Labor Costs of Implementing New Accounting Standards

ABSTRACT: While much research focuses on the informational benefits of new accounting standards, the costs of implementing new standards remain unclear. We examine the adoption of two new major standards: lease accounting and revenue recognition. We find increase in the number of accounting job postings, related to those standards, in standards' issuance years. Firms most affected by new standards, measured by accounting complexity and early adoption behavior, post higher number of accounting jobs. We estimate incremental labor costs at about 30 percent of median audit fees for each standard for the most affected firms. These costs, as a percentage of their total employee cost, are higher for smaller firms, indicating greater regulatory-compliance burden. We provide large-sample evidence on the direct labor costs, and thus on the lower bound of implementation costs associated with new accounting standards. Our findings should interest standard setters as they evaluate cost-benefit tradeoffs before issuing new standards.

Keywords: financial reporting standards; Topic 606; Topic 842; job postings; labor costs; implementation costs

JEL Codes: J23, M41, M51

I. INTRODUCTION

FASB presumably issues a new accounting standard when its expected benefits exceed the expected costs of its implementation.[1] Potential benefits come from improvement in the quality of information imparted to financial statement users. Potential costs come from increased outlays on preparation, auditing, and dissemination of the new ways of financial reporting. Numerous studies examine the changes in financial reporting quality consequent to implementation of a new standard.[2] No study however systematically examines the direct costs of implementing a specific accounting standard.[3]

This study fills the gap in the literature by examining one such cost, the increased labor cost of preparation of financial reports, consequent to the implementation of two recent landmark standards: Topic 842 Leases (issued in February 2016) and Topic 606 Revenue from Contracts with Customers (issued in May 2014). Our result support Watts and Zimmerman's (1978) prediction that bookkeeping costs increase with new accounting standards that require changes in accounting policies and disclosures. Our results suggest that on average, about five new accounting positions are created to implement each of those two standards for most affected firms, whose costs likely amount to 500,000 dollars per annum. These costs are significant as they amount to 30 percent of median audit fees for our sample firms. Our estimates provide lower bound on costs of implementing new standards, because they do not include outlays on training existing personnel, added information technology, external consultants' fees, and increased audit fees. Our study responds to Leuz and Wysocki (2016) who claim that the profession has little knowledge of the

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[1] See https://www.fasb.org/Page/PageContent?PageId=/about-us/standardsettingprocess.html&isstaticpage=true&bcpath=tff.

[2] See, for example, Kasznik (2001), Altamuro et al. (2005), Zhang (2005), Barth et al., (2008), and Ahmed et al., (2013). De George et al. (2016) provides an excellent review of the research on the effects of adopting IFRS.

[3] Prior research documents an increase in audit fees in IFRS adoption setting, that is, adoption of a whole new set of accounting standards, (Kim, Liu, and Zheng 2012; De George, Ferguson, and Spear 2013).

direct cost of regulations. More important, we respond to a call by the FASB and the IASB, who are conducting post-implementation review for those two specific new standards.

The two standards we examine underwent prolonged development process, lasting ten and twelve, respectively, despite appearing almost perpetually in the Financial Accounting Standards Advisory Council's (FASAC) list of top priority projects during those years. Each standard went through numerous rounds of exposure drafts, indicating a lack of consensus, particularly about their cost-benefit tradeoffs. While each new exposure draft received significant support, it also faced opposition from preparers and auditors during its deliberations. Opponents argued that the standards are complex and that the costs of initial implementation and ongoing application exceed their benefits (Comiran and Graham 2016; Napier and Stadler 2020). Consider, for example, the eight comment letters sent to the FASB by the Big-4 audit firms, in response to the second Exposure Drafts (ED) for Topic 606 (open for comments in November 2011) and for Topic 842 (open for comments in May 2013). All but one of the eight comment letters used the word complex or its variants to refer to the enhanced difficulty of applying the new standard. Those words appear 56 times, with the majority concentrated in response letters to the lease Exposure Draft (52 times).

Hence, the two standards provide an ideal setting to test the bookkeeping costs prediction forwarded by Watts and Zimmerman (1978). We extend prior studies that examine this prediction in the context of audit costs and a wholesale change in accounting regime (for example, switch to IFRS; Kim, Liu, and Zheng 2012; De George, Ferguson, and Spear 2013) by examining increase in inhouse accounting costs for implementing a specific standard.

We use an innovative approach to measure the increase in direct labor costs. We expect public firms to require additional manpower to implement the two new standards. This requirement must manifest in increased demand for accountants in specific positions, and therefore in job

advertisements, which we consider as a proxy for the incremental hiring. We use data on job postings provided by Burning Glass Technologies (BG). BG scrapes corporate websites and online job posting boards to construct annual datasets of job advertisements, starting from 2010.[4] BG job vacancy data have been used in labor economics (e.g., Azar, Marinescu, Steinbaum, and Taska 2020; Deming and Kahn 2018; Hershbein and Kahn 2018) and accounting studies (Gao, Merkley, Pacelli, and Schroeder 2020; Ham, Hann, Rabier, and Wang 2020; Law and Shen 2021; Sran 2021). Those studies provide validation of BG job postings data by comparing them with actual vacancies recorded in the Job Openings and Labor Turnover Survey and employment figures presented in the Occupational Employment Statistics Survey (e.g., Azar et al. 2020; Cammeraat and Squicciarini 2021).[5]

We test our prediction, of increase in labor cost, by examining the increase in job postings related to standards-related expertise, in the three-year period after the standard issuance compared to the three-year period before. (Issuance years are 2016 for lease standard and 2014 for revenue-recognition standard.) We control for factors associated with the labor demand for hiring, including the scale of operation, business life cycle stages, growth opportunities, and accounting reporting complexity. We find on average, five new job postings for the leasing standard and an additional half a job posting for the revenue recognition standard. While the results for revenue-recognition standard are economically less meaningful than for the leasing standard, we find much higher revenue-recognition job posts for early adopters of that standard. It is likely that the firms who

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[4] BG removes duplicate job postings.

[5] In a report for the Organisation for Economic Cooperation and Development (OECD), Cammeraat and Squicciarini (2021, 3) conclude that BG data "exhibit good statistical properties and are a useful source of timely information about labor market demand, especially for high-skill occupations and recruitment processes that are more likely to happen online." In addition, Gutiérrez, Lourie, Nekrasov, and Shevlin (2020) validate the BG data by showing that online job postings contain value-relevant information.

adopted it early, instead of waiting for mandated year, were more likely affected by the new standard.[6] In their case, the average hiring is about four to five new personnel per company.

Assuming the cost to company of a new accountant of $100,000 (salary, benefits, payroll taxes, insurance, Medicare, office facilities, and retirement contributions), a firm's average additional direct cost turns out to be $500,000 for each new standard for most affected firms. The economic significance of this amount can be judged by comparing it to the median audit fees of $1.6 million for our sample firms during 2010–2019. The estimated incremental labor costs amount to about 30 percent of audit fees. Furthermore, the estimated increase in labor costs (as percentage of total labor cost) is higher for smaller firms, indicating greater regulatory-compliance burden for small firms.

Collectively, this evidence supports the prediction of increased labor costs for implementing a new standard. Yet one may argue that a before-and-after tests cannot pinpoint an accounting standard to be the sole reason for increased employment, or that job postings represent actual hiring. We rely on an array of empirical tactics to increase confidence in our results. First, our findings are robust to a falsification test, based on changing the issuance year to a randomly selected year of 2012. Second, we assess cross-sectional variations in settings where we expect greater or smaller increase in demand for additional labor. For example, a company that does not rent any asset would be unaffected by the new leasing standard. We identify variation in accounting complexity for leases by the amount of off-balance lease commitments scaled by total assets in the year prior to the issuance of leasing standard. Similarly, a retail firm that sells small-value items on a cash-and-carry basis should be largely unaffected by the new revenue-recognition standard. In contrast, a firm that delivers multiple obligations under a single customer contract over multiple

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[6] Early adopters' job postings for non-revenue accounting jobs remain statistically similar to those of mandatory adopters.

reporting periods would now face enhanced complexity in revenue recognition, as it must now dynamically identify performance obligations and their fulfilment. We measure revenue-recognition complexity by the amount of accounting receivables and deferred revenues as a percentage of total assets in the prior period.

The increased labor demand we document is predictably related to these lease- and revenue-recognition complexities, thereby strengthening the validity of our job postings as a proxy for actual hiring. Three industries, restaurants, hotels and motels, retail, and recreation, face the highest lease complexity and they also post the highest number of lease jobs (scaled by square root of assets, a proxy for accounting effort used in audit literature). Similarly, personal and business services and business equipment (that is, software and computer hardware industries) display the highest revenue-recognition complexity and post the highest scaled, revenue-recognition jobs.

We next examine whether new hiring is associated with benefits that potentially come for better inhouse accounting expertise. We first compare the audit fees in 2015–2017 versus 2018–2020, because 2018 was the mandated implementation year for revenue-recognition standard. We find an increase in audit fees following the adoption of Topic 606 in 2018, consistent with the adoption of the new revenue recognition standard increasing workload for the auditors. More important, increase in audit fees is mitigated for firms that post more revenue-recognition jobs before the adoption. These results are consistent with the idea that increased hiring enables firms to better prepare for the forthcoming implementation of new standards, and therefore, reduces audit workload. Furthermore, firms that hire more revenue-recognition accountants in issuance years report fewer financial restatements due to revenue recognition issues in the standard's implementation years. Taken together, these tests provide empirical support for our hiring proxy, and that it is likely an outcome of the new standard.

Our paper contributes to the literature in two ways. First, we exploit a novel data source to provide unique, large-sample evidence on the lower bound on labor costs of implementing new accounting standards. Our results point to an economically significant increase in accounting costs. As noted earlier, we do not consider the costs related to modifications in enterprise resource planning systems, computer hardware and technology, consultant fees, retraining of existing personnel, and increased audit fees.[7] Our analysis also does not include indirect, real costs, arising from firms' attempt to minimize the impact of new standards, by changing real financing, operating, and investment policies, such as by modifying lease and customer contracts (Kanodia and Sapra 2016). The total costs of implementing a new standard thus are likely to be higher than what we document.

Second and more important, we respond to a call from standard setters who are conducting cost-and-benefits analysis of these two recent standards. This call comes in the context of the FASB and IASB's ongoing post-implementation review activities.[8] Given the controversy that surrounded these standards during their development, and the opposition they faced from preparers and auditors, our focus on the costs of implementation of these standards contributes to a better understanding of preparers' claims. We also respond to Leuz and Wysocki (2016, 552) who point out: "there is a general paucity of academic evidence that would allow us to quantify the *direct* costs and out-of-pocket expenses of firms' disclosure and reporting practices," thereby impeding a quantitative cost-benefit analysis. Our paper illustrates the estimation of one important implementation cost that can serve as input into regulatory cost-benefit analyses.

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[7] See for example, https://ssfllp.com/lease-accounting-advisory/ and https://www.protiviti.com/CA-en/insights/implementing-new-lease-accounting-standard-sap-landscapes.

[8] One example is the FASB and IASB 2022 conference that is part of the post-implementation review process https://aaahq.org/Meetings/2022/Accounting-for-an-Ever-Changing-World.

The rest of the paper proceeds as follows. Section II provides an overview of the two accounting standards. We develop our expectations and review related literature in Section III. Section IV presents the sample and research methodology. The results are described in Section V. Section VI provides the robustness and additional tests, while Section VII discusses practical implications and concludes.

II. INSTITUTIONAL BACKGROUND ON THE NEW LEASE (TOPIC 842) AND REVENUE RECOGNITION (TOPIC 606) STANDARDS

In February 2016, FASB issued Accounting Standards Update 2016-02 under Accounting Standards Codification (ASC) 842, Leases (henceforth Topic 842) (FASB 2016), with effective date for fiscal years beginning on or after December 15, 2019. This standard resulted from a joint effort of FASB and the IASB that lasted at least ten years and faced significant opposition from preparers and industry organizations at intermediate stages (Comiran and Graham 2016). The previous standard, FASB Statement No. 13, Accounting for Leases, codified as ASC 840, was originally issued in 1976. It required lessees to classify leases into capital (recorded on the balance sheet) and operating (recorded in profit and loss account but not on balance sheet) leases. Under the new standard, for all financial leases and all operating leases with terms more than 12 months, firms must recognize a lease liability (that is, the present value of lease payments) and corresponding right-of-use asset on the lease inception date (Deloitte 2021a, 6). For operating leases, firms must allocate the aggregate operating lease cost over the lease period using a straight-line method, and recognize it as an expense. For financial leases, firms must impute the interest on the lease liability and amortization expense on the right-to-use asset.

These changes in lease accounting standards expanded the definition of assets and liabilities, as recorded in financial statement, particularly for companies that previously recorded

just the operating leases. Therefore, the new standard increases both firms' assets and liabilities and, in certain instances, might create a new liability that is larger than the previously reported total liabilities. Furthermore, the depreciation and interest line items now require significant estimation and judgement expense, instead of merely reporting lease rentals as an expense line items. Topic 842 also significantly expanded the requirement for qualitative and quantitative disclosures in financial statements (Deloitte 2021a, 671). Many accountants argue that the new accounting treatment increases the number of tasks required for preparation of financial statements (Deloitte 2021a).

These changes may affect ratios and performance measures such as price-to-earnings ratio, book-to-market ratio, profit margin, interest coverage ratio, debt-to-equity ratio, sales and profit growth, return in equity, and return on assets. Literature on Topic 842 points to improved investment efficiency, as the new standard discourages the use of excessive operating leases to ostensibly improve financial ratios from off-balance-sheet treatments (Chatterjee 2020; Christensen, Lynch, and Partridge 2021; Ma and Thomas 2021; Yoon 2021).

The second accounting standard we focus on is the new revenue recognition issued by the FASB issued in May 2014 as ASU 2014-09, codified as ASC 606, Revenue from Contracts with Customers (henceforth, Topic 606) (FASB 2014). It was effective for fiscal years beginning on or after December 15, 2018 (FASB 2015). Topic 606 replaces a set of industry-specific rules, guidelines, and guidance on revenue recognition by a principles-based five-step framework. That framework requires firms to identify the contract with a customer, identify the separate performance obligations, determine the transaction price, allocate the price to the performance obligations, and recognize revenue for each performance obligation as it is satisfied (Deloitte

2021b). Under this framework, revenue recognition becomes especially complex for contracts with multiple deliverables spread over multiple reporting periods (Ali and Tseng 2022).

III. LITERATURE REVIEW

Firms adopting new accounting standards may face direct costs of implementation (preparation and certification) as well as indirect costs that stem from the additional disclosures (e.g., political costs, litigation costs, proprietary costs) (Watts and Zimmerman 1978). We focus on labor costs as one category of direct implementation costs. These costs are a subset of costs required to implement changes in bookkeeping procedures in accordance with the new standard. Other costs that we cannot observe include training existing personnel, increases in existing accounting employees' salaries to compensate for additional workload or upskilling, implementing, changing, and updating relevant accounting software and enterprise resource planning systems, and hiring consultants. The research question we address is the following: How does the demand for inhouse accountants change when the new lease standard (Topic 842) and the new revenue recognition standard (Topic 606) are implemented? Our straightforward expectation is that firms need new accountants with expertise related to adoption of Topics 842 and 606, as their existing workforce may not have the necessary time and expertise to address the enhanced complexity of bookkeeping. We draw our expectation from the Positive Accounting Theory (Watts and Zimmerman 1978) as well as accounting profession's views on the enhanced complexity arising from the two accounting standards.

Positive Accounting Theory

Watts and Zimmerman (1978) postulate increased bookkeeping costs upon adoption of a new accounting standard. Watts and Zimmerman (1978) posit that managers consider enhanced bookkeeping costs as one of the factors to lobby for or against a new accounting standard during

the standard setters' due diligence process. The argue: "[C]hanges in accounting procedures are not costless to firms. Accounting standard changes which either increase disclosure or require corporations to change accounting methods increase the firms' bookkeeping costs (including any necessary increases in accountants' salaries to compensate for additional training)" (Watts and Zimmerman 1978, 116).

Following Watts and Zimmerman (1978), we expect an increase in labor costs related to bookkeeping if the new accounting standard changes the accounting policies and disclosure requirements compared to prior standard on the same topic, particularly, if both come with increased complexity. To the best of our knowledge, there exists no empirical archival evidence on the enhance direct *preparation* costs related to a specific accounting standard implementation, a gap that we seek to fill. Section II highlights that Topics 842 and 606 are different from, and likely more complex compared with, the prior standards or guidance on the same topics, which warrants examining Watts and Zimmerman (1978) prediction.

Direct Costs of Accounting Standard Implementation

The literature examining the direct of implementing a given accounting standard is scant and is largely skewed toward certification costs (that is, audit fees), not preparation costs.[9] In addition, much of that literature examines the adoption of an entirely new system of standards, that is, International Financial Reporting Standards (IFRS), whereas we focus on individual standards.[10]

Several studies quantify the costs to implement IFRS and do so primarily by focusing on audit fees as a proxy for direct costs. Kim et al. (2012) find increase in audit fee after the

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[9] We do not review the literature on the indirect costs that firms may face when adopting new accounting standards but refer the interested reader to section 3.3. in Leuz and Wysocki (2016).

[10] Examining a firm's actions during the transition period could also provide a perspective on the burden of implementation costs that the firm faces (e.g., Fang, Guo, Mei, and Ye 2021).

mandatory IFRS adoption in the European Union, compared with non-adopting countries (Canada, Japan, and the US). In the Australian setting, De George et al. (2013) find an increase in audit costs in the year of IFRS transition and attribute it to the audit complexity of IFRS. Exploring a long-time window with New Zealand data, that extends five years after the mandatory IFRS adoption, Higgins, Lont, and Scott (2016) show that increase in audit fees pursuant to the adoption IFRS is persistent and not just a short-term increase driven by one-time changeover costs. In a longitudinal survey, Australian respondents point to significant IFRS transition costs related to IT systems, staff training and development, user education, and financial statement adjustments, as well as an ongoing increase of 20 percent in annual accounting and compliance costs (Pawsey 2017).

Most relevant to our study is a recent paper by Napier and Stadler (2020) who examine the implementation and adoption costs of IFRS 15 Revenue from Contracts with Customers in a small sample of European firms. One large telecommunications firm, Vodafone, discloses EUR five million in audit fees (25 percent of the audit fee in that year) specifically related to IFRS 15 implementation. Interviewees point out that "changing your accounting around revenue involves a lot of people across the business in many different areas" (Napier and Stadler 2020, 496). Overall, European firms seem to have incurred significant direct costs to implement IFRS 15, even though these costs were probably less than what was claimed in comment letters to the standard setters (Napier and Stadler 2020). This conclusion further highlights the importance of our study because relying on comment letters from preparers to gauge the direct costs of implementation may suffer from a selection bias (i.e., managers decide to engage in the due process) and potentially exaggerated claims.

Our study extends this line of research by providing large sample evidence on a category of preparation costs (i.e., labor) at the time US firms implement two major accounting standards.

The Accounting Profession's Views on the Complexity of Topics 842 And 606

Our expectation that the implementation of two new standards requires enhanced workload on inhouse accountants relies on assumption that the standards are more complex than their predecessors. To illustrate this point, following Baudot, Demek, and Huang (2018), we consider the comment letters that the Big 4 audit firms sent to the FASB in response to the second Exposure Drafts (ED) for Topic 842 (open for comments in May 2013) and for Topic 606 (open for comments in November 2011) to determine the perceived complexity of the two standards.[11] We focus on the second exposure draft of each standard to consider the version of the draft that is closest to the one finally issued by the FASB. All but one of the eight comment letters use the word "complex" (and its variants) to refer to the level of difficulty of applying the new standard compared with the previous standard, of preparing financial statements, or of measuring accounting items. Across the seven letters, "complex" appears in such contexts 56 times, with the majority concentrated in the letters submitted in response to the lease Exposure Draft (52 times).[12]

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[11] The FASB published two EDs for each standard; see Figure 1.

[12] For example, in the letter submitted for the revenue recognition ED, Deloitte writes that "the different approaches proposed by the current ED where revenue is recognized over time or at a point in time, and depending on the length of a contract, appear not just arbitrary but confusing. … [I]t seems to us that this unnecessarily complex approach greatly increases the risk of unintentional non-compliance and is likely to result in confusion for both preparers and users" (Comment Letter #75). Also related to revenue recognition, KPMG writes that "we continue to believe that the guidance related to time value of money … may be complex and costly to implement" (Comment Letter #64). In relation to Topic 842, PricewaterhouseCoopers writes that "we believe that the method for measuring a right-of-use asset is unduly complex" (Comment Letter #301). Also related to Topic 842, Deloitte writes that "the proposed dual-model approach may be more costly and complex for preparers than existing standards" (Comment Letter #262), and Ernst & Young writes that "the ED would create new and unfamiliar dividing lines between types of leases that would add new complexity in place of an old one" (Comment Letter #297). KPMG writes that "we believe the proposed disclosure requirements are symptomatic of the complexity of the Boards' recognition and measurement proposals" (Comment Letter #199).

Further supporting the idea that the accounting profession and preparers perceived the revenue recognition standard as complex is the fact that the FASB and IASB formed a Joint Transition Resource Group (TRG) for Revenue Recognition to assist with issues arising from the implementation of Topic 606 (and IFRS 15).[13] In fact, the formulation of a TRG is the first one of its kind in the history of the FASB. Practitioners expected that IFRS 15, and by extension Topic 606, would lead to significant changes to revenue bookkeeping (Veysey 2020).

While the FASB did not create a formal TRG for the lease standard, "the Board and staff have been assisting stakeholders during the transitional period by responding to inquiries received and proactively seeking feedback on potential implementation issues."[14] While the existence of a TRG may aid preparers with implementation questions, firms may also need to have the technical accounting expertise to be in contact with the TRG in an effective manner, expertise that they may be demanding on the labor market.

IV. SAMPLE SELECTION, DATA, AND RESEARCH DESIGN

Data

We begin our sample construction from the universe of US job postings available on BG between January 2011 and December 2019. On average, there are about 25.2 million job postings every year for a total of 226.2 million job postings over our period of interest.

Using the BG occupation classification codes, we narrow down the job postings of interest to the following: "Financial Manager" (code 11-3031.00), "Treasurer/Controller" (code 11-3031.01), "Financial Reporting Manager" (code 11-3031.92), "Auditor" (code 13-2011.02), "Accountant" (code 13-2011.93), and "Bookkeeper/Accounting Clerk" (code 43-3031.00). This

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[13] See https://www.fasb.org/jsp/FASB/Page/SectionPage&cid=1176164066191.

[14] See https://fasb.org/cs/ContentServer?c=FASBContent_C&cid=1176172322172&d=&pagename=FASB%2FFASBContent_C%2FCompletedProjectPage.

step provides us with an overall view of accounting-related job vacancies across the cross section of public, private, and governmental entities in the US. On average, about 0.61 million accounting jobs are posted every year.

We then extract the full text of the job postings with these occupation codes and search for keywords related to the two standards of interest. We group keywords into those generally related to lease accounting and revenue recognition. The keywords stem from language specific to each standard and from reading through the text of more than 120 job ads to code the jobs as focused on revenue recognition or on leases. Appendix A shows the keywords and search patterns used to code the jobs as leases or revenue recognition and Appendix B provides examples. Based on these keyword groupings, we implement a keyword search algorithm in Python that codes each accounting job as lease or revenue recognition job.

We merge job posting data with Compustat North America using company name and ticker to narrow down the sample to public firms with data available on Compustat. We retain only US firms (Compustat FIC = "USA") and firm-years with non-missing data.[15,16] Banks are also affected by revenue recognition and lease standards, but they might need additional accounting experts for their asset side, that is, to estimate the impact of new standards on the covenant terms of their corporate clients and assessments of technical defaults. Hence, to avoid such confounding effects, we remove banks (that is, SIC codes beginning with 61 or 62) from our sample. As discussed in the next subsection, we supplement our before-and-after tests with the largest and lowest complexity associated with the new standards. Accordingly, we retain firms in the top and bottom

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[15] Our sample does not include foreign firms that cross-list in the US. When we include firms cross-listed in the US and reporting under IFRS, results are similar to those reported in the paper. This is interesting inasmuch as IFRS 16 and Topic 842 and IFRS 15 and Topic 606, respectively, were developed by the IASB and the FASB as joint projects and thus are similar, including proximal effective dates.

[16] Inclusion in the revenue recognition sample throughout all tests is also conditional on the firm having available data for calculating the *High Complexity606* variable, namely, the firm must have non-missing accounts receivable data for 2013. Our results are statistically stronger if we remove this condition.

terciles of our complexity measures for our main tests. Our final sample contains 5,978 and 5,346 firm-year observations relating to Topic 842 and Topic 606, respectively.

Model Specification

We use the following model to examine our research question of how the issuance of the new lease standards is related to labor market demand for accountants.

$$\#LeasesJobs = \beta_0 + \beta_1 AFTER842 + \sum Controls + \varepsilon, \quad (1)$$

where *#LeasesJobs* is the number of leases job postings per firm-year. The variable of interest is *AFTER842*, which is an indicator that equals one if an observation is in the period after FASB issued Topic 842 and zero if an observation is in the period before. A positive (negative) coefficient on *AFTER842* would be consistent with an increase (decrease) in the demand for accountants to implement Topic 842 following the issuance of the new lease standard. See Figure 1 for justification of our post-issuance period.

Similarly, to test how the issuance of the new revenue recognition accounting standards shapes the labor market demand for accountants, we estimate the regression

$$\#RRJobs = \beta_0 + \beta_1 AFTER606 + \sum Controls + \varepsilon, \quad (2)$$

where *#RRJobs* is the number of revenue recognition job postings per firm-year. The variable of interest is *AFTER606*, which is an indicator that equals one if an observation is in the period after FASB issued Topic 606 and zero if an observation is in the period before FASB issued Topic 606. A positive (negative) coefficient on *AFTER606* would indicate an increase (decrease) in the demand for accountants to implement the new revenue recognition standard.

We use a six-year window around the year of new standard issuance to estimate the aforementioned models. Specifically, the sample used for estimating model (1) spans 2013 to 2015 (pre–Topic 842) and 2017 to 2019 (post–Topic 842); the sample used for estimating model (2)

spans 2011 to 2013 (pre–Topic 606) and 2015 to 2017 (post–Topic 606). For each standard, the year of issuance is removed from the sample (that is, 2014 for the new lease standard and 2016 for the new revenue recognition standard) to reduce the likelihood that the calendar years for issuance year may not coincide with Compustat's coding of fiscal year.

We further limit the sample to those firms for which implementing each of the standards is most and least complex. For Topic 842, we gauge the complexity of implementation by total off-balance sheet lease commitments, scaled by total assets, in the year prior to standard issuance (that is, in 2015). This measure of complexity us based on the idea that the additional work related to bookkeeping will increase in off-balance sheet commitments, as they will now be recognized as least liabilities and right of use assets. After splitting the sample into terciles (top, bottom and middle 33.33% of observations), we retain the top (*HighComplexity842* = 1) and bottom (*HighComplexity842* = 0) terciles in the sample for model (1) to increase the power of tests. However, our results hold if we instead split the sample based on the median and thus retain all observations.

For Topic 606, we gauge the complexity of implementation by the sum of accounts receivables and deferred revenues, scaled by to total assets in the year prior to standard issuance (that is, 2013). Higher values of this proxy for complexity implies greater time period between customer advance and final customer cash receipts for the same customer contract. A contract spanning multiple periods must increase revenue-recognition complexity under the new standard. In contrast, the impact of new standard should be negligible for cash-and-carry business models. Hence, the bookkeeping effort required to identify individual deliverables in a customer contract, and measurement of its fulfillment for revenue recognition under the new standard, must increase

in our measure of complexity.[17] After splitting the sample into terciles, we retain the top (*HighComplexity606* = 1) and bottom (*HighComplexity606* = 0) terciles in the sample for model (2). As with leases analysis, our results hold if we retain all observations and split the sample at the median.

To account for changes in firm characteristics that could also affect a firm's demand for inhouse accountants, we include a vector of control variables in both models. We include proxies for complexity of business operation and financial reporting that generally determine the demand for inhouse accountants. We control for the number of business and geographical segments (*LnSegments*) and accounting reporting complexity (*LnARC*) as defined by Hoitash and Hoitash (2018). Given that auditors play an important role in firm's adoption of new accounting standards (e.g., Kim et al. 2012), we control for auditors (*Big4*). Because the demands for labor force varies with firm's life cycle stage, we control for firm age (*LnAge*) and whether the firm is in the introduction or growth stage (*IntroGrow*) (Dickinson 2011). Finally, we control for firm size (*LnAssets*), growth opportunities (*MTB*), operating profitability (*ROA* and a dummy for *Loss*), and capital structure (*Leverage*). We cluster standard errors at the firm level and include firm fixed effects to account for unobservable firm-level characteristics that could drive firm's hiring demand for lease and revenue recognition jobs. Appendix C presents detailed measurement of all variables.

V. EMPIRICAL RESULTS

In this section, we describe our test results. We began by presenting time trends in accounting job postings related to lease (Panel A) and revenue-recognition (Panel B) in Figure 2. We present by year the average numbers in each of the three years before, and each of the three

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[17] Ideally, we should interact our complexity measure with the number of deliverables, however, those data are not available.

years after, the issuance year of the new accounting standard. Panel A shows a dramatic jump in number of lease-related job postings. Panel B, however, shows more steady increase over time in revenue-recognition postings, likely because firms could have anticipated the forthcoming standard and started implementing earlier. (We later present a test consistent with this idea.)

In Figure 3, we present the same figures after splitting the samples based on complexity. For leasing standard, as presented in Panel A, the results are clear and self evident. There is marked increase in the lease-related job postings in the after period for both low and high complexity. Furthermore, the increase from before to after period is greater for high complexity subsample. Results for revenue-recognition job postings, differ, however. Panel B shows that the increase, if any, is confined to high complexity subsample. Furthermore, there is a strong time trend, indicating that firms started increase in hiring in the before period, arguably, in anticipation.

Industry Statistics and Correlations

Table 1 presents summary statistics of the key variables used in this study, averaged at the industry level (Fama-French 30 industry classification). Panel A of Table 1 presents results for Topic 842. Complexity is first calculated at the firm-year level and then averaged across industry. We then compute the number of lease job postings at firm-year level over the period 2017 to 2019, i.e., after Topic 842 issuance. We scale that number by the square root of total assets. This is based on the idea that accounting efforts increases with square root of assets (and not linearly with assets), consistent with literature (for example, Rice and Weber 2012).[18] That number is also averaged across industry.

In Panel A we show the industries sorted from high-to-low by complexity. We identify the largest and smallest five industries by complexity and leases jobs, and present them in bold and

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[18] In a univariate regression of log audit fees on log assets, the regression coefficient is approximately 0.5 with *R*-squared exceeding 65 percent. This is consistent with Simunic (1980).

bold italics, respectively. Three of the industries that have the highest level of expected complexity for Topic 842 implementation (Restaurants, Hotels, Motels; Retail; and Recreation) also have the highest hiring demand for lease jobs. This is consistent with intuition, because these industries rely heavily on property, plant and equipment, but often rent those assets instead of owning them. Three industries that score lowest on the complexity measure (Petroleum and Natural Gas; Tobacco Products; Utilities), also post fewest leases job openings. Based on the 30-industry observations, the measures of jobs and complexity are positively correlated at 0.55 (Pearson and Spearman's rank correlation), significant at 1 percent. These correlations provide preliminary support for our empirical measure, that is, what we measure using BG must represent inhouse demand for new accounting jobs, related to new accounting standards, as our measure is associated with complexity associated with those standards.

Similarly, Panel B of Table 1 presents results for revenue recognition. For each firm, we scale the number of revenue recognition jobs by the square root of total assets for the years 2015 to 2017 and take their industry average. We also calculate industry average of revenue-recognition complexity by industry, as defined earlier. As with Panel A, we identify the largest and smallest five industries by complexity and revenue recognition jobs. Two of the industries with the highest complexity measures also have the highest hiring demand for revenue recognition jobs (Personal and Business Services; Business Equipment). This again is consistent with prior studies. Prior standards, such as SOP 97-2 and SAB 101, that already contained the main idea inherent in the new revenue-recognition standards, had the largest impact on software and technology industries (Altamuro et al. 2005; Zhang 2005; and Srivastava 2014). In contrast, two industries that rank the lowest on the complexity measure also have the lowest hiring demand for revenue recognition jobs (Precious Metals, Non-metallic, and Industrial Metal Mining; Tobacco Products). The industry-

level correlation of the two measures is 0.54 (Pearson and Spearman's rank correlation), supporting the validity of our job-hiring empirical measure.

Table 2 provides descriptive statistics on the firm-year data used in our regression analyses. During our study period, firms post an average of 2.5 leases jobs and one revenue recognition job. The median firm has about $2 billion in assets, has appeared in the Compustat universe for about 20 years, has about 3 percent return on assets, has leverage of 0.6, and has about one reportable segment. Firm characteristics are broadly similar across the two samples.

Increase in Leases and Revenue Recognition Jobs After Standard's Issuance

Table 3 reports the results of estimating model (1) in columns that sequentially include relevant variables. Column (1) estimates model (1) without control variables. The regression coefficient on *AFTER842* is positive and significant, suggesting that firms advertise more leases jobs after the issuance of Topic 842 compared to before. The magnitude of the coefficient suggests firms post an additional 4.5 leases jobs in the period after FASB issued Topic 842 compared to before. This number, translates to about $450,000 dollars in additional cost per year, based on the idea that the total cost of hiring a new accounting person is about $100,000. We introduce the control variables in column (2) and continue to find results consistent with increase in demand for leases jobs after the Topic 842 issuance.

We next conduct a cross-sectional test by classifying firms into those more affected by Topic 842 versus those less affected. Specifically, we reason that given the requirements introduced by the new lease standard (see Section II), firms with more operating lease commitments in the before period are likely to face greater implementation efforts. We classify firms in the top (bottom) tercile based on complexity measure.[19]

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[19] By impact, we are referring to the procedural impact, not how the new accounting standards would affect the numbers reported in the financial statements.

In columns (3) and (4), we interact *AFTER842* with *HighComplexity842* in the regression

$$\#Leaseobs = \beta_0 + \beta_1 AFTER842 + \beta_2 High\ Complexity842 + \beta_1 AFTER842 \times \beta_2 High\ Complexity842 + \sum Controls + \varepsilon. \quad (3)$$

The main effect for *HighComplexity842* is subsumed by the firm fixed effects. In column (3), the regression coefficient on the interaction term is positive and marginally significant.

One may argue that our before-and-after results could simply reflect a time trend of changing demand for accounting jobs unrelated to the new standard. To address this concern, we add a time trend variable to the set of controls. We continue to find significant and positive coefficient on the interaction variable of *AFTER842* × *HighComplexity842*. These results suggest that increase in firms' demand for lease jobs is greater for firms affected more by the new lease standard and is unlikely driven only by a general time trend. These results strengthen our inference that demand for leases jobs increases after FASB issues the new lease standard, which we interpret as an increase in the direct costs of Topic 842 implementation.

Table 4 examines the number of accounting jobs related to revenue recognition by estimating model (2). Column (1) reports results of the regression in model (2) without control variables. The regression coefficient on *AFTER606* is positive and significant, with a magnitude that suggests firms advertise on average about 0.4 additional revenue recognition jobs, which translates to about $40,000 additional personnel cost per year. After introducing the set of control variables in column (2), the coefficient on *AFTER606* remains positive but marginally significant. Yet, the magnitude of the coefficient is significantly smaller than the one for lease jobs.

We conduct additional tests by interacting complexity with the dummy for after period, similar to Equation (3). Column (3) of Table 4 shows that the regression coefficient on the

interaction term *AFTER606×HighComplexity606* is positive and significant. Column (4) augments the set of control variables with a time trend variable, and the results continue to hold.

While our results are consistent with increase in demand for inhouse accountants for the two standards, the results are economically larger for lease jobs. Furthermore, patterns are more meaningful for firms with greater accounting complexity.

Regulatory Burden on Small Firms

If all firms were to hire one accountant each for enhanced bookkeeping, the burden of that hiring must be greater for smaller firms relative to total employee costs. We test this idea in a new test, using the regression

$$LeasesJobs\% = \beta_0 + \beta_1 SmallFirm842 + \sum Controls + \varepsilon. \quad (4)$$

We use the ratio of new jobs to total employee ratio as a proxy for regulatory burden (*LeasesJobs%*) and use it as the dependent variable.[20] We expect that this burden will be higher for smaller firms. *SmallFirm842* takes the value one for the firms in the bottom tercile of total assets in 2015, and the value zero for the firms in the top tercile. *SmallFirm842* is the variable of interest in this test. We conduct tests in both before and after periods, and present results in columns (1)–(2) of Table 5 for the before period and in columns (3)–(4) in the after period. Columns (1) and (3) show regression results without control variables, while columns (2) and (4) show results with control variables.

Columns (1)–(2) of Table 5 Panel A shows that the regression coefficient on *SmallFirm842* is not significant in the before period, indicating that small firms' regulatory burden for lease accounting is not statistically different from that of large firms in the before period. Columns (1) and (4) of Table 5 Panel A, however, show positive coefficient on *SmallFirm842*, indicating

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[20] This test is based on the idea that all employees are paid equally, a limitation we acknowledge in the absence of detailed wage distribution data.

greater regulatory burden on small firms relative to large firms in the after period. These results support for our expectation that small firms face higher direct costs for implementing Topic 842 compared to large firms.

Panel B of Table 5 presents similar tests with the number of revenue recognition jobs scaled by total number of employees (*RRJobs%*) as the dependent variable. The independent variable of interest is *SmallFirm606*, which takes the value one for firms in the bottom tercile of total assets in 2013, and zero for firms in the top tercile of the same distribution. Columns (1), (2), (3), and (4) are similar to the lease tests, but with revenue recognition variables. Again, these results show greater regulatory burden on small firms.

A Robustness test with Accounting Quality

Revenue recognition has been a controversial topic (Altamuro et al. 2005) and is often the biggest source of accounting restatements.[21] Accordingly audit fees must also be related to revenue recognition complexity. If our previous test results indeed describes the incremental impact of new accounting standards, then any positive impact of those standard on restatements and audit fees must be mitigated for firms that create better inhouse accounting resources, through incremental hiring. We test this in our next set of analyses, based on data on audit fees and financial restatements obtained from Audit Analytics.

We first examine whether changes in audit fees post Topic 606, if any, are ameliorated with Topic 606 hiring. Prior studies report increased audit fees after firms adopt new accounting standards (Kim et al. 2012; De George et al. 2013; Li et al. 2021). To the extent that adopting Topic 606 increases the workload of auditors, and thus audit fees, hiring more in-house accountants with expertise in revenue recognition should mitigate that increase.

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[21] For example, Financial Statement Restatements Database. Report 03-395R issued by General Accounting Office.

Column (1) of Table 6 reports comparison of audit fees in 2015–2017 (i.e., the period during which firms prepare for the implementation of Topic 606) with fees in 2018–2020 (i.e., the post-implementation period). *Post2018* is an indicator variable that takes the value one in 2018 to 2020, after Topic 606 becomes effective, and zero in the three years before (i.e., 2015 to 2017). *High Hire* takes the value one if the annual average of the number of revenue recognition posts in 2015 to 2017 is in the top tercile of the sample and takes the value zero if this value is in the bottom tercile of the sample. We remove firms in the middle tercile. The regression coefficient on *Post2018* is positive and significant, consistent with increase in audit fees following the adoption of Topic 606. More relevant to our study, the coefficient on the interaction term *Post2018×High Hire* is negative and significant, suggesting that inhouse hiring substitutes for audit efforts and thus mitigates increase in audit fees associated with new standard.

In columns (2) and (3) of Table 6, we examine whether the association between accounting restatements due to revenue recognition and revenue-recognition complexity is mitigated with hiring of inhouse accountants with that expertise. *Restatement606* is an indicator that equals one if the firm restates the financial statements for the year due to revenue recognition issues, and zero otherwise, in years 2018 to 2020, the first three years of mandatory Topic 606 adoption.[22] This also forms our sample period. *Mean_RRJobs* is the annual average of the revenue recognition job postings in 2015 to 2017. Results show that the positive association between complexity and revenue recognition decreases with the job postings for inhouse accountants with that expertise. These results provide additional support for our proxy for accountants' hiring.

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[22] As it takes time to detect mistakes in financial statements and trigger restatements, we do not analyze restatements due to leases issues as ASC 842 is effective for fiscal years beginning on or after December 15, 2018.

VI. ROBUSTNESS AND ADDITIONAL TESTS

Falsification Test

Table 7 shows the results from a falsification test where we replace the actual issuance year with a placebo year 2012 (*AFTER2012* takes the value one for years after 2012 and zero otherwise). Data availability from BG constrains this test to two years before and after this placebo issuance date (instead of the three years before and after we use in our main tests). Therefore, for both standards, the total sampling period is four years from 2010 to 2013, two years before and after 2012 and including 2012. The variables that capture the complexity of each standard implementation on the firm are defined based on 2011 data. As in our main tests, the sample contains the firm-year observations in the top and bottom terciles on *HighComplexity842* and *HighComplexity606*, respectively.

We find that the regression coefficients on both *AFTER2012* and the interaction terms *AFTER2012×HighComplexity842* and *AFTER2012×HighComplexity606* are statistically insignificant. Results of this test give us further confidence that the increased firm demand for revenue recognition and leases jobs we document in our main tests is related to firms' preparation for adopting Topics 842 and 606, respectively.

Early Adopters' Hiring Demand for Revenue Recognition Jobs

In Table 8, we examine the demand for revenue recognition jobs from early adopters of Topic 606, restricting the sample period to 2015–2018.[23] We define early adopters of the new revenue recognition standard (as well as a dummy variable *Early606* that takes value of one) for firms that adopted Topic 606 before December 15, 2018, the mandatory date. Early adoption is determined based on the Compustat variable *acctchg*. In column (1), we estimate a regression

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[23] The very limited number of early adopters of Topic 842 does not permit a similar test for the new lease standard.

#RRJobs with the dependent variable with the indicator variable *Early606* as the key variable of interest. Column (2) adds the control variables. In both columns, the coefficient on *Early606* captures the revenue recognition jobs early adopters posted compared to mandatory adopters. We find that early voluntary adopters of Topic 606 post more revenue recognition jobs compared with mandatory adopters. The coefficient on *Early606* translates to about five additional revenue recognition jobs [unconditional in column (1)] and about four additional revenue recognition jobs when controlling for other factors [in column (2)].

In column (3) of Table 8, we test whether early adopters of Topic 606 also post more job non-revenue accounting jobs versus mandatory adopters. The dependent variable is the total number of accounting jobs that the firm posts in a year, excluding revenue recognition jobs (*#AccJobs (excluding #RRJobs)*). The regression coefficient on *Early606* is not statistically significant, suggesting that early adopters of Topic 606 concentrate their hiring demand on revenue recognition jobs, without demanding more accounting workforce in general.

VII. CONCLUSIONS AND POTENTIAL POLICY IMPLICATIONS

Our study contributes to the financial accounting and standard setting literature by providing unique, large-sample evidence on direct implementation costs for new accounting standards. We find that after the FASB issues Topics 842 and 606, firms post more job ads for leases and revenue recognition jobs, respectively. A battery of empirical tests show that these job postings are consistent with hiring of inhouse accountants with necessary expertise related to implementation of those standards. In particular, the hiring increases in accounting complexity related to those standards and ameliorates the association between new standard and audit fees and accounting restatements. Our results suggest that the firms most affected by these standards hire on average four to five accountants for each standard. Our back of the envelop calculations show

that incremental hiring must increase the firm's accounting costs by approximately 30% of audit fees, and therefore, must be economically significant. Our estimates provide lower bound on the costs associated with adopting a new accounting standard, because they do not include the outlays on training existing personnel, new computer hardware and information technology, external consultants' fees, and increased audit fees. Our study should interest standard setters as they conduct cost-benefit analysis of past standards and use it as a guidance to create new standards.

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APPENDIX A: KEYWORDS AND SEARCH PATTERNS

All are case insensitive searches. "\w+" is a search pattern that accepts any ending to a word, e.g., "leas\w+" captures "lease", "leases", "leasing."

Standard	Keywords or search pattern
Leases	"operating leas\w+," "leas\w+," "lease accounting," "leased assets," "leasing arrangement," "sale-leaseback accounting," "asc 842," "topic 842," "asc842," "asc no. 842," "topic842," "asu 2016-02," "asu no. 2016-02," "topic no. 842," "ifrs 16," "ifrs16," "new lease guidance," "new lease accounting standard," "revised lease standard," "new lease standard," "revised lease accounting standard" "new leasing standard," "upcoming lease accounting standard," "new accounting standard for leases," "new accounting standard for leases," "new lease accounting"
Revenue recognition	"sop 81-1," "sop81-1," "asc 605," "asc605," "asc no. 605," "topic 605," "topic605," "asc 985-605," "asc985-605," "sab 104," "sab104," "sop 97-2," "sop 77-2," "sop97-2," "sop77-2," "revenue recognition," "record revenue," "revenue accounting," "boo\w+ revenue," "analyz\w+ revenue," "asc 606," "topic 606," "asc no. 606," "topic no. 606," "asc606," "topic606," "asu 2014-09," "asu no. 2014-09," "ifrs 15," "ifrs15," "new revenue recognition standar\w+," "new revenue recognition accounting standar\w+," "revised revenue recognition standar\w+," "revised revenue recognition accounting standar\w+," "new revenue standar\w+," "revenue from contracts with custome\w+"

APPENDIX B: EXAMPLES OF JOB POSTINGS

Job coding	Full text of job posting
Leases job BGTJobId 38270011546 Job date August 29, 2017	Title: MGR-FINANCE COMPANY: McDonald's Location ZipCode: 60523 Job Description: 5518BR Job Description: Financial Accounting & Reporting of the Corporate Controller Group currently has an excellent opportunity for an individual interested in a position that offers a broad perspective on McDonald? S global business by providing exposure to the consolidated internal and external reporting processes. In addition, the role will focus on implementation of the new FASB/IASB lease accounting standards. Requisition Number: 5518BR Country: United States EOE Statement: McDonald?s Corporation is an equal opportunity employer committed to a diverse and inclusive workforce. Job Type: full-time Minimum Requirements: Basic Requirements ? Bachelor?s degree in Accounting ? 6+ years of experience with strong technical accounting background or financial reporting Preferred Requirements ? CPA ? Public accounting experience preferred ? Ability to work effectively in a team environment ? Strong analytical abilities ? Excellent verbal and written communication skills ? Initiative and creativity in finding efficiencies *LI-CG IndeedMCD State: Illinois Responsibilities: Responsibilities may include, but are not limited to: ? Documenting McDonald?s policies regarding technical accounting issues and questions including the new lease accounting standard. ? Review and analysis of the impact of the new lease accounting standard to McDonald?s consolidated internal and external financial statements. ? Providing guidance to US and international market finance teams for implementation of the new lease accounting standard. ? Assistance with the quarterly and annual filings with the SEC ? Participation in special projects for Finance management Job Title: Financial Advisor
Revenue recognition job BGTJobID 37870107172	Title: Aviation Technical Controller COMPANY: General Electric Location ZipCode: 45215 Job Description: 5518BR *[Firm description removed for parsimony]*

Job date February 18, 2015	General Electric Aviation Technical Controller in Evendale Ohio United States Role Summary/Purpose The Aviation Technical Controller will demonstrate accountability for functional, business, and broad company objectives. In this role, you will be the overall project manager supporting the efforts to document and standardize accounting policies and standard operating procedures (SOPs), primarily around revenue recognition for new U.S. GAAP standard, for the GE Aviation segment. Essential Responsibilities In addition you will: *Develop and lead overall plan to implement the new revenue recognition standard, including assessing underlying controls, operational process, trainings and system changes required *Be responsible for developing a comprehensive approach to implement the new revenue recognition standard *Develop, document and standardizing policies related to revenue recognition *Work closely with the Aviation controllership team, GE Corporate, and external resources; as applicable *Lead discussions and trainings with functional stakeholders around any operational process changes, controls enhancements and simplification required across the revenue recognition policies and related commercial practices *Review new and proposed contracts to define appropriate accounting routines and procedures *Ensure appropriate documentation of accounting procedures and policies *Document business specific applications and procedures related to accounting policies Qualifications/Requirements *Bachelor's Degree in Accounting or Finance from an accredited college or university *Minimum of 5 years of experience in an accounting role Additional Eligibility Qualifications GE will only employ those who are legally authorized to work in the United States for this opening. Any offer of employment is conditioned upon the successful completion of a background investigation and drug screen. Desired Characteristics *Certified Public Accountant or Master's Degree in Business Administration from and accredited college or university *Big 4 audit firm experience *Aerospace industry experience *Experience in auditing, driving efficiencies and implementing controls in financial processes *Ability to anticipate, identify, and resolve complex financial issues *Strong oral and written communication skills *Strong interpersonal and leadership skills *PC proficiency

APPENDIX C: VARIABLE MEASUREMENT

Variable	Definition [Source]
Variables of interest	
AFTER606	Indicator variable that takes the value one for periods after Topic 606 issuance (that is, after 2014, excluding 2014) and zero otherwise.
AFTER842	Indicator variable that takes the value one for periods after Topic 842 issuance (that is, after 2016, excluding 2016) and zero otherwise.
#LeasesJobs	Number of accounting positions focused on leases aggregated at the firm-year level, as identified by our keyword search in the full text of the job posting. [BG, our search algorithm; see Appendix A]
#RRJobs	Number of accounting positions focused on revenue recognition aggregated at the firm-year level, as identified by our keyword search in the full text of the job posting. [BG, our search algorithm; see Appendix A]
LeasesJobs%	Proportion of lease positions posted at the firm-year level in total number of employees, which is based on the Compustat variable *emp*, measured in thousands. [BG and Compustat]
RRJobs%	Proportion of revenue recognition positions posted at the firm-year level in total number of employees, which is based on the Compustat variable *emp*, measured in thousands. [BG and Compustat]
Mean_RRJobs	Annual average of revenue recognition job postings a firm posted in 2015, 2016, and 2017. [BG]
High Hire	Indicator variable that takes the value one if the value for *Mean_RRJobs* is in the top tercile of the sample and takes the value zero if the value for *Mean_RRJobs* is in the bottom tercile of the sample. *Mean_RRJobs* is as defined above. [BG]
HighComplexity842	Indicator variable that takes the value one if the ratio of total off-balance sheet lease commitments to total assets in the year prior to Topic 842 issuance (that is, 2015) is in the top tercile of the sample and zero if the same ratio is in the bottom tercile of the sample. When this variable is used in the falsification test, the ratio is computed in 2011. [Compustat]
HighComplexity606	Indicator variable that takes the value one if the ratio of accounts receivable plus deferred revenue to total assets in the year prior to Topic 606 issuance (that is, 2013) is in the top tercile of the sample and zero if the same ratio is in the bottom tercile of the sample. When this variable is used in the falsification test, the ratio is computed in 2011. [Compustat]
SmallFirm842	Indicator variable that takes the value one if the firm is in the bottom tercile of size (based on total assets) prior to Topic 842 issuance (that is, in 2015) and zero if the firm is in the top tercile of size. [Compustat]
SmallFirm606	Indicator variable that takes the value one if the firm is in the bottom tercile of size (based on total assets) prior to Topic 606 issuance (that is, in 2013) and zero if the firm is in the top tercile of size. [Compustat]
Early606	Indicator variable that takes the value one for firms who adopted Topic 606 before December 15, 2018, based on the Compustat variable *acctchg* and zero otherwise. [Compustat]
LnAuditFees	Natural logarithm of audit fees. [Audit Analytics]

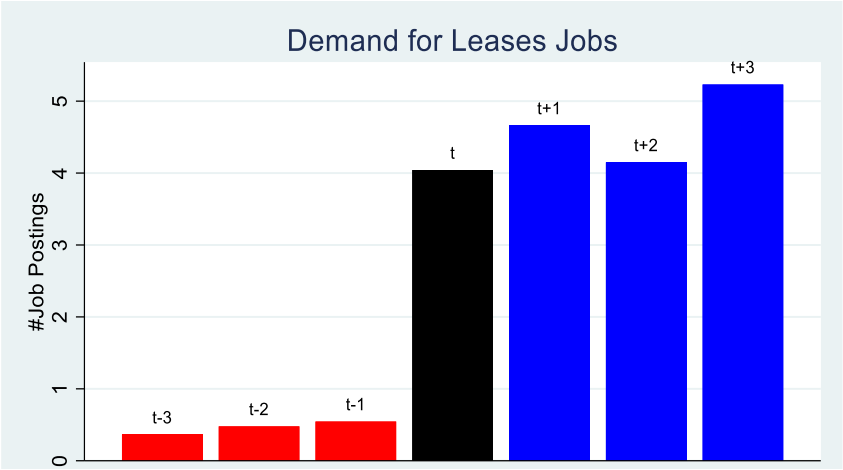
Restatement606	Indicator variable that equals 1 if the financial statements are restated due to revenue recognition issues, and 0 otherwise. [Audit Analytics]
Post2018	Indicator variable that takes the value one in 2018, 2019, and 2020, after Topic 606 becomes effective, and zero in the three years before (that is, 2015 to 2017).
AFTER2012	Indicator variable used in the falsification test that takes the value one in 2012 and 2013, and zero in 2010 and 2011.
#AccJobs (excluding #RRJobs)	Total number of accounting positions posted by a firm in a given year excluding the positions we code as revenue recognition jobs (that is, *#RRJobs*). We classify a position as accounting if the BG Occupation Code is among the following codes: "Financial Manager" (code 11-3031.00), "Treasurer/Controller" (code 11-3031.01), "Financial Reporting Manager" (code 11-3031.92), "Auditor" (code 13-2011.02), "Accountant" (code 13-2011.93), and "Bookkeeper/Accounting Clerk" (code 43-3031.00). [BG]
Firm-level control variables	
LnAssets	Natural logarithm of total assets. [Compustat]
LnAge	Natural logarithm of firm age computed from the date of the firm first enters the Compustat universe. [Compustat]
MTB	Market-to-book ratio. [Compustat]
Big4	Indicator variable that takes the value one if the firm is audited by a Big 4 audit firm and zero otherwise. [Compustat]
ROA	Return on assets, computed as net income before extraordinary items divided by total assets. [Compustat]
Loss	Indicator variable that takes the value one if the firm's net income before extraordinary items is below zero and zero otherwise. [Compustat]
Leverage	Total liabilities divided by total assets. [Compustat]
LnSegment	Natural logarithm of the number of business and geographic segments that the firm reports. [Compustat Segments]
LnARC	Natural logarithm of accounting reporting complexity as defined by Hoitash and Hoitash (2018). [https://www.xbrlresearch.com/firm-complexity-using-arc/]
IntroGrow	Indicator variable that takes the value one if the firm's life cycle is in the introduction or growth stage and zero otherwise (decline, shake, or mature). We follow Dickinson (2011) to compute each life cycle stage. [Compustat]
Trend (year)	Year variable.

FIGURE 1
FASB Timeline to Issuing the New Leases and Revenue Recognition Standards

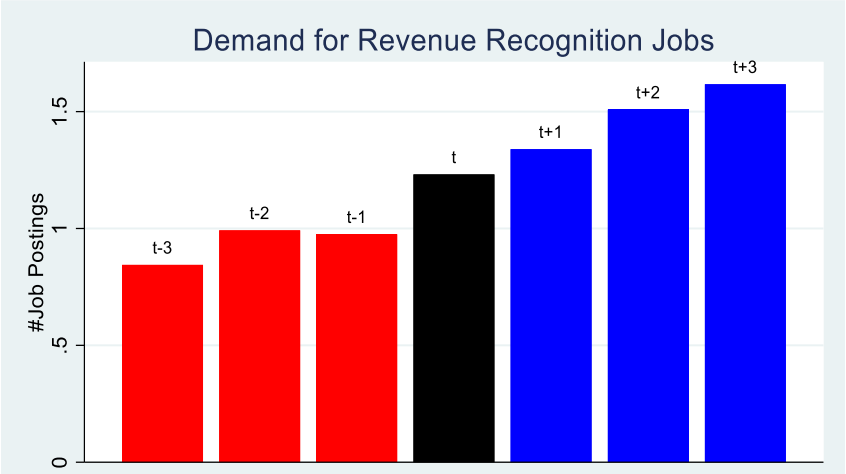
Timeline	Topic 842	Topic 606
Added to agenda	July 2006	June 2002
Discussion paper	March 19, 2009	December 19, 2008
Exposure Draft I	August 17, 2010	June 24, 2010
Exposure Draft II	May 16, 2013	November 14, 2011
Update issued	February 2, 2016 (2016-02)	May 28, 2014 (2014-09)
Original effective date	December 15, 2018	December 15, 2016
Early adoption date		December 15, 2016
Update deferral		August 2015 (2015-14)
Final effective date		December 15, 2017

FIGURE 2
Job Postings around the Issuance of Topic 842 and Topic 606

Panel A: Leases Job Postings



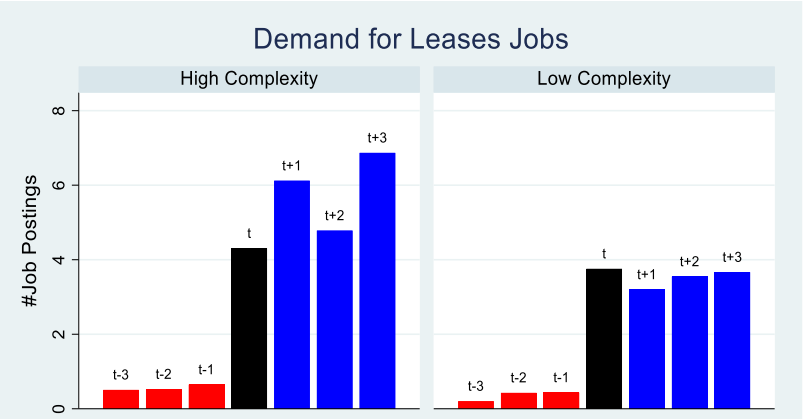
Panel B: Revenue Recognition Job Postings



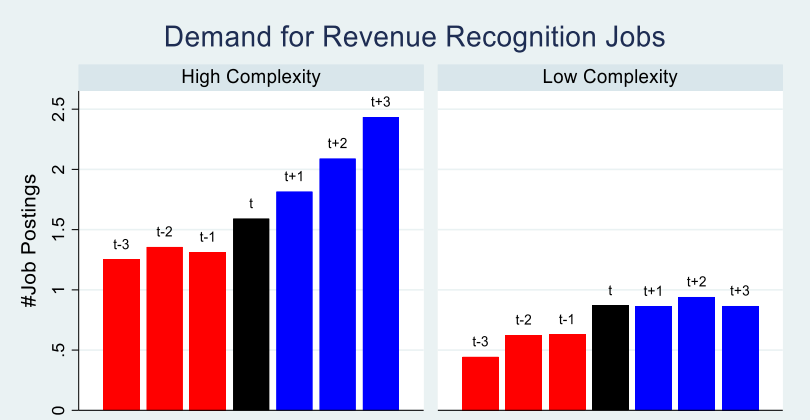
This figure depicts the average number of postings for lease (Panel A) and revenue recognition jobs (Panel B) in the three years before and after the issuance of Topic 842 and Topic 606, as well as in the year of standard issuance. The issuance year *t* is 2016 for Topic 842 and 2014 for Topic 606.

FIGURE 3
Job Postings around the Issuance of Topic 842 and Topic 606, Conditional on the Complexity of Adopting the New Standards for the Firm

Panel A: Leases Jobs



Panel B: Revenue Recognition Jobs



This figure depicts the average number of job postings for lease (Panel A) and revenue recognition jobs (Panel B) in the three years before and after the issuance of Topic 842 and Topic 606, as well as the year of issuance, conditional on the complexity of adopting the new standard for the firm. The year of issuance *t* is 2016 for Topic 842 and 2014 for Topic 606.

Complexity of adopting Topic 842 is gauged based on the firm's total off-balance sheet lease commitments scaled by total assets in the year prior to issuance (that is, 2015); high complexity means the firm is in the top tercile of the sample for this ratio; low complexity means the firm is in the bottom tercile of the sample for this ratio.

Complexity of adopting Topic 606 is gauged based on the firm's accounts receivables and deferred revenue scaled by total sales in the year prior to issuance (that is, 2013); high complexity means the firm is in the top tercile of the sample for this ratio; low complexity means the firm is in the bottom tercile for the sample for this ratio.

TABLE 1
Industry Averages and Correlations

Panel A: Lease Commitments and Number of Leases Jobs by Fama-French 30 Industry

Code	Industry Name	Lease Complexity	Scaled Lease Jobs
28	Restaurants, Hotels, Motels	**0.6642**	**0.0618**
27	Retail	**0.4981**	**0.1812**
7	Apparel	**0.3164**	0.0400
6	Consumer Goods	**0.1524**	0.0452
4	Recreation	**0.1516**	**0.1395**
2	Beer & Liquor	0.1468	0.0212
8	Healthcare, Medical Equipment, Pharmaceutical	0.1352	0.0568
22	Personal and Business Services	0.1231	**0.0870**
25	Transportation	0.1187	0.0257
21	Communication	0.0832	0.0228
26	Wholesale	0.0801	0.0267
15	Automobiles and Trucks	0.0624	0.0541
5	Printing and Publishing	0.0567	0.0526
24	Business Supplies and Shipping Containers	0.0548	***0.0130***
29	Banking, Insurance, Real Estate, Trading	0.0519	0.0606
16	Aircraft, ships, and railroad equipment	0.0497	0.0582
1	Food Products	0.0496	0.0174
9	Chemicals	0.0467	0.0202
30	Everything Else	0.0452	0.0451
23	Business Equipment	0.0432	**0.0644**
17	Precious Metals, Non-Metallic, and Industrial Metal	0.0394	0.0282
10	Textiles	0.0391	0.0190
13	Fabricated Products and Machinery	0.0385	0.0480
14	Electrical Equipment	0.0339	0.0275
18	Coal	0.0332	***0.0053***
19	Petroleum and Natural Gas	***0.0319***	***0.0158***
11	Construction and Construction Materials	***0.0314***	0.0299
12	Steel Works Etc.	***0.0217***	0.0237
3	Tobacco Products	***0.0132***	***0.0053***
20	Utilities	***0.0004***	***0.0147***
Correlations (N = 30 observations)			
	Pearson correlation	0.5460***	
	Spearman's rank correlation	0.5604***	

The variables are estimated at firm-year level and then averaged by Fama-French 30 industry groups. The industries are then sorted high-to-low Lease Complexity (off-balance sheet lease commitments scaled by total assets) in 2015, the year before the issuance of Topic 842. Scaled Lease Jobs refers to ratio of #LeasesJobs scaled by square root of total assets, averaged from 2017 to 2019. The top (bottom) five industries for each variable are highlighted in bold (bold italic) letters. Highlighted in green color are the industries that overlap with the highest values for each variable. Highlighted in orange color are the industries that overlap between the lowest values for each variable. *** denotes significance at 1% level

TABLE 1, Continued

Panel B: Accounts Receivable and Deferred Revenue and Number of Revenue Recognition Jobs by Fama-French 30 Industry

Code	Industry Name	Revenue-Recognition Complexity	Scaled Revenue Recognition Jobs
22	Personal and Business Services	**0.2897**	**0.0376**
26	Wholesale	**0.2511**	0.0114
6	Consumer Goods	**0.2440**	0.0127
23	Business Equipment	**0.2313**	**0.0364**
15	Automobiles and Trucks	**0.2199**	0.0097
14	Electrical Equipment	0.1858	**0.0203**
13	Fabricated Products and Machinery	0.1802	0.0131
25	Transportation	0.1754	0.0094
5	Printing and Publishing	0.1676	**0.0231**
11	Construction and Construction Materials	0.1668	0.0053
16	Aircraft, ships, and railroad equipment	0.1641	0.0180
30	Everything Else	0.1637	0.0094
12	Steel Works Etc.	0.1586	0.0043
9	Chemicals	0.1444	0.0043
10	Textiles	0.1442	***0.0025***
24	Business Supplies and Shipping	0.1431	***0.0010***
7	Apparel	0.1419	0.0067
8	Healthcare, Medical Equipment,	0.1320	0.0120
29	Banking, Insurance, Real Estate, Trading	0.1228	0.0114
1	Food Products	0.1104	0.0035
4	Recreation	0.1032	**0.0314**
19	Petroleum and Natural Gas	0.0975	0.0070
21	Communication	0.0914	0.0147
2	Beer & Liquor	0.0882	***0.0018***
27	Retail	0.0849	0.0050
28	Restaurants, Hotels, Motels	***0.0776***	0.0167
20	Utilities	***0.0545***	0.0042
17	Precious Metals, Non-Metallic, and	***0.0399***	***0.0024***
18	Coal	***0.0376***	0.0047
3	Tobacco Products	***0.0088***	***0.0000***
Correlations (N = 30 observations)			
	Pearson correlation	0.5355***	
	Spearman's rank correlation	0.5426***	

The variables are estimated at firm-year level and then averaged by Fama-French 30 industry groups. The industries are then sorted high-to-low Revenue-Recognition Complexity (accounts receivable and deferred revenue scaled by total assets) in 2013, the year before the issuance of Topic 606. Scaled Revenue-Recognition Jobs refers to ratio of #RRJobs scaled by square root of total assets, averaged from 2015 to 2017. The top (bottom) five industries for each variable are highlighted in bold (bold italic) letters. Highlighted in green color are the industries that overlap with the highest values for each variable. Highlighted in orange color are the industries that overlap between the lowest values for each variable. *** denotes significance at 1% level

TABLE 2
Summary Statistics

Variable	Mean	Standard Deviation	p25	p50	p75
Panel A: Sample for Topic 842 (*N* = 5,978 Firm-Year Observations)					
#LeasesJobs	2.54	18.04	0.00	0.00	1.00
LnAssets	7.55	2.07	6.25	7.61	8.90
LnAge	3.04	0.77	2.56	3.09	3.56
MTB	3.69	7.98	1.30	2.27	4.28
Big4	0.84	0.37	1.00	1.00	1.00
Loss	0.27	0.44	0.00	0.00	1.00
ROA	-0.02	0.23	-0.01	0.03	0.07
Leverage	0.61	0.29	0.43	0.59	0.74
LnSegment	1.22	0.79	0.69	1.39	1.79
LnARC	5.86	0.37	5.61	5.88	6.11
IntroGrow	0.36	0.48	0.00	0.00	1.00
Panel B: Sample for Topic 606 (*N* = 5,346 Firm-Year Observations)					
#RRJobs	1.07	3.08	0.00	0.00	0.00
LnAssets	7.43	2.04	6.06	7.55	8.76
LnAge	3.06	0.74	2.64	3.04	3.64
MTB	3.32	7.51	1.32	2.17	3.90
Big4	0.85	0.35	1.00	1.00	1.00
Loss	0.27	0.44	0.00	0.00	1.00
ROA	-0.01	0.21	0.00	0.03	0.07
Leverage	0.60	0.28	0.42	0.58	0.73
LnSegment	0.84	0.87	0.00	0.69	1.61
LnARC	5.78	0.47	5.53	5.83	6.09
IntroGrow	0.37	0.48	0.00	0.00	1.00

This table provide summary statistics for the data used in our main tests. The samples for Panels A and B are confined to six years (three years before and three years after the year of issuance, excluding the year of issuance) of Topic 842, and Topic 606, respectively. We retain firms that face highest and lowest accounting complexity in implementing each standard, based on the top and bottom terciles of *HighComplexity842*, and *HighComplexity606*, respectively. All variables are defined in Appendix C.

TABLE 3
Change in Leases Job Postings After Issuance of Leasing Standard

Variable	(1) #LeasesJobs	(2) #LeasesJobs	(3) #LeasesJobs	(4) #LeasesJobs
AFTER842	**4.5391*** **	**4.5302*** **	**3.4471*** **	**1.7807* **
	(0.7109)	**(0.7054)**	**(0.7117)**	**(1.0811)**
AFTER842 × HighComplexity842			**2.4025* **	**2.4960* **
			(1.3630)	**(1.3568)**
Trend (year)				**0.5208** **
				(0.2609)
LnAssets		2.3708***	2.4112***	2.2640***
		(0.7989)	(0.8131)	(0.7974)
LnAge		-1.3941	-1.9531	-3.3951
		(2.8473)	(2.7310)	(2.7373)
MTB		-0.0050	-0.0030	-0.0030
		(0.0164)	(0.0162)	(0.0161)
Big4		0.6338	0.6429	0.8364
		(0.9172)	(0.9541)	(0.9740)
Loss		-0.8941	-0.8730	-0.9288*
		(0.5458)	(0.5452)	(0.5372)
ROA		-0.9342	-0.9979	-1.0111
		(0.7776)	(0.7755)	(0.7692)
Leverage		1.4123	1.1184	0.9004
		(1.5211)	(1.4674)	(1.4670)
LnSegment		0.1189	0.0511	-0.1759
		(0.4902)	(0.4910)	(0.5344)
LnARC		-7.0767**	-7.1632**	-7.2729**
		(3.2642)	(3.2929)	(3.3094)
IntroGrow		0.1079	0.0988	0.1250
		(0.6905)	(0.6903)	(0.6990)
Observations	5,978	5,978	5,978	5,978
Adjusted R^2	0.1900	0.1909	0.1920	0.1923
Fixed Effects	Firm	Firm	Firm	Firm
Clustering	Firm	Firm	Firm	Firm

This table examines association between job posting for lease accounting (#LeasesJobs, dependent variable) and the issuance of the new lease standard (AFTER842). The sample spans three years before and three years after the standard issuance and excludes the year of issuance (that is, 2016). The sample is confined to the top and bottom terciles of accounting complexity of adopting the new lease standard (Complexity842). Column (1) shows regression, without control variables, with variable of interest AFTER842, indicating increase or decrease in jobs after 842 issuance. Column (2) adds the set of firm-year control variables to the regression shown in Column (1). The variable of interest in Column (3) is the interaction term AFTER842 × HighComplexity842, indicating increase or decrease in jobs after 842 issuance, conditional on accounting complexity. Columns (5) add a variable to (4) to control for time trend. All variables are defined in Appendix C. All models include firm fixed effects and standard errors are clustered by firm. ***, **, and * denote the 1%, 5%, and 10% level of significance, respectively.

TABLE 4
Change in Revenue-Recognition Job Postings After Issuance of Revenue Standard

Variable	(1) #RRJobs	(2) #RRJobs	(3) #RRJobs	(4) #RRJobs
AFTER606	**0.3856*** **	**0.1829***	**0.0697**	**-0.0932**
	(0.0704)	**(0.0966)**	**(0.1107)**	**(0.1368)**
AFTER606 × HighComplexity606			**0.2472***	**0.2618***
			(0.1390)	**(0.1398)**
Trend(year)				0.0632*
				(0.0370)
LnAssets		0.3098***	0.3010**	0.2904**
		(0.1176)	(0.1168)	(0.1175)
LnAge		0.1998	0.2100	0.0076
		(0.2536)	(0.2533)	(0.2823)
MTB		-0.0067	-0.0069	-0.0070
		(0.0051)	(0.0051)	(0.0051)
Big4		0.0255	0.0377	0.0471
		(0.1757)	(0.1803)	(0.1803)
Loss		-0.1008	-0.1008	-0.1001
		(0.1270)	(0.1271)	(0.1268)
ROA		-0.1949	-0.2156	-0.2217
		(0.2077)	(0.2074)	(0.2069)
Leverage		-0.0768	-0.0949	-0.1123
		(0.2497)	(0.2481)	(0.2471)
LnSegment		0.1119**	0.1033**	0.0650
		(0.0531)	(0.0520)	(0.0554)
LnARC		-0.0117	-0.0240	-0.0571
		(0.0843)	(0.0858)	(0.0891)
IntroGrow		0.0572	0.0554	0.0565
		(0.0790)	(0.0791)	(0.0790)
Observations	5,346	5,346	5,346	5,346
Adjusted R^2	0.6524	0.6537	0.6541	0.6543
Fixed Effects	Firm	Firm	Firm	Firm
Clustering	Firm	Firm	Firm	Firm

This table examines association between job posting for revenue recognition (#RRJobs, dependent variable) and the issuance of the new lease standard (AFTER606). The sample spans three years before and three years after the standard issuance and excludes the year of issuance (that is, 2014). The sample is confined to the top and bottom terciles of accounting complexity of adopting the new lease standard (Complexity606). Column (1) shows regression, without control variables, with variable of interest AFTER842, indicating increase or decrease in jobs after 606 issuance. Column (2) adds the set of firm-year control variables to the regression shown in Column (1). The variable of interest in Column (3) is the interaction term AFTER606 × HighComplexity606, indicating increase or decrease in jobs after 606 issuance, conditional on accounting complexity. Columns (5) add a variable to (4) to control for time trend. All variables are defined in Appendix C. All models include firm fixed effects and standard errors are clustered by firm. ***, **, and * denote the 1%, 5%, and 10% level of significance, respectively.

TABLE 5
Regulatory Burden on Small Firms Because of New Lease and Revenue Recognition Standards

Panel A: Leases Jobs

	Before Topic 842 issuance		After Topic 842 issuance	
	(1)	(2)	(3)	(4)
Variables	LeasesJobs%	LeasesJobs%	LeasesJobs%	LeasesJobs%
SmallFirm842	**-0.0021**	**-0.0041**	**0.2598*** **	**0.3715** **
	(0.0263)	**(0.0450)**	**(0.0864)**	**(0.1600)**
LnAge		-0.0358*		-0.2447***
		(0.0210)		(0.0743)
MTB		-0.0020		0.0002
		(0.0013)		(0.0039)
Big4		0.0286		0.3583***
		(0.0478)		(0.1381)
Loss		0.0179		-0.0502
		(0.0446)		(0.1075)
ROA		0.0157		-0.0879
		(0.0893)		(0.2323)
Leverage		-0.0107		-0.0564
		(0.0540)		(0.1557)
LnSegment		0.0356		0.0105
		(0.0438)		(0.0945)
LnARC		-0.0255		0.3751**
		(0.0978)		(0.1725)
IntroGrow		-0.0195		0.2218**
		(0.0248)		(0.0869)
Observations	3,199	3,012	2,924	2,886
Adjusted R^2	0.1013	0.1042	0.1430	0.1589
Fixed Effects	Firm	Firm	Firm	Firm
Clustering	Firm	Firm	Firm	Firm

TABLE 5, Continued

Panel B: Revenue Recognition Jobs

	Before Topic 606 issuance		After Topic 606 issuance	
	(1)	(2)	(3)	(4)
Variables	RRJobs%	RRJobs%	RRJobs%	RRJobs%
SmallFirm606	**0.0289**	**0.0515**	**0.1396*** **	**0.1228***
	(0.0351)	**(0.0616)**	**(0.0448)**	**(0.0650)**
LnAge		-0.0320		-0.0929***
		(0.0214)		(0.0309)
MTB		-0.0019		-0.0018
		(0.0017)		(0.0023)
Big4		0.1299**		0.1709**
		(0.0626)		(0.0780)
Loss		0.2273***		0.2443***
		(0.0522)		(0.0611)
ROA		0.2610***		0.2864***
		(0.0721)		(0.1108)
Leverage		-0.0111		0.0176
		(0.0794)		(0.0939)
LnSegment		-0.0095		-0.0787**
		(0.0140)		(0.0366)
LnARC		0.0741**		0.1712**
		(0.0356)		(0.0748)
IntroGrow		0.0367		-0.0371
		(0.0311)		(0.0380)
Observations	2,953	2,679	2,796	2,736
Adjusted R^2	0.0394	0.0594	0.0548	0.0829
Fixed Effects	Firm	Firm	Firm	Firm
Clustering	Firm	Firm	Firm	Firm

This table examines whether the regulatory burden, because of hiring new accountants pursuant to issuance of new accounting standards is higher for smaller firms. Regulatory burden is measured by the new accounting job postings, related to new standards, as a percentage of employees. It is the dependent variable. Panel A examines consequences of new lease standard (Topic 842) and Panel B examine new revenue recognition standard (Topic 606). The sample spans three years before [Columns (1) and (3)] and three years after [Columns (2) and (4)] the standard issuance. The year of issuance (that is, 2016 for Panel A and 2014 for Panel B) is excluded from analysis. The sample is confined to the top and bottom terciles of accounting complexity of adopting the new standard (Complexity842 and Complexity606, respectively). The variable of interest is the dummy variable SmallFirm842 and SmallFirm606, which takes a value of 1 for firms in the lowest tercile by size. All variables are defined in Appendix C. A positive coefficient on the dummy variable indicates that regulatory burden is higher on small firms. All models include firm fixed effects and standard errors are clustered by firm. ***, **, and * denote the 1%, 5%, and 10% level of significance. respectively.

TABLE 6
Revenue-Recognition Job Hiring and Consequences

	Audit fees test	Restatements due to revenue recognition issues	
	(1)	(2)	(3)
Variables	LnAuditFees	Restatement606	Restatement606
Post2018	0.0573***		
	(0.0119)		
Post2018 × High Hire	**-0.0282***		
	(0.0154)		
HighComplexity606		0.0090	0.0088
		(0.0058)	(0.0064)
Mean_RRJobs		0.0007	0.0011
		(0.0008)	(0.0008)
Mean_RRJobs × HighComplexity606		**-0.0014***	**-0.0015***
		(0.0008)	**(0.0008)**
LnAssets	0.2757***		-0.0039**
	(0.0219)		(0.0019)
LnAge	0.0884*		-0.0095*
	(0.0507)		(0.0053)
MTB	-0.0004		0.0005
	(0.0005)		(0.0004)
Big4	0.3506***		0.0160*
	(0.0584)		(0.0095)
Loss	0.0278**		0.0054
	(0.0136)		(0.0080)
ROA	-0.1941***		0.0138
	(0.0436)		(0.0110)
Leverage	0.0769**		-0.0111
	(0.0388)		(0.0097)
LnSegment	0.0443*		-0.0002
	(0.0256)		(0.0061)
LnARC	0.4262***		0.0155
	(0.0532)		(0.0128)
IntroGrow	-0.0075		-0.0072
	(0.0087)		(0.0060)
Observations	9,423	2,398	2,398
Adjusted R^2	0.9570	0.0106	0.0142
Fixed Effects	Firm	Industry	Industry
Clustering	Firm	Firm	Firm

This table tests the validity of our proxy for accounting hiring for revenue-recognition. All else held equal, enhancing inhouse revenue-recognition expertise must: a) lower the increase in audit fees that typically results from adoption of new revenue-recognition standard [tested in Column (1)]; and b) lower revenue-related restatements after the issuance of the new revenue-recognition standard [tested in Column (2) without control variables and in in Column (2) with control variables]. If these results hold, then job postings must be a valid proxy for hiring. Column (1) uses a data from three years before and three years after Topic 606 becomes effective (2018). Columns (2) to (3) shows tests with data restricted to three years after Topic 606 becomes effective. All variables are defined in Appendix C. All models include firm fixed effects and cluster standard errors by firm. ***, **, and * denote the 1%, 5%, and 10% level of significance, respectively.

TABLE 7
Falsification Test

Variable	(1) #LeasesJobs	(2) #LeasesJobs	(3) #RRJobs	(4) #RRJobs
AFTER2012	-0.0577	-0.1858	0.0191	-0.1243
	(0.1207)	(0.1756)	(0.1727)	(0.1857)
AFTER2012 × HighComplexity842		0.2550		
		(0.1800)		
AFTER2012 × HighComplexity606				0.2592
				(0.2325)
Controls	Yes	Yes	Yes	Yes
Observations	2,676	2,676	2,621	2,621
Adjusted R^2	0.5484	0.5494	0.6610	0.6613
Fixed Effects	Firm	Firm	Firm	Firm
Clustering	Firm	Firm	Firm	Firm

Tables 3 and 4 examine whether job postings for lease accounting and revenue recognition, respectively, are associated with the issuance of the new accounting standards Topic 842 and Topic 606. This test conducts a falsification test. 2012 is used as a pseudo issuance year. This Table tests whether job postings for lease accounting [dependent variable #LeaseJobs in columns (1) and (2)] and job postings for revenue recognition [dependent variable #RRJobs in columns (3) and (4)] are associated with the issuance of the new accounting standards assuming a pseudo issuance year of 2012. The sample spans two years before and two years including and after the pseudo issuance year. The sample is confined to the top and bottom terciles of accounting complexity of adopting the standards, measured in 2011. Columns (1) and (3) shows regressions, with variable of interest AFTER2012. Columns (2) and (4) show results with the variable of interest being the interaction term AFTER2012 × High Complexity. All variables are defined in Appendix C. All models include firm fixed effects and standard errors are clustered by firm. ***, **, and * denote the 1%, 5%, and 10% level of significance, respectively.

TABLE 8
Hiring Demand for Revenue Recognition Jobs from Early Adopters of Topic 606

	(1)	(2)	(3)
			#AccJobs
Variable	#RRJobs	#RRJobs	(excluding #RRJobs)
Early606	**5.0892****	**3.7141***	**11.4197**
	(2.5611)	**(2.2288)**	**(21.2094)**
LnAssets		0.8657***	18.7635***
		(0.1142)	(2.2980)
LnAge		-0.0110	3.6941**
		(0.1172)	(1.5577)
MTB		-0.0022	0.1205
		(0.0054)	(0.1319)
Big4		-0.6100***	-16.9300***
		(0.1607)	(3.1798)
Loss		0.2021	-1.1294
		(0.1868)	(2.1073)
ROA		-1.3149***	-28.2093***
		(0.2849)	(5.3033)
Leverage		0.3462*	14.1410***
		(0.2062)	(4.4799)
LnSegment		0.0893	1.9506
		(0.1641)	(2.3780)
LnARC		-0.6079	-16.9748**
		(0.3987)	(8.1089)
IntroGrow		-0.2322**	-4.2081**
		(0.1123)	(1.6967)
Constant	1.1466***	-1.4402	-21.6939
	(0.0914)	(2.0390)	(34.2131)
Observations	5,260	5,260	5,260
Adjusted R^2	0.0620	0.1035	0.1511
Fixed Effects	Industry	Industry	Industry
Clustering	Firm	Firm	Firm

This table presents results for the revenue-recognition job posting by firms that adopted Topic 606 early, that is, before December 15, 2018. The dependent variable across columns (1) and (2) is the number of revenue-recognition job postings at firm-year level. Column (1) reports results from a regression of *#RRJobs* on *Early606* without control variables. Column (2) adds the set of control variables. The dependent variable in column (3) is the number of accounting job postings, excluding revenue recognition jobs, and the regression includes the set of control variables. All variables are defined in Appendix C. *Early606* is firm-level variable hence the regression models include industry fixed effects. Standard errors are clustered by firm. ***, **, and * denote the 10%, 5%, and 1% level of significance, respectively.