The Differential Impact of Financial Reporting Complexity on Public and Private Debt Contracting: Evidence from ASU 2017-12

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ABSTRACT

Institutional differences between public and private debt markets can impact how complexity in accounting rules affects debt contracting. Using the adoption of ASU 2017-12 that substantially simplified the reporting of hedging activities, I compare debt contracting outcomes arising from public bond issuers' and private loan borrowers' implementations of less complex hedge accounting. I find that consistent with their commitment to high reporting quality, bond issuers lower credit spreads by 13 – 22 basis points through effective hedging induced by the ASU. In contrast, private loan borrowers face 11 basis points higher loan pricing, and 50% greater balance-sheet covenants post-ASU adoption. I argue that when the ASU removes risk-relevant reporting requirements, information frictions increase for banks, increasing the agency cost of private debt; and hedging outcomes from private borrowers' ASU adoptions are insufficient towards offsetting the increased agency cost of debt. I extend the literature by documenting the heterogenous debt contracting effects of accounting rules' complexity, which has mainly been studied from the perspective of equity investors and analysts.

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1. Introduction

In this paper I capture the effects of implementing highly complex reporting rules, on the cost of public and private debt. Public and private debt markets differ in lender sophistication and monitoring, borrower agency problems, and contracting flexibility (Chava and Roberts 2008; Nini, Smith, and Sufi 2012; Bharath et al. 2008; Dhaliwal, Khurana, Pereira 2011). Therefore, accounting rules' complexity should have a different monitoring role in public and private debt contracting. First, by making borrowers comply with increased reporting requirements, complex accounting rules can improve disclosure quality and reduce information asymmetries, provided lenders are sophisticated information processors (Chakraborty et al. 2022). Second, consistent with contracting and monitoring roles of disclosures (Holthausen and Leftwich 1983, Jin and Leslie 2003, Biddle, Hilary and Verdi 2009, Shroff 2017, Christensen, Floyd, Liu, and Maffett 2017), stringent reporting requirements can regulate the underlying reported activity of borrowers with high agency concerns. However, since excessive reporting rules can result in deadweight costs of compliance (Watts and Zimmerman 1986), they can also disincentivize the underlying reported activity; and if such activity is risk-reducing, accounting complexity can be disadvantageous to debt contracting parties. Given these competing influences, it is unclear whether complexity in accounting rules is net costly to debt markets.

I focus on the *reporting of hedging activities* because hedge accounting is considered the most complex area of financial reporting (PwC 2017, ACCA 2009), and its complexity has real implications for effective hedging (Ali, Bens, and Cassar 2022).[1] Given that effective hedging reduces the agency cost of debt (Chen and King 2014), the setting is particularly

[1] Reporting of hedging activities (under ASC 815 / IFRS 9) governs the application of the 'hedge accounting' treatment. This treatment most appropriately portrays the use of derivative securities by risk-managing firms as hedging instruments not intended for trading. The core idea behind hedge accounting is to reduce earnings volatility that would otherwise result from recording changes in fair value of derivatives in a period different from the one in which the hedged risks impact the income statement (PwC 2021). Please refer to Appendix B for an overview.

important for the debt market. I ask two research questions: First, does a reduction in hedge accounting complexity enable bond issuers *and* private loan borrowers to reduce economic risk exposures? Second, how is less complex hedge accounting implementation by each borrower type reflected in their debt contracting terms?

I exploit a recent accounting standard update, ASU 2017-12 "Targeted Improvements to Accounting for Hedging Activities," issued by the FASB in August 2017 in response to practitioner and academic criticism of legacy (SFAS 133) rules' hedge accounting complexity. A major aim of the FASB when issuing the ASU was to make hedge accounting accessible as a reporting option to firms that faced excessive compliance burdens and the risk of restatements (Leone 2007, 2008). Firms reduced their actual use of derivatives to manage risks, in response to hedge accounting complexity (Lins, Servaes, and Tamayo 2011). Further, investors faced substantial interpretation difficulties and suffered a significant loss in shareholder value on the introduction of SFAS 133 (Chang et al. 2016; Campbell 2015; Makar, Wang, and Alam 2013, Khan, Rajgopal, and Venkatachalam 2018).

ASU 2017-12 offers salient advantages in examining the debt contracting effects of reporting complexity. First, the ASU provides actionable compliance reliefs to preparers, which allows me to instrument accounting rules' complexity that firms face and deal with, more substantively as compared to word count-based proxies of complexity in the literature thus far. ASU 2017-12's major reliefs included expanding the scope of hedge accounting to components of an overall risk; easing strict quantitative tests of hedge effectiveness to validate derivatives' continued use as hedging instruments; eliminating the requirement to separate and report ineffective portions in hedging relationships every reporting period; and providing preparers more time to finalize hedge documentation (FASB 2017).

Second, hedge accounting complexity is risk and credit relevant. Since the ASU's reliefs can lower financial risks by enhancing underlying hedging activity (Ali et al. 2022), the

ASU can lower the agency cost of debt. Importantly, however, it is unclear whether a reduction in the cost of debt will manifest in both the public and private debt contexts. The ASU eliminates potentially risk-relevant disclosures and requirements, which can increase information asymmetries for lenders and compromise discipline in borrowers' hedging activity (Kawaller 2018; Chen, Liu, Seow, and Xie 2020). Such an increase in information asymmetry would contradict the FASB's intent, which was to reduce unnecessary compliance burdens and costs on preparers, while maintaining an adequate flow of relevant information about derivatives activity, to investors.

Borrowers in the public debt market are of greater reporting, asset, and risk quality than borrowers in the private debt market (Bharath et al. 2008; Dhaliwal et al. 2011). To reduce adverse selection costs, private borrowers approach sophisticated banks that monitor these clients by obtaining proprietary information, and by writing customized renegotiable contracts (Diamond 1984, Diamond 1991, Batthacharya and Chisea 1995, Chava and Roberts 2008, Nini et al. 2009). In contrast, borrowers in the public debt market face less direct monitoring, as it is costly for dispersed and less sophisticated bondholders to monitor borrowers due to the free-rider problem. Therefore, financial reports serve as a major post-contractual source of monitoring for bondholders. To the extent that bond issuers' ex-ante commitment to high-quality financial reporting reduces agency concerns of bondholders more than banks' monitoring of inferior reporting/risk-quality private loan borrowers, I expect bond issuers to implement the ASU more effectively than private loan borrowers. ASU implementation will have real economic effects if bond issuers enhance their hedging activity and reduce economic risk exposures through activities that now enjoy less complex hedge accounting under the ASU. Consequently, bond issuers can reduce the agency cost of debt.

In contrast, I expect private borrowers' agency cost of debt to increase from implementing the ASU that increases reporting flexibility. This is because private borrowers

are charged higher interest rates when given greater reporting flexibility (Beatty, Ramesh, and Weber 2002), and complexity in accounting rules is useful for sophisticated banks in screening and monitoring borrowers (Chakraborty et al. 2022). Given agency concerns, in absence of quantitative testing of hedge effectiveness and reporting of ineffectiveness in the income statement, banks may suspect private borrowers to use derivatives that are speculative or unfit for hedge accounting treatment. Consequently, borrowers' post-ASU hedging activity may not sufficiently reduce economic risks to offset the imminent increase in interest rates from reporting reliefs given by the ASU. Given the suspected misapplication of the ASU's reliefs, and the need to capture borrowers' complete and timely risk profile, I expect banks to rely more on balance sheet-based covenants when borrowers shift risk-relevant fair value changes in invalid or speculative derivatives to equity from earnings under hedge accounting under the ASU.

To analyze the effects of less complex hedge accounting under ASU 2017-12, I use a modified difference-in-difference design that maps the intensity of hedge accounting use onto risk exposures and debt contracting outcomes. The design utilizes the staggered adoption of the ASU by firms between 2017 and 2019, a continuous measure of hedge accounting intensity as treatment, and a control group of firms that do not adopt hedge accounting throughout the sample period. The control group of firms explicitly discloses that their derivatives are employed to curtail financial risk and not for speculation; and that they do not adopt hedge accounting as part of their compliance policy, not due to a speculative motive that rules out the option to hedge account. I hand collect SFAS 161 disclosures from quarterly and annual reports on fair values of derivatives, and whether their usage qualifies and is designated for hedge accounting treatment, to form the continuous treatment measure for the sample period 2013 -

2019.[2] I then merge this firm-level hedging data with TRACE/Mergent FISD and DealScan databases to track bonds and private loans issued by the hedging firms and include the price and non-price terms attached to the bonds and private loans, as dependent variables in empirical tests.

I find that bond issuers implement ASU 2017-12 effectively by reducing virtually all risk exposures. Their cash flow and earnings volatilities, interest rate risk exposure, and FX risk exposure, decline by a range of 6 – 17% in terms of economic magnitude. In comparison, private loan borrowers' ASU implementations are inferior, showing insignificant or no reduction in performance volatilities, selective hedging of FX risk, and inappropriate increase in commodity risk exposure. Consistent with the favorable economic risk exposure results, bond issuers' post-ASU hedging activity reduces their credit spreads significantly in both the secondary and primary bond markets with credit spread reductions of 13 (or 9%) and 22 (or 16%) basis points, respectively. In comparison, private loan borrowers' post-ASU hedging activity results in around 11 basis points' (or 6%) increase in loan pricing accompanied by a 6-month reduction in loan maturity, and 50% greater reliance on balance sheet covenants.

By reducing compliance difficulty, ASU 2017-12 provides an opportunity to reduce the cost of debt through reductions in borrowers' economic risk exposures. Therefore, I expect borrowers with greater perceived agency cost of debt in the pre-ASU period, to benefit the most from implementing the ASU. I form three cross-sections of public and private borrowers, consistent with extant literature (Jensen and Meckling 1976; Francis, LaFond, Olsson, Schipper 2005; and Wald and Long 2007), that are prone to higher agency cost of debt: borrowers with higher dividend payouts that can be used to divert cash to shareholders; borrowers with poorer

[2] The measure is computed as the sum of 'absolute' fair values of designated derivatives instruments, scaled by total assets. It is a more precise quantification of hedge accounting use that is less prone to omitted variables biases that a binary treatment dummy would be. Importantly, ASU 2017-12 was designed to ease hedge accounting compliance, and using a binary treatment would not capture the cross-sectional variation in or the extent to which firms' hedge accounting use is eased by the ASU.

accounting quality which increases information asymmetry for lenders; and borrowers that are more financially distressed as their managers have incentives to expropriate lenders by investing in risky projects. Consistent with my predictions, the cross-sectional results show that it is these categories of bond issuers that drive the credit spread reduction from post-ASU hedging activity. In comparison, private loan borrowers get penalized in the form of higher interest rates, lower maturities, and greater balance sheet covenants across the same cross-sections of borrowers. These results emphasize that a reduction in reporting complexity can help bond issuers mitigate agency concerns; but a reduction in reporting complexity is substituted by lender scrutiny implemented through stricter contracting terms, in the private loan market.

The preceding analyses focus on the cost of debt changes arising from the post-ASU hedging activity and bonding mechanisms of borrowers in each debt market. However, lenders may price the informational content of hedge accounting under the ASU irrespective of changes to real hedging activity. In additional tests, I single out this baseline informational effect by controlling for borrower characteristics that explain the choice of public or private debt financing, and by holding post-ASU borrower hedging activity constant. I find that absent the post-ASU real hedging changes, the differential impact on the cost of public versus private debt persists: public bond credit spreads decrease by 8 to 12 basis points, and private loan spreads increase by 18 basis points, representing lower and upper bounds of the effects on the cost of public and private cost of debt, respectively. This evidence suggests that less complex accounting compliance is perceived unfavorably by private lenders and favorably by public bondholders, even for the same quality of borrowers and regardless of borrowers' risk management outcomes.

The staggered implementation of ASU 2017-12 over the years 2017 through 2019 evidenced in 30 – 40% of firms in both debt samples early adopting the ASU, mitigates the

concerns that typically arise in studies of a single accounting rule change. It is unlikely that unrelated shocks to credit spreads in both the primary and secondary bond markets, and price and non-price bank loan terms, all occur in sync with the implementation pattern across hedge accounting and non-hedge accounting users. It is reasonable to believe that the firm-level ASU adoption timing is exogenous. Discussions on the FASB's decision to issue the ASU with an intent to reduce hedge accounting complexity had started years earlier,[3] mitigating the concern that my analysis picks up debt market and firms' risk exposure responses to standard-setting events giving rise to the ASU's issuance or adoption. In addition, debtholders would have to choose contracting dates ex-ante to coincide with borrowers' profuse intra-year hedging activity and expected risk outcomes several months or years in advance. Such timing synchronization between dispersed bondholders and syndicate banks is implausible. Notwithstanding, I provide evidence that the parallel-trends assumption holds, by falsely assuming that the treatment firms adopt the ASU in each of the years 2013 through 2016, and find insignificant coefficients for the key outcome variables.

I contribute to several streams of literature. First, I add to the literature on accounting complexity and disclosure costs. Reporting complexity has mainly been studied from an equity market standpoint. I provide new evidence on competing influences of complexity on debt contracting – public and private. Leuz and Wysocki (2016) point to a paucity of evidence that quantifies the costs of firms' disclosure and reporting practices. My findings show that accounting rules' compliance requirements directly affect the cost of debt because these rules can alter the risk profile of reporting firms. Further, there is limited research on the 'real effects' of disclosure processing costs, and complex financial reporting standards contribute to these costs (Blankespoor et al. 2020). I show how a reduction in complexity (in reporting of hedging

[3] As per FASB records, discussions around hedge accounting reform began as early as 2011: https://www.fasb.org/page/PageContent?pageId=/reference-library/exposure-documents-public-comment-documents-archive.html

activities) results in real effects (risk exposure changes) and changes debt-contracting behavior. Given financial reporting quality is key to reducing information frictions (Roychowdhury, Shroff, and Verdi 2019), my findings show that complexity in accounting rules impacts financial reporting very differently depending on the extent of adverse selection concerns between capital providers and firms.

Second, I add to the debt contracting literature in multiple ways. My findings imply that variation in reporting complexity can contribute to debt contracting efficiency depending on the public or private nature of debt financing. I show that reductions in hedge accounting complexity can help bond issuers reduce credit spreads since firms have discretion over their hedging activity and its reporting, and hedging activity/reporting influences the cost of debt. By pointing to an unprecedented channel through which bond issuers can influence their cost of debt, I add to the literature on the determinants of firms' contractual arrangements with creditors in the primary bond market (e.g., Billett, King, and Mauer 2007; Chava, Kumar, and Warga 2010; and Amiraslani, Lins, Servaes, and Tamayo 2022).

Related to private debt contracting, my finding that borrowers' implementation of less complex reporting worsens loan pricing and terms of loan financing, suggests that reporting complexity augments the role of monitoring by banks. This evidence is consistent with the findings of Chakraborty et al. (2022), who point out that the cost and terms of bank financing for complex firms are negatively *associated* with accounting rules' complexity due to the informational advantages of complexity. I complement their work in several ways: by demonstrating that changes to economic risk exposures are an important mechanism through which accounting complexity can influence bank financing; by providing more causal inference based on tests with a sharper and staggered treatment effect; and by comparing the loan contracting impact of accounting complexity to the impact in the bond market.

I also add to the literature on the choice of covenants (e.g., Honigsberg, Katz, Mutlu, Sadka 2021). I respond to Armstrong, Guay, and Weber (2010) who stress the importance of understanding factors that affect the choice of financial ratios over which covenants are written, and to Christensen, Nikolaev, and Wittenberg-Moerman (2016) who emphasize that reasons behind differences in the choice of accounting signals and how their thresholds are set are not well understood. I do so by drawing attention to reporting complexity as being a key determinant of covenant choice.

Third, I extend the literature on derivatives and hedge accounting standards. Prior studies focus on risk management using derivatives in general (Guay 1999; Wong 2000; Chang et al. 2016), the valuation aspects of cash flow hedges (Gigler, Kanodia, and Venugopalan 2007; Campbell 2015; Campbell, D'Adduzio, Downes, and Utke 2021), the effects of SFAS 133 in which hedge accounting was first introduced (Zhang 2009; Choi, Mao, and Upadhyay 2015), the effects of SFAS 161 that introduced tabular derivative disclosures (Campbell, Khan, and Pierce 2021) and outcomes of financial risk management (Cornaggia 2013; Pérez-González and Yun 2013; Gilje and Taillard 2017). Ali et al. (2022) show that reduced hedge accounting complexity generally increases the effectiveness of hedging activity. My paper explores the differential impact of hedge accounting complexity on public versus private debt contracting by showing how bond issuers' compliance responses differ from those of private loan issuers.

Fourth, consistent with the academic view that firms' responses provide valuable input to standard setting decisions (Barth, Beaver, and Landsman 2001), I provide new evidence that in addition to compliance difficulty at the accounting-standard level, the type of debt financing matters when borrowers comply with complex financial reporting changes. My findings are relevant to FASB's aims to improve accounting standards for multiple users (including debt

providers), and to educate stakeholders on how to understand and implement those standards most effectively (FASB 2020).

The remainder of this paper is organized as follows. The next section develops the hypotheses. Section 3 discusses sample construction. Section 4 outlines the research design. Section 5 presents descriptive statistics. Section 6 provides results. Sections 7, 8 and 9 present the results of additional tests and section 10 concludes.

2. Hypothesis development

2.1. Credit relevance of hedge accounting complexity under ASU 2017-12

Theoretical and empirical studies extensively document that effective hedging reduces the cost of debt (e.g., Bessembinder 1991, Cornaggia 2013; Pérez-González and Yun 2013; Gilje and Taillard 2017; Chen and King 2014). The key mechanisms include the lowering of bankruptcy risk and agency costs associated with underinvestment and risk-shifting problems, the reduction in information asymmetry, and reductions in risk exposures (DeMarzo and Duffie 1991; Froot, Scharfstein, and Stein 1993; Campbell and Kracaw 1990; Guay 1999; Zhang 2009). Hedging reduces a firm's cash flow volatility as well as the probability of financial distress by decreasing the sensitivity of debt claims to the value of incremental investment, allowing the firm to credibly commit to meet obligations in states where it otherwise could not. This improves contract terms the firm can negotiate with customers, creditors, and managers (Myers and Majluf 1984, Smith and Stulz 1985, Bessembinder 1991). Given the nonlinear payoff structure of debt securities that is affected most when accounting earnings convey bad news or when the underlying bond is riskier (Easton, Monahan, and Vasvari 2009), effective hedging can mitigate the risk of default by reducing volatility in earnings.

Hedge accounting treatment provides reporting incentives to effectively hedge by allowing standalone derivative fair value changes in the income statement to be appropriately matched to the fair value of the hedged item (Melumad, Weyns, and Ziv 1999; Ryan, Herz,

Iannaconni, and Maines 2002; Gigler et al. 2007).[4] However, to deter firms from opportunistically misrepresenting earnings arising from the speculative use of derivatives, the hedge accounting treatment was subject to stringent rules when it was first introduced under the legacy SFAS 133 standard, making it considerably difficult to adopt. First, firms had to validate that their hedging relationships "would be" and in fact "actually were highly effective" in offsetting the risks being hedged. These validation tests were to be quantitatively performed, to assure auditors that the movement in the values of the hedged risk and hedging derivative employed fell within a strict 80 – 125% effectiveness range. Second, strict documentation validating effectiveness and other prerequisites was to be in place at the immediate inception of the accounting hedge. Third, firms had to single out and report unrealized gains and losses (UGLs) arising from ineffective portions of cash flow and net investment hedges in net income as they occur. Fourth, many valid hedging strategies (such as risk components of certain commodity risks, and certain fair value hedges of interest rate risk) were not allowed hedge accounting treatment due to the absence of perfectly relevant hedging instruments (Kawaller 2018).[5] This implementation difficulty and complexity not only invited criticism from academics and practitioners with FASB holding SFAS 133 as "the poster child of complexity and rules-based standards" (Leone 2007), it undesirably discouraged economically viable hedging by firms due to restatement risk (Leone 2007) and ineligibility of certain type of hedging instruments for hedge accounting treatment (Lins et al. 2011; Gumb, Dupuy, Baker, and Blum 2018).

[4] There are three ways in which hedge accounting is operationalized: cash flow hedges; fair value hedges; and net investment hedges. Please refer to Appendix B for an overview.

[5] For example, a vehicle manufacturer concerned with volatility in prices of tires due to the underlying commodity of rubber used in the product, was unable to assign just the rubber component as the hedged item and instead was forced to designate the entire purchase price of the tires (https://www.bdo.com/insights/assurance/fasb/fasb-flash-report-september-2017). This inability to separate commodity-based components from the rest of the input made it significantly difficult (if not impossible) to find the appropriate financial instrument to hedge unwanted price volatility of some raw materials and receive hedge accounting treatment.

On 28 August 2017, based on several years of feedback from corporate executives, auditors, users, and other stakeholders, the FASB issued "ASU 2017-12: Targeted Improvements to Accounting for Hedging Activities," commenting that the ASU "will more closely align the results of hedge accounting with risk management activities through changes to both the designation and measurement guidance for qualifying hedging relationships." Further, the FASB stated that this "should ease the operational burden of applying hedge accounting" (FASB 2017). The ASU: expanded hedge accounting eligibility by allowing a firm to hedge the variability in cash flows of "a contractually specified component" compared to previously only the variability in overall cash flows of the overall hedged item; simplified assessment of hedge effectiveness by removing the requirement of prospective quantitative effectiveness tests; provided firms more time to finalize documentation; and eliminated the separate reporting in the income statement of hedge ineffectiveness. Appendix B documents the operational reliefs afforded by ASU 2017-12 in greater detail.

By alleviating the compliance burden and bringing reporting benefits within easier reach of firms (Katz 2017), the ASU is expected to incentivize previously foregone hedging activity effective towards reducing financial risks. However, this is based on the assumptions that firms implement the ASU appropriately, and that the ASU provides sufficient compliance relief. SFAS 133 disciplined speculative use by firms (Zhang 2009), and critics of the ASU argue that by dispensing with prospective quantitative tests of ineffectiveness, the ASU could make firms overlook risk-relevant information (Chen et al. 2020). Without such testing, management can potentially execute inappropriate or aggressive hedging strategies (Kawaller 2018). Further, even with the ASU, accounting for derivatives and hedging remains complex. As a standalone document ASU 2017-12 runs to 400 pages, with critics arguing that the compliance relaxations made were insufficient (Kawaller 2018). Additionally, to the extent that, under both SFAS 133 and the ASU, firms effectively substitute hedge accounting

strategies with economic hedges, to which hedge accounting does not apply, the ASU may not provide a reporting advantage to firms.

The relevance of hedge accounting complexity to the cost of debt depends on how firms implement ASU 2017-12 (real risk adjustments to default risk) and on debtholders' understanding and utility of hedge accounting rules (information effect). The ASU's adoption can either reduce the cost of debt through incremental and effective hedging, or it can increase the cost of debt through ineffective hedging due to managers inappropriately or opportunistically using derivatives when the removal of hedge accounting prerequisites harms managerial discipline. Complexity in hedge accounting use can impact the cost of debt through an informational effect if hedging rules enable debtholders to better assess the risk profile of borrowers and thus reduce information asymmetries.

In the next two sections, I discuss how public debt issuers may differ from private debt issuers in their compliance responses to ASU 2017-12, and how such compliance responses are incorporated into public and private debt contracting terms by lenders.

2.2. Public versus private debt issuers' implementation of less complex hedge accounting rules and resulting risk exposure changes.

Debt markets are broadly stratified into a dispersed public debt (bond) market and a concentrated private debt (bank loan) market. Firms with a poorer (higher) information environment and accounting/disclosure quality choose to raise debt privately with banks (publicly through bonds) due to greater (lower) adverse selection costs (Bharath et al. 2008; Dhaliwal et al. 2011). To reduce these adverse selection costs private debt issuers are willing to reveal proprietary information to and be monitored by banks with superior information access, processing abilities, and contracting flexibility (Diamond 1984, Diamond 1991, Batthacharya and Chisea 1995, Chava and Roberts 2008, Nini et al. 2009). Contracting flexibility is important for banks since they write incomplete contracts that are subject to future

renegotiations (Aghion and Bolton 1992; Dichev and Skinner 2002; Christensen et al. 2016). On the contrary, public debt issuers are subject to less intensive monitoring because it is costly for dispersed and less sophisticated bondholders to monitor borrowers due to the free-rider problem (Bharath et al. 2008). Consequently, bondholders rely mainly on publicly disclosed information compared to banks that have access to private information. In sum, differences in borrower reporting quality, lender monitoring ability, lender sophistication, and usefulness of publicly available financial reporting in each debt market have an important bearing on how public versus private borrowers implement ASU 2017-12's risk-relevant and less complex reporting rules.

First, consistent with their higher reporting quality, public debt issuers are expected to implement the ASU in the intended risk-efficient manner. Second, consistent with private debt issuers' poorer reporting quality, they may implement the ASU imperfectly. Importantly, the ASU directly impacts publicly available financial reporting of risk, which is the primary source of information for bondholders. Analogous to predictions in Diamond (1985) and Diamond and Verrecchia (1991) that managers commit to disclosing more information than mandated by market regulations to reduce information asymmetry among investors, bond issuers can commit to applying the ASU in a risk-efficient manner desirable to lenders. This commitment is more forceful than that by private loan issuers who have the alternative of subsequent re-contracting and monitoring based on sharing proprietary information with banks. Given public debt issuers' superior reporting and risk profile, their reliance on mainly GAAP-complaint financial reporting to the debt market, and inflexible subsequent monitoring/contracting, I hypothesize that public debt issuers will implement the ASU more risk-effectively than private debt issuers:

H1 Public debt issuers experience greater risk exposure reduction in response to less complex hedge accounting use under ASU 2017-12 compared to private debt issuers.

In evaluating risk effectiveness (i.e., whether ASU's implementation results in lower risk exposures) I assess the impact on overall firm risk and three specific sources of financial risk: commodity risk exposure, interest rate risk exposure, and foreign exchange risk exposure. The latter three risk exposures capture the adjustments to default risk through actual hedging, while firm risk would capture both real (actual hedging improvements) and informational effects. I define the proxies capturing these exposures in Appendix A.

2.3. Public versus private debt contracting implications of less complex hedge accounting

Capital providers pay attention to firms' accounting choices and their resulting numbers to infer a firm's private information (Dye 2001). Francis, LaFond, Olsson, Schipper (2005) and Costello and Wittenberg-Moerman (2011) show that poorer accounting quality is associated with a higher cost of debt. Borrowers' implementation of less complex hedge accounting can either induce improved hedging (a good state in which agency cost reduces) or induce inapt risk-increasing derivatives' use (a bad state in which agency cost increases). Either outcome matters to debtholders and the realization of either a good or bad state can trigger a change in debt contracting (Hart and Moore 1998). Therefore, debt contracting terms should impound risk exposure changes in debt contracting terms stipulated in H1. In the case of public debt, I expect ASU-induced risk reduction (hypothesized in H1) to be reflected solely in the form of lower credit spreads, with non-price terms unaffected. This is because once set, bondholders are unable to alter any of the material terms of the bond indenture under the Trust Indenture Act 1939 (Badertscher, Givoly, Katz, and Lee 2019), and recovery of collateral is virtually impossible due to coordination problems among dispersed investors (Smith and Warner 1979). Such re-contracting/monitoring constraints explain why public bonds come with relatively boilerplate and static contractual features (John, Lynch, Puri 2003). This leads to the second set of hypotheses of my study:

H2a Credit spreads on public bonds reduce in response to less complex hedge accounting use under ASU 2017-12 by bond issuers.

H2b Non-price terms of public bonds remain unaffected in response to less complex hedge accounting use under ASU 2017-12 by bond issuers.

In the case of private debt, stringent financial reporting requirements can increase disclosure quality and reduce adverse selection risks by helping sophisticated banks utilize such reporting complexity to better screen private borrowers (Chakraborty et al. 2022 p. 159). Based on this reasoning, Charkraborty et al. provide evidence that reporting standards' complexity is negatively associated with the strictness of loan terms. Similarly, Beatty et al. (2002) show that borrowers are charged higher interest costs when they face greater reporting flexibility in voluntary or mandated financial reporting requirements. Since ASU 2017-12 offers greater reporting discretion in hedge effectiveness testing and reporting, and component hedge accounting, among other reliefs (documented in Appendix B), loan pricing is expected to be higher for private borrowers. I expect this upward loan pricing pressure to dominate risk exposure benefits expected from private borrowers' ASU adoptions as agency concerns question whether these borrowers will *sufficiently* reduce economic risks when they hedge under the ASU that removes ineffectiveness reporting and quantitative validations of hedging instruments:

H3a Loan spreads on private loans increase in response to less complex hedge accounting use by private borrowers under ASU 2017-12.

Due to subsequent monitoring and re-contracting flexibility, non-price terms are a salient component of the overall private debt contract. Private lenders can better customize or reset contracts by varying both price (interest) and non-price (covenants, maturity, etc.) terms. Agency theory suggests there is a trade-off between the interest rate and the number of covenants (Jensen and Meckling 1976, Myers 1977, Melnik and Plaut 1986, Smith and Warner

1979); and trade-offs between contractual terms need to be explicitly considered to evaluate the effect of reporting quality on debt contracting (Gigler, Kanodia, Sapra, and Venugopalan 2009, Costello and Wittenberg-Moerman 2011). To the extent that loan issuers are charged higher interest rates (H3a), I expect a reduction in the number of covenants used, as compensation for higher loan pricing:

H3b The number of covenants at loan issuance is reduced when private borrowers implement less complex hedge accounting use under ASU 2017-12.

2.4. Private lenders' reliance on balance sheet-based versus income statement-based covenants under less complex hedge accounting

The mix of financial covenants i.e., the extent of reliance on balance sheet or income statement-based covenants is predictably affected by the ASU because it changes the risk-relevant properties of the income statement and balance sheet elements. According to contract theory balance sheet-based covenants resolve debtholder-shareholder conflicts ex-ante, whereas income statement-based covenants serve as tripwires that trigger the switch of control rights ex-post. If private borrowers implement the ASU effectively i.e., they reduce performance volatilities post-implementation, it is easier for lenders to exert their control rights ex-post using covenants based on a more precise income statement. The signal-to-noise ratio determines the contractibility of the income statement (Ball et al. 2008, Costello and Wittenberg-Moerman 2011, Demerjian 2011). Hedge accounting should improve the signal-to-noise ratio of earnings by matching the timing of unrealized gains and losses (UGLs) of risk management derivatives with the recognition of hedged items in the income statement, *provided* the derivatives employed are valid hedging instruments i.e., they are effective in reducing targeted risk exposures and not speculative. If inappropriate derivatives are given the hedge accounting treatment, the income statement would not be descriptive of the risk arising from ineffective or speculative hedging.

Given the high adverse selection risk among private loan borrowers, when extending credit, banks will question whether upon adopting the ASU, private borrowers will continue to use valid hedging instruments in absence of effectiveness tests and ineffectiveness' distinct reporting. The signal-to-noise ratio of earnings will worsen if ineffective or speculative hedging instruments are given the hedge accounting treatment, rendering private borrowers' income statements less risk transparent. This will reduce the efficacy of income statement-based covenants as credible accounting signals in debt contracts. I expect lenders to substitute income statement-based covenants with balance sheet-based covenants. This is because "balance sheet equity (profit and loss reserve and OCI) and fair valued derivative assets/liabilities" will contain all fair value fluctuation / UGLs associated with cash flow and net investment hedge instruments even if misapplied hedge accounting use excludes such fluctuation from earnings, allowing lenders to capture the complete and timely risk profile of borrowers. This prediction is consistent with the general conclusion of Christensen and Nikolaev (2012) that the use of balance sheet-based covenants is negatively associated with the contractibility of the borrower's accounting information.

On the contrary, covenant selection may not be influenced by ASU-induced reporting changes if lenders opt to freeze GAAP. Christensen and Nikolaev (2013) suggest that many debt contracts contain an option to freeze GAAP. However, existing literature does not provide evidence on whether lenders routinely exercise this option. In fact, Cohen, Katz, Mutlu and Sadka (2019), show that when SFAS 160 mandatorily classifies minority interest into equity, it creates slack in balance sheet covenants.

Based on the overall discussion in this section, I present my final hypothesis:

H4 Loan providers rely more on balance sheet-based covenants and less on income statement-based covenants when borrowers implement less complex hedge accounting use under ASU 2017-12.

3. Sample construction

Table 1 documents my sample construction. I identify firms' derivative use using Compustat data, and their use of hedge accounting and adoption of ASU 2017-12 through subsequent hand collection and manual review of quarterly 10-Qs and yearly 10-Ks. I begin with the intersection of Compustat and CSRP firm-years 2013-2019 for the US-domiciled publicly traded non-financial firms, which coincides with when Compustat began reporting derivative line items.[6] After the Compustat-CRSP merge, I retain only those firms that actively hedge financial risks using derivatives, for which I require firm-years to contain non-zero and non-missing values in any of the Compustat items that indicate the presence of derivatives.[7]

I then manually verify this sample and drop firms that do not use derivatives for risk management purposes such as those that use warrants and other hybrid capital structure instruments.[8] I also ensure each firm in my sample explicitly states in its 10-Qs/10-Ks that it only uses derivatives for hedging and not for speculation or trading. Firm-level hedging and hedge accounting use occur throughout the year with treasury departments employing hedging instruments and designating (or not designating) them on a daily, weekly, or monthly basis depending on the length of underlying transactions (revenue or costs) being hedged, and on throughput in underlying accounts (volatile assets or liabilities) whose value is being hedged. I capture this hedging activity through quarterly use (shortest available frequency) constructed from 10Qs. I hand-collect quarterly measures of derivative and designated (hedge accounting) use based on SFAS 161's tabular disclosures. SFAS 161 requires firms to disclose the fair value

[6] I end my sample in 2019 to avoid contamination from the difficult-to-control COVID 19 impact that occurred in and beyond 2020.

[7] These items are: derac (derivative assets current), deralt (derivative assets long-term), derlc (derivative liabilities current), derllt (derivative liabilities long-term), cidergl (comprehensive income derivative gains/losses), derhedgl (gains/losses on derivatives and hedging), hedgegl (gain/loss on ineffective hedges), aocidergl (accumulated other comprehensive income derivatives unrealized gain/loss).

[8] Firms employ options/warrants that are packaged into debt or preference share issuances to cater to investor clientele when raising external capital. These are not financial risk management derivatives as they do not address a hedged exposure arising from commodity prices, interest rates, and foreign exchange prices. GAAP (ASC 815) requires them to be accounted for at fair value in line with guidance on "embedded derivatives."

amount of derivative assets and liabilities on the balance sheet separated by risk type (e.g., commodity, interest rate, foreign currency, etc.) and accounting designation (i.e., designated for hedge accounting or not) in a tabular format. Rather than netting firms' derivative positions into one amount, under SFAS 161 firms must disclose derivative assets and liabilities separately.

From the SFAS 161 disclosures I obtain the precise magnitude, in fair value terms, of derivatives that are designated (hedge accounting is applied to these derivatives) or undesignated (hedge accounting is not applied to these derivatives). I form a continuous measure of hedge accounting use by summing the absolute fair values of derivative assets and liabilities designated for hedge accounting, scaled by total assets multiplied by 100 (Pierce 2020). I also form a measure of undesignated use by summing the absolute fair values of derivative assets and liabilities not designated for hedge accounting, scaled by total assets multiplied by 100.

I do not use notional amounts as an alternative to fair values because this severely restricts my sample to infrequent voluntary disclosers of notional amounts (I lose approximately 50% of my sample). SFAS 161 only mandated the disclosure of fair values, and not notional amounts (Campbell, Mauler, and Pierce 2019). Even when notional amounts are available, I see that they are inconsistently aggregated or netted across my sample periods, and are not always broken down in terms of hedge accounting or non-hedge accounting use. The notional amounts expressed in physical quantities (for commodity derivatives) and in non-functional currencies (for FX derivatives) require multiplying by estimates of unit conversion prices at every quarter end. I see that there is variation in disclosed conversion prices (intra-period, year-end, or undisclosed), which results in measurement error in computing final notional values needed to construct the treatment variable. Prior studies on derivative use also

document each of the above issues associated with the use of notional amounts (Schrand and Elliot 1998; Géczy, Minton, and Schrand 1997; Wong 2000; Choi, Mao, and Upadhyay 2015).

I hand collect ASU 2017-12 adoption data. The ASU became available for early adoption in August 2017 and then became mandatory for adoption for the fiscal years ending 2019. My 'hedging' sample (Table 1, Panel A) with time-variant hedge accounting use values consists of 518 firms, 2,861 firm-years, or 11,116 firm-quarters. My hand collection reveals that in this sample there are firms that never designate derivatives to hedge accounting i.e., their designated use, per the accounting standards, is zero throughout the sample. This group serves as a control group (non-hedge accounting users) in my analyses. The control group explicitly discloses that their derivatives are employed to curtail financial risk and not for speculation and that they do not adopt hedge accounting as part of their compliance policy, not due to a speculative motive ruling out the option to hedge account.

Next, I merge the 'hedging' sample with public and private debt databases (Table 1, Panels B and C, respectively). To construct my sample of corporate bonds on the secondary market, I start with the universe of bonds covered in the Enhanced Historic TRACE database for the hedging sample period 2013-2019 but with a quarter's lag to allow for bond market participants time to access 10-Qs and 10-Ks (see Figure 1). Following Dick-Nielsen, Feldhütter, and Lando (2012), I exclude variable- and zero-coupon, perpetual, foreign currency, preferred, puttable, and exchangeable issues as well as private placements and Yankee and Canadian bonds, and restrict my selection to corporate debentures and corporate medium-term notes with a time-to-maturity of more than one month and 30 years or less. I then require that data on fundamental bond contract attributes (i.e., issue size, offering and maturity dates, and coupon rates) are available on the Mergent Fixed Income Securities Database (FISD). Finally, to ensure a robust sample composition I require at least one bond observation in each of the pre- and post-ASU 2017-12 periods for each firm. My final secondary bond

market sample (Panel B) consists of 63,973 bond-month observations or 1,562 unique bonds. This comprises 52,869 bond-month observations of firms that use hedge accounting (with positive designated use, H) and 11,104 bond-month observations of firms that do not use hedge accounting (NH), throughout the sample period.

To examine bond originations on the primary market, I obtain origination data for bonds from Mergent FISD that were issued between 2013-2019 by the U.S. domiciled and incorporated publicly listed firms, and use the same bond sampling criteria as those for secondary market bond trades, resulting in 493 new bond issues (Panel B), comprising 434 bond issues by firms that use hedge accounting (with positive designated use, H) and 59 bond issues by firms that do not use hedge accounting (NH), throughout the sample period.

For private debt contracting analyses, I rely on private loan issuance data from Thomson Reuters DealScan. DealScan provides data on private loan agreements, including many contract and lender characteristics. First, I merge the DealScan loan facility-level observations to Compustat and CRSP using the link table provided by Michael Roberts (Chava and Roberts 2008). I then merge this dataset to my hedging sample with a quarter's lag to the release of 10-Qs and 10-Ks. After dropping observations to ensure a robust sample composition my private debt sample comprises 1,142 facilities issued by 145 firms (Panel C), comprising 1,064 facilities by firms that use hedge accounting (with positive designated use, H), and 78 facilities by firms that do not use hedge accounting (NH), throughout the sample period.

4. Research design

I use a modified difference-in-difference model to test my formal hypotheses. I utilize staggered adoption of ASU 2017-12 and interact it with designated use to capture the sensitivity of hedge accounting use to risk and debt contracting outcomes pre- and post-ASU adoption. I also repeat the tests using undesignated use to capture any compliance spillovers from designated use since the same treasury department employs derivatives with and without hedge

accounting when faced with compliance costs associated with SFAS 133 or its replacement (ASU 2017-12).

The traditional difference-in-difference design uses an indicator treatment variable (i.e., Treat) that equals one for those in the treatment group and is zero otherwise. Such a model relies on a binary treatment effect where Treat*Post compares changes in examined outcomes before and after the Post event. In my sample, the interaction would compare ASU 2017-12 adopting firms with positive designated use to firms with undesignated derivative use that are unaffected by ASU 2017-12 as they never apply hedge accounting to their derivatives. However, this approach is problematic. Since firms' decision to apply hedge accounting to their derivatives may not be random, the sum of absolute fair values of designated derivatives instruments is a more precise quantification of hedge accounting use, and the quantified measure would circumvent many omitted variables that a binary treatment dummy would be subject to. By replacing the treatment dummy with a continuous measure, I allow each firm-year a continuum of possible treatment, thus mitigating the problem of non-random sampling. Importantly, ASU 2017-12 was designed to ease hedge accounting compliance. However, the binary treatment does not account for the cross-sectional variation in or the extent to which firms' hedge accounting use is eased by the new requirements. Conceptually, the magnitude of risk exposures and cost of debt induced by hedging under ASU 2017-12 should be greater for firms that make more changes to their designated derivative use.

4.1. Risk exposures' impact from hedge accounting use under ASU 2017-12 by firms with public and private debt

To capture firms' compliance responses to ASU 2017-12 I estimate the firm-year level risk exposure effects of hedge accounting use pre- and post-ASU implementation using the following two regressions wherein I average quarterly designated use to obtain an annual

measure for a firm i and fiscal year t. I separately conduct this set of tests for firms with public debt and firms with private debt.[9]

Eq (1): $\text{risk\_outcome}_{i,t} = \varphi_1 + \varphi_2 \cdot \text{designated\_use}_{i,t} + \varphi_3 \cdot \text{ASU}_{i,t} + \varphi_4 \cdot \text{designated\_use}_{i,t} \cdot \text{ASU}_{i,t} + \boldsymbol{\beta}\text{`controls} + \varepsilon_{i,t}$

Eq (2): $\text{risk\_outcome}_{i,t} = \mu_1 + \mu_2 \cdot \text{undesignated\_use}_{i,t} + \mu_3 \cdot \text{ASU}_{i,} + \mu_4 \cdot \text{undesignated\_use}_{i,t} \cdot \text{ASU}_{i,t} + \boldsymbol{\beta}\text{`controls} + \nu_{i,t}$

I measure risk exposures using six proxies: firm risk, commodity risk, interest rate risk, foreign exchange risk, cash flow volatility, and earnings volatility (each defined in Appendix A) and control for other variables that have been shown by past research studies to affect firms' derivatives usage and hedge accounting choice (Guay 1999; Zhang 2009; Chang et al. 2016). The coefficients of interest are φ_4 and μ_4 which capture the marginal effect on risk outcomes of designated and undesignated use under the ASU that is incremental to that under the former standard (SFAS 133). I also include fixed effects to control for unobservable omitted variables related to time and industry membership. ASU is an indicator that captures the staggered adoption of ASU 2017-12 by firms. I two-way cluster standard errors at the firm and year levels to control for cross-sectional and time-series dependencies.

4.2. Cost of public debt and cost of private debt impact from hedge accounting use under ASU 2017-12

After comparing each type of borrower's risk outcomes resulting from ASU 2017-12's implementation I compare the ASU's impact on public and private debt contracting terms to examine how ASU-induced risk exposure changes manifest in the cost of debt and other

[9] An alternative would be to include both designated and undesignated use in the same regression with the risk exposure outcome as the dependent variable. However, doing so, empirically introduces collinearity between designated_use and undesignated_use. Conceptually, this is because treasury departments substitute between designating and not designating instruments when determining overall derivative usage, and because fair value movements commonly apply to both types (PwC 2017). To capture spillovers from ASU-induced designated_use on undesignated_use, controlling both types in a single regression would defeat the purpose.

contractual variables. I run three variations of the below set of regressions: two for the secondary and primary bond markets; and one for private loans. For brevity, I label price and non-price contractual terms collectively as 'cost_of_debt_variable' below and present the terms without debt instrument, issuer, and time subscripts.

Eq (3): cost_of_debt_variable = $\pi_1 + \pi_2 \cdot$designated_use + $\pi_3 \cdot$ASU + $\pi_4 \cdot$designated_use$\cdot$ASU + $\boldsymbol{\beta}$`controls + ξ

Eq (4): cost_of_debt_variable = $\gamma_1 + \gamma_2 \cdot$ undesignated_use + $\gamma_3 \cdot$ASU + $\gamma_4 \cdot$undesignated_use $\cdot$ASU + $\boldsymbol{\beta}$` controls + δ

First, to focus on the secondary bond market I regress monthly credit spreads on quarterly designated and undesignated use. Coefficients π_4 and γ_4 capture the marginal effect on bond pricing of designated and undesignated use under the ASU, respectively. I include bond and issuer-level controls consistent with prior literature on corporate bonds (Amiraslani et al. 2022; Correia, Kang, and Richardson 2018). I also include bond and time fixed effects (quarterly dummies), and cluster standard errors at the firm and year levels to control for cross-sectional and time-series dependence. Next, I focus on the primary bond market and regress credit spread, maturity, and covenant intensity at bond issuance on the annual firm-level designated and undesignated use.

In the final set of regressions based on equations 3 and 4, I focus on private loan issuance, where the dependent variables comprise interest rate spread, maturity, number of general covenants, number of financial covenants (including balance sheet-based and income statement-based covenants), and an indicator variable for whether the loan is secured, as well as an indicator variable for whether the loan contains a performance pricing provision. The analyses are at the loan/facility issuance level with the hedging treatment corresponding to the year of loan issuance. I closely follow prior Costello and Wittenberg-Moerman 2011 to include

relevant control variables (except entity credit ratings, which were unavailable for my sampled borrowers).

5. Descriptive statistics

Tables 2 and Table 3 present descriptive statistics for borrowers with public debt and those with private debt, respectively. For each subsample, I distinguish between hedge accounting users (H) and those firms that use derivatives without hedge accounting (NH) throughout the sample. Table 2 provides summary statistics on bond characteristics, credit spreads in both the primary and secondary bond markets, and bond issuers' hedging activity. Secondary market variables contain bond characteristics that vary on a monthly basis. There is considerable variation in credit spreads, with an average of around 150 basis points and a standard deviation of 130 basis points for bonds issued by hedge accounting users.

Consistent with increased hedge accounting and derivative usage that I discuss below, the credit spread shows a decline between the pre and post-ASU period from a univariate viewpoint, compared to an increase in the spread for bonds issued by non-hedge accounting users. In terms of bond originations (primary bond market), the increase in credit spread of new issues by hedge accounting users is much lower than that of new issues by the control group. Focusing on bond issuers' hedging activity, I observe an increase in the percentage of derivatives they use that are designated as hedges for accounting purposes (ha_use) following the ASU from 68% to 75%. Similarly, derivatives designated as hedges as a percentage of total assets of the firm (designated_use) rise from 0.384% to 0.424%. For the H firms, the change in overall derivatives use (both designated and undesignated) as a percentage of total assets (derivatives_use) is dependent on the mean or median value. The mean overall derivatives use falls from 0.772% to 0.704%, while the median increases from 0.415% to 0.432%.

Table 3 provides summary statistics on private loan characteristics and private loan borrowers' hedging activity. In aggregate (H and NH taken together), debt contracting terms

generally become more favorable for all borrowers after the ASU becomes effective. However, I observe that for hedge accounting users, the reduction in loan pricing is almost half of that of non-hedge accounting users (a reduction of 13% or 26 basis points above LIBOR versus a reduction of 25% or 55 basis points above LIBOR), and non-price terms also generally become reasonably less favorable compared to the control group (NH). In terms of hedging activity, private loan borrowers increase the percentage of derivatives they use that are designated as hedges for accounting purposes (ha_use) following the ASU from 71% to 77%. Similarly, derivatives designated as hedges as a percentage of total assets of the firm (designated_use) rise from 0.369% to 0.438%. Similar to bond issuers, H private borrowers' change in overall derivatives use as a percentage of total assets (derivatives_use) is dependent on the mean or median value. The mean overall derivatives use falls from 0.706% to 0.662%, while the median increases from 0.191% to 0.325%.

Overall, the hedging statistics suggest that both public and private debt issuing firms designate a greater proportion of their derivatives in their financial statements as hedges after ASU adoption, and alter their overall derivative usage in the same manner, however the cost of public and private debt change differently. Next, to examine the quality or effectiveness of the similar quantity changes in designated and derivative use among public and private debt issuers, I evaluate the impact of these changes on risk outcomes estimated from external (firm risk, commodity risk, FX risk, interest rate risk) and internal exposure (performance – cash flow and earnings – volatility) measures, in a multivariate setting. I then test my hypotheses by relating the risk exposure changes to changes in the cost of public and private debt resulting from designated and undesignated use pre and post-ASU 2017-12.

6. Main Results

6.1 The differential effect of less complex hedge accounting on risk exposures of firms with public versus private debt

Tables 4 and 5 present the results of borrowers implementing less complex hedge accounting under ASU 2017-12 on six proxies of risk exposure for public and private debt issuers respectively. Firm risk, commodity risk, interest rate risk, and FX risk are computed using capital market and macroeconomic data external to the firm. Performance (cash flow and earnings) volatilities are computed using firm-reported numbers. All variables are defined in Appendix A. To comprehensively capture firms' derivative use, I include tests based on both designated and undesignated use as treatment variables interacted with the ASU dummy that denotes the adoption of ASU 2017-12. The estimated coefficient on the interaction term (un)designated_use*ASU represents the difference between the change in risk outcomes for hedge accounting users vs. non-hedge accounting users when the ASU is adopted and incorporates the intensity of hedge accounting use.

Table 4 shows that public bond issuers implement the ASU effectively. Designated use (Panel A) in the post-ASU period results in risk reductions in virtually all risk outcomes and undesignated use (Panel B) post-ASU also registers positive spillover (reduction in firm risk) from efficiency in hedge accounting use by treasurers that deploy both designated and undesignated derivatives to lower financial risks. In terms of economic magnitude, if a hedge accounting bond issuer designated the sample mean amount of derivatives as a percentage of assets in the post-ASU period, this would lead to around a 6% reduction in overall risk exposure of the firm (based on both designated and undesignated use), a 23% reduction in interest rate risk, a 7% reduction in FX risk, a 4% reduction in cashflow volatility and a 17% reduction in earnings volatility.[10]

In comparison, Table 5 shows that private loan borrowers implement the ASU less effectively with designated use (Panel A) in the post-ASU period resulting in risk reductions

[10] I compute these changes by dividing the coefficient on designated_use*ASU by the pre-ASU mean exposure value and then multiplying by the post-ASU mean value of designated_use of H firms.

in FX risk exposure and a weak reduction in cash flow volatility. Moreover, although undesignated use (Panel B) post-ASU shows some firm risk reduction, such use significantly exacerbates commodity risk. Unlike bond issuers, private loan borrowers do not show a clear-cut risk reduction firm-wide. In terms of economic magnitude, if a hedge accounting borrower designated the sample mean amount of derivatives as a percentage of assets in the post-ASU period, this would lead to a roughly 3% reduction in overall risk exposure of the firm countered by a 6% increase in commodity risk (based on undesignated use), a 16% reduction in FX risk, a weakly significant reduction in cash flow volatility, and no change in earnings volatility – the raison d'etre underlying hedge accounting use. Taken together, these risk exposure changes from loan issuers' ASU implementation are inferior in scope and magnitude to those achieved by public debt issuers, reflecting selective hedging of FX risk and an inappropriate increase in commodity exposure.

The combined results in Tables 4 and 5 are consistent with my first set of hypotheses **H1**. These results confirm evidence of greater reporting and risk quality of bond issuers compared to private loan borrowers in the literature (Bharath et al. 2008; Dhaliwal et al. 2011). More importantly, these tests and their results point to substantive real mechanisms (i.e., changes to economic risk exposures and actual hedging) that underscore how variation in risk-relevant reporting complexity can influence the cost of debt.

Next, I discuss results on the cost of public and private debt and relate the variation in the quality of hedging activity post-ASU by bond and loan issuers to differences in each issuer's monitoring by bondholders and banks.

6.2 The differential effect of less complex hedge accounting on the cost of public and cost of private debt

Tables 6 and 7 present the impact on public and private debt contracting respectively. In Table 6, consistent with bond issuers increasing their use of effective hedging due to a

decline in accounting complexity in ASU 2017-12, credit spreads in the secondary and primary bond decline significantly. In terms of economic magnitude, if a hedge accounting bond issuer designated the sample mean amount of derivatives as a percentage of assets in the post-ASU period, this would lead to a roughly 9% or 13 basis points' reduction in credit spread in the secondary bond market, and a 16% or 22 basis points' reduction in credit spread in the primary bond market.[11]

Importantly, secondary market bond participants positively revise their pricing of hedge accounting use once ASU 2017-12 is implemented by the bond issuers. This is reflected in the change of signs, from positive to negative, of the coefficient on designated_use when interacted with ASU. In both the secondary and primary markets, the impact on credit spread is driven solely by designated use, suggesting debt providers distinguish between derivative use that is supported by hedge accounting and that which is not and consider designated use (and not undesignated use in Panel B) as significantly more credit relevant. Overall, the results in Table 6 provide evidence consistent with my second set of hypotheses **H2a/b** that credit spreads on public bonds reduce and non-price terms remain unaffected in response to less complex hedge accounting use under ASU 2017-12 by bond issuers.

In Table 7, I provide evidence to show that private loan borrowers' hedge accounting use under the ASU increases the agency cost of debt. Consistent with predictions in **H3a**, Panel A shows that hedge accounting use under the ASU significantly increases the interest rate, with the coefficient on designated_use*ASU being significant and suggesting a 6% or 11 basis points increase in terms of economic magnitude. Panel B also shows an increase in interest rate from undesignated use post-ASU. Loan maturity declines significantly by 6 months (equivalent to an economic magnitude of 5% reduction).[12] Although financial covenants do not change

[11] I compute these changes by dividing the coefficient on designated_use*ASU by the pre-ASU credit spread of H bond issuers and then multiplying by the post-ASU mean value of designated_use of H bond issuers.
[12] I compute these magnitudes using the same approach as described in earlier results.

overall, private loan providers significantly increase balance sheet-based covenants. In terms of economic magnitude, the reliance on balance sheet covenants increases by 43% (49% increase from designated, and 6% reduction from undesignated use).

Consistent with predictions in **H3b** that points to a tradeoff between the interest rate and use of covenants, financial and general covenants' use (6% and 12% reductions in terms of economic magnitude, respectively) declines. Given the negative loan pricing impact, significantly greater reliance on balance sheet covenants, and the higher relative number of terms made more stringent, private borrowers' debt contracting is rendered overall unfavorable compared to clear credit spread reductions for bond issuers. Finally, consistent with the evidence in **H4**, Table 7 shows loan providers place considerably greater reliance on balance sheet-based covenants while reducing their reliance on income statement-based covenants. This result is in line with loan issuers' inconsistent hedging outcomes discussed in section 6.1. The income statement becomes less transparent due to risk-relevant fair value changes not being routed through earnings under imperfect use of cash flow and net investment hedges, whereby unrealized gains and losses are routed through the OCI in the balance sheet.

7. Cross-sectional Tests

7.1 Secondary bond market tests

To better understand how effective hedging post-ASU helps reduce the agency cost of public debt I conduct three tests. I expect borrowers with the greatest ex-ante agency concerns to drive my results. First, I examine how the dividend payout behavior of bond issuers interacts with their designated use under the ASU. I split the sample at the median into high and low dividend-paying bond issuers in the pre-ASU period. Agency cost of debt can arise when managers of distressed firms have an incentive to pay out cash to shareholders in the form of dividends or repurchases before bankruptcy (Jensen and Meckling 1976; Mansi, Maxwell, and Wald 2009). The dividend payout cross-section in Table 8 shows that bond issuers that are high

dividend paying in the pre-ASU period, utilize their implementation of the ASU to lower credit spreads. This cross-sectional test result shows that bond issuers most prone to asset diversion to shareholders are committed to mitigating concerns around bondholders demanding higher spreads.

Second, I expect the ASU's implementation to benefit bond issuers with ex-ante poorer accounting/accrual quality the most. This is because poor accrual quality is associated with a higher agency cost of debt (Francis, LaFond, Olsson, Schipper 2005); and bond issuers are committed to higher reporting quality and reducing credit spreads (**H1**). I proxy accounting quality by estimating unsigned abnormal accruals computed using the Dechow-Dichev (2002) Model as modified in McNichols (2002), and implemented in Dou, Khan, and Zou (2016). Consistent with my prediction, the accounting quality cross-section in Table 8 shows that the subsample of bond issuers with lower accounting quality (higher abnormal accruals) in the pre-ASU period achieve more than twice as much credit spread reduction from designated use under the ASU compared to the subsample with higher accounting quality.

Third, if incremental hedging post ASU helps reduce the agency cost of public debt, I expect issuers with higher credit risk proxied by a speculative-grade credit rating of their bonds in the period before ASU adoption, to experience greater spread reductions from designated use under the ASU. The credit quality cross-section in table 8 shows that although the effect of designated use under the ASU, on bond spreads is significant for firms with both speculative and investment bonds, it is much larger for firms with speculative bonds. The result is consistent with bond issuers being committed to using reporting changes to improve their financial standing in the secondary bond market.

In Table 8 (final column), I document the impact of hedge accounting use on credit ratings. Interestingly, unlike bond market participants, credit rating agencies perceive ASU-induced changes to be negative, and rate ASU adopting bond issuers worse than in the pre-

ASU period. This result is contrary to Fitch Rating's expectation that the ASU is expected "*not* to have a direct … or significant near-term effect on ratings" and that it "could only affect ratings *over time* through second-order effects. (Fitch Ratings 2018)" My results show that credit rating agencies do not incorporate significant *short-term* reductions in bond issuers' financial risk exposures from the ASU's adoption as evidenced in Tables 4 and 6. Despite evidence of lower economic risk exposures from ASU adoptions, my analysis shows that credit rating agencies rate post-ASU hedge designations negatively. While this may partially support Fitch and Moodys' argument that even properly implemented FX and interest rate hedge accounting use distorts credit ratios (Fitch Ratings 2004; and Association of Corporate Treasurers 2016), my findings suggest that real reductions in economic risks potentially dominate such distortions.

7.2 Primary bond market tests

Next, I investigate similar cross-sections for bond originations. Across panels A, B and C, I find that the tests' results are similar to those of section 7.1. In Panel A, consistent with bond issuers alleviating asset diversion concerns, I find high dividend-paying bond issuers reduce credit spreads through post-ASU hedge designations. In Panel B, although the results are insignificant at the conventional significance levels due to reduced statistical power and a lower sub-sample size, the coefficient on designated_use*ASU in the poorer accounting quality subsample is signed correctly and considerably higher in magnitude than the comparable coefficient in the higher accounting quality subsample. Finally, in Panel C, since credit rating coverage of the subsample of at-issue bonds is considerably low, I proxy default risk by Altman's (1968) Z score, and find results consistent with credit ratings results in Table 8, i.e., bond issuers with higher pre-ASU default or credit risk manage to lower their risk of default by implementing effective hedging strategies under the ASU's less complex hedge accounting.

7.3 Loan contracting additional tests

In Table 10, I document the results of cross-sectional tests for private debt borrowers. Panel A shows that borrowers with *greater* asset diversion concerns from high dividend payouts are penalized through higher interest rates and a greater number of balance sheet covenants. Panel B shows *poorer* accounting quality borrowers face higher interest rates, lower maturities, and greater balance sheet covenants. Panel C provides evidence that borrowers with *inferior* credit quality register unfavorable loan contract terms. Overall, these results suggest that in contrast with bond issuers, private loan borrowers' post ASU hedging activity results in unfavorable debt contracting terms in each of the cross-sections of borrowers that are most prone to agency issues.

8. Distinguishing Lender Informational Effects from Borrower Hedging Effects

The main debt contracting results in Tables 6 and 7 capture the combined effects of borrower compliances of ASU 2017-12 and lenders' perceptions in each debt market. However, the discussion in the preceding sections focuses on the hedging activity and bonding mechanisms of borrowers. In this section, I present the results of two sets of tests (Table 11 and Table 12) to separate out the proportion of the cost of debt impacted by lenders' pricing of compliance with ASU 2017-12 irrespective of borrowers' hedging activity. In each of the tests, the ASU-induced borrower hedging outcomes remain unaffected across public and private debt markets to reveal the comparative informational effects of the ASU on the cost of public versus private debt.

In Table 11 Panel A, I propensity score match public and private debt issuers based on known determinants of the choice between raising debt through public bonds or private loans (Bharath et al. 2008), resulting in a sample of bond issuers and private loan borrowers that are of statistically similar accounting, asset, and risk characteristics. An interesting feature of this subsample of borrowers is that when these borrowers hedge account under the ASU, their risk exposures are virtually unaffected (Table 11 Panel B), suggesting that the cost of debt for this

subsample is impacted by simply the informational effects of the ASU. Panel C shows that in the absence of significant borrower hedging improvements, the differential impact of ASU adoption persists. Public bond spreads reduce by 5% or 8 basis points in the secondary market and 16% or 22 basis points in the primary market, whereas private loan spreads increase by 9% or 18 basis points accompanied by a 1.7 times greater reliance on balance sheet. These effects can be regarded as the baseline informational effects (lower bound of public bond spread decrease and upper bound of private loan spread increase) of hedge accounting under the ASU. The ASU-induced real hedging would incrementally reduce the cost of public and private debt to reach the levels documented in Tables 6 and 7.

In Table 12, I extract an overlapping sample of borrowers with both public bonds and private loans, and document the hedging and cost of debt impacts from hedge accounting under the ASU. Panel A shows that when borrowers with both public and private debt financing hedge account under the ASU, their hedging outcomes register no change. Panel B, however, shows that the two types of lenders (public bondholders and private loan providers) price the same borrowers' post-ASU hedge accounting activity differently despite no differences in their post-ASU hedging activity. Public bond spreads reduce by 8% or 12 basis points in the secondary market (significant at the 10% level) and 4% or 5 basis points (insignificant at conventional levels) in the secondary market, whereas private loan spreads increase by 7% or 13 basis points (insignificant at conventional levels) accompanied by a significant 15% increase in the propensity to secure newer loan issues with collateral. However, since the overlapping sample suffers from substantial attrition (comprising merely 30% of the main sample), the results of Table 12 must be interpreted with caution.

The results in Tables 11 and 12 combined with findings in Tables 4 through 7 suggest that the differential impact of less complex hedge accounting on the public versus the private cost of debt arises not only from disparate hedging behavior of borrowers in each debt market

but also from different lender pressures in each debt market. The analyses in this section point to inefficiency in debt contracting whereby for the same borrowers and their risk management outcomes, private lenders perceive agency concerns arising from less complex and more flexible accounting compliance unfavorably, but public bondholders perceive them favorably.

9. Robustness Tests

9.1 Placebo tests using pseudo-adoption years

The difference-in-differences design in my tests assumes that if the ASU 2017-12 treatment was absent, average outcomes for treatment (H) and control (NH) groups would have followed parallel paths over time. I conduct placebo tests by falsely assuming that the treatment firms adopt the ASU in each of the years 2013 through 2016. I find insignificant coefficients for the difference-in-differences estimators for the key outcome variables' tests, suggesting that the parallel paths assumption holds. I present the coefficients with their confidence intervals over the sample period in Figure 2.

9.2 Tests to address selection bias in hedge accounting users (treatment group) and non-hedge accounting users (control group)

Endogeneity concerns may arise from the fact that the use of derivatives and hedge accounting designation are choice variables, and that ex-ante differences in characteristics of hedge accounting users and non-hedge accounting users are the potential explanation for the results I observe. Untabulated tests' results show that in each of the subsamples of my study (secondary bond market, primary bond market, and loan contracting) the split between treatment (borrowers that use hedge accounting) and control group (borrowers that never apply hedge accounting) is insignificantly driven by determinants of hedge accounting use (Ali et al. 2022). I further mitigate the concern that the control group of non-hedge accounting users drives my results due to suspected speculative activity by such users. By relying exclusively on the variation in designated use in the treatment group of hedge accounting users, I run my

main tests without the control group and find results (untabulated) qualitatively similar to my main results.

10. Conclusion

In this paper, I examine the differential impact of accounting rules' complexity on public and private debt contracting. I exploit institutional differences between public and private debt markets and the adoption of ASU 2017-12 that significantly simplified hedge accounting. I find that bond issuers implement the ASU more effectively, evidenced in risk reductions greater in scope and magnitude, than those achieved by private loan borrowers. Consequently, bond issuers experience reduced credit spreads in both the primary and secondary bond markets, with other contracting terms at bond originations remaining unaffected. In contrast, private loan borrowers selectively hedge when they implement the ASU, by reducing their FX risk but increasing their commodity risk; and this reflects in overall stringent loan contracting outcomes evidenced in higher loan pricing, shorter maturities, and greater reliance on balance sheet covenants by banks. I argue that private borrowers' hedging outcomes fall short of offsetting higher interest rates that result when the ASU increases information frictions by reducing compliance requirements that can benefit sophisticated banks.

I attribute the differential risk and debt contracting effects to bond issuers' greater ex-ante reporting, asset, and risk quality that reflects their commitment to reducing agency costs of debt. My findings show that subsequent monitoring of private loan borrowers by lenders matters when the issuers are given greater latitude in complex reporting requirements. I also find that reduced complexity in hedge accounting makes banks reduce their reliance on income statement-based covenants consistent with issuers' income statements becoming less risk transparent.

I contribute to the literature on the real effects of financial reporting, and accounting complexity by showing that in addition to its informational effects, complexity induced by financial reporting standards can have operational and debt contracting effects by impacting underlying reported operations. I extend the debt contracting literature by showing that complexity in reporting standards plays different roles in the public and private debt markets. I also add to the literature on derivatives reporting by evaluating the hedge accounting choice, on which there is limited empirical research. My findings are important for standard setters as they demonstrate that the presence of public or private debt can mediate or moderate, respectively, the intended effects of a reduction in stringency in reporting requirements.

Findings in this paper have implications for future research on reporting complexity and its wider contracting and real effects. For example, unprecedented requirements under revamped revenue recognition rules can impact the way reporting firms contract with their customers (Ali and Tseng 2022). Complexity in reporting of financial instruments, in general, can induce firms to alter the design and utility of such instruments, or affect the instruments' counterparty risk. Complexity in deferred taxes' reporting can impact firms' income tax compliance and planning (FASB 2015).

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Appendix A: Variable definitions

Dependent variables

B/S covenants	Number of covenants that are based on balance sheet numbers. Such covenants include (1) Quick ratio, (2) Current ratio, (3) Debt-to-equity ratio, (4) Loan-to-value ratio, (5) Ratio of debt to tangible net worth, (6) Leverage ratio, (7) Senior leverage ratio, and (8) Net worth requirement.
Cash flow volatility	Cash flow volatility, defined as the standard deviation of quarterly operating cash flows during the most recent two years. See Zhang (2009), and, Chang, Donohoe and Sougiannis (2016).
Commodity risk	Commodity price risk exposure, defined as the absolute value of the estimated coefficient from a regression of firms' monthly holding period stock returns on the monthly percentage change in the Producer Price Index for 36 months prior to fiscal-year end. See Guay (1999), Zhang (2009), Donohoe (2015b), and Chang, Donohoe and Sougiannis (2016).
Covenant intensity (bonds)	Number of covenants contained in the bond issue.
Credit spread (bonds)	Difference between the yield-to-maturity of a bond and the maturity-matched Treasury yield. Monthly credit spreads are based on the median yield of all transactions taking place on the last active trading day of a given month. Maturity-matched risk-free yields are obtained by linearly interpolating benchmark Treasury yields contained in the Federal Reserve H-15 release for constant maturities of 1/12, 3/12, 6/12, 1, 2, 3, 5, 7, 10, 20, and 30 years. See Amiraslani, Lins, Servaes and Tamayo (2022).
Earnings volatility	Earnings volatility, defined as the standard deviation of quarterly earnings before extraordinary items during the most recent two years. See Zhang (2009), and, Chang, Donohoe and Sougiannis (2016).
Firm risk	Firm risk, defined as the annual standard deviation of the residuals from a market model regression of daily returns on the CRSP value-weighted index. See Guay (1999).
FX risk	Foreign currency exchange rate risk exposure, defined as the absolute value of the estimated coefficient from a regression of firms' monthly holding period stock returns on the monthly percentage change in the Federal Reserve Board trade-weighted U.S. dollar index for 36 months prior to fiscal-year end. See Guay (1999), Zhang (2009), Donohoe (2015b), Chang, Donohoe and Sougiannis (2016).
I/S covenants	Number of covenants that are based on income statement (or performance) numbers. Such covenants include (1) Cash interest coverage ratio, (2) Debt service coverage ratio, (3) Level of EBITDA, (4) Fixed charge coverage ratio, (5) Interest coverage ratio, (6) Ratio of debt to EBITDA, and (7) Ratio of senior debt to EBITDA.

Interest rate	All-in-Drawn-Spread measure reported by DealScan. This measure is equal to the amount the borrower pays in basis points over LIBOR for each dollar drawn down, so it accounts for both the spread of the loan and the annual fee paid to the bank group. See Costello and Wittenberg-Moerman (2011).
Interest rate risk	Interest rate risk exposure, defined as the absolute value of the estimated coefficient from a regression of firms' monthly holding period stock returns on the monthly percentage change in the London Interbank Offered Rate (LIBOR) for 36 months prior to fiscal-year end. See Guay (1999), Zhang (2009), Donohoe (2015b), Chang, Donohoe, and Sougiannis (2016).
Loan maturity	The number of months between the facility's issue date and the date when the loan matures.
Maturity (bond origination)	Time difference expressed in months between a bond's issue date and its fixed maturity date.
Financial covenants	The number of financial covenants imposed by the loan agreement.
General covenants	The number of general covenants imposed by the loan agreement. This includes equity issuance sweeps, debt issuance sweeps, asset sales sweeps, insurance proceeds sweeps and dividend restrictions.
PP-indicator	An indicator variable taking the value of one if the loan contract incorporates a performance pricing option, zero otherwise.
Public issue	Indicator equal to one if the borrower chooses to raise funds in the public debt (corporate bond) market, and zero if the borrower chooses to raise funds in the private (bank loan) market.
Credit rating	Rank variable based on the conversion of alphabetical ratings to numerical values (e.g., AAA=1 …, C=21). If an issue is rated by multiple credit rating agencies, the representative rating is from S&P. When this is not available, credit ratings are from Moody's and if this is too not available, the rating is from Fitch. See Amiraslani, Lins, Servaes and Tamayo (2022).
Secured	An indicator variable taking the value of one if the loan is backed by collateral, zero otherwise.

Variables of interest

ASU	Indicator variable equal to 1 for a treatment (H) firm when it adopts ASU 2017-12 and subsequently; and equal to 1 for a control (NH) firm when ASU 2017-12 becomes mandatory i.e., fiscal years beginning 15th December 2018, and subsequently.
Derivative use	Annual average based on quarterly derivative use defined as the sum of the absolute values of the fair value of all derivative assets and liabilities, scaled by total assets multiplied by 100. See Pierce (2020).
Designated use	Annual average based on quarterly designated use defined as the sum of the absolute values of the fair value of derivative assets and liabilities designated for hedge accounting, scaled by total assets multiplied by 100. See Pierce (2020). The variable takes the value of zero for non-hedge accounting users.
H	Indicator equal to 1 if hedge accounting augments a firm's use of derivatives (hedge accounting users [H]) and 0 if hedge accounting

	does not augment a firm's use of derivatives (non-hedge accounting users of derivatives [NH]).
ha_use	Annual average based on quarterly hedge accounting use defined as the sum of the absolute values of the fair value of derivative assets and liabilities designated for hedge accounting divided by the sum of the absolute values of the fair value of all derivative assets and liabilities, multiplied by 100. See Pierce (2020).
Undesignated use	The difference between derivative_use and designated_use. derivative_use and designated_use as defined above.

Control variables

Accounting quality	Unsigned abnormal accruals [computed using the Dechow-Dichev (2002) Model as modified in McNichols (2002), and implemented in Dou, Khan, and Zou (2016)] multiplied by -1 to obtain a measure that is decreasing in abnormal accruals.
Alt Z	Altman's (1968) Z score, computed using Compustat items: 1.2*((ACT-LCT)/AT) + 1.4*(RE/AT) + 3.3*(PI/AT) + 0.6*((PRCC_F*CSHO)/LT) + 0.999*(REVT/AT).
Annual return	Annualized daily stock returns of a firm.
BM ratio	Book value of equity divided by market value of equity.
Cash	Cash scaled by total assets.
Coupon	Applicable annual interest rate that the issuer is obligated to pay the bondholders.
Coverage 1 through 4	Interest coverage ratio defined as operating income after depreciation (OIADP) plus interest expense (XINT) scaled by interest expense. The maximum value of the ratio is truncated at 100 and its negative values are set to zero. Four indicator variables are then identified based on the ratio's boundaries at 5, 10, and 20. See Blume, Lim, and MacKinlay (1998), and Amiraslani, Lins, Servaes and Tamayo (2021).
Dividend payout	Common dividends paid (DVC) scaled by total assets.
Duration	Modified duration that measures the percentage change in the price of a bond for a unit change in the yield-to-maturity ratio.
Foreign sales	Foreign sales (from Compustat segment file) scaled by total revenue.
Illiquidity	Amihud (2002) measure of illiquidity that is defined based on the price impact of a secondary market bond trade per unit traded, implemented on a monthly basis using two latest trades in a given month.
Ind cashflow vol	Median industry-level (3-digit SIC code) cash flow volatility of the non-hedge accounting (derivative-only) users.
Ind comm	Median industry-level (3-digit SIC code) comm_exp (defined above) of the non-hedge accounting (derivative-only) users.
Ind earnings vol	Median industry-level (3-digit SIC code) earnings volatility of the non-hedge accounting (derivative-only) users.
Ind fx	Median industry-level (3-digit SIC code) fx_exp (defined above) of the non-hedge accounting (derivative-only) users.

Ind libor	Median industry-level (3-digit SIC code) libor_exp (defined above) of the non-hedge accounting (derivative-only) users.
Institutional investor	An indicator variable taking the value of one if the loan's type is term loan B, C, or D (institutional term loans), and zero otherwise.
Interest burden	Interest expense divided by operating income before interest.
Inventory	Inventory scaled by total assets.
Inverse leverage	Sum of the market value of equity (CSHO multiplied by PRCC_F) and the book value of short-term debt (DLC) and long-term debt (DLTT) divided by the default barrier, defined as the sum of short-term debt (DLC) and half of long-term debt (DLTT), following Correia, Richardson, and Tuna (2012); Correia, Kang, and Richardson (2018); and Amiraslani, Lins, Servaes and Tamayo (2022).
Investment grade (credit rating)	Indicator variable, equal to 1 if the credit rating for the bond issue (issuer) is between AAA and BBB-, and 0 otherwise
Leverage	Total liabilities scaled by lagged total assets.
Liquidity	Current assets divided by current liabilities.
Loan size	A logarithm of the loan's amount.
Loss	Indicator equal to 1 if the firm had negative EPS for the last reporting year and 0 otherwise.
N_lenders	Number of participants in the loan syndicate, including the arranger.
Offering_amt	Face (nominal) value of the bond issue.
PPE	Property, plant and equipment scaled by total assets.
Return volatility	Natural logarithm of annual volatility of daily returns from CRSP.
Revolver	An indicator variable taking the value of one if the loan's type is revolver, zero otherwise.
ROA	Return on assets, defined as income before extraordinary items divided by lagged total assets.
Sales growth	Year-on-year percentage change in total revenue.
SD returns	Annual standard deviation of a firm's daily stock returns.
Size	Natural logarithm of the sum of market value of equity, total liabilities, and preferred stock.
Speculative	Indicator variable, equal to 1 if the credit rating for the bond issue is below BBB-, and 0 otherwise
Stinvestments	Short-term investments scaled by total assets.
Tangible assets	Natural logarithm of the sum of property, plant and equipment, and inventory.
Time to maturity	Time difference expressed in months between a bond's trade date and its fixed maturity date.

Appendix B:
Overview of Hedge Accounting & Accounting Standards Update (ASU) 2017-12

Hedge Accounting under ASC 815: "Derivatives and Hedging" (PwC 2021)

Firms are exposed to an array of economic risks that can adversely impact their business. To mitigate the impact of these risks, firms undertake risk management activities, such as using derivatives. For certain risk management activities involving the use of derivatives firms have the option to apply hedge accounting treatment. ASC 815, Derivatives and Hedging, requires all derivatives to be recognized on the balance sheet at fair value in accordance with ASC 820, Fair Value Measurement, regardless of whether the derivative is designated as a hedge or used for a purpose other than hedging. This means that changes in the fair value of derivatives must be reflected in the income statement each period, making the income statement volatile. If certain qualifying criteria are met, firms can apply hedge accounting to reduce earnings volatility that would otherwise result from recording changes in fair value of derivatives in a period different from the one in which the hedged risks impact the income statement. There are three types of hedges under hedge accounting: cash flow hedge, fair value hedge, and net investment hedge.

1. Cash flow hedge:

This type of hedge manages variability in cash flows of a future transaction. The exposure mainly arises from a forecasted transaction (e.g., planned future asset purchases or expected interest payments). A hedging instrument (a derivative) locks in the amount of a future inflow or outflow that would otherwise be impacted by market movements. *Cash flow hedge accounting* links the income statement recognition of a hedging instrument and a hedged transaction whose cash flow changes offset each other. To achieve this offsetting or matching of cash flows, the change in the fair value of the derivative designated as a cash flow hedge is initially reported as a component of other comprehensive income (OCI) and later reclassified into earnings in the same period(s) when the hedged transaction affects earnings (e.g., when a forecasted sale occurs).

2. Fair value hedge:

This type of hedge is used to manage exposure to changes in the fair value of a recognized asset or liability (e.g., fixed-rate debt) or an unrecognized firm commitment (e.g., the commitment to buy a fixed quantity of a commodity at a fixed price at a future date). Under *fair value hedge accounting* the gain or loss on the derivative designated as a fair value hedge will still be recognized in earnings currently, along with the changes in the value of the hedged asset, liability, or firm commitment arising from the hedged risk through a basis adjustment to the hedged item. These two changes in the fair value would offset each other.

2. Net investment hedge:

This type of hedge enables a firm to hedge its investment in a foreign operation, which comprises assets and liabilities of the foreign operation with dissimilar risks, as a single hedged item. The change in the fair value of the hedging instrument (which can be debt or a derivative) designated as a net investment hedge is recognized in other comprehensive income (OCI) and held there until the hedge net investment is sold, at which point the amount recognized is reclassified to earnings.

Accounting Standards Update (ASU) 2017-12: Targeted Improvements to Accounting for Hedging Activities (FASB 2017, Crowe 2018)

The key features and relaxations afforded by the ASU relate to expanding the scope of derivatives transactions eligible for hedge accounting, simplifying the testing assessment of hedge effectiveness, and eliminating the measurement and presentation of hedge ineffectiveness. For public companies, the standard became effective in fiscal years beginning after December 15, 2018 (and interim periods therein), but early adoption was permitted.

1. Expansion of Eligible Hedged Items

The following relaxations were previously a major hindrance to managing commodity and interest rate risk, which created noise in accounting relationships relating to items in the firm's risk management strategy (Breslin, Basu, and Ziel 2019). ASU 2017-12 expanded the following types of transactions to which hedge accounting could be applied:

- Commodity hedging: For a hedge of a forecasted purchase or sale of a nonfinancial asset, the variability in cash flows attributable to changes in "a contractually specified component stated in the contract" (versus previously, the variability in only overall cash flows associated with the hedged item).
- Interest rate hedging: For a hedge of interest rate risk of a variable-rate instrument, the variability in cash flows attributable to "the contractually specified interest rate" (versus previously, the variability solely attributable to changes in a benchmark interest rate, like LIBOR).
- For fair value hedges of interest rate risk, companies were still limited to hedging a benchmark interest rate; however, ASU 2017-02 added the Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Rate as an eligible benchmark interest rate in the United States in addition to those already permitted under current GAAP.

2. Elimination of Measurement and Presentation of Hedge Ineffectiveness

ASU 2017-12 eliminated the requirement for companies to separately measure and present hedge ineffectiveness. Instead, companies were to account for changes in the fair value of hedging instruments as follows:

- For effective cash flow and net investment hedges, the entire change in fair value of the hedging instrument was to be recorded in other comprehensive income (OCI) for cash flow hedges or cumulative translation adjustment (CTA) for net investment hedges. Those amounts were then "reclassified to earnings in the same income statement line item that is used to present the earnings effect of the hedged item when the hedged item affects earnings." Previously, the ineffective portion of the change in fair value of the instrument was to be separated out and immediately recognized in earnings.
- For fair value hedges, the entire change in fair value of the hedging instrument was to be presented "in the same income statement line that is used to present the earnings effect of the hedged item."

3. Simplifying Assessment of Hedge Effectiveness

ASU 2017-12 simplified the required assessment of hedge effectiveness companies perform under ASC 815 as follows:

- Allowed companies to assess the effectiveness of a hedging relationship qualitatively in subsequent reporting periods (with the initial assessment of hedge effectiveness still done quantitatively).
- Allowed companies to perform and document the initial assessment of hedge effectiveness "at any time after hedge designation, but no later than the first quarterly effectiveness testing date, using data applicable as of the date of hedge inception."
- In its assessment of whether it can apply the "critical terms match" method of assessing hedge effectiveness to a group of forecasted transactions, a company could assume the hedging instrument matures "at the same time as the forecasted transactions if both the derivative maturity and the forecasted transactions occur within the same 31-day period or fiscal month."
- If a company that applied the shortcut method and determined that its use of the shortcut method was no longer appropriate, the company could assess hedge effectiveness using a "long-haul" method if "the hedge was highly effective, and the entity documented at inception as to which long-haul methodology it will use."

4. Targeted Improvements to Fair Value Hedges of Interest Rate Risk

ASU 2017-12 made the following targeted improvements to address certain pre-existing limitations on designating the hedged item in a fair value hedge of interest rate risk:

- A company could now "measure the change in fair value of the hedged item on the basis of the benchmark rate component of the contractual coupon cash flows determined at hedge inception, rather than on the full contractual coupon cash flows [as required by GAAP]."
- A company could now assume the hedged item had a term that reflects "only the designated cash flows being hedged" in partial-term hedges even if the term extended beyond the designated cash flows being hedged.
- A company was permitted to use a "last-of-layer" method to fair value hedge a part of a closed portfolio of prepayable assets without having to consider prepayment or credit risk when measuring those assets.

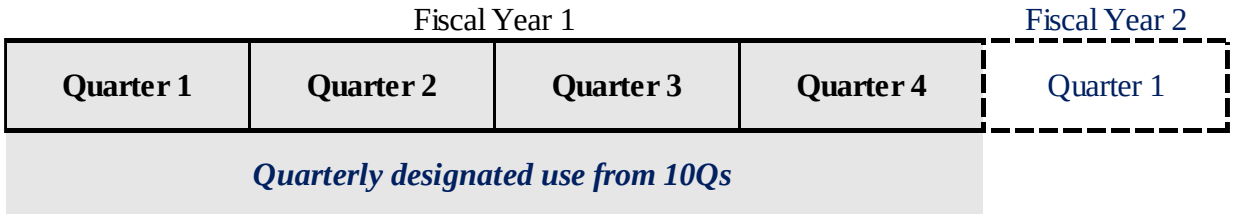
5. Other Changes

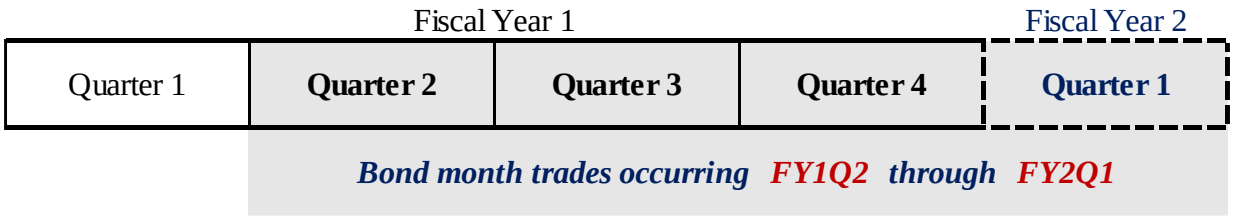
- A company could now choose to exclude "the portion of the change in fair value of a currency swap that is attributable to a cross-currency basis spread from the assessment of hedge effectiveness."
- For amounts a company excludes from its assessment of hedge effectiveness (e.g., option premium, forward points, cross-currency basis spread), the company could recognize the value of the excluded amounts (e.g., option premiums, forward points, etc.) by either: (a) "using a systematic and rational method over the life of the hedging instrument" or (b) recognizing "all fair value changes in an excluded component currently in earnings, consistent with current GAAP."

Figure 1
Hedging Sample and Debt Samples Merging Approach

Panel A: Hedging Data and Public Debt (Bonds) Monthly Observations

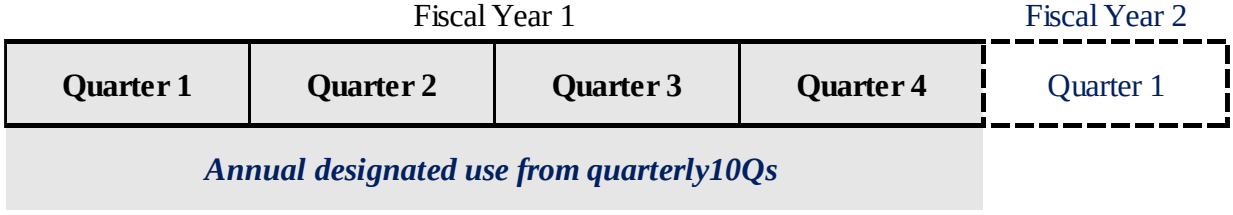
Firm-quarter hedging data matched to monthly bond trades with one quarter's lag.





Panel B: Hedging Data and Private Debt (Facilities / Loans) Observations

Firm-year hedging data matched to facility issue dates with one quarter's lag.



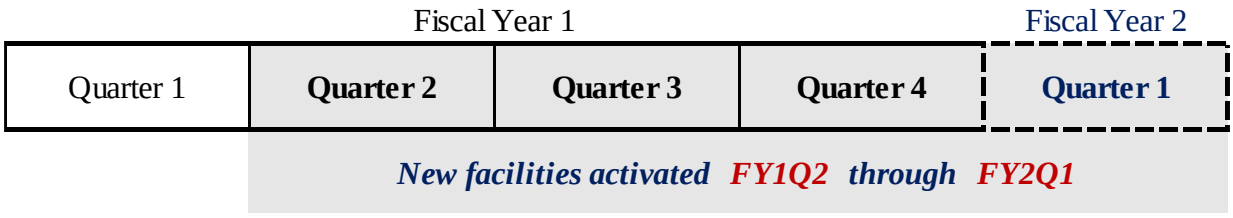
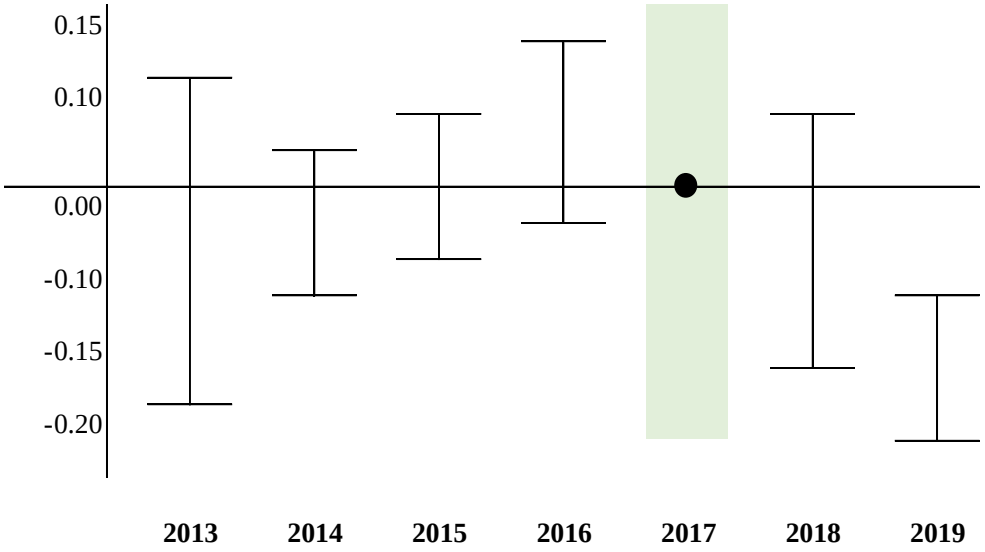


Figure 2

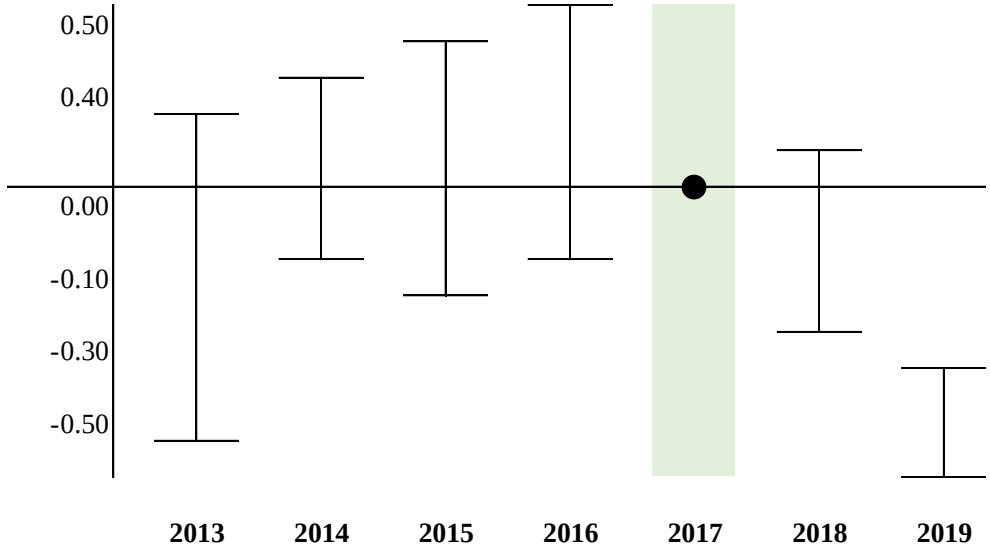
Confidence intervals for coefficients on interactions between *designated-use* and time periods.

This figure reports confidence intervals of the coefficient on the interaction of *designated_use* with various time dummies spanning 2013 through to 2019. The confidence intervals are calculated based on a 10% significance level, and are obtained from regressions for every pre-period in the sample except 2017, the period when the ASU 2017-12 was issued, which serves as the benchmark period. All variables are defined in Appendix A.

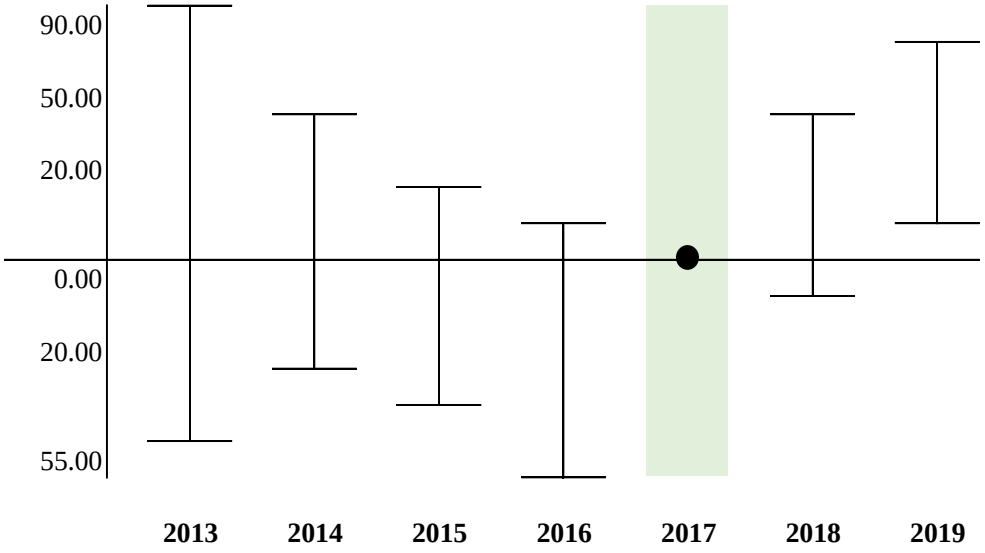
Panel A: *Dependent variable: Credit spread (secondary bond market)*



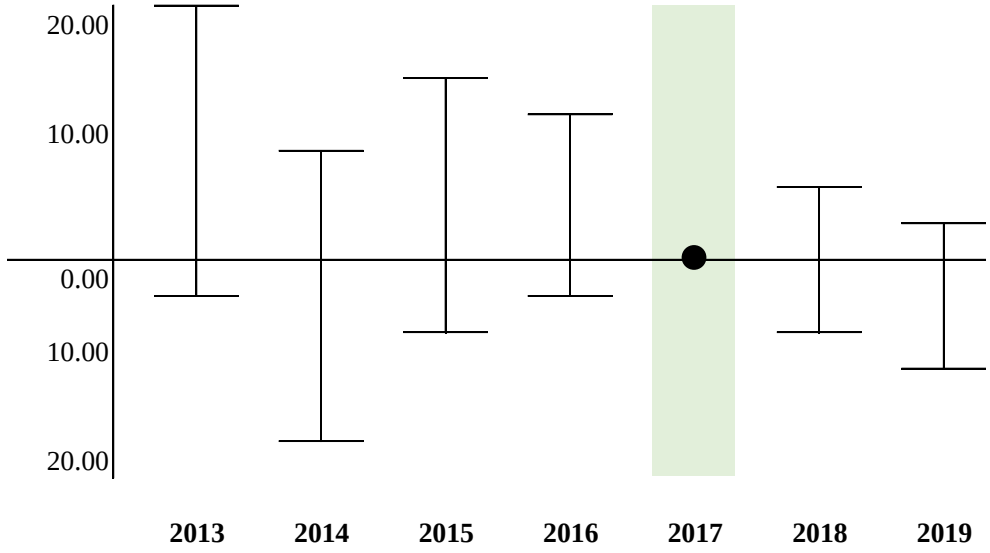
Panel B: *Dependent variable: Credit spread (primary bond market)*



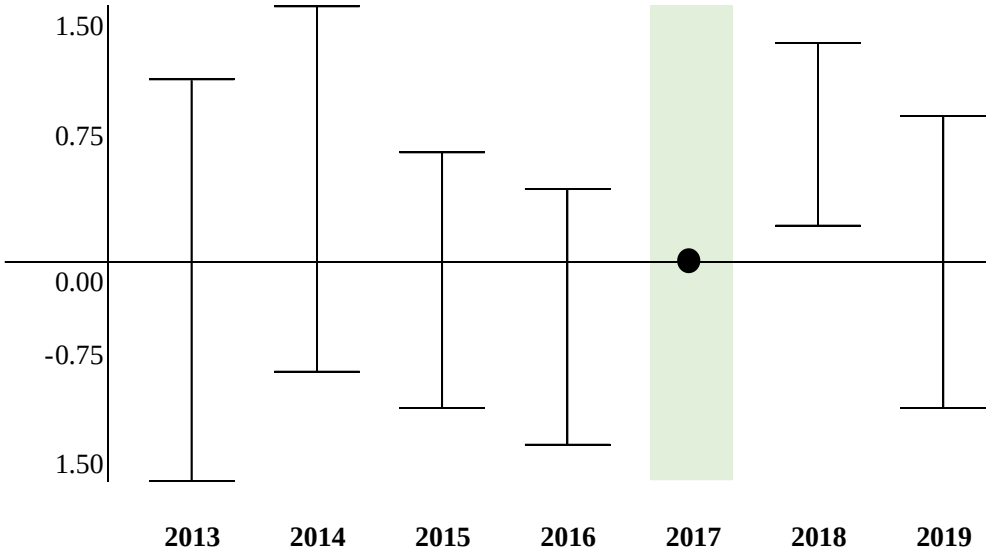
Panel C: *Dependent variable: Interest rate (loans)*



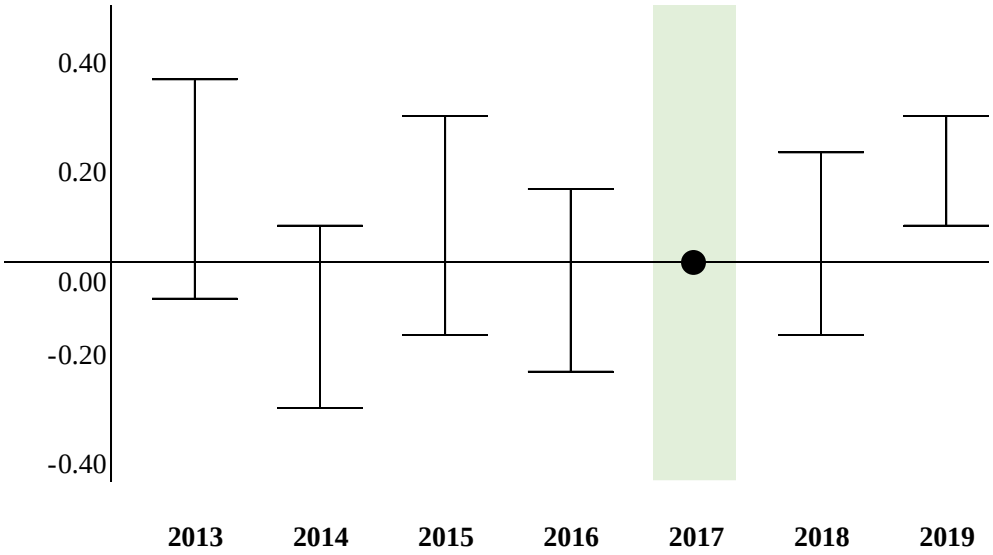
Panel D: *Dependent variable: Loan maturity*



Panel E: *Dependent variable: General covenants (loans)*



Panel F: *Dependent variable: B/S covenants*



Panel G: *Dependent variable: I/S covenants*

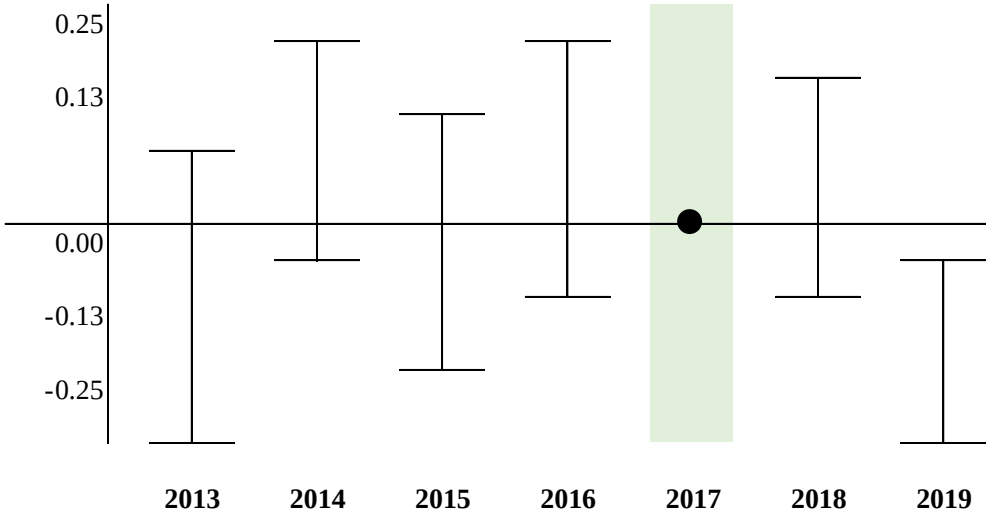


Table 1

Sample Construction

Panel A: Hedging Sample

	Firm-quarters	Firm-years	Firms
Intersection of Compustat-CRSP for Derivatives Users (2013 - 2019)	13,348	3,337	591
Less: Observations unrelated to Risk Management Derivatives, or without SFAS 161 Disclosures	(2,232)	(476)	(73)
Hedging Sample with time-variant Hedge Accounting Use	11,116	2,861	518

Panel B: Public Debt Analyses Samples

Secondary Bond Market	Bond-months	Bonds	Firms
Intersection of Hedging Sample, Enhanced TRACE and Mergent FISD (standard features)	80,967	1,738	139
Less: Observations with missing bond yields (TRACE)	(15,407)	(85)	(2)
Less: Obs. dropped to ensure each firm has at least one bond issue pre and post ASU 2017-12	(1,587)	(91)	(23)
Final Public Debt Secondary Market Sample (2013 - 2019)	63,973	1,562	114

Primary Bond Market (At-issue observations)	Bond Originations	Firms
Intersection of Hedging Sample with Bond Originations (TRACE / Mergent FISD)	886	100
Less: Bond issues dropped to ensure each firm has at least one bond origination pre and post ASU 2017-12	(393)	(59)
Public Debt Primary Market (Originations) Sample (2013-2019)	493	41

Panel C: Private Debt Analyses Sample

Facilities (loans) initiated	Facilities	Firms
Intersection of Hedging Sample with DealScan public companies	2,304	231
Less: Facilities with missing loan spread and maturity data	(286)	(5)
Less: Facilities dropped to ensure each firm issues at least one loan pre and post ASU 2017-12	(876)	(81)
Final Private Debt Sample (2013 - 2019)	1,142	145

Table 2

Descriptive Statistics: Public Debt Sample

Panel A: Hedge Accounting Users (H)

		Pre ASU 2017-12				Post ASU 2017-12		
Variables	**N**	**Mean**	**St. Dev.**	**Median**	**N**	**Mean**	**St. Dev.**	**Median**
Bond attributes:								
Offering amount (USD bn)	1,046	0.619	0.558	0.450	911	0.645	0.564	0.500
Coupon	1,046	4.708	1.952	4.500	911	4.641	1.730	4.250
Secondary bond market variables (monthly):								
Credit spread	39,326	1.509	1.257	1.144	13,543	1.498	1.346	1.133
Illiquidity	39,326	0.015	0.054	0.001	13,543	0.012	0.048	0.001
Duration	39,326	7.114	4.627	6.090	13,543	7.372	5.030	6.100
Time to maturity	39,326	129	106	88	13,543	131	109	87
Credit rating	39,326	7.677	2.546	7.000	13,543	7.955	2.550	8.000
Primary bond market variables (at-issue):								
Credit spread	286	1.339	0.808	1.117	148	1.423	0.762	1.188
Maturity	286	57.660	8.868	57.648	148	60.120	9.324	57.708
Covenant intensity	286	4.556	3.456	4.000	148	5.338	2.659	4.500
Firm variables (quarterly and annual):								
Designated use	1046	0.384	0.436	0.232	911	0.424	0.438	0.264
Derivative use	1046	0.773	1.059	0.415	911	0.705	0.844	0.432
ha_use	1046	68.055	36.584	84.769	911	75.067	31.779	90.345
Firm risk	424	0.014	0.006	0.012	131	0.017	0.010	0.015
Commodity risk	424	0.317	0.386	0.210	131	0.562	0.593	0.392
Interest rate risk	424	0.105	0.122	0.059	131	0.139	0.139	0.098
FX risk	424	0.675	0.709	0.454	131	0.904	0.777	0.681
Cashflow volatility	424	0.035	0.016	0.033	131	0.035	0.016	0.033
Earnings volality	424	0.010	0.014	0.005	131	0.010	0.012	0.006
Accounting quality	424	-0.026	0.033	-0.015	131	-0.027	0.028	-0.020
Market value equity (USD bn)	424	27.025	31.243	13.800	131	28.908	32.599	13.696
BM ratio	424	0.368	0.301	0.326	131	0.404	0.445	0.407
Size	424	10.052	1.216	10.022	131	10.108	1.278	9.989
Leverage	424	0.723	0.249	0.701	131	0.765	0.283	0.723
Stinvestments	424	0.028	0.072	0.001	131	0.013	0.036	0.000
Cash	424	0.073	0.070	0.051	131	0.068	0.069	0.054
Inventory	424	0.088	0.103	0.056	131	0.086	0.093	0.064
PPE	424	0.297	0.220	0.237	131	0.312	0.227	0.260
ROA	424	0.049	0.059	0.047	131	0.046	0.056	0.040
Interest burden	424	0.155	0.212	0.114	131	0.170	0.157	0.126
Sales growth	424	0.057	0.182	0.045	131	0.035	0.114	0.022
Tangible assets	424	9.124	1.207	8.939	131	9.196	1.167	9.089
Liquidity	424	1.648	1.019	1.430	131	1.449	0.716	1.400
Investment	424	0.055	0.191	0.015	131	0.072	0.211	0.022
Foreign sales	424	0.278	0.282	0.209	131	0.288	0.269	0.272
SD returns	424	0.016	0.007	0.015	131	0.020	0.010	0.018
Dividend payout	424	0.025	0.029	0.017	131	0.024	0.029	0.016
Alt Z	424	2.763	1.99	2.352	131	2.510	2.018	2.062
Tangibility	424	0.721	0.195	0.729	131	0.697	0.202	0.7
Tax	424	0.018	0.029	0.016	131	0.01	0.019	0.009
Coverage 1	424	0.256	0.437	0.000	131	0.310	0.464	0.000
Coverage 2	424	0.320	0.467	0.000	131	0.310	0.464	0.000
Coverage 3	424	0.259	0.439	0.000	131	0.233	0.424	0.000
Coverage 4	424	0.165	0.372	0.000	131	0.147	0.356	0.000
Inverse leverage	424	2.062	0.652	2.086	131	1.906	0.652	1.835

Continuous variables are winsorized at 1st and 99th percentiles. Variables are defined in Appendix A.

Table 2 Cont'd

Descriptive Statistics: Public Debt Sample

Panel B: Non-Hedge Accounting Users (NH)

	Pre ASU 2017-12				Post ASU 2017-12			
Variables	**N**	**Mean**	**St. Dev.**	**Median**	**N**	**Mean**	**St. Dev.**	**Median**
Bond attributes:								
Offering amount (USD bn)	328	0.664	0.522	0.500	242	0.677	0.530	0.500
Coupon	328	4.875	1.796	4.950	242	4.655	1.475	4.457
Secondary bond market variables (monthly):								
Credit spread	8,446	1.966	1.993	1.269	2,658	2.000	2.353	1.195
Illiquidity	8,446	0.007	0.038	0.000	2,658	0.013	0.052	0.001
Duration	8,446	6.369	4.341	5.130	2,658	7.690	5.401	6.235
Time to maturity	8,446	112	100	75	2,658	138	115	87
Credit rating	8,446	8.603	3.541	8.000	2,658	8.236	3.366	7.000
Primary bond market variables (at-issue):								
Credit spread	44	1.630	1.084	1.065	15	3.174	3.427	1.699
Maturity	44	5.115	0.677	4.816	15	5.513	0.577	5.901
Covenant intensity	44	5.818	5.036	5.000	15	5.667	4.685	5.000
Firm variables (quarterly and annual):								
Designated use	328	0.000	0.000	0.000	242	0.000	0.000	0.000
Derivative use	328	1.330	1.747	0.629	242	1.050	1.444	0.578
ha_use	328	0.000	0.000	0.000	242	0.000	0.000	0.000
Firm risk	104	0.022	0.015	0.019	25	0.024	0.016	0.020
Commodity risk	104	1.016	1.092	0.736	25	1.246	1.135	1.043
Interest rate risk	104	0.194	0.233	0.135	25	0.335	0.357	0.224
FX risk	104	1.171	1.156	0.852	25	1.252	1.211	0.982
Cashflow volatility	104	0.033	0.015	0.029	25	0.035	0.015	0.036
Earnings volality	104	0.019	0.028	0.011	25	0.034	0.049	0.017
Accounting quality	104	-0.094	0.120	-0.046	25	-0.059	0.077	-0.034
Market value equity (USD bn)	104	21.223	28.892	9.516	25	21.083	29.306	9.921
BM ratio	104	0.615	0.647	0.522	25	0.873	1.008	0.537
Size	104	9.709	1.391	9.721	25	9.877	1.239	9.782
Leverage	104	0.661	0.280	0.583	25	0.671	0.198	0.694
Stinvestments	104	0.001	0.006	0.000	25	0.006	0.019	0.000
Cash	104	0.049	0.064	0.020	25	0.031	0.045	0.008
Inventory	104	0.016	0.029	0.008	25	0.021	0.034	0.010
PPE	104	0.676	0.242	0.733	25	0.676	0.259	0.778
ROA	104	-0.007	0.134	0.028	25	0.008	0.054	0.012
Interest burden	104	0.131	0.372	0.141	25	0.175	0.106	0.173
Sales growth	104	0.154	0.440	0.071	25	-0.001	0.206	-0.001
Tangible assets	104	9.214	1.217	9.300	25	9.500	1.044	9.629
Liquidity	104	1.317	1.092	1.089	25	1.002	0.559	0.849
Investment	104	0.101	0.316	0.032	25	0.062	0.204	0.035
Foreign sales	104	0.129	0.198	0.000	25	0.120	0.203	0.000
SD returns	104	0.026	0.016	0.021	25	0.027	0.017	0.022
Dividend payout	104	0.014	0.024	0.007	25	0.014	0.023	0.011
Alt z	104	1.375	1.45	1.262	25	1.194	1.217	0.937
Tangibility	104	0.856	0.179	0.97	25	0.864	0.166	0.945
Tax	104	0.001	0.039	0.005	25	0.006	0.013	0.005
Coverage 1	104	0.379	0.488	0.000	25	0.280	0.458	0.000
Coverage 2	104	0.368	0.485	0.000	25	0.520	0.510	1.000
Coverage 3	104	0.147	0.356	0.000	25	0.120	0.332	0.000
Coverage 4	104	0.105	0.309	0.000	25	0.080	0.277	0.000
Inverse leverage	104	1.848	0.595	1.728	25	1.640	0.540	1.679

Continuous variables are winsorized at 1st and 99th percentiles. Variables are defined in Appendix A.

Table 3

Descriptive Statistics: Private Debt Sample

Panel A: Hedge Accounting Users (H)

		Pre ASU 2017-12				Post ASU 2017-12		
Variables	**N**	**Mean**	**St. Dev.**	**Median**	**N**	**Mean**	**St. Dev.**	**Median**
Loan characteristics								
Interest rate (all_in_drawn bps)	671	200.975	104.119	175.000	393	174.819	87.910	150.000
Financial covenants	671	1.158	1.339	0.000	393	1.048	1.260	0.000
General covenants	671	2.045	2.770	0.000	393	1.282	2.302	0.000
B/S covenants	671	0.127	0.350	0.000	393	0.087	0.290	0.000
I/S covenants	671	1.031	1.299	0.000	393	0.962	1.236	0.000
Loan maturity (months)	671	52.526	19.976	60.000	393	48.438	19.253	59.000
Loan size	671	6.254	1.228	6.215	393	6.445	1.207	6.541
N lenders	671	11.139	8.202	9.000	393	10.768	6.370	10.000
Secured	671	0.428	0.495	0.000	393	0.433	0.496	0.000
PP indicator	671	0.246	0.431	0.000	393	0.165	0.372	0.000
Revolver	671	0.480	0.500	0.000	393	0.448	0.498	0.000
Institutional investor	671	0.173	0.378	0.000	393	0.176	0.381	0.000
Firm variables (annual):								
Designated use	589	0.369	0.488	0.191	212	0.438	0.438	0.325
Derivative use	589	0.706	1.088	0.353	212	0.662	0.801	0.435
ha_use	589	71.100	34.500	85.700	212	77.100	29.900	93.000
Firm risk	589	0.016	0.007	0.014	212	0.017	0.010	0.016
Commodity risk	589	0.361	0.400	0.237	212	0.516	0.512	0.368
Interest rate risk	589	0.129	0.162	0.067	212	0.154	0.159	0.111
FX risk	589	0.761	0.724	0.552	212	0.875	0.743	0.745
Cashflow volatility	589	0.037	0.022	0.033	212	0.037	0.022	0.032
Earnings volality	589	0.011	0.014	0.006	212	0.010	0.012	0.006
Accounting quality	589	-0.049	0.096	-0.018	212	-0.032	0.033	-0.023
Market value equity (USD bn)	589	16.412	24.276	5.945	212	19.333	26.719	6.182
BM ratio	589	0.379	0.364	0.323	212	0.352	0.418	0.302
Size	589	9.253	1.454	9.267	212	9.443	1.438	9.365
Leverage	589	0.720	0.306	0.687	212	0.806	0.345	0.746
Stinvestments	589	0.019	0.059	0.000	212	0.008	0.020	0.000
Cash	589	0.083	0.081	0.061	212	0.074	0.076	0.047
Inventory	589	0.086	0.088	0.067	212	0.073	0.076	0.053
PPE	589	0.276	0.228	0.199	212	0.280	0.238	0.183
ROA	589	0.048	0.066	0.044	212	0.057	0.059	0.047
Interest burden	589	0.148	0.229	0.115	212	0.171	0.241	0.140
Sales growth	589	0.073	0.241	0.046	212	0.061	0.126	0.050
Tangible assts	589	8.209	1.435	8.227	212	8.294	1.420	8.285
Liquidity	589	1.816	1.059	1.613	212	1.599	0.770	1.499
Investment	589	0.069	0.245	0.012	212	0.110	0.250	0.034
Foreign sales	589	0.275	0.268	0.245	212	0.250	0.249	0.223
SD returns	589	0.018	0.008	0.017	212	0.020	0.010	0.018
Dividend payout	589	0.020	0.030	0.012	212	0.019	0.025	0.014
Tangibility	589	0.691	0.225	0.727	212	0.635	0.231	0.663
Alt Z	589	3.055	2.465	2.574	212	2.715	1.862	2.366
Tax	589	0.018	0.030	0.015	212	0.012	0.018	0.010

Continuous variables are winsorized at 1st and 99th percentiles. Variables are defined in Appendix A.

Table 3 Cont'd

Descriptive Statistics: Private Debt Sample

Panel B: Non-Hedge Accounting Users (NH)

	Pre ASU 2017-12				Post ASU 2017-12			
Variables	**N**	**Mean**	**St. Dev.**	**Median**	**N**	**Mean**	**St. Dev.**	**Median**
Loan characteristics								
Interest rate (all_in_drawn bps)	53	218.774	109.242	200.000	25	163.400	84.499	125.000
Financial covenants	53	1.226	1.235	1.000	25	1.000	1.258	0.000
General covenants	53	1.340	2.425	0.000	25	0.840	2.095	0.000
B/S covenants	53	0.075	0.267	0.000	25	0.160	0.374	0.000
I/S covenants	53	1.151	1.231	1.000	25	0.840	1.179	0.000
Loan maturity (months)	53	42.396	23.853	45.000	25	41.360	26.655	48.000
Loan size	53	6.207	1.731	6.215	25	5.483	2.068	5.784
N lenders	53	10.170	7.073	9.000	25	7.680	4.750	6.000
Secured	53	0.491	0.505	0.000	25	0.440	0.507	0.000
PP indicator	53	0.132	0.342	0.000	25	0.040	0.200	0.000
Revolver	53	0.434	0.500	0.000	25	0.400	0.500	0.000
Institutional investor	53	0.057	0.233	0.000	25	0.120	0.332	0.000
Firm variables (annual):								
Designated use	43	0.000	0.000	0.000	11	0.000	0.000	0.000
Derivative use	43	1.388	1.644	0.848	11	1.626	2.124	0.675
ha_use	43	0.000	0.000	0.000	11	0.000	0.000	0.000
Firm risk	43	0.026	0.016	0.019	11	0.024	0.014	0.023
Commodity risk	43	1.101	1.093	0.716	11	0.809	0.830	0.592
Interest rate risk	43	0.223	0.326	0.121	11	0.353	0.331	0.263
FX risk	43	1.270	1.058	0.952	11	2.307	2.395	1.430
Cashflow volatility	43	0.039	0.023	0.035	11	0.038	0.025	0.037
Earnings volality	43	0.033	0.054	0.012	11	0.035	0.054	0.016
Accounting quality	43	-0.107	0.183	-0.045	11	-0.032	0.033	-0.020
Market value equity (USD bn)	43	12.269	19.624	3.862	11	16.849	30.381	4.033
BM ratio	43	0.472	0.754	0.503	11	0.763	0.794	0.585
Size	43	8.845	1.908	9.132	11	9.020	1.972	8.986
Leverage	43	0.776	0.444	0.675	11	0.717	0.181	0.755
Stinvestments	43	0.003	0.010	0.000	11	0.000	0.001	0.000
Cash	43	0.046	0.052	0.022	11	0.037	0.048	0.008
Inventory	43	0.019	0.038	0.002	11	0.025	0.049	0.006
PPE	43	0.650	0.242	0.713	11	0.667	0.250	0.707
ROA	43	-0.120	0.373	0.007	11	-0.033	0.142	0.011
Interest burden	43	0.148	0.227	0.158	11	0.188	0.119	0.189
Sales growth	43	0.123	0.571	0.070	11	-0.036	0.206	-0.007
Tangible assts	43	8.360	1.849	8.988	11	8.542	1.852	8.783
Liquidity	43	1.036	0.764	0.987	11	1.146	0.989	0.849
Investment	43	0.067	0.335	0.021	11	0.071	0.171	0.041
Foreign sales	43	0.121	0.215	0.000	11	0.032	0.072	0.000
SD returns	43	0.028	0.016	0.021	11	0.025	0.014	0.026
Dividend payout	43	0.006	0.008	0.000	11	0.010	0.012	0.010
Tangibility	43	0.874	0.190	1.000	11	0.879	0.177	1.000
Alt Z	43	-0.419	6.752	0.806	11	0.912	1.292	0.874
Tax	43	-0.005	0.034	0.000	11	0.003	0.003	0.003

Continuous variables are winsorized at 1st and 99th percentiles. Variables are defined in Appendix A.

Table 4

Panel A: Public Debt Sample Firms' Hedge Accounting Use under ASU 2017-12 & Firm Risk Exposures

Annual (average of quarterly) designated use as treatment

Eq: $risk\_outcome_{i,t} = \varphi_1 + \varphi_2 \cdot designated\_use_{i,t} + \varphi_3 \cdot ASU_{i,t} + \varphi_4 \cdot (designated\_use \cdot ASU)_{i,t} + \boldsymbol{\beta}` controls + \varepsilon_{i,t}$

Dependent variable	Firm risk	Commodity risk	Interest rate risk	FX risk	Cashflow volatility	Earnings volatility
designated_use*ASU	-0.002**	0.012	-0.058**	-0.114**	-0.003**	-0.004*
	(-2.573)	(0.087)	(-2.457)	(-2.311)	(-3.286)	(-2.000)
designated_use	0.001	-0.003	0.048**	-0.08	0.003*	0.001
	(0.878)	(-0.049)	(2.647)	(-1.260)	(2.115)	(0.686)
ASU	0.005***	-0.139	0.026	0.152*	0.001	-0.001
	(8.632)	(-1.729)	(1.113)	(2.306)	(0.947)	(-0.629)
ind_comm		0.165				
		(1.661)				
ind_libor			0.116**			
			(3.441)			
ind_fx				0.17		
				(1.578)		
ind_cashflow_vol					0.019	
					(0.237)	
ind_earnings_vol						0.226**
						(2.986)
sd_returns		40.107***	6.347**	37.945***	-0.101	0.558**
		(6.480)	(2.906)	(8.072)	(-0.716)	(3.043)
size	-0.003***	0.014	-0.003	-0.042	-0.001	0.001
	(-5.455)	(0.590)	(-0.468)	(-0.839)	(-0.750)	(1.139)
leverage	0.005***		0.073	0.224	-0.015***	-0.006*
	(4.187)		(1.500)	(1.823)	(-4.411)	(-2.138)
foreign_sales				-0.084		
				(-0.462)		
roa		1.088**	0.156	0.881	0.052	-0.067
		(2.999)	(1.184)	(1.353)	(1.491)	(-1.874)
cash		-0.493				
		(-1.314)				
inventory		-0.522				
		(-1.210)				
interest_burden			-0.028			
			(-0.780)			
stinvestments			-0.080	0.092		
			(-1.338)	(0.249)		
bm_ratio	0.0001	-0.097	0.025	0.03	-0.005**	-0.001
	(0.030)	(-0.921)	(0.906)	(0.252)	(-2.939)	(-0.175)
ppe					0.005	-0.0005
					(0.656)	(-0.104)
Fixed effects	Year/Industry	Year/Industry	Year/Industry	Year/Industry	Year/Industry	Year/Industry
N	684	684	684	684	684	684
Adj-R^2	0.505	0.625	0.383	0.338	0.361	0.311

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 4 Cont'd

Panel B: Public Debt Sample Firms' Undesignated Use under ASU 2017-12 & Firm Risk Exposures

Annual (average of quarterly) undesignated use as treatment

Eq: $risk\_outcome_{i,t} = \mu_1 + \mu_2 \cdot undesignated\_use_{i,t} + \mu_3 \cdot ASU_{i,t} + \mu_4 \cdot (undesignated\_use \cdot ASU)_{i,t} + \boldsymbol{\beta}` controls + \nu_{i,t}$

Dependent variable	Firm risk	Commodity risk	Interest rate risk	FX risk	Cashflow volatility	Earnings volatility
undesignated_use*ASU	-0.001**	0.023	0.002	0.088	-0.001	0.0004
	(-3.383)	(0.905)	(0.374)	(1.907)	(-1.882)	(0.782)
undesignated_use	0.000	-0.036	0.004	-0.062*	-0.0001	0.001
	(0.112)	(-1.590)	(0.648)	(-2.191)	(-0.181)	(0.809)
ASU	0.004***	-0.137**	0.007	0.064	0.001	-0.002
	(13.399)	(-2.894)	(0.411)	(1.121)	(0.749)	(-1.919)
ind_comm		0.167				
		(1.692)				
ind_libor			0.119***			
			(3.714)			
ind_fx				0.161		
				(1.474)		
ind_cashflow_vol					0.018	
					(0.219)	
ind_earnings_vol						0.228**
						(3.014)
sd_returns		40.103***	6.546**	37.932***	-0.089	0.565**
		(6.598)	(2.906)	(8.330)	(-0.631)	(3.116)
size	-0.003***	0.014	-0.002	-0.041	-0.001	0.001
	(-5.266)	(0.624)	(-0.237)	(-0.803)	(-0.597)	(1.194)
leverage	0.005***		0.08	0.216	-0.015***	-0.006*
	(4.489)		(1.590)	(1.847)	(-4.307)	(-2.017)
foreign_sales				-0.089		
				(-0.479)		
roa		1.088**	0.171	0.828	0.054	-0.067
		(2.992)	(1.333)	(1.304)	(1.545)	(-1.858)
cash		-0.475				
		(-1.255)				
inventory		-0.498				
		(-1.183)				
interest_burden			-0.029			
			(-0.938)			
stinvestments			-0.048	-0.032		
			(-1.056)	(-0.090)		
bm_ratio	0.0001	-0.093	0.026	0.037	-0.005**	-0.001
	(0.047)	(-0.874)	(0.971)	(0.312)	(-2.874)	(-0.172)
ppe					0.005	-0.0003
					(0.560)	(-0.068)
Fixed effects	Year/Industry	Year/Industry	Year/Industry	Year/Industry	Year/Industry	Year/Industry
N	684	684	684	684	684	684
Adj-R^2	0.503	0.627	0.373	0.338	0.356	0.311

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 5

Panel A: Private Debt Sample Firm's Hedge Accounting Use under ASU 2017-12 & Firm Risk Exposures

Annual designated use as treatment

Eq: $risk\_outcome_{i,t} = \varphi_1 + \varphi_2 \cdot designated\_use_{i,t} + \varphi_3 \cdot ASU_{i,t} + \varphi_4 \cdot (designated\_use \cdot ASU)_{i,t} + \boldsymbol{\beta}` controls + \varepsilon_{i,t}$

Dependent variable	Firm risk	Commodity risk	Interest rate risk	FX risk	Cashflow volatility	Earnings volatility
designated_use*ASU	-0.001	0.032	-0.008	-0.282***	-0.006*	0.002
	(-1.507)	(0.512)	(-0.475)	(-3.978)	(-2.148)	(0.654)
designated_use	0.000	0.056	0.016	0.072	0.001	0.0003
	(-0.217)	(1.426)	(0.823)	(1.075)	(0.400)	(0.235)
ASU	0.000	-0.067*	-0.005	0.150**	0.002**	-0.004
	(0.471)	(-2.167)	(-0.410)	(2.852)	(2.972)	(-1.832)
ind_comm		0.224*				
		(2.079)				
ind_libor			0.043			
			(1.126)			
ind_fx				0.011		
				(0.186)		
ind_cashflow_vol					-0.076	
					(-0.505)	
ind_earnings_vol						0.128*
						(2.065)
sd_returns		21.734***	8.271***	36.859***	-0.29	0.382*
		(6.032)	(4.261)	(3.852)	(-1.312)	(2.357)
size	-0.003***	-0.018	-0.01	-0.036	-0.002	0.0003
	(-7.804)	(-1.172)	(-1.429)	(-1.140)	(-1.397)	(0.398)
leverage	0.004***		0.018	0.022	-0.014***	-0.007**
	(4.059)		(0.848)	(0.176)	(-5.737)	(-3.367)
foreign_sales				-0.278		
				(-1.421)		
roa		-0.456**	-0.007	0.117	0.023	-0.078***
		(-2.517)	(-0.106)	(0.317)	(0.777)	(-4.399)
cash		-0.073				
		(-0.319)				
inventory		-0.13				
		(-0.247)				
interest_burden			-0.09			
			(-1.762)			
stinvestments			-0.007	0.424		
			(-0.116)	(1.126)		
bm_ratio	-0.0004	0.01	0.102**	-0.001	-0.019***	-0.008***
	(-0.227)	(0.093)	(3.055)	(-0.005)	(-5.664)	(-5.267)
ppe					0.008	-0.010*
					(0.803)	(-2.383)
Fixed effects	Year/Industry	Year/Industry	Year/Industry	Year/Industry	Year/Industry	Year/Industry
N	855	855	855	855	855	855
Adj-R^2	0.463	0.495	0.346	0.277	0.398	0.410

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 5 Cont'd

Panel B: Private Debt Sample Firm's Undesignated Use under ASU 2017-12 & Firm Risk Exposures

Annual undesignated use as treatment

Eq: $risk\_outcome_{i,t} = \mu_1 + \mu_2 \cdot undesignated\_use_{i,t} + \mu_3 \cdot ASU_{i,t} + \mu_4 \cdot (undesignated\_use \cdot ASU)_{i,t} + \boldsymbol{\beta}` controls + \nu_{i,t}$

Dependent variable	Firm risk	Commodity risk	Interest rate risk	FX risk	Cashflow volatility	Earnings volatility
undesignated_use*ASU	-0.001**	0.092***	-0.009	0.029	-0.001	0.001
	(-2.505)	(4.949)	(-0.803)	(0.493)	(-1.750)	(1.253)
undesignated_use	0.000	-0.008	-0.007	-0.032	-0.0005	-0.0003
	(-1.045)	(-0.332)	(-1.454)	(-0.927)	(-0.670)	(-0.546)
ASU	0.000	-0.067	-0.005	0.026	0.0001	-0.003*
	(-0.283)	(-1.743)	(-0.325)	(0.452)	(0.064)	(-2.245)
ind_comm		0.237*				
		(2.225)				
ind_libor			0.042			
			(1.108)			
ind_fx				0.003		
				(0.042)		
ind_cashflow_vol					-0.082	
					(-0.541)	
ind_earnings_vol						0.126*
						(2.148)
sd_returns		21.908***	8.248***	37.295***	-0.286	0.381*
		(6.036)	(4.220)	(3.930)	(-1.292)	(2.369)
size	-0.003***	-0.019	-0.009	-0.032	-0.001	0.0003
	(-7.772)	(-1.167)	(-1.324)	(-0.971)	(-1.318)	(0.392)
leverage	0.004***		0.021	0.017	-0.014***	-0.007**
	(4.283)		(0.967)	(0.137)	(-5.851)	(-3.328)
foreign_sales				-0.283		
				(-1.425)		
roa		-0.425*	-0.002	0.146	0.023	-0.077***
		(-2.310)	(-0.035)	(0.388)	(0.794)	(-4.399)
cash		-0.08				
		(-0.343)				
inventory		-0.177				
		(-0.324)				
interest_burden			-0.091			
			(-1.754)			
stinvestments			-0.006	0.391		
			(-0.101)	(1.037)		
bm_ratio	-0.0004	0.005	0.102**	-0.001	-0.019***	-0.008***
	(-0.217)	(0.046)	(3.119)	(-0.004)	(-5.645)	(-5.687)
ppe					0.008	-0.009*
					(0.745)	(-2.335)
Fixed effects	Year/Industry	Year/Industry	Year/Industry	Year/Industry	Year/Industry	Year/Industry
N	855	855	855	855	855	855
Adj-R^2	0.463	0.496	0.346	0.273	0.396	0.41

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 6

Panel A: The Effect of Hedge Accounting Use under ASU 2017-12 on Bond Pricing and Terms

Quarterly (secondary market) and annual (primary market) designated use as treatment

Eq: dependent-variable = $\pi_1 + \pi_2 \cdot$designated_use + $\pi_3 \cdot$ASU + $\pi_4 \cdot$designated_use$\cdot$ASU + $\boldsymbol{\beta}$` controls + ξ

Bond market	Secondary	Primary	Primary	Primary
Dependent variable	Credit spread	Credit spread	Maturity	Covenant Intensity
designated_use*ASU	-0.307***	-0.520**	0.015	0.652
	(-3.053)	(-3.148)	(0.287)	(0.652)
designated_use	0.277***	0.057	-0.023	-0.977
	(3.245)	(0.431)	(-0.743)	(-1.093)
ASU	0.173*	0.111	-0.012	-0.312
	(1.658)	(1.230)	(-0.388)	(-0.620)
illiquidity	1.322***	0.686	0.314**	-0.194
	(3.364)	(1.171)	(2.486)	(-0.086)
duration	-0.031	-0.202	0.139***	-0.121
	(-0.453)	(-1.518)	(21.533)	(-0.475)
rating_num	0.242***	0.162***	-0.008	0.124
	(4.990)	(3.743)	(-0.892)	(0.817)
offering_amt	-	0.075	0.057*	-0.404
		(0.910)	(1.964)	(-1.461)
tmt_months	0.006	0.009		0.001
	(1.391)	(1.634)		(0.135)
coupon	-	0.254**	0.090***	0.145
		(3.348)	(4.481)	(0.529)
mv_equity	0.0003	-0.0005	-0.001	0.025
	(0.090)	(-0.339)	(-1.788)	(1.126)
roa	-3.841***	-1.617	-0.15	7.087
	(-3.519)	(-1.243)	(-0.373)	(0.983)
inverse_leverage	-0.086	-0.256	-0.015	-0.309
	(-0.438)	(-1.664)	(-0.426)	(-0.458)
coverage_1	-0.178*			
	(-1.922)			
coverage_2	-0.264***	-0.125	0.017	
	(-3.148)	(-1.234)	(0.782)	
coverage_3	-0.159***	-0.136	0.006	
	(-4.809)	(-0.852)	(0.224)	
coverage_4	-	0.032	0.135	
		(0.229)	(1.844)	
sd_returns	0.847***	1.205**	0.099	
	(3.620)	(3.389)	(1.461)	
size				-0.541
				(-0.577)
tangible_assets				-1.663***
				(-4.383)
bm_ratio				-2.402*
				(-2.364)
credit_spread				0.633**
				(3.138)
Fixed effects	Time/bond	Year	Year	Year
N	63,973	493	493	493
Adj-R^2	0.852	0.692	0.955	0.520

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering firm and year levels.

Table 6 Cont'd

Panel B: The Effect of Undesignated Use under ASU 2017-12 on Bond Pricing and Terms

Quarterly (secondary market) and annual (primary market) undesignated use as treatment

Eq: dependent-variable $= \gamma_1 + \gamma_2 \cdot$undesignated_use $+ \gamma_3 \cdot$ASU $+ \gamma_4 \cdot$undesignated_use $\cdot$ASU $+ \boldsymbol{\beta}$` controls $+ \delta$

Bond market	Secondary	Primary	Primary	Primary
Dependent variable	Credit spread	Credit spread	Maturity	Covenant Intensity
undesignated_use*ASU	0.017	-0.010	-0.033**	0.276
	(0.266)	(-0.357)	(-2.515)	(1.227)
undesignated_use	0.021	-0.032	0.003	-0.248
	(0.494)	(-1.482)	(0.596)	(-1.390)
ASU	0.074	-0.009	0.011	-0.421
	(0.617)	(-0.094)	(0.429)	(-0.835)
illiquidity	1.344***	0.254	0.309*	-0.022
	(3.404)	(0.404)	(2.314)	(-0.011)
duration	-0.029	-0.204	0.139***	-0.09
	(-0.415)	(-1.530)	(22.229)	(-0.410)
rating_num	0.231***	0.155***	-0.008	0.156
	(4.654)	(3.776)	(-1.026)	(1.052)
offering_amt	-	0.101	0.056*	-0.509
		(1.169)	(2.008)	(-1.864)
tmt_months	0.006	0.009		0.0004
	(1.350)	(1.622)		(0.040)
coupon	-	0.249***	0.088***	0.107
		(3.745)	(4.626)	(0.497)
mv_equity	0.0004	-0.001	-0.001*	0.014
	(0.135)	(-0.679)	(-2.049)	(0.519)
roa	-3.912***	-2.752***	-0.181	7.754
	(-3.374)	(-3.859)	(-0.559)	(1.206)
inverse_leverage	-0.104	-0.285	-0.018	-0.203
	(-0.529)	(-1.555)	(-0.501)	(-0.356)
coverage_1	-0.168*			
	(-1.760)			
coverage_2	-0.267***	-0.135	0.009	
	(-3.203)	(-0.929)	(0.510)	
coverage_3	-0.182***	-0.097	0.004	
	(-4.126)	(-0.573)	(0.171)	
coverage_4	-	0.178	0.127*	
		(0.796)	(2.142)	
sd_returns	0.860***	1.163**	0.093	
	(3.522)	(3.137)	(1.364)	
size				-0.362
				(-0.382)
tangible_assets				-1.520**
				(-3.417)
bm_ratio				-2.326*
				(-2.286)
credit_spread				0.644**
				(2.948)
Fixed effects	Time/bond	Year	Year	Year
N	63,973	493	493	493
Adj-R^2	0.850	0.685	0.955	0.519

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 7

Panel A: The effect of Hedge Accounting Use under ASU 2017-12 on the Cost of Private Debt and Loan Terms

Annual designated use as treatment

Eq: at-issue-variable $= \pi_1 + \pi_2 \cdot$designated_use $+ \pi_3 \cdot$ASU $+ \pi_4 \cdot$designated_use$\cdot$ASU $+ \boldsymbol{\beta}$` controls $+ \xi$

Dependent variable	Interest rate	Loan maturity	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured	PP-indicator
designated_use*ASU	25.950**	-6.004*	-0.544***	-0.104	0.143***	-0.247**	0.131	-0.044
	(2.463)	(-2.447)	(-4.707)	(-0.965)	(4.424)	(-2.554)	(1.580)	(-0.641)
designated_use	-16.194**	0.310	0.038	-0.245	-0.120**	-0.125	0.004	0.066
	(-2.679)	(0.156)	(0.167)	(-1.569)	(-2.561)	(-0.903)	(0.068)	(1.084)
ASU	-19.502	5.223***	0.633	0.021	-0.205***	0.227**	-0.230***	0.049
	(-0.901)	(5.385)	(1.215)	(0.199)	(-5.452)	(2.936)	(-4.139)	(1.676)
institutional_investor	100.714***	17.995***	-0.516	-0.860***	-0.003	-0.856***	0.555***	-0.143
	(8.335)	(6.611)	(-1.116)	(-4.211)	(-0.085)	(-4.235)	(7.962)	(-1.860)
revolver	-1.317		0.167	-0.188*	0.022	-0.210*	0.075*	-0.035
	(-0.155)		(0.902)	(-2.072)	(0.994)	(-2.145)	(2.020)	(-1.607)
interest_rate		-0.008	0.002	0.0002	0.00004	0.0001		
		(-0.528)	(0.882)	(0.142)	(0.136)	(0.114)		
no_of_financial_covenants	4.141	0.696						
	(1.041)	(1.280)						
secured		9.510**	2.046***	0.684***	-0.028	0.712***		0.022
		(3.525)	(4.529)	(4.200)	(-0.502)	(4.554)		(0.315)
loan_size	-10.343**	0.102	0.14	0.147**	0.024*	0.123**	-0.032*	0.072***
	(-2.700)	(0.097)	(1.542)	(3.069)	(2.074)	(2.932)	(-2.031)	(4.248)
maturity	0.103		-0.005	0.004	0.0001	0.004	0.004**	-0.002
	(0.312)		(-0.751)	(1.307)	(0.080)	(1.229)	(3.534)	(-1.323)
n_lenders	0.137	0.873***	-0.037	-0.001	0.0003	-0.001	-0.001	0.010**
	(0.334)	(6.427)	(-1.607)	(-0.065)	(0.069)	(-0.093)	(-0.141)	(2.531)
pp_indicator	-24.580**	-5.210**	1.227*	0.798**	0.06	0.738**		
	(-2.669)	(-2.622)	(2.124)	(3.343)	(1.465)	(3.157)		
firm_size	-17.439***	-2.836**	-0.055	-0.138*	0.004	-0.143*	-0.065**	-0.034*
	(-4.173)	(-3.447)	(-0.452)	(-2.240)	(0.307)	(-2.327)	(-3.250)	(-2.433)
roa	-169.756	7.702	0.448	0.291	-0.128	0.419	-0.058	0.382*
	(-1.610)	(0.771)	(0.371)	(0.395)	(-0.876)	(0.567)	(-0.241)	(1.971)
leverage	34.118*	-2.873	-0.368	-0.207	-0.03	-0.177	0.048	-0.019
	(2.176)	(-0.902)	(-0.795)	(-0.971)	(-0.707)	(-0.878)	(0.742)	(-0.335)
tangibility		6.351*					-0.334**	
		(1.994)					(-3.376)	
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	1,142	1,142	1,142	1,142	1,142	1,142	1,143	1,144
Adj-R^2	0.421	0.302	0.223	0.166	0.040	0.170	0.407	0.182

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 7 Cont'd

Panel B: The effect of Undesignated Use under ASU 2017-12 on the Cost of Private Debt and Loan Terms

Annual undesignated use as treatment

Eq: at-issue-variable $= \pi_1 + \pi_2 \cdot$undesignated_use $+ \pi_3 \cdot$ASU $+ \pi_4 \cdot$undesignated_use$\cdot$ASU $+ \boldsymbol{\beta}$`controls $+ \xi$

Dependent variable	Interest rate	Loan maturity	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured	PP-indicator
undesignated_use*ASU	6.813*	-1.500	0.170	0.077	-0.035***	0.111	0.051	0.016
	(2.123)	(-1.790)	(1.589)	(0.773)	(-4.746)	(1.212)	(1.625)	(0.606)
undesignated_use	-13.447**	1.636**	-0.218	-0.213*	0.077	-0.290**	-0.013	-0.013
	(-3.035)	(3.385)	(-0.990)	(-2.084)	(1.767)	(-3.133)	(-0.330)	(-0.469)
ASU	-12.96	3.006*	0.327	-0.103	-0.141**	0.038	-0.182***	0.034
	(-0.682)	(2.254)	(0.660)	(-0.692)	(-3.691)	(0.338)	(-4.853)	(1.007)
institutional_investor	101.905***	17.960***	-0.495	-0.835***	-0.018	-0.816***	0.558***	-0.143
	(8.168)	(6.829)	(-1.057)	(-4.005)	(-0.427)	(-3.950)	(7.960)	(-1.804)
revolver	-0.890		0.182	-0.176*	0.016	-0.192*	0.075*	-0.034
	(-0.105)		(1.008)	(-2.021)	(0.733)	(-2.062)	(2.035)	(-1.538)
interest_rate		-0.007	0.002	0.00002	0.0002	-0.0001		
		(-0.380)	(0.749)	(0.013)	(0.561)	(-0.135)		
no_of_financial_covenants	3.515	0.861						
	(0.867)	(1.484)						
secured		9.103**	2.017***	0.667***	-0.032	0.699***		0.023
		(3.511)	(4.572)	(4.118)	(-0.617)	(4.618)		(0.329)
loan_size	-10.531**	0.082	0.132	0.138**	0.026*	0.113**	-0.032*	0.072***
	(-2.753)	(0.082)	(1.402)	(2.855)	(2.367)	(2.643)	(-1.952)	(4.178)
maturity	0.117		-0.005	0.005	-0.00004	0.005	0.004**	-0.002*
	(0.361)		(-0.575)	(1.359)	(-0.042)	(1.439)	(3.564)	(-2.107)
n_lenders	0.161	0.869***	-0.036	-0.0003	-0.0001	-0.0002	-0.0003	0.010**
	(0.381)	(6.242)	(-1.423)	(-0.030)	(-0.056)	(-0.018)	(-0.088)	(2.742)
pp_indicator	-25.208**	-5.314**	1.213*	0.773**	0.059	0.713**		
	(-2.449)	(-2.634)	(2.091)	(3.251)	(1.367)	(3.098)		
firm_size	-16.824***	-2.837**	-0.05	-0.126*	0.004	-0.130*	-0.067**	-0.034*
	(-3.933)	(-3.515)	(-0.439)	(-2.028)	(0.299)	(-2.126)	(-3.030)	(-2.392)
roa	-170.413	6.354	0.407	0.161	-0.185	0.346	-0.025	0.422*
	(-1.615)	(0.591)	(0.337)	(0.215)	(-1.242)	(0.464)	(-0.113)	(2.255)
leverage	32.842*	-3.119	-0.386	-0.245	-0.046	-0.199	0.055	-0.011
	(2.197)	(-0.996)	(-0.864)	(-1.224)	(-1.052)	(-1.036)	(0.822)	(-0.190)
tangibility		6.469*					-0.347**	
		(2.144)					(-3.551)	
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142
Adj-R^2	0.424	0.299	0.223	0.17	0.048	0.186	0.404	0.180

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 8

Hedge Accounting Use under ASU 2017-12 & Bond Pricing (Secondary Market) - Cross Sectional Tests

Quarterly designated use as treatment

Eq: credit_spread $= \pi_1 + \pi_2 \cdot$designated_use $+ \pi_3 \cdot$ASU $+ \pi_4 \cdot$designated_use$\cdot$ASU $+ \boldsymbol{\beta}$` controls $+ \xi$

Cross-sections:	Dividend Payout		Accounting Quality		Credit Quality		
	High	Low	High	Low	Speculative	Investment	Credit rating (dependent variable)
designated_use*ASU	-0.293***	-0.380	-0.246**	-0.596***	-0.770**	-0.273***	0.386***
	(-4.176)	(-1.786)	(-2.673)	(-3.887)	(-2.457)	(-4.042)	(2.838)
diff. in coefficients	*p-value: 0.128*		*p-value = 0.019*		*p-value = 0.011*		
designated_use	0.300***	0.057	0.341**	0.117	0.172	0.234***	-0.231*
	(5.251)	(0.266)	(3.615)	(0.745)	(0.517)	(4.126)	(-1.887)
ASU	0.167***	0.154	0.133*	0.261	0.281	0.144**	-0.182**
	(2.941)	(0.765)	(2.047)	(1.236)	(1.058)	(2.427)	(-2.049)
illiquidity	1.170***	1.976**	1.159**	1.789***	1.978**	1.143***	-0.03
	(3.474)	(2.485)	(3.006)	(4.494)	(2.496)	(3.157)	(-0.456)
duration	0.018	-0.232	0.038	-0.18	-0.541**	0.027	-0.053
	(0.314)	(-1.697)	(0.666)	(-1.765)	(-2.582)	(0.491)	(-1.485)
rating_num	0.183***	0.270***	0.163***	0.332***	0.276***	0.161***	0.217***
	(4.152)	(4.513)	(4.913)	(5.109)	(3.887)	(4.041)	(3.712)
offering_amt	-	-	-	-	-	-	-
tmt_months	0.003	0.018*	0.002	0.017**	0.035**	0.003	-0.002
	(0.721)	(2.117)	(0.503)	(3.015)	(3.020)	(0.708)	(-0.533)
coupon	-	-	-	-	-	-	-
mv_equity	-0.003	0.004	-0.0001	0.004	-0.003	-0.002	-0.003
	(-0.760)	(0.655)	(-0.024)	(0.906)	(-0.134)	(-1.215)	(-0.328)
roa	-1.289**	-4.689**	-3.135	-3.489**	-6.232**	-1.024**	1.608*
	(-2.383)	(-3.477)	(-1.324)	(-3.570)	(-3.667)	(-2.309)	(1.680)
inverse_leverage	0.025	-0.264	-0.002	-0.224	-0.63	0.089	0.185
	(0.238)	(-0.737)	(-0.010)	(-1.034)	(-1.190)	(1.021)	(0.901)
coverage_1	-	-0.256	-0.106	-0.272	-	-	0.938***
		(-0.992)	(-0.797)	(-1.188)			(3.605)
coverage_2	-0.080**	-0.268	-0.136	-0.318**	0.337	-0.081**	1.009***
	(-2.354)	(-1.199)	(-1.013)	(-2.646)	(1.528)	(-2.264)	(3.909)
coverage_3	-0.109*	-0.107	-0.08	-0.196**	0.626**	-0.163***	0.541***
	(-1.860)	(-0.715)	(-1.264)	(-2.996)	(2.561)	(-3.641)	(3.278)
coverage_4	-0.058	-	-	-	-0.215	-0.145***	-
	(-0.881)				(-0.798)	(-3.175)	
sd_returns	0.471***	1.675***	0.597**	1.285**	2.059***	0.458***	0.229
	(2.865)	(4.060)	(2.879)	(3.656)	(4.728)	(2.770)	(0.812)
Fixed effects	Time / bond	Time / bond	Time / bond	Time / bond	Time / bond	Time / bond	Time / bond
N	47,760	16,213	41,829	22,144	7,582	56,391	63,973
Adj-R^2	0.824	0.841	0.829	0.866	0.780	0.810	0.962

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 9

Hedge Accounting Use under ASU 2017-12 & Bond Pricing (Primary Market) - Cross Sectional Tests

Annual designated use as treatment

Eq: credit_spread $= \pi_1 + \pi_2 \cdot$designated_use $+ \pi_3 \cdot$ASU $+ \pi_4 \cdot$designated_use$\cdot$ASU $+ \boldsymbol{\beta}$` controls $+ \xi$

Cross-sections:	Dividend Payout		Accounting Quality		Default Risk	
	High	Low	High	Low	High	Low
designated_use*ASU	-0.279**	-0.327	-0.154	-0.393	-1.094***	0.146
	(-2.483)	(-1.188)	(-0.484)	(-1.348)	(-4.601)	(0.249)
diff. in coefficients	*p-value: 0.192*		*p-value = 0.128*		*p-value = 0.022*	
designated_use	0.352	-0.225	0.016	-0.014	0.242	-0.044
	(1.942)	(-1.350)	(0.075)	(-0.067)	(0.971)	(-0.214)
ASU	0.079	0.054	-0.103	0.219*	0.161	-0.107
	(0.960)	(0.495)	(-0.561)	(2.099)	(1.376)	(-0.296)
illiquidity	2.114***	0.004	0.137	1.832***	0.674	0.004
	(5.116)	(0.002)	(0.166)	(9.176)	(0.882)	(0.002)
duration	-0.143	-0.232*	-0.189	-0.194	-0.192	-0.124
	(-1.236)	(-2.092)	(-0.943)	(-1.692)	(-1.393)	(-1.127)
rating_num	0.194**	0.07	0.108**	0.185**	0.178**	0.141
	(3.056)	(1.146)	(3.385)	(2.582)	(2.966)	(1.460)
offering_amt	0.173*	-0.153**	-0.044	0.139	0.022	0.061
	-2.392	(-2.468)	(-0.385)	-1.871	-0.156	-0.804
tmt_months	0.007	0.009	0.008	0.009*	0.009	0.005
	(1.373)	(1.913)	(0.936)	(2.307)	(1.554)	(0.961)
coupon	0.147**	0.468***	0.319**	0.212*	0.180**	0.393*
	-2.562	-3.99	-3.337	-2.372	-2.871	-2.139
mv_equity	-0.002	-0.004	0.0004	0.001	0.003	0.001
	(-1.224)	(-1.204)	(0.182)	(0.331)	(0.981)	(0.795)
roa	-5.573***	-0.648	-5.706**	-0.051	0.696	-0.411
	(-4.204)	(-0.186)	(-3.050)	(-0.030)	(0.255)	(-0.193)
inverse_leverage	-0.107	-0.237	0.397**	-0.869**	-0.734	-0.242
	(-0.799)	(-0.689)	(2.838)	(-3.244)	(-1.730)	(-0.655)
coverage_1	0.052	-	0.587	-	-	0.219
	(0.200)		(1.717)			(0.848)
coverage_2	-0.355**	0.102	0.456	0.328	-0.019	-0.068
	(-2.546)	(0.583)	(1.815)	(0.815)	(-0.157)	(-0.366)
coverage_3	-0.254**	0.075	0.252	0.554	0.115	-0.08
	(-2.967)	(0.501)	(1.030)	(1.280)	(0.395)	(-0.171)
coverage_4	-	0.197	-	0.987	-	-
		(0.434)		(1.736)		
sd_returns	1.054***	1.512*	1.334***	1.397**	1.974**	0.189
	(5.439)	(2.071)	(8.264)	(2.472)	(2.503)	(0.797)
Fixed effects	Year	Year	Year	Year	Year	Year
N	309	184	241	252	328	165
Adj-R^2	0.652	0.792	0.645	0.736	0.681	0.858

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 10

Panel A: Dividend Payout Cross Sectional Test for Firms with Private Debt

Annual designated use as treatment

: at-issue-variable $= \pi_1 + \pi_2 \cdot$designated_use $+ \pi_3 \cdot$ASU $+ \pi_4 \cdot$designated_use$\cdot$ASU $+ \boldsymbol{\beta}$` controls $+ \xi$

Dividend payout (> median)	Interest rate	Loan maturity	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured	PP-indicator
designated_use*ASU	15.896**	-4.004	0.052	0.096	0.133**	-0.036	-0.014	0.071
	(3.492)	(-1.188)	(0.143)	(0.743)	(3.620)	(-0.278)	(-0.135)	(0.611)
designated_use	-3.418	2.231	0.358	-0.128	-0.089	-0.0400	0.099	-0.005
	(-0.513)	(0.969)	(1.712)	(-0.699)	(-1.824)	(-0.209)	(1.192)	(-0.057)
ASU	-2.400	5.880***	0.556	-0.128	-0.115*	-0.013	-0.046	-0.031
	(-0.181)	(4.846)	(0.737)	(-0.427)	(-2.279)	(-0.051)	(-0.830)	(-0.501)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	556	556	556	556	556	556	556	556
adj-R^2	0.444	0.280	0.236	0.212	0.092	0.184	0.448	0.186

Dividend payout (< median)	Interest rate	Loan maturity	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured	PP-indicator
designated_use*ASU	10.405	-8.052	-1.059**	-0.362	0.086	-0.448	0.168	-0.117
	(1.085)	(-1.883)	(-2.618)	(-1.623)	(1.915)	(-1.814)	(1.185)	(-1.046)
designated_use	-14.402	0.741	-0.004	-0.124	-0.072	-0.053	-0.002	0.119*
	(-1.540)	(0.282)	(-0.010)	(-0.795)	(-1.061)	(-0.342)	(-0.028)	(2.033)
ASU	-17.148	4.798*	0.284	0.166	-0.268***	0.434	-0.340***	0.142***
	(-1.935)	(2.313)	(0.830)	(0.740)	(-8.911)	(1.703)	(-4.351)	(4.945)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	586	586	586	586	586	586	586	586
adj-R^2	0.390	0.289	0.254	0.163	0.085	0.185	0.321	0.187

Panel B: Accounting Quality Cross Sectional Test for Firms with Private Debt

Annual designated use as treatment

: at-issue-variable $= \pi_1 + \pi_2 \cdot$designated_use $+ \pi_3 \cdot$ASU $+ \pi_4 \cdot$designated_use$\cdot$ASU $+ \boldsymbol{\beta}$` controls $+ \xi$

Accounting Quality (> median)	Interest rate	Loan maturity	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured	PP-indicator
designated_use*ASU	8.655	-1.080	-0.287	0.153	0.161**	-0.008	0.204	-0.066
	(0.809)	(-0.192)	(-1.270)	(0.452)	(2.514)	(-0.023)	(1.704)	(-0.659)
designated_use	5.198	-1.583	0.325	-0.356	-0.207*	-0.149	0.009	-0.093
	(0.505)	(-0.511)	(0.799)	(-0.983)	(-2.335)	(-0.478)	(0.089)	(-0.978)
ASU	-9.400	7.942***	-0.536	-0.032	-0.108**	0.076	-0.244*	0.092*
	(-0.437)	(6.278)	(-1.372)	(-0.197)	(-3.652)	(0.452)	(-1.966)	(2.253)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	566	566	566	566	566	566	566	566
adj-R^2	0.395	0.307	0.354	0.216	0.107	0.230	0.558	0.179

Accounting Quality (< median)	Interest rate	Loan maturity	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured	PP-indicator
designated_use*ASU	30.078*	-7.837**	-0.537**	-0.237	0.150**	-0.387	0.056	-0.034
	(2.036)	(-2.742)	(-2.594)	(-0.962)	(2.649)	(-1.587)	(0.442)	(-0.501)
designated_use	-24.130**	1.145	-0.185	-0.236	-0.066	-0.170	0.017	0.150**
	(-2.678)	(0.584)	(-0.522)	(-1.167)	(-1.240)	(-0.820)	(0.271)	(3.552)
ASU	-24.623	-0.198	1.612	0.053	-0.261***	0.314	-0.210	0.024
	(-1.324)	(-0.121)	(1.664)	(0.215)	(-4.157)	(1.611)	(-1.726)	(0.477)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	576	576	576	576	576	576	576	576
adj-R^2	0.458	0.364	0.192	0.178	0.07	0.183	0.314	0.231

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 10 Cont'd

Panel C: Default Risk Cross Sectional Test for Firms with Private Debt

Annual designated use as treatment

ue-variable $= \pi_1 + \pi_2 \cdot$designated_use $+ \pi_3 \cdot$ASU $+ \pi_4 \cdot$designated_use$\cdot$ASU $+ \boldsymbol{\beta}$`controls $+ \xi$

Default risk (> median)	Interest rate	Loan maturity	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured	PP-indicator
designated_use*ASU	27.761**	-11.219*	-0.853**	-0.138	0.218**	-0.356	0.182	0.016
	(2.714)	(-2.371)	(-3.308)	(-0.639)	(3.452)	(-1.769)	(1.799)	(0.089)
designated_use	-17.505	1.537	0.21	-0.362	-0.173*	-0.19	-0.113	0.148
	(-1.791)	(0.372)	(0.756)	(-1.227)	(-2.246)	(-0.692)	(-1.734)	(1.850)
ASU	1.221	8.661***	-0.331	-0.389**	-0.296***	-0.093	-0.252***	0.044
	(0.222)	(9.133)	(-0.815)	(-3.534)	(-6.484)	(-0.882)	(-5.498)	(0.632)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	648	648	648	648	648	648	648	648
	0.494	0.299	0.268	0.181	0.039	0.185	0.444	0.232

Default risk (< median)	Interest rate	Loan maturity	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured	PP-indicator
designated_use*ASU	18.291	-2.148	-0.507	-0.101	0.086	-0.186	0.160	-0.084
	(1.405)	(-0.806)	(-1.257)	(-1.647)	(1.325)	(-1.942)	(1.315)	(-0.820)
designated_use	-13.904**	-0.037	0.207	0.005	-0.072	0.077	0.033	-0.019
	(-2.469)	(-0.022)	(0.607)	(0.038)	(-1.461)	(0.516)	(0.521)	(-0.234)
ASU	-6.491	6.385**	1.825***	0.691***	-0.077	0.768***	-0.283***	0.011
	(-0.334)	(3.220)	(5.710)	(4.719)	(-1.309)	(3.781)	(-4.425)	(0.117)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	494	494	494	494	494	494	494	494
	0.444	0.338	0.22	0.225	0.044	0.211	0.431	0.148

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 11 Panel A

Propensity Score Matching on Determinants of the Choice between Public Bonds and Private Loans (Pre-ASU)

Sample	Unmatched	Matched
Dependent variable	Public_issue	Public_issue
accounting_quality	4.999**	-0.604
	(2.315)	(-0.175)
log_assets	0.784***	0.412***
	(14.928)	(4.452)
bm_ratio	-0.247	0.501
	(-1.209)	(1.131)
alt_z	0.001	0.031
	(0.013)	(0.471)
tangibility	0.670***	0.212
	(2.913)	(0.606)
leverage	-0.233	0.568
	(-1.203)	(1.335)
Constant	-8.212***	-4.295***
	(-13.589)	(-3.872)
N	1,054	411
Pseudo R^2	0.352	0.081

Z-statistics (Probit) in parantesis. *** p<0.01, ** p<0.05, *p<0.1.

Table 11 Panel B

Matched Sampled Firm's Hedge Accounting Use under ASU 2017-12 & Firm Risk Exposures

Eq: $risk\_outcome_{i,t} = \varphi_1 + \varphi_2 \cdot designated\_use_{i,t} + \varphi_3 \cdot ASU_{i,t} + \varphi_4 \cdot (designated\_use \cdot ASU)_{i,t} + \boldsymbol{\beta}` controls + \varepsilon_{i,t}$

Dependent variable	Firm risk	Commodity risk	Interest rate risk	FX risk	Cashflow volatility	Earnings volatility
designated_use*ASU	-0.0001	0.064	-0.061*	0.076	-0.005	0.002
	(-0.378)	(0.371)	(-2.308)	(0.335)	(-1.880)	(0.496)
designated_use	0.0002	0.188**	0.042	0.025	0.001	-0.001
	(0.126)	(3.328)	(1.471)	(0.227)	(0.316)	(-0.458)
ASU	0.001**	-0.195	0.004	-0.077	0.005**	0.0004
	(2.935)	(-1.799)	(0.290)	(-0.645)	(2.912)	(0.167)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Industry/Year	Industry/Year	Industry/Year	Industry/Year	Industry/Year	Industry/Year
N	399	399	399	399	399	399
Adj-R^2	0.595	0.608	0.333	0.310	0.616	0.312

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 11 Panel C

The effect of Hedge Accounting Use under ASU 2017-12 on the Cost of Public and Private Debt for Matched Sample

Eq: $dependent\text{-}variable = \pi_1 + \pi_2 \cdot designated\_use + \pi_3 \cdot ASU + \pi_4 \cdot designated\_use \cdot ASU + \boldsymbol{\beta}` controls + \xi$

	Public Debt		Private Debt					
Dependent variable	Credit Spread (secondary bond market)	Credit Spread (primary bond market)	Interest rate	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured
designated_use*ASU	-0.187*	-0.520**	42.100**	0.315	0.340*	0.214**	0.125	0.057
	(-1.946)	(-3.148)	(2.721)	(0.566)	(2.274)	(2.792)	(0.910)	(0.928)
designated_use	0.169**	0.057	-34.633*	-0.116	-0.726*	-0.250*	-0.475	-0.157
	(3.176)	(0.431)	(-2.273)	(-0.413)	(-2.178)	(-2.003)	(-1.792)	(-1.628)
ASU	0.085	0.111	3.043	-0.036	-0.420	-0.143**	-0.277	0.011
	(1.235)	(1.230)	(0.274)	(-0.027)	(-1.080)	(-2.553)	(-0.821)	(0.100)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	41,009	493	425	425	425	425	425	425
Adj-R^2	0.807	0.692	0.404	0.306	0.230	0.149	0.211	0.486

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 12 Panel A

Overlap (Public and Private Debt in Issue) Sample's Hedge Accounting Use under ASU 2017-12 & Firm Risk Exposures

Eq: $risk\_outcome_{i,t} = \varphi_1 + \varphi_2 \cdot designated\_use_{i,t} + \varphi_3 \cdot ASU_{i,t} + \varphi_4 \cdot (designated\_use \cdot ASU)_{i,t} + \boldsymbol{\beta}` controls + \varepsilon_{i,t}$

Dependent variable	Firm risk	Commodity risk	Interest rate risk	FX risk	Cashflow volatility	Earnings volatility
designated_use*ASU	0.001	0.251	-0.026	-0.045	-0.004	0.009
	(1.533)	(1.179)	(-0.445)	(-0.256)	(-1.250)	(0.987)
designated_use	0.001	0.155*	0.077	-0.03	0.002	0.001
	(0.354)	(2.077)	(1.650)	(-0.282)	(1.251)	(0.182)
ASU	0.001	-0.086	-0.032	-0.057	0.004*	-0.008
	(1.736)	(-1.018)	(-1.088)	(-0.440)	(2.391)	(-1.146)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Industry/Year	Industry/Year	Industry/Year	Industry/Year	Industry/Year	Industry/Year
N	250	250	250	250	250	250
Adj-R^2	0.418	0.467	0.39	0.321	0.573	0.215

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.

Table 12 Panel B

The effect of Hedge Accounting Use under ASU 2017-12 on the Cost of Public and Private Debt for Overlap Sample

Eq: $dependent\text{-}variable = \pi_1 + \pi_2 \cdot designated\_use + \pi_3 \cdot ASU + \pi_4 \cdot designated\_use \cdot ASU + \boldsymbol{\beta}` controls + \xi$

Dependent variable	Public Debt		Private Debt					
	Credit Spread (secondary bond market)	Credit Spread (primary bond market)	Interest rate	General covenants	Financial covenants	B/S covenants	I/S covenants	Secured
designated_use*ASU	-0.288*	-0.114	30.677	0.436	0.173	-0.078*	0.251	0.150***
	(-2.150)	(-1.328)	(1.792)	(0.811)	(0.735)	(-2.062)	(1.090)	(4.020)
designated_use	0.089	-0.154	-27.165	0.23	-0.478**	-0.020	-0.459**	-0.081
	(1.209)	(-1.517)	(-1.825)	(0.637)	(-2.693)	(-0.377)	(-2.469)	(-0.877)
ASU	0.089	0.044	-1.586	-0.786**	-0.612***	-0.123**	-0.489***	-0.119
	(1.266)	(0.991)	(-0.125)	(-2.805)	(-6.214)	(-3.391)	(-4.419)	(-1.485)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Year	Year	Year	Year	Year	Year	Year	Year
N	26,387	260	361	361	361	361	361	361
Adj-R^2	0.810	0.717	0.427	0.262	0.256	0.183	0.235	0.478

T-statistics (OLS) in parentheses: *** p<0.01, ** p<0.05, * p<0.1. Reported OLS statistics are based on robust standard errors and clustering at firm and year levels.