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.

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 a key purpose of financial statements is to improve decision-making by investors, lenders and other providers of capital. Although there is an extensive literature examining capital market effects of the introduction of an entire financial reporting framework—notably the adoption of International Financial Reporting Standards (IFRS)—the question of whether changes in specific financial accounting standards improve capital market participants' ability to use financial statements when making their capital allocation decisions is largely unexplored. We address this question by examining whether the implementation of industry-focused standards helps investors better understand the financial statements of firms in affected industries and whether this leads to greater capital growth (i.e., annual change in a firm's long-term debt and equity capital) for firms in these industries.

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 comparability for firms in the industry and transparency of financial statement information. 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 the 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 in that industry. 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, we find an increase of approximately 3.5% in capital growth for firms in an affected industry in the years following the implementation of the standard.

Our fixed effects and control variables structure allows 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. 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 likely could distinguish which firms represent better investment opportunities, it is possible that implementation of an industry standard enables them to identify better which firms are more deserving. 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 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 specific financial accounting standards achieve the desired goal of enabling investors to make informed 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). However, in contrast to the prior literature, our study provides direct evidence for the link between financial reporting and capital investment by investors rather than the implied link based on firms' internal investment decisions.

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

Comparability is an important guiding principle for accounting standard setters when developing standards. For example, in its Concepts Statements, the FASB observes:

> Information about a particular enterprise gains greatly in usefulness if it can be compared with similar information about other enterprises and with similar information about the same enterprise for some other period or some other point in time. Comparability between enterprises and consistency in the application of methods over time increases the informational value of comparisons of relative economic opportunities or performance. The significance of information, especially quantitative information, depends to a great extent on the user's ability to relate it to some benchmark. (Concepts Statement 2, p. 4)

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 (see Concepts Statement 2, paragraph 112).

Although most standards issued by the FASB are intended to be applied to all firms, they also issue standards that apply either specifically to firms in particular industries or address accounting comparability 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 the 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 (see Appendix I).

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).

Other industry standards have been introduced subsequently to an initial industry standard, because the FASB felt that the initial standard left some issues unresolved that required further refinement in an additional (subsequent) 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 explicitly 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. 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 make higher levels of capital investment than those with lower quality, other things equal. The authors interpret these findings as financial reporting quality mitigating capital constraints arising from information asymmetry between the firm and investors. Additionally, the findings could result from enhanced comparability of financial statements across firms providing managers with more information about industry conditions or from additional information they collect to comply with the new rule, thereby enabling them to make better investment decisions (Shroff 2017).

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 an increase in 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 either introducing more capital into the industry by directing it toward the good firms 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 standards issued early in the life of the FASB addressed the reporting issues for industries that the FASB identified as requiring immediate attention, it is possible that later standards would provide less new 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.[1]

A possible side benefit is that managers of firms in the affected industry will gain a better understanding of general industry conditions or their competitive position within the industry, which could affect their firm's real investment decisions (Badertscher et al. 2013 and Shroff 2017). Whether this manifests as an increase in investment efficiency is less easy to predict because real investment decisions are the product of managers' identification of investment opportunities and managers' ability to convince capital providers of the quality of

[1] 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.

such investment opportunities. In addition, as a result of agency conflicts, it is possible that managers might take advantage of the excess free cash flow and use the resources for private benefits (Biddle and Hilary 2006; Badertscher et al. 2013). This suggests that examining changes in capital flows provides a more direct test of the economic effects of industry-specific standards, which is the focus of our study.

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. (2013), 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 approaches of De Franco et al. (2011) and Barth et al. (2013) 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 De Franco et al. (2011) and Barth et al. (2013), 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 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* is average total assets of the other firms in the 3-digit SIC industry and *ΔNI* 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):[2]

$$Liquidity_{ijt} = \alpha_t + \alpha_i + \gamma PostStandard_{jt} + \mu Controls_{ijt-1} + \varepsilon_{ijt}. \quad (3)$$

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.[3] 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.[4]

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

[2] 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.

[3] 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 II for a more detailed description of the variable calculations.

[4] 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).

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):

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

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, $Standard_k$, 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 $Standard_3$:

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

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

$Standard_2$ ($Standard_3$) 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:

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

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:

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

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:

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

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:

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

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

[5] 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.

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 I 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, to estimate a clean treatment effect, we require firms to have a December fiscal year-end. 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 indicates that the average capital growth over the period is greater than 11 percent, while sales growth is on average in excess of 12 percent. In more than half of the industries an industry-specific standard is introduced during the sample period and 39 percent of the observations are affected by an industry-specific standard. Finally, average *ROA* is negative, 16 percent of total assets consists of cash, total assets are financed for 54 percent by debt, and firms' market values are approximately twice their book values. 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.[6] We use heteroscedasticity-robust standard errors clustered at the firm level.[7] Appendix II 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)

[6] 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.

[7] 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.

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, 0.048 and are 0.058, are significantly positive (*t*-statistics = 2.97 and 2.19). However, although the *PostStandard* coefficient for stock return of 0.017 is also positive, the coefficient estimate is not significant at conventional levels (*t*-statistic = 1.51). 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 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, for firms in an industry after the implementation of a standard that affects their industry. 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.[8]

(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 $Standard_0$, $Standard_1$, $Standard_2$, $Standard_3$ 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)

[8] 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 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).

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.[9]

(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.

[9] 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.

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.

VI. SUMMARY AND CONCLUDING REMARKS

This study examines whether changes in specific 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 helps investors better understand the financial statements of firms in affected industries and whether this leads to greater capital growth for firms in these industries. We do 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.

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. 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 I *(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 II. 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 variables:		
Standard	Indicator variable equal to one for firms from industries that receive 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

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$_{t-1}$) ÷ #199$_{t-1}$] on net income per share [#172 ÷ #25], average change in net income, a loss indicator variable, and interactions with the loss indicator variable 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.
Dependent variable:								
CapitalGrowth	153,137	0.112	-0.269	-0.047	0.065	0.214	0.563	0.486
Treatment variables:								
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
Control variables:								
SalesGrowth	153,137	0.124	-0.224	-0.025	0.092	0.238	0.508	0.438
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
Q	153,137	1.984	0.792	0.969	1.281	1.988	3.542	2.303

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 II 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	**+**	**0.048*** **	**0.058** **	**0.017**
		(2.97)	**(2.19)**	**(1.51)**
Constant	?	0.324***	0.675***	0.046
		(9.20)	(5.12)	(0.96)
Year FE		Yes	Yes	Yes
Industry FE		Yes	Yes	Yes
R-squared		0.255	0.205	0.039
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), average change in net income, a loss indicator variable, and interactions with the loss indicator variable. *PostStandard* is an indicator variable equal to one for fiscal years in which the industry-specific standard is effective, and zero otherwise. See Appendix II 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 II 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 II for more details on the variable calculations. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).

TABLE 5. Parallel Trends Analyses

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 II 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 II 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 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 II 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 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 II for a more detailed variable description. ***, **, and * indicate statistical significance at the 1, 5, and 10 percent level (two-tailed).