1a) through (1c) for each industry-year, and obtain the R^2 from each estimation, which is the measure of price, return, or cash flow comparability for a given industry-year. We require a minimum of 30 observations for each industry and year combination.

To determine whether comparability increases following the implementation of the industry-specific accounting standards, we estimate three versions of the following industry-level regression equation:

$$Comparability_{jt} = \alpha_t + \alpha_j + \gamma PostStandard_{jt} + \varepsilon_{jt}. \quad (2)$$

The dependent variable, *Comparability*, is either price, return, or cash flow comparability for industry *j* in year *t*, and α_t and α_j are year and industry fixed effects. The explanatory variable, *PostStandard*, is an indicator variable that is equal to one for fiscal years in which the industry-

specific standard is effective, and zero otherwise. If the introduction of an industry-specific accounting standard is associated with an increase in comparability, then γ is positive.

3.2 Liquidity

We test our prediction that the introduction of industry-specific standards reduces information asymmetry (increases stock price liquidity) by using three commonly employed proxies for information asymmetry. We estimate versions of Equation (3):[4]

$$Liquidity_{it} = \alpha_t + \alpha_i + \gamma PostStandard_{jt} + \mu Controls_{it} + \varepsilon_{it}. \quad (3)$$

Liquidity is either bid-ask spread, the Amihud (2002) illiquidity index, the fraction of zero return days, or a composite measure based on the first principal component of the first three measures.[5] Because each measure is constructed such that higher values imply greater illiquidity, we predict that the *PostStandard* coefficient, γ, is negative in all estimations. *Controls* is a vector of variables prior research (Balakrishnan et al. 2014, Christensen et al. 2016) identifies as being associated with stock price liquidity: the natural logarithm of equity market capitalization, *LogMarketCap*, the natural logarithm of share turnover, *LogTurnover*, and the natural logarithm of equity volatility, *LogVolatility*. i indexes firms, j indexes industries, and t indexes fiscal years, and α_t and α_i are year and firm fixed effects.[6]

[4] For ease of exposition, we use the same notation for coefficients in equations (2) and (3) and those that follow. In all likelihood they differ.

[5] We follow Balakrishnan et al. (2014) when computing the illiquidity proxies. *Bid-Ask* is the log of the yearly average of a firm's daily bid-ask spread. We obtain daily closing bid and ask data from CRSP to calculate daily bid-ask spread as 100 × (ask − bid)/(ask + bid)/2, and exclude observations with negative spreads. *Amihud* is the log of the yearly average of a firm's daily Amihud (2002) index. We compute the Amihud (2002) index by calculating the ratio of absolute stock return to dollar volume [i.e., 10,000,000 × |return|÷ (price × volume)] for each day in the fiscal year. We compute the fraction of zero return days, *Zero*, as the fraction of trading days with zero returns in a fiscal year. Following Lesmond et al. (1999) and Goyenko et al. (2009), we use daily CRSP return and volatility data to calculate the fraction of trading days with volume > 0 and return = 0 during the fiscal year. We label the composite measure obtained from the principal component analysis, *PCA*. See Appendix III for a more detailed description of the variable calculations.

[6] Equation (3) differs from equation (2) in that the unit of analysis is at the firm level in equation (3) and at the industry level in equation (2).

This methodology controls for fixed differences between firms in industries that are affected by accounting standards and those that are not via the firm fixed effects, and controls for aggregate fluctuations via the year fixed effects (Bertrand and Mullainathan 2003). As such, Equation (3) is essentially a difference-in-differences research design that is staggered in time.

3.3 Does capital growth increase following implementation of industry-specific standards?

To test our main prediction that the introduction of a new industry-specific accounting standard on average leads to an increase in capital growth for firms in that industry, we estimate the following linear regression model given by Equation (4):

$$CapitalGrowth_{it} = \alpha_t + \alpha_i + \gamma PostStandard_{jt} + \mu Controls_{it-1} + \varepsilon_{it} \quad (4)$$

The dependent variable, *CapitalGrowth*, is the log of invested capital divided by lagged invested capital (equity and long-term debt). If the introduction of an industry-specific accounting standard is associated with an increase in capital growth, then the *PostStandard* coefficient, γ, is positive. As with Equation (3), Equation (4) is essentially a difference-in-differences research design that is staggered in time.

Controls is a vector of variables prior research identifies as being associated with changes in capital growth. The control variables include *SalesGrowth* defined as the log of sales divided by lagged sales, *Q* defined as market value of equity plus total liabilities divided by total assets, *Cash* defined as lagged cash divided by lagged total assets, *Size* defined as the log of lagged total assets, *Leverage* defined as lagged total liabilities divided by lagged total assets, and *ROA* defined as net income divided by lagged total assets. Based on prior research examining the determinants of real investment growth, we predict that *CapitalGrowth* is positively associated with *SalesGrowth* and *Q* (e.g., Biddle and Hilary 2006; Biddle et al., 2009). We make no predictions for the *Cash*, *Size*, *Leverage*, and *ROA* coefficients.

Because the difference-in-differences research design approach rests on the assumption of parallel trends in the dependent variable before and after implementation of the industry standard, we employ the procedure from Bertrand and Mullainathan (2003) in assessing the validity of this assumption. We estimate the following regression equation based on Equation (4) that replaces the *PostStandard* indicator variable with separate indicator variables, $Standard_k$, i.e., for the year before the issue year of the standard, $Standard_{-1}$, the year in which an industry standard is issued, $Standard_0$, the first year in which the standard is effective, $Standard_1$, and the years following, $Standard_2$ or $Standard_3$:

$$CapitalGrowth_{it} = \alpha_t + \alpha_i + \sum_{k=-1}^{k=2} \gamma_k \, Standard_{k,jt} + \mu Controls_{it-1} + \varepsilon_{it}, \quad (5a)$$

$$CapitalGrowth_{it} = \alpha_t + \alpha_i + \sum_{k=-1}^{k=3} \gamma_k \, Standard_{k,jt} + \mu Controls_{it-1} + \varepsilon_{it}. \quad (5b)$$

$Standard_{2+}$ ($Standard_{3+}$) corresponds to all years from year 2 (year 3) onwards. We predict $\gamma_{-1} = \gamma_0 = 0$ if the parallel trend assumption is valid, and $\gamma_1 > 0$ and $\gamma_2 > 0$ ($\gamma_3 > 0$) if implementation of the industry standard is associated with an increase in capital growth.

3.3.1 Are all industry standards created equal?

Although we predict that implementation of industry-specific accounting standards results in an on average increase in capital growth for the affected industries, it is possible that this average could mask differences between different types of standards. For example, standards that simply codify existing industry guidance might be expected to be less informative to investors than other standards that introduce more substantive changes in industry accounting practices. If this is the case, we expect capital growth to be more pronounced for particular industries following implementation of more informative types of standards.

We examine whether this is the case by first testing whether capital growth following implementation of standards that codify existing AICPA-originated guidance is less than or equal

to that following implementation of other industry standards. To do so, we estimate the following equation:

$$CapitalGrowth_{it} = \alpha_t + \alpha_i + \gamma_1 AICPA_{jt} + \gamma_2 OtherPostStandard_{jt} + \mu Controls_{it-1} + \varepsilon_{it}, \quad (6)$$

where *PostStandard* in Equation (4) is replaced by two non-overlapping indicator variables corresponding to AICPA-originated, *AICPA*, and other industry standards, *OtherPostStandard*. If non-AICPA-guidance standards are more informative to capital providers than AICPA ones, then $\gamma_2 > \gamma_1$.

We next test whether early FASB standards were more informative to capital providers than later ones. This would be the case if early standards addressed the reporting issues for industries that the FASB identified as requiring immediate attention. We test our prediction by estimating the following equation:

$$CapitalGrowth_{it} = \alpha_t + \alpha_i + \gamma_1 EarlyPostStandard_{jt} + \gamma_2 LatePostStandard_{jt} + \mu Controls_{it-1} + \varepsilon_{it}, \quad (7)$$

where *EarlyPostStandard* and *LatePostStandard* are two non-overlapping indicator variables corresponding to the first half (i.e., SFAS 9 until SFAS 54) and second half (i.e., SFAS 66 until SFAS 167) of industry standards issued by the FASB. If early industry standards are more informative to investors than later ones, then $\gamma_1 > \gamma_2$.

Lastly, we test whether, relative to an initial standard, a subsequent standard affecting the same industry is incrementally informative to capital providers. This would be the case if the subsequent standard dealt with less substantive issues relevant to investors than the initial one. We test our prediction by estimating the following equation:

$$CapitalGrowth_{it} = \alpha_t + \alpha_i + \gamma_1 InitialPostStandard_{jt} + \gamma_2 SubsequentPostStandard_{jt} + \mu Controls_{it-1} + \varepsilon_{it}, \quad (8)$$

where *InitialPostStandard* and *SubsequentPostStandard* are indicator variables corresponding to the initial and subsequent standards (if applicable) issued by the FASB. Note that unlike Equations (6) and (7) in which the standard-related indicator variables effectively partition observations into non-overlapping sets of firm-years, the observations for which *SubsequentPostStandard* equals one are a subset of those for which *InitialPostStandard* equals one. Hence, the *SubsequentPostStandard* coefficient reflects the incremental effect of the subsequent standard on capital growth. If initial and subsequent industry standards are both informative to investors, then both γ_1 and $\gamma_2 > 0$.

3.3.2 Do industry standards help capital providers to better distinguish investment opportunities?

We use two approaches to test our prediction that following implementation of an industry-specific standard, capital growth increases for firms that investors identify *ex post* as good investments, and capital growth either decreases or is unchanged for those firms identified *ex post* as bad investments. First, we partition firms in an industry into "good" and "bad" investment opportunities based on Tobin's Q and sales growth revealed in the two years following implementation of the new standard. We estimate the following equation:

$$CapitalGrowth_{it} = \alpha_t + \alpha_i + \gamma_1 PostStandardGood_{ijt} + \gamma_2 PostStandardBad_{ijt} + \mu Controls_{it-1} + \varepsilon_{it}. \quad (9)$$

PostStandardGood (*PostStandardBad*) is an indicator variable that equals one for firm-years subsequent to implementation of an industry standard and for firms we identify as being a good (bad) investment opportunity, on average, in the first two years following implementation. We use two measures of good (bad), Tobin's Q > (or <) the industry median, and sales growth > (or <) industry median. We also use a composite measure of these two measures as given by the first

principle component. We use an *ex post*—relative to the standard implementation—measure of the quality of investment, because we predict that capital providers can better distinguish between good and bad investment opportunities based on the information revealed by the industry standard after the standard is implemented.

Second, we identify firms as being relatively capital constrained prior to implementation of the standard and test whether the probability of staying in the relatively capital constrained group is significantly smaller after implementation of the standard. Prior to implementation of the standard there may be firms that are good investment opportunities but because of information asymmetry between the firm and potential capital providers, such firms are capital constrained. If the standard reduces information asymmetry, then such firms are likely to be less capital constrained after the implementation.

To test this prediction, we borrow the two-stage regression methodology from Biddle et al. (2009). In the first stage, we regress capital growth on the non-accounting quality-based determinants of capital growth and year and firm fixed effects, i.e., Equation (4) without *PostStandard*. In the second stage, we first assign residuals from the first stage to quartiles, with those in the bottom quartile being the most capital constrained. We then estimate two linear probability regressions in which the dependent variable equals one if the residual is in the lowest quartile, and zero otherwise.[7] In the first we test whether firms in affected industries are more capital constrained in the years prior to the implementation of the industry-specific standard than are firms in other industries, and in the second we test whether firms in affected industries are less capital constrained in the years after the implementation of the industry specific standard. In

[7] To avoid incorrect inferences when using a residual as dependent variable, following Chen et al. (2018), we include in the second stage regression the same explanatory variables as in the first stage regression.

other words, we investigate whether the improvement in accounting quality relaxes the capital constraint for firms following the implementation of an industry-specific standard.

IV. SAMPLE AND DATA

We identify the introduction of industry-specific accounting standards and the affected industries based on Khan et al. (2018). These accounting standards have been introduced between 1975 and 2011. If applicable, we match the affected Fama-French 49 industries (identified by Khan et al. 2018) with 2, 3, and 4-digit SIC codes, depending on the scope of the industry-specific standard. Next, we hand-collect the effective date for each industry-specific standard, allowing us to identify the fiscal year for which the industry-specific standard is effective. In some cases, industries are affected by multiple standards separated in time. For example, the oil & gas industry was affected by SFAS 009, *Accounting for Income Taxes: Oil and Gas Producing Companies*, in 1976, and again by SFAS 019, *Financial Accounting and Reporting by Oil and Gas Producing Companies*, in 1979. In such cases, we distinguish between the initial and subsequent standards in the sequence. Appendix II presents an overview of the identified accounting standards, the affected industries, the associated SIC codes, the effective date of the standard, and the first fiscal year with December year-end that is affected by the standard.

We collect data for all U.S. publicly listed firms from Compustat between 1970 and 2017. We require that firms have sufficient data available to calculate the variables included in Equation (4). In addition, we require firms to have a December fiscal year-end to eliminate ambiguity regarding the year of standard implementation. These restrictions result in a final sample of 153,137 firm-year observations.

(Insert Table 1 about here)

Table 1, panels A and B, presents the descriptive statistics of the variables included in Equation (4), which is the primary focus of our study, and their correlations over the sample period. Panel A presents descriptive statistics for the full sample as well as for two subsamples: the samples comprising firms in industries that eventually are subject to an industry-specific standard during the sample period, i.e., the "treatment" sample, and firms in industries that are never subject to an industry-specific standard during the sample period, i.e., the "control" sample. Approximately half of the sample firm-years are eventually subject to an industry-specific standard during the sample period (mean *Standard* = 0.517), and 39 percent of the observations are affected by an industry-specific standard (mean *PostStandard* = 0.393). Panel A further indicates that the average capital growth over the period for the full sample is greater than 11 percent, while sales growth is on average in excess of 12 percent. Finally, firms' market values are approximately twice their book values, 16 percent of total assets consists of cash, total assets are financed for 54 percent by debt, and average *ROA* is negative. Descriptive statistics for the treatment and control samples do not suggest substantial differences in firm characteristics across the two groups.

Panel B indicates that both sales growth and Tobin's Q are positively correlated with capital growth, 35% and 13%, which suggests that each is a good candidate to use as a partitioning variable in our test of whether capital flows more to good investment prospects after implementation of industry-specific standards.

When estimating equations (1) through (9), all continuous variables are winsorized at the 1st and 99th percentiles.[8] We use heteroscedasticity-robust standard errors clustered at the firm

[8] We also consider alternative methods to address whether a few influential observations (Leone et al. 2019) affect our inferences. These include estimating robust regressions, excluding observations with studentized residuals greater than [+/-2], and using the raw (unwinsorized) data. Findings from these alternative estimations yield the same inferences as those based on tabulated findings.

level.[9] Appendix III provides a detailed description of how the variables we use in our study are calculated.

V. RESULTS

5.1. Industry-specific Standards and Comparability and Liquidity

(Insert Table 2 about here)

Table 2 presents findings from estimation of Equation (2), which we use to test whether comparability increases following the introduction of the industry-specific accounting standards. As predicted, the *PostStandard* coefficients for stock price and cash flow, 0.045 and 0.055, are significantly positive (*t*-statistics = 3.00 and 2.16). However, although the *PostStandard* coefficient for stock return of 0.014 is also positive, the coefficient estimate is not significant at conventional levels (*t*-statistic = 1.06).[10] Taken together, the findings in Table 2 provide some support for comparability increasing for firms within affected industries following implementation of industry-specific standards.

Table 3 presents findings from estimation of Equation (3), which we use to test whether liquidity increases following the implementation of the industry-specific accounting standards. Consistent with our predictions, the *PostStandard* coefficient is significantly negative in all estimations, which indicates that, on average, firms enjoy an increase in stock liquidity following the implementation of an industry-specific standard. Taken together, the findings from the

[9] Our inferences do not change when using two-way clustered standard errors by year as well as by firm; clustering at the industry-level (3-digit SIC); or two-way clustering by year as well as industry.

[10] As an alternative to the Barth et al. (2012) approach to measuring comparability for stock returns, we also use the De Franco et al. (2011) measure, which is based on a time-series approach. Specifically, we construct the measure by first estimating a regression of a firm's earnings on its own stock return using the most recent sixteen quarters, and then compare the fitted value of earnings based on this regression to those obtained using the regression coefficients of other firms in the firm's industry. Untabulated findings from estimation of equation (2) using the De Franco et al. (2011) approach reveal that the *PostStandard* coefficient is significantly positive (coef = 0.31, *t*-statistic = 2.46).

liquidity regressions are consistent with a decrease in information asymmetry after the introduction of industry-specific standards.

(Insert Table 3 about here)

5.2. Primary Results: Industry-specific Standards and Capital Growth

Table 4 presents findings relating to the estimation of Equation (4), including a version with no controls and a version with only sales growth as a control. The key finding is that the *PostStandard* coefficient is significantly positive in all estimations, and increases with inclusion of additional control variables. The coefficient in the final column, which includes all controls, is 0.035, which implies an increase of approximately 3.5% in capital growth, on average, over the post-period relative to the pre-period for firms in an industry after the implementation of a standard that affects their industry.[11] In addition, the coefficients relating to the primary control variables, *SalesGrowth* and *Q*, are significantly positive, which is consistent with results in prior studies showing that real investment growth is a positive function of sales growth and Tobin's Q (e.g., Biddle and Hilary 2006; Biddle et al., 2009). Even though we have no predictions regarding the other control variable coefficients, those relating to *Size* and *Cash* are significantly negative, and those relating to *Leverage*, and *ROA* are significantly positive.[12]

[11] Because we use a loglinear specification, the estimated coefficient implies an incremental increase in capital growth of 3.5%. This effect corresponds to an average incremental increase in invested capital of $66 million, relative to the mean invested capital of our sample firms. We deem this effect as economically meaningful but not too large to be implausible. For comparison, the average debt and equity capital raised by U.S. firms between 1990 and 2001 amounts to $535 million per issuance (Henderson et al. 2006), and the average capital raised by initial public offerings (IPOs) amounts to $78 million per deal (Ritter and Welch 2002). Also, our estimated treatment effect is of similar magnitude compared to that of Cho (2015). Although using a different setting and specification, Cho (2015) finds that affected firms increase their internal capital allocation to segments with higher opportunities by 3.6% after adoption of SFAS 131.

[12] We also estimated Equation (4) using two alternative specifications. First, we estimate the equation separately for each three-digit SIC industry, and tested for significance of the *PostStandard* coefficient, γ, using the standard deviation of γ across the 48 industry estimations (Fama and MacBeth, 1973). Untabulated statistics reveal the mean γ, 0.018, is significant at less than the 0.01 level (*t*-statistic = 3.76). Second, we estimate Equation (4) excluding observations relating to industries for which no industry standard was introduced during the sample period (within

(Insert Table 4 about here)

Table 5 presents findings from estimation of Equations (5a) and (5b), which are used to test for the validity of the parallel trends assumption of Equation (4). The table presents two pairs of columns for each equation corresponding to estimations in which we do and do not restrict the number of post-standard implementation years to be eight years or less. The findings in Table 5 show that there is neither a general trend nor an anticipation effect of the accounting standards. In particular, all of the $Standard_{-1}$ and $Standard_0$ coefficients are insignificantly different from zero. In contrast, all of the $Standard_1$, $Standard_2$, and $Standard_{3+}$ coefficients are significantly positive, which is not only consistent with the Table 4 finding of a significantly positive *PostStandard* coefficient, but also supports the inference that the effect of the industry-specific standard on capital growth occurs after but not before its implementation. Taken together, findings from these tests do not suggest that the parallel trends assumption is violated.

(Insert Table 5 about here)

Our finding that introduction of industry-specific standards increases comparability and liquidity as well as capital growth raises the question of whether enhanced comparability and liquidity are the source of increased capital growth. To address this question, we estimate the comparability (liquidity) regression equation (2) (equation (3)) separately for each industry-specific standard, and partitioned standards into "high" and "low" comparability (liquidity) groups based on the median *PostStandard* coefficients. We then re-estimated equation (4) replacing *PostStandard* with two variables, each constructed as the interaction of "high" and "low" comparability (liquidity) indicator variables with *PostStandard*. Untabulated findings reveal that the *PostStandard* coefficient is larger for standards associated with high increases in

treatment group estimation). Untabulated findings from these estimations reveal the same inferences as those based on Table 4 findings (coefficient $\gamma = 0.041$, *t*-statistic = 4.36).

liquidity and comparability than for standards associated with low increases, but only significantly so for liquidity. The relative difficulty in measuring comparability likely contributes to our inability to find significant differences for the cross-sectional tests with comparability as the partitioning variable. Taken together, these findings suggest that enhanced liquidity and, to a lesser extent, comparability contribute to the increased capital growth following introduction of industry-specific standards.

5.3. Are All Industry-specific Standards Created Equal?

Table 6, columns (1) through (3), presents findings from estimation of Equations (6) through (8). The findings in column (1) reveal that whereas the *AICPA* coefficient, –0.014, is insignificantly different from zero (*t*-statistic = –0.46), the *OtherPostStandard* coefficient, 0.041, is significantly positive (*t*-statistic = 5.14). The difference in the two coefficients is marginally significant (p-value = 0.07). These findings suggest that standards that simply codify existing AICPA pronouncements and guidelines have no effect on capital growth. Hence, the significant effect on capital growth documented in Table 4 is attributable to those FASB standards that provide new guidance to preparers in affected industries.

The findings in column (2) reveal that both the *EarlyPostStandard* and *LatePostStandard* coefficients are significantly positive (coefficients = 0.034 and 0.036; *t*-statistics = 2.19 and 4.02), and the two coefficients are insignificantly different from each other (p-value = 0.90). Hence, both early and later standards introduced by the FASB are associated with significant increases in capital growth for firms in affected industries.[13]

[13] We also estimated versions of Equation (4) to examine whether the complexity of particular standards affects capital growth. We measure complexity based on the length of the standard, i.e., number of words, and the number of comment letters received by the FASB during the exposure draft process. Untabulated findings reveal that the extent of complexity has no differential effect on capital growth. These findings could be attributable to two offsetting effects; whereas more complex standards could provide more information to financial statement users, they could also be more difficult for preparers to implement or for users to interpret.

(Insert Table 6 about here)

The findings in column (3) reveal that the *InitialPostStandard* coefficient, 0.030, is significantly positive (*t*-statistic = 3.61). Moreover, the findings also reveal that the *SubsequentPostStandard* coefficient, 0.027, is not only significantly positive (*t*-statistic = 3.02) but is of the same order of magnitude as the *InitialPostStandard* coefficient, which implies that the subsequent standard has an incremental effect on capital growth beyond the initial standard.

5.4 Do Industry Standards Help Capital Providers to Better Distinguish Investment Opportunities?

Table 7, columns (1) through (3), presents findings from estimation of Equation (9) using Tobin's Q, sales growth, and the first principle component of the two growth proxies to measure *PostStandardGood* and *PostStandardBad*. Findings across all specifications indicate that firms identified *ex post* as good investment opportunities have significantly higher capital growth following implementation of the standards in their industries. In particular, the *PostStandardGood* coefficients, 0.078, 0.082, and 0.098, are all significantly positive (*t*-statistics = 7.35, 7.86, and 9.69). In contrast, none of the *PostStandardBad* coefficients is significantly positive. The differences in coefficients are significant at less than the 0.001 level. These findings suggest that although there is an overall increase in capital growth in the affected industries following implementation of industry-specific standards, the increase is attributable to firms that investors are able to identify *ex post* as being good investment opportunities.

(Insert Table 7 about here)

As described in section 3, we use an alternative procedure to assess whether implementation of industry-specific standards helps investors to distinguish between good and bad investment opportunities. This procedure involves two steps, the first of which is to estimate

Equation (4) without *PostStandard*, and the second of which is to estimate a linear probability regression in which the dependent variable equals one if a residual from the first step regression is in the lowest quartile, and the explanatory variables are the same as those in Equation (4). Consistent with our predictions, untabulated findings suggest that, prior to implementation of the standard, firms from affected industries are more likely to be capital constrained (coefficient = 0.011, *t*-statistic = 2.23) than firms from unaffected industries. Moreover, the findings indicate that firms are less likely to be capital-constrained after implementation of the new accounting standard (coefficient = –0.040, *t*-statistic = –4.07). In other words, the improvement in accounting quality relaxes the capital constraint for firms following the implementation of the standard. These findings provide additional support for the Table 7 results, which suggest that implementation of industry-specific standards helps investors to distinguish between good and bad investment opportunities.

5.5 Are Industry Standards Informative to Both Equity and Debt Capital Providers?

(Insert Table 8 about here)

As noted in section 2, it is an open question as to whether there is an increase in debt capital as well as equity capital following implementation of firm-specific standards. Accordingly, we re-estimate Equation (4) replacing capital growth with two separate measures: growth in equity and growth in debt. We define equity as common stock plus capital surplus to avoid the contaminating effects of a potential mechanical relation between growth in retained earnings and the measurement effects of implementation of the industry-specific standards. We define debt as long-term debt. The findings, presented in Table 8, columns (1) and (2), reveal that both equity and debt capital growth increase following implementation of industry-specific standards. In particular, the *PostStandard* coefficients, 0.024 and 0.028, are significantly positive

(*t*-statistics = 3.10 and 2.38). For comparison purposes, the final column in Table 8 presents findings using growth in current liabilities. Consistent with current liability growth arising from operating rather than financing needs, the findings reveal that the *PostStandard* coefficient is insignificantly different from zero.

5.6 Is Real Investment affected by Industry-specific Standards?

Our final analysis is to examine whether real investment also increases following the introduction of industry-specific standards. Shroff (2017) finds that the introduction of accounting standards that apply generally to firms in all industries, on average, leads to an increase in real investment. Our purpose in re-examining this question in our context of industry-specific standards is to ascertain whether the inflow of fresh capital that results from new information to capital providers is a source of the increase in real investment. If this is the case, we expect to observe the capital growth to occur before the growth in real investment. By focusing on industry-specific standards, which affect different firms at different points in time, we can more safely make inferences about the relative timing of capital growth and real investment growth.

To test whether real investment changes following introduction of industry-specific standards, and if so, when this occurs, we estimate versions of Equations (4), (5a), and (5b) in which we replace capital growth with real investment, i.e., the sum of research and development expenses, capital expenditures, and acquisition expenditures less cash receipts from sale of property, plant, and equipment; scaled by lagged total assets (Biddle et al. 2009). We replace missing R&D values with zero.[14]

[14] Untabulated findings from estimations in which we do not replace missing R&D values with zero yield the same inferences as those based on tabulated findings. In addition, untabulated findings from estimations based on alternative definitions of real investment such as the change in non-current assets (Biddle and Hilary 2006), growth

(Insert Table 9 about here)

The findings in columns (1), (2), and (3) of Table 9 correspond to versions of Equations (4), (5a), and (5b). Column (1) reveals that the *PostStandard* coefficient, 0.011, is significantly positive (*t*-statistic = 2.09). This finding suggests that real investment increases following the introduction of industry-specific standards, and complements the findings in Shroff (2017) relating to the introduction of standards that apply more widely. The findings in columns (2) and (3) reveal no evidence of real investment growth before the introduction of industry standards, i.e., all four $Standard_{-1}$ and $Standard_0$ coefficients are insignificantly different from zero.

More relevant for our research question, the findings also reveal that real investment growth does not commence before two or three years after the introduction of industry standards. In particular, column (3) reveals that whereas the $Standard_2$ coefficient is insignificantly different from zero (coefficient = 0.002, *t*-statistic = 0.33), the $Standard_{3+}$ coefficient is significantly positive (coefficient = 0.014, *t*-statistic = 2.33). These findings contrast with the Table 5 findings that show capital growth commences earlier. In particular, Table 5 reveals that the $Standard_1$, $Standard_2$, and $Standard_{3+}$ coefficients are all significantly positive. Taken together, these findings support our prediction that capital growth resulting from introduction of industry-specific standards generally occurs before the growth in real investment.

VI. SUMMARY AND CONCLUDING REMARKS

This study examines whether changes in financial accounting standards result in an improvement in capital market participants' ability to use financial statements when making their capital allocation decisions. We address this question by examining whether implementation of industry-focused standards leads to greater capital growth for firms in these industries. We do

in non-current assets (Badertscher et al. 2013), or capital expenditures (Shroff 2017) yield the same inferences as those based on tabulated findings.

this by first examining whether the introduction of industry-specific standards results in an increase in financial statement comparability and stock price liquidity. Findings indicate that financial statement comparability and stock liquidity increase after the implementation of industry-specific standards. We next test whether capital growth increases for firms in affected industries in the years following implementation of the relevant industry accounting standard. We predict and find evidence that this is the case.

We estimate a series of specifications in which we examine whether there are differences in the effects on capital growth of standards that relates to a codification of existing AICPA industry guidance, whether a standard is one of the early industry standards issued by the FASB, and whether a standard is an initial standard or a subsequent standard. While we find that codification of existing AICPA guidance is associated with no significant change in capital growth, both early and later standards issued by the FASB as well as initial and subsequent industry-standards are associated with significant increases in capital growth for firms in affected industries. We also provide evidence that growth in capital following implementation of the new standard obtains only for the firms we identify *ex post* as good investment opportunities. Finally, we provide evidence that real investment increases following the introduction of industry-specific standards, but, as expected, the growth does not occur before the growth in capital that firms presumably required to finance such investment opportunities.

Taken together, our study's findings provide support for the proposition that the introduction of industry-specific accounting standards can improve capital allocation decision-making by equity investors and creditors.

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APPENDIX I. Examples of FASB's Basis for Conclusion for Industry-Specific Standards

SFAS 019: Financial Reporting by Oil and Gas Firms

Existing authoritative accounting pronouncements do not explicitly or comprehensively establish standards of financial accounting and reporting for those activities. Numerous alternative accounting practices are presently followed by oil and gas producing companies, and the nature and extent of the information they disclose in their financial statements about their oil and gas producing activities vary considerably from company to company. The Board is issuing this Statement to address the financial accounting and reporting issues that led to the alternative practices.

This Statement prescribes disclosures related to an enterprise's oil and gas producing activities that are considered necessary for fair presentation of the enterprise's financial position, results of operations, and changes in financial position in conformity with generally accepted accounting principles. Those disclosures are only part of the information that may be needed for investment, regulatory, or national economic planning and energy policy decisions.

SFAS 044: Accounting for Intangible Assets of Motor Carriers

The Board concluded that, although those existing pronouncements do provide some guidance with respect to the effect of passage of the Act on the costs of intangible assets of motor carriers, the provisions of paragraph 8 of Chapter 5 of ARB 43, which permits substitution or merging of intangible assets, should be modified and the other pronouncements should be clarified as discussed in paragraphs 15, 18, 19, and 21 of this Statement to ensure comparability in accounting for the impact of the Act.

SFAS 068: Research and Development Arrangements

The FASB has been asked how an enterprise should account for an arrangement through which research and development is funded by other parties. Some consider a research and development arrangement to be simply a contract to do research for others. Others believe that such arrangements are, in essence, borrowings by the enterprise. They believe the research and development expenditures should be reflected in the enterprise's financial statements as current expenses in accordance with FASB Statement No. 2, Accounting for Research and Development Costs. As a result of those different views, the reporting of similar arrangements has been inconsistent.

SFAS 086: Accounting for the Costs of Computer Software to be Sold, Leased, or Otherwise Marketed

This project was undertaken in response to requests by the Securities and Exchange Commission (SEC) and the Accounting Standards Executive Committee (AcSEC) of the American Institute of

Certified Public Accountants (AICPA) to clarify the accounting for the costs of internally developed and produced computer software to be sold, leased, or otherwise marketed. They indicated that existing accounting pronouncements contain only general guidance that has been interpreted inconsistently.

SFAS 139: Rescission of FASB Statement No. 53 and Amendments to FASB Statement Nos. 63, 89, and 121

Since the issuance of Statement 53, extensive changes have occurred in the film industry. Through 1981, the majority of a film's revenue resulted from distribution to movie theaters and free television. Since that time, numerous additional forms of exploitation (such as home video, satellite and cable television, and pay-per-view television) have come into existence, and international revenue has increased in significance. Concurrent with those changes, significant variations in the application of Statement 53 arose.

SFAS 143: Accounting for Asset Retirement Obligations

The Board decided to address the accounting and reporting for asset retirement obligations because: • Users of financial statements indicated that the diverse accounting practices that have developed for obligations associated with the retirement of tangible long-lived assets make it difficult to compare the financial position and results of operations of companies that have similar obligations but account for them differently. • Obligations that meet the definition of a liability were not being recognized when those liabilities were incurred or the recognized liability was not consistently measured or presented.

SFAS 152: Accounting for Real Estate Time-Sharing Transactions

In the years following the issuance of Statements 66 and 67, changes in the methods used by the real estate time-sharing industry to offer its products resulted in divergent accounting practices including practices associated with revenue recognition, recording of credit losses, and the treatment of selling costs. In response, the AICPA's Accounting Standards Executive Committee developed SOP 04-2, Accounting for Real Estate Time-Sharing Transactions, which applies to all real estate time-sharing transactions. This Statement amends Statements 66 and 67 in association with the issuance of SOP 04-2.

SFAS 167: Accounting for Transfers of Financial Assets (166), Amendments to FASB Interpretation No. 46(R) (167)

The objective of this Statement is to amend certain requirements of FASB Interpretation No. 46 (revised December 2003), Consolidation of Variable Interest Entities, to improve financial reporting by enterprises involved with variable interest entities and to provide more relevant and reliable information to users of financial statements.

APPENDIX II. Industry-specific Standards and their Implementation

Standard	Title	Criteria to select affected industries	SIC codes	Issue date	Effective date	Fiscal year affected	Initial standard	Subsequent standard
SFAS 009	Accounting for Income Taxes: Oil and Gas Producing Companies	Oil and Gas industry (Fama-French 49 industry: 30).	130-133; 137; 138; 290; 291; 299	16.10.1975	01.12.1975	**1976**	yes	no
SFAS 019	Financial Accounting and Reporting by Oil and Gas Producing Companies (19)	Oil and gas industry (Fama-French 49 industry: 30).	130-133; 137; 138; 290; 291; 299	30.08.1978	15.12.1978	**1979**	no	yes
SFAS 026	Profit Recognition on Sales-Type Leases of Real Estate	Lessors of real estate (SIC: 6517 and 6519).	6517, 6519	01.04.1979	01.08.1979	**1980**	yes	no
SFAS 039	Financial Reporting and Changing Prices: Specialized Assets—Mining and Oil and Gas	Oil and gas and mining firms (Fama-French 49 industry: 28 and 30)	100-103, 105-111, 140-149, 130-133, 137, 138, 290, 291, 299	02.11.1980	25.12.1980	**1981**	yes	no
SFAS 044	Accounting for Intangible Assets of Motor Carriers	SIC codes 4210, 4213, 4214, 4231, and 4712	4210, 4213, 4214, 4231, and 4712	03.12.1980	19.12.1980	**1981**	yes	no
SFAS 046	Financial Reporting and Changing Prices: Motion Picture Films	Motion picture firms (two-digit SIC code: 78).	78	26.03.1981	31.03.1981	**1981**	yes	no
SFAS 048	Revenue Recognition When Right of Return Exists	Retail firms (Fama-French 49 industry: 43).	520-523; 525-527; 530-534; 539-546; 549-557; 559-573; 575-579; 590-599	14.02.1981	15.06.1981	**1982**	yes	no
SFAS 050, 051, 053 and 063	Financial Reporting in the Record and Music Industry (50), Financial Reporting by Cable Television Companies (51), by Producers and Distributors of Motion Picture Films (53), by Broadcasters (63)	SFAS 050: licensors and licensees in the music and record industry (SIC codes 5735, 5736, 6794); SFAS 051: cable television companies (SIC code 4841); SFAS 053: firms in motion picture production (SIC code 781) and distribution (SIC code 782); and SFAS 063: Radio and television broadcasting stations (SIC code 483).	5735, 5736, 6794, 4841, 781, 782, 483	12.06.1981	15.12.1981	**1982**	yes	no
SFAS 054	Financial Reporting and Changing Prices: Investment Companies	Firms categorized as ‘‘holding and other investment offices’’ (SIC code 67)	67	27.01.1982	27.01.1982	**1982**	yes	no
SFAS 066 and 067	Accounting for Sales of Real Estate (66), Accounting for Costs and Initial Rental Operations of Real Estate Projects (67)	Real estate industry (Fama-French 49 industry: 47).	650-655; 659; 661	15.12.1981	31.12.1982	**1983**	yes	no
SFAS 068	Research and Development Arrangements	Firms in the chemicals and allied products industry (SIC code 28) and laboratory apparatus and furniture industry (SIC code 38)	28; 38	27.04.1982	31.12.1982	**1983**	yes	no
SFAS 071	Accounting for the Effects of Certain Types of Regulation	Utilities industry (Fama-French 49 industry: 31)	490-494	16.12.1982	15.12.1983	**1984**	yes	no

(continued on next page)

APPENDIX II *(continued)*

Standard	Title	Criteria to select affected industries	SIC codes	Issue date	Effective date	Fiscal year affected	Initial standard	Subsequent standard
SFAS 080	Accounting for Futures Contracts	oil and gas, precious metals, airlines, and steel (Fama-French 49 industry: 30 and SIC codes 3911, 5094, 4512, and 3312–3325)	130-133; 137; 138; 290; 291; 299; 3911; 5094; 4512; 3312–3325	24.08.1984	31.12.1984	**1985**	yes	no
SFAS 086	Accounting for the Costs of Computer Software to be Sold, Leased, or Otherwise Marketed	Business of selling prepackaged software (SIC code 7372).	7372	09.08.1985	15.12.1985	**1986**	yes	no
SFAS 090	Regulated Enterprises—Accounting for Abandonments and Disallowances of Plant Costs	Utilities industry (Fama-French 49 industry: 31).	490-494	31.12.1986	15.12.1987	**1988**	no	yes
SFAS 092	Regulated Enterprises—Accounting for Phase-In Plans	Electric services industry (SIC code 491)	491	27.08.1987	15.12.1987	**1988**	no	yes
SFAS 104	Statement of Cash Flows—Net Reporting of Certain Cash Receipts and Cash Payments and Classification of Cash Flows from Hedging Transactions	oil and gas, precious metals, airlines, and steel (Fama-French 49 industry: 30 and SIC codes 3911, 5094, 4512, and 3312–3325)	130-133; 137; 138; 290; 291; 299; 3911; 5094; 4512; 3312–3325	01.10.1989	15.06.1990	**1991**	no	yes
SFAS 139	Rescission of FASB Statement No. 53 and Amendments to FASB Statement Nos. 63, 89, and 121	Motion picture production (SIC code 781) and distribution (SIC code 782).	781; 782	16.10.2000	15.12.2000	**2001**	no	yes
SFAS 143	Accounting for Asset Retirement Obligations	Oil and gas, mining and public utilities industries (Fama-French 49 industry: 28, 30, and 31)	100-103, 105-111, 140-149, 130-133, 137, 138, 290, 291, 299, 490-499	16.08.2001	15.06.2002	**2003**	yes	yes
SFAS 152	Accounting for Real Estate Time-Sharing Transactions	Real estate industry (Fama-French 49 industry: 47).	650-655; 659; 661	16.12.2004	15.06.2005	**2006**	no	yes
SFAS 167	Accounting for Transfers of Financial Assets (166), Amendments to FASB Interpretation No. 46(R) (167)	Construction, machinery, utilities, transportation, retail industries (Fama- French 49 industry: 46, 21, 18, 43, 41, 31).	490-491; 630-633; 635-637; 639-641; 351-356; 358; 359; 150-154; 160-179; 520-523; 525-527; 530-534; 539-546; 549-557; 559-573;575-579; 590-599; 400; 401; 404; 410-415; 417; 419-421; 423; 424; 440-474; 478	12.06.2009	01.01.2010	**2011**	yes	yes

This table provides an overview of the industry-specific standards and their implementation. We identify the introduction of industry-specific accounting standards and the affected industries based on Khan et al. (2018). If applicable, we match the affected Fama-French 49 industries (identified by Khan et al. 2018) to 2-digit, 3-digit, and 4-digit SIC codes. We then collect the effective date for each industry-specific standard, allowing us to identify the fiscal year for which the industry-specific standard is effective.

APPENDIX III. Variable Definitions

Variable	Description	Data source
Dependent variable:		
CapitalGrowth	Log (invested capital$_t$ ÷ invested capital$_{t-1}$): invested capital is equity and long-term debt, Compustat item #37.	Compustat
Treatment variable:		
Standard	Indicator variable that equals one for firms from industries that are eventually subject to an industry-specific standard during the sample period, and zero otherwise.	Khan et al. (2018)
PostStandard	Indicator variable that equals one for affected industries' fiscal years after implementation of the first industry-specific standard, and zero otherwise.	Khan et al. (2018)
Control variables:		
SalesGrowth	Log (sales$_t$ ÷ sales$_{t-1}$): sales is Compustat item #12.	Compustat
Q	([common shares*price close] + total liabilities)$_t$ ÷ total assets$_t$: common shares outstanding, price close, total liabilities, and total assets are Compustat items #25, #199, #181, and #6, respectively.	Compustat
Cash	Cash$_{t-1}$ ÷ total assets$_{t-1}$: cash and total assets are Compustat items #1 and #6, respectively.	Compustat
Size	Log (total assets)$_{t-1}$: total assets is Compustat item #6.	Compustat
Leverage	Total liabilities$_{t-1}$ ÷ total assets$_{t-1}$: total liabilities and total assets are Compustat items #181 and #6, respectively.	Compustat
ROA	Net income$_t$ ÷ total assets$_{t-1}$: net income and total assets are Compustat items #172 and #6, respectively.	Compustat

Alternative dependent variables:

StockGrowth	Log ([common stock + capital surplus]$_t$ ÷ [common stock + capital surplus]$_{t-1}$): common stock and capital surplus are Compustat items #85 and #210, respectively.	Compustat
DebtGrowth	Log (long-term debt$_t$ ÷ long-term debt$_{t-1}$): long-term debt is Compustat item #9.	Compustat
CurrentGrowth	Log (current liabilities$_t$ ÷ current liabilities$_{t-1}$): current liabilities is Compustat item #5.	Compustat
Investment	(Research and development expenses (#46) + capital expenditures (#128) + acquisition expenditures (#129) − cash receipts from sale of property, plant, and equipment (#107)) ÷ total assets (#6)$_{t-1}$	Compustat

Additional treatment variables:

Standard^{-1}	Indicator variable that equals one for the fiscal year before the issue year of the industry-specific standard, and zero otherwise.	Khan et al. (2018)
Standard^{0}	Indicator variable that equals one in the issue year of the industry-specific standard, and zero otherwise.	Khan et al. (2018)
Standard^{1}	Indicator variable that equals one for the fiscal year in which the industry-specific standard is effective, and zero otherwise.	Khan et al. (2018)
Standard^{2}	Indicator variable that equals one for the second effective fiscal year, and zero otherwise.	Khan et al. (2018)
Standard^{2+}	Indicator variable that equals one for all fiscal years after the first effective year, and zero otherwise.	Khan et al. (2018)

Standard^{3+}	Indicator variable that equals one for all fiscal years after the second effective year, and zero otherwise.	Khan et al. (2018)
Partitioning variables:		
AICPA	Indicator variable that equals one for industry-specific standards that are adoptions of earlier AICPA pronouncements (i.e., SFAS 48, 50, 51, 53 and 66), and zero otherwise.	AICPA
OtherPostStandard	Indicator variable that equals one for all other (non-AICPA) industry-specific standards, and zero otherwise.	AICPA
EarlyPostStandard	Indicator variable that equals one for industry-specific standards that are issued relatively early during the sample period (i.e., until SFAS 054 in 1982), and zero otherwise.	Constructed
LatePostStandard	Indicator variable that equals one for industry-specific standards that are all other (later) events, and zero otherwise.	Constructed
InitialPostStandard	Indicator variable equal to one for affected industries' fiscal years after the implementation of the initial (first) industry-specific standard, and zero otherwise.	Constructed
SubsequentPostStandard	Indicator variable equal to one for industries after the implementation of a subsequent (second) industry-specific standard, and zero otherwise.	Constructed
PostStandardGoodQ	Indicator variable that equals one for affected firms with above industry median *Q*, on average, in the first two effective years, and zero otherwise.	Compustat
PostStandardBadQ	Indicator variable that equals one for affected firms with below industry median *Q*, on average, in the first two effective years, and zero otherwise.	Compustat
PostStandardGoodSale	Indicator variable that equals one for affected firms with above industry median *SalesGrowth*, on average, in the first two effective years, and zero otherwise.	Compustat
PostStandardBadSale	Indicator variable that equals one for affected firms with below industry median *SalesGrowth*, on average, in the first two effective years, and zero otherwise.	Compustat

PostStandardGoodSaleQ	Indicator variable that equals one for affected firms with above industry median score (based on principal component analysis of *Q* and *SalesGrowth*), on average, in the first two effective years, and zero otherwise.	Compustat
PostStandardBadSaleQ	Indicator variable that equals one for affected firms with below industry median score (based on principal component analysis of *Q* and *SalesGrowth*), on average, in the first two effective years, and zero otherwise.	Compustat
Liquidity variables:		
Bid-Ask	Log of the yearly average of a firm's daily bid-ask spread. Daily bid-ask spreads are based on closing bid and ask data (CRSP variables ask and bid) and calculated as follows: 100 × (ask − bid) ÷ [(ask + bid) ÷ 2]. Observations with crossed quotes (negative spreads) are excluded.	CRSP
Amihud	Log of the yearly average of a firm's daily Amihud index. The Amihud index uses daily CRSP data (ret, prc, and vol) and is calculated as the ratio of absolute stock return to dollar volume: [10,000,000 × |ret| ÷ (prc × vol)].	CRSP
Zero	Fraction of zero-return days of trading days with non-zero volume during a fiscal year. Daily CRSP data (ret and vol) is used to calculate the fraction of trading days with vol > 0 and ret = 0 during the fiscal year.	CRSP
PCA	Illiquidity score based on a principal component analysis of *Bid-Ask*, *Amihud*, and *Zero*.	Constructed
LogMarketCap	Log of the market capitalization (i.e., fiscal year-end share price times number of outstanding shares [prc × shr]).	CRSP
LogTurnover	Log of yearly mean of the daily turnover (i.e., dollar trading volume divided by the market value at the end of each trading day [(prc × vol) ÷ (prc × shr]).	CRSP
LogVolatility	Log of the standard deviation of daily returns during a fiscal year [sd(ret)].	CRSP
Comparability variables:		
PriceComparability	R-square value of the yearly regression of stock price [#199] on average net income per share [#172 ÷ #25] and book value of equity per share [#216 ÷ #25] of the 3-digit SIC industry (excluding the firm).	Compustat

CFOComparability	R-square value of the yearly regression of one year-ahead operating cash flows over total assets [#308 ÷ #6] on net income over total assets [#172 ÷ #6] of the 3-digit SIC industry (excluding the firm).	Compustat
ReturnComparability	R-square value of the yearly regression of annual return [$(\#199_t - \#199_{t-1}) \div \#199_{t-1}$] on net income per share [#172 ÷ #25], and average change in net income of the 3-digit SIC industry (excluding the firm)	Compustat

All continuous variables are winsorized at the 1st and 99th percentiles.

TABLE 1. Descriptive Statistics and Correlations

Panel A: Descriptive statistics

Variable	N	Mean	p10	p25	Median	p75	p90	Std. dev.
Full sample:								
Standard	153,137	0.517	0.000	0.000	1.000	1.000	1.000	0.500
PostStandard	153,137	0.393	0.000	0.000	0.000	1.000	1.000	0.488
CapitalGrowth	153,137	0.112	-0.269	-0.047	0.065	0.214	0.563	0.486
SalesGrowth	153,137	0.124	-0.224	-0.025	0.092	0.238	0.508	0.438
Q	153,137	1.984	0.792	0.969	1.281	1.988	3.542	2.303
Cash	153,137	0.158	0.006	0.021	0.069	0.205	0.469	0.207
Size	153,137	5.183	2.173	3.492	5.064	6.844	8.383	2.376
Leverage	153,137	0.541	0.176	0.328	0.515	0.671	0.832	0.364
ROA	153,137	-0.049	-0.287	-0.042	0.035	0.081	0.146	0.359
Treatment sample: firms from industries that are eventually subject to an industry-specific standard during the sample period								
CapitalGrowth	79,116	0.115	-0.269	-0.045	0.066	0.221	0.572	0.485
SalesGrowth	79,116	0.130	-0.257	-0.026	0.096	0.254	0.554	0.468
Q	79,116	2.048	0.805	0.976	1.283	2.039	3.755	2.400
Cash	79,116	0.166	0.004	0.018	0.064	0.209	0.534	0.226
Size	79,116	5.329	2.228	3.586	5.233	7.090	8.579	2.420
Leverage	79,116	0.539	0.161	0.327	0.523	0.671	0.822	0.363
ROA	79,116	-0.058	-0.325	-0.047	0.033	0.076	0.142	0.367
Control sample: firms from industries that are never subject to an industry-specific standard during the sample period								
CapitalGrowth	74,021	0.110	-0.270	-0.049	0.064	0.208	0.552	0.486
SalesGrowth	74,021	0.118	-0.193	-0.024	0.087	0.222	0.462	0.401
Q	74,021	1.916	0.777	0.961	1.278	1.942	3.327	2.190
Cash	74,021	0.150	0.007	0.024	0.075	0.203	0.416	0.183
Size	74,021	5.026	2.120	3.400	4.903	6.588	8.132	2.310
Leverage	74,021	0.544	0.191	0.330	0.507	0.672	0.844	0.363
ROA	74,021	-0.040	-0.248	-0.037	0.037	0.086	0.149	0.350

Panel B: Pearson correlations

	CapitalGrowth	*PostStandard*	*SalesGrowth*	*Cash*	*Size*	*Leverage*	*ROA*	*Q*
CapitalGrowth	1.000							
PostStandard	0.010***	1.000						
SalesGrowth	0.346***	0.015***	1.000					
Cash	0.016***	0.123***	0.096***	1.000				
Size	-0.099***	0.072***	-0.074***	-0.262***	1.000			
Leverage	0.053***	-0.013***	-0.063***	-0.244***	-0.015***	1.000		
ROA	-0.007***	-0.082***	-0.017***	-0.239***	0.332***	-0.332***	1.000	
Q	0.129***	0.095***	0.085***	0.297***	-0.296***	0.317***	-0.459***	1.000

This table reports summary statistics for 153,137 U.S. nonfinancial firm-year observations from 1970 to 2017. Panel A provides descriptive statistics, while Panel B reports Pearson correlations. The dependent variable, *CapitalGrowth,* is the log of invested capital divided by lagged invested capital (equity and long-term debt). *Standard* is an indicator variable equal to one for firms from industries that receive an industry-specific standard during the sample period, and zero otherwise. *PostStandard* is an indicator variable equal to one for fiscal years in which the industry-specific standard is effective, and zero otherwise. *SalesGrowth* is the log of sales divided by lagged sales. *Cash* is lagged cash divided by lagged total assets. *Size* is the log of lagged total assets. *Leverage* is lagged total liabilities divided by lagged total assets. *ROA* is net income divided by lagged total assets. *Q* is the market value of equity plus total liabilities, divided by total assets. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix III for a more detailed variable description. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

TABLE 2. Industry-specific Standards and Comparability

Dependent variables:		*Price Comparability*	*CFO Comparability*	*Return Comparability*
Variables	Prediction	(1)	(2)	(3)
PostStandard	+	0.045***	0.055**	0.014
		(3.00)	(2.16)	(1.06)
Constant	?	0.416*	0.658**	0.167**
		(1.85)	(2.26)	(2.08)
Year FE		Yes	Yes	Yes
Industry FE		Yes	Yes	Yes
R-squared		0.331	0.374	0.325
Observations		3,234	2,415	1,973

The table reports OLS coefficient estimates and, in parentheses, robust *t*-statistics clustered by firm. The dependent variables are the R-square values from the following industry-year regressions: For *PriceComparability*, stock price is regressed in a first stage on average net income and book value of equity of the 3-digit SIC industry (excluding the firm). For *CFOComparability*, one year-ahead operating cash flows are regressed in a first stage on average net income of the 3-digit SIC industry (excluding the firm). For *ReturnComparability,* returns are regressed in a first stage on average net income of the 3-digit SIC industry (excluding the firm) and average change in net income. *PostStandard* is an indicator variable equal to one for fiscal years in which the industry-specific standard is effective, and zero otherwise. See Appendix III for more details on the variable calculations. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).

TABLE 3. Industry-specific Standards and Liquidity

Dependent variables:		*Bid-Ask*	*Amihud*	*Zero*	*PCA*
Variables	Prediction	(1)	(2)	(3)	(4)
PostStandard	–	-0.155***	-0.086***	-0.010***	-0.106***
		(-2.97)	(-4.13)	(-3.52)	(-4.50)
LogMarketCap	–	-0.412***	-0.948***	-0.025***	-0.400***
		(-84.21)	(-181.82)	(-44.80)	(-123.18)
LogTurnover	–	-0.222***	-0.905***	-0.014***	-0.301***
		(-43.84)	(-148.09)	(-25.18)	(-84.01)
LogVolatility	+	0.459***	1.231***	-0.013***	0.304***
		(41.33)	(99.35)	(-9.01)	(38.03)
Year FE		Yes	Yes	Yes	Yes
Firm FE		Yes	Yes	Yes	Yes
R-squared		0.937	0.971	0.778	0.955
Observations		90,254	121,474	121,503	90,253

The table reports OLS coefficient estimates and, in parentheses, robust *t*-statistics clustered by firm. *Bid-Ask* is the log of the yearly average of a firm's daily bid ask spreads, excluding observations with negative spreads. *Amihud* is the log of the yearly average of a firm's daily Amihud index (i.e., ratio of absolute stock return to dollar volume). *Zero* is the fraction of zero-return days of trading days with non-zero volume during a fiscal year. *PCA* is a composite illiquidity measure based on principal component analysis. *LogMarketCap* is log of the market capitalization (i.e., fiscal year-end share price times number of outstanding shares). *LogTurnover* is the log of yearly average of the daily turnover (i.e., US$ trading volume divided by the market value at the end of each trading day). *LogVolatility* is the log of the standard deviation of daily returns during a fiscal year. *PostStandard* is an indicator variable equal to one for fiscal years in which the industry-specific standard is effective, and zero otherwise. See Appendix III for more details on the variable calculations. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).

TABLE 4. The Effect of Industry-specific Standards on Capital Growth

Dependent variable: ***CapitalGrowth***				
		Coefficient estimates (*t*-stats)		
Variables	Prediction	(1)	(2)	(3)
PostStandard	+	0.019***	0.022***	0.035***
		(3.10)	(3.98)	(4.49)
SalesGrowth	+		0.340***	0.303***
			(52.65)	(50.19)
Q	+			0.011***
				(6.54)
Cash	?			-0.286***
				(-16.52)
Size	?			-0.176***
				(-48.06)
Leverage	?			0.110***
				(9.31)
ROA	?			0.095***
				(6.80)
Year FE		Yes	Yes	Yes
Firm FE		Yes	Yes	Yes
R-squared		0.198	0.270	0.338
Observations		153,137	153,137	153,137

The table reports OLS coefficient estimates and, in parentheses, robust *t*-statistics clustered by firm. *CapitalGrowth*, is the log of invested capital divided by lagged invested capital (equity and long-term debt). *PostStandard* is an indicator variable equal to one for fiscal years in which the industry-specific standard is effective, and zero otherwise. See Table 1 for the other variable descriptions as well as Appendix III for more details on the variable calculations. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).

TABLE 5. Dynamic Effects of Industry-specific Standards on Capital Growth

Dependent variable: ***CapitalGrowth***					
Variables	Prediction	(1)	(2)	(3)	(4)
Standard^{-1}	?	0.008	0.013	0.008	0.013
		(0.79)	(1.23)	(0.77)	(1.22)
Standard^{0}	?	-0.008	-0.003	-0.009	-0.003
		(-0.81)	(-0.31)	(-0.86)	(-0.33)
Standard^{1}	+	0.031***	0.035***	0.030***	0.035***
		(2.78)	(3.21)	(2.70)	(3.18)
Standard^{2+}	+	0.036***	0.034***		
		(3.95)	(3.94)		
Standard^{2}	+			0.026**	0.032***
				(2.22)	(2.79)
Standard^{3+}	+			0.036***	0.033***
				(3.87)	(3.74)
SalesGrowth	+	0.303***	0.350***	0.303***	0.350***
		(50.18)	(43.76)	(50.18)	(43.76)
Q	+	0.011***	0.020***	0.011***	0.020***
		(6.54)	(8.68)	(6.53)	(8.68)
Cash	?	-0.286***	-0.270***	-0.286***	-0.270***
		(-16.52)	(-12.68)	(-16.52)	(-12.68)
Size	?	-0.176***	-0.173***	-0.176***	-0.173***
		(-48.04)	(-38.42)	(-48.03)	(-38.40)
Leverage	?	0.110***	0.130***	0.110***	0.130***
		(9.31)	(8.66)	(9.31)	(8.66)
ROA	?	0.095***	0.188***	0.095***	0.188***
		(6.80)	(9.69)	(6.80)	(9.69)
Year FE		Yes	Yes	Yes	Yes
Firm FE		Yes	Yes	Yes	Yes
Limited post-treatment period		No	Yes	No	Yes
R-squared		0.338	0.370	0.338	0.370
Observations		153,137	103,369	153,137	103,369

The table reports OLS coefficient estimates and, in parentheses, robust *t* -statistics clustered by firm. Following Bertrand and Mullainathan (2003), we replace the indicator variable *PostStandard* with four indicator variables: *Standard-1* is an indicator variable that equals one for the fiscal year before the issue year of the standard. *Standard0* is an indicator variable that equals one in the issue year of the standard. *Standard1* is an indicator variable that equals one for the fiscal year in which the industry-specific standard is effective. *Standard2+* is an indicator variable that equals one for all fiscal years after the first effective year. In columns (3) and (4), we extend the model by including *Standard2* equal to one for the second effective fiscal year, and *Standard3+* for all fiscal years after the second effective year. In columns (2) and (4), we limit treated firms' post-treatment period to eight years after the introduction of the industry-specific standard. See Table 1 for the other variable descriptions as well as Appendix III for more details on the variable calculations. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).

TABLE 6. Are all Industry-specific Standards Created Equal?

Dependent variable: *CapitalGrowth*				
Variables	Prediction	(1)	(2)	(3)
AICPA	?	-0.014		
		(-0.46)		
OtherPostStandard	+	0.041***		
		(5.14)		
EarlyPostStandard	+		0.034**	
			(2.19)	
LatePostStandard	+		0.036***	
			(4.02)	
InitialPostStandard	+			0.030***
				(3.61)
SubsequentPostStandard	+			0.027***
				(3.02)
F-test for differences [p-value]		[0.072]	[0.904]	[0.826]
SalesGrowth	+	0.303***	0.303***	0.303***
		(50.20)	(50.19)	(50.17)
Q	+	0.011***	0.011***	0.011***
		(6.55)	(6.53)	(6.52)
Cash	?	-0.286***	-0.286***	-0.286***
		(-16.52)	(-16.52)	(-16.52)
Size	?	-0.176***	-0.176***	-0.176***
		(-48.06)	(-48.02)	(-48.02)
Leverage	?	0.111***	0.110***	0.111***
		(9.33)	(9.32)	(9.32)
ROA	?	0.095***	0.095***	0.095***
		(6.80)	(6.80)	(6.81)
Year FE		Yes	Yes	Yes
Firm FE		Yes	Yes	Yes
R-squared		0.338	0.338	0.338
Observations		153,137	153,137	153,137

The table reports OLS coefficient estimates and, in parentheses, robust *t*-statistics clustered by firm. *AICPA* equals one for industry-specific standards that are adoptions of earlier AICPA pronouncements (i.e., SFAS 48, 50, 51, 53 and 66). *OtherPostStandard* are all other (non-AICPA) events. *EarlyPostStandard* are industry-specifc standards that are issued relatively early during the sample period (i.e., until SFAS 054 in 1982). *LatePostStandard* are all other (later) events. *InitialPostStandard* is an indicator variable equal to one for treated industries' fiscal years after the implementation of the initial (first) industry-specific standard, and zero otherwise. *SubsequentPostStandard* is an indicator variable equal to one for industries after the implementation of a subsequent (second) industry-specific standard, and zero otherwise. See Table 1 for the other variable descriptions as well as Appendix III for more details on the variable calculations . ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).

TABLE 7. Do Industry-specific Standards Help to Better Distinguish Investment Opportunities?

Dependent variable: *CapitalGrowth*				
Variables	Prediction	(1)	(2)	(3)
PostStandardGoodQ	+	0.078***		
		(7.35)		
PostStandardBadQ	?	0.000		
		(0.00)		
PostStandardGoodSale	+		0.082***	
			(7.86)	
PostStandardBadSale	?		-0.006	
			(-0.59)	
PostStandardGoodSaleQ	+			0.098***
				(9.69)
PostStandardBadSaleQ	?			-0.021**
				(-2.06)
F-test for differences [p-value]		[0.000]	[0.000]	[0.000]
SalesGrowth	+	0.307***	0.307***	0.307***
		(49.70)	(49.68)	(49.65)
Q	+	0.012***	0.012***	0.012***
		(6.71)	(6.71)	(6.69)
Cash	?	-0.294***	-0.294***	-0.295***
		(-16.60)	(-16.60)	(-16.62)
Size	?	-0.178***	-0.178***	-0.178***
		(-47.09)	(-47.30)	(-47.51)
Leverage	?	0.111***	0.111***	0.111***
		(9.11)	(9.12)	(9.08)
ROA	?	0.090***	0.090***	0.090***
		(6.30)	(6.30)	(6.31)
Year FE		Yes	Yes	Yes
Firm FE		Yes	Yes	Yes
R-squared		0.341	0.341	0.341
Observations		147,220	147,220	147,220

The table reports OLS coefficient estimates and, in parentheses, robust t-statistics clustered by firm. *PostStandardGoodQ* (*PostStandardBadQ*) equals one for affected firms with above (below) industry median Q, on average, in the first two effective years. *PostStandardGoodSale (PostStandardBadSale)* equals one for affected firms with above (below) industry median *SalesGrowth*, on average, in the first two effective years. *PostStandardGoodSaleQ (PostStandardBadSaleQ)* equals one for affected firms with above (below) industry median score (based on a principal component analysis of Q and *SalesGrowth*), on average, in the first two effective years. See Table 1 for the description of the other variables as well as Appendix III for more details on the variable calculations. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).

TABLE 8. Are Industry-specifc Standards Informative to Both Equity and Debt Capital Providers?

Dependent variable:		**Common stock & capital surplus**	**Long-term debt**	**Current liabilities** (placebo)
Variables	Prediction	(1)	(2)	(3)
PostStandard	+	0.024***	0.028**	0.001
		(3.10)	(2.38)	(0.10)
SalesGrowth	+	0.191***	0.362***	0.319***
		(40.14)	(29.47)	(54.70)
Q	+	0.011***	-0.008**	0.008***
		(6.72)	(-2.03)	(6.90)
Cash	?	-0.306***	0.108**	0.078***
		(-18.39)	(2.43)	(5.16)
Size	?	-0.129***	-0.105***	-0.077***
		(-33.71)	(-19.87)	(-32.94)
Leverage	?	0.136***	-0.756***	-0.335***
		(11.66)	(-31.87)	(-38.85)
ROA	?	-0.115***	-0.360***	-0.219***
		(-9.53)	(-13.01)	(-27.05)
Year FE		Yes	Yes	Yes
Firm FE		Yes	Yes	Yes
Observations		148,585	119,753	145,431
R-squared		0.331	0.196	0.264

The table reports OLS coefficient estimates and, in parentheses, robust *t*-statistics clustered by firm. In columns (1), (2), and (3), the dependent variables are growth in common stock and capital surplus, long-term debt, and current liabilities, respectively. See Appendix III for a more detailed variable description. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).

TABLE 9. Is Real Investment affected by Industry-specific Standards?

Dependent variable: ***Investment***

Variables	Prediction	(1)	(2)	(3)
PostStandard	+	0.011**		
		(2.09)		
$Standard^{-1}$	?		0.003	0.003
			(0.50)	(0.46)
$Standard^{0}$	?		0.004	0.004
			(0.62)	(0.56)
$Standard^{1}$	+		0.006	0.005
			(0.88)	(0.78)
$Standard^{2+}$	+		0.013**	
			(2.22)	
$Standard^{2}$	+			0.002
				(0.33)
$Standard^{3+}$	+			0.014**
				(2.33)
SalesGrowth	+	0.105***	0.105***	0.105***
		(38.51)	(38.51)	(38.50)
Q	+	0.005***	0.005***	0.005***
		(5.94)	(5.94)	(5.93)
Cash	?	0.043***	0.043***	0.043***
		(4.95)	(4.95)	(4.95)
Size	?	-0.066***	-0.066***	-0.066***
		(-33.46)	(-33.44)	(-33.43)
Leverage	?	-0.038***	-0.038***	-0.038***
		(-6.98)	(-6.98)	(-6.98)
ROA	?	-0.161***	-0.161***	-0.161***
		(-25.71)	(-25.71)	(-25.71)
Year FE		Yes	Yes	Yes
Firm FE		Yes	Yes	Yes
R-squared		0.548	0.548	0.548
Observations		112,447	112,447	112,447

The table reports OLS coefficient estimates and, in parentheses, robust *t*-statistics clustered by firm. The dependent variable, *Investment*, is the sum of research and development expenses, capital expenditures, and acquisition expenditures less cash receipts from sale of property, plant, and equipment; scaled by lagged total assets (Biddle et al. 2009). We replace missing R&D values with zero. $Standard_{-1}$ equals one for the fiscal year before the issue year of the standard. $Standard_{0}$ equals one in the issue year of the standard. $Standard_{1}$ equals one for the fiscal year in which the industry-specific standard is effective. *Standard* equals one for all fiscal years after the first effective year. In column (3), $Standard_{2}$ equals one for the second effective fiscal year, and $Standard_{3+}$ equals one for all fiscal years after the second effective year. See Table 1 for the other variable descriptions as well as Appendix III for more details on the variable calculations. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).