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Save Money to Lose Money? Implications of Opting Out of a Voluntary Audit Review for a Firm's Cost of Debt

ABSTRACT: An audit review (AR) is a mechanism used by boards to assess the quality of interim financial reports on a timely basis. In Canada, the AR is voluntary, with listed firms mandated to disclose when they choose *not* to purchase additional audit verification. Given the relatively low cost of an AR, opting out of it can be regarded as a negative signal, especially in the context of lenders' sensitivity to downside risk. Using a sample of 7,585 firm-year observations from 1,616 public firms in Canada over the period 2004-2015, we document that firms without a voluntary AR have a higher cost of debt than firms with an AR. Furthermore, after firms opt out of the AR, the increase in the cost of debt is accompanied by a rise in discretionary abnormal accruals and managers' stock-based compensation. Moreover, no-AR firms are more likely to reduce post-switch private borrowing and have lower equity analyst following. Overall, we document benefits for managers who forgo the AR. Our study is the first to document that although listed borrowers that opt out of an AR have a higher cost of debt financing, they are concurrently able to engage in more earnings management and grant their managers higher stock-based compensation because of lower external monitoring.

Keywords: audit review, quarterly reports, cost of debt, public debt, private debt

I. INTRODUCTION

Auditing provides an essential verification of the information disclosed in financial statements (Jensen and Meckling, 1976; Fama, 1980; Watts and Zimmerman, 1986) and is important for lenders in both mandated and voluntary forms (Minnis, 2011). This study assesses the implications of voluntarily choosing to not have audit verification by focusing on the audit review (AR) of quarterly reports in Canada. The Canadian context is relevant because Canadian listed firms are not mandated to subscribe to an external AR of their interim reports but have to disclose that the interim reports have *not* been reviewed by an external auditor (OSC, 2004). Given lenders' asymmetrical sensitivity to negative information (Hasan et al., 2014; Ball et al., 2008a, 2008b), the absence of an external AR is likely to have adverse consequences from a debt market perspective. We, therefore, examine whether a firm's choice to *not* purchase an AR is associated with its cost of debt financing.

The relatively little empirical evidence on the debt market impact of the AR is inconclusive and based mainly on data from small, privately held firms (Defond and Zhang, 2014). This stream of literature is limited by the scarcity of *unaudited* publicly available data because ARs are mandatory in jurisdictions such as the United States (US), and the identification of public firms with voluntary ARs in other jurisdictions is cumbersome due to a lack of uniform disclosure requirements. This limitation has led extant research to focus on private firms to assess the effects of voluntary AR purchases.¹ However, these settings lack generalizability to public firms because of the high level of heterogeneity among non-listed firms (Defond and Zhang, 2014). In this study,

¹ For example, Allee and Yohn (2009) find that, for small privately held businesses, the voluntary AR provides higher access to credit but has an insignificant impact on loan rates. Moreover, Minnis (2011) uses a similar sample and finds that the AR is not associated with reduced risk for creditors.

we attempt to address this limitation by using data from publicly listed firms in Canada, which can voluntarily choose to purchase/not purchase an AR.²

Previous research documents that although the choice to voluntarily purchase an AR entails costs in the form of marginally higher audit fees (Bédard and Courteau, 2015),³ it also brings benefits. For example, the AR decreases fourth-quarter adjustments (Ettredge, Simon, Smith, and Stone, 2000) and strengthens the association between returns and earnings (Manry, Tiras, and Wheatley, 2003; Krishnan and Zhang, 2005).^{4,5} Although these findings are insightful regarding the importance and the effects of the AR, they discuss the costs and benefits of ARs mainly from an equity holder's perspective.

Despite calls to assess the usefulness of auditing for a wide array of financial statement users (Church et al., 2008; DeFond and Zhang, 2014), the literature has yet to thoroughly explore the implications of purchasing/not purchasing an AR from the perspective of lenders. This omission is important because lenders have different information needs from equity holders (Hasan et al., 2014; Chen et al., 2016; Florou and Kosi, 2015; Chiu et al., 2018) and assess borrowing firms on an intermittent basis. More specifically, lenders are unlikely to systematically follow borrowing firms over periods in which they do not have a contractual relationship; once a financing request is registered, lenders will likely use the most recent interim financial information

² Section II provides more details about the AR in the Canadian setting.

³ We replicate the analysis of (Bédard and Courteau, 2015) for our sample and confirm that AR firms pay significantly higher audit fees relative to no-AR firms.

⁴ More specifically, stock returns of firms that choose timely ARs are more strongly correlated with contemporaneous quarterly earnings than those of firms that choose retrospective ARs.

⁵ In contrast, Bédard and Courteau (2015) document no significant benefits of the AR in terms of reduced abnormal accruals in the interim or the fourth quarter. Our study differs from theirs, as we consider only the listed Canadian firms with access to the debt market. This is an important difference since prior literature stresses the increased relevance of auditing for firms that access the debt market (Chen et al., 2016). Moreover, given our longer sample period, relative to Bedard and Courteau (2015), we can identify not only the AR and no-AR firms, but also the firms that switch between AR and no-AR. We, therefore, are better able to assess the effect of the choice to not purchase additional audit verification.

to complement year-end financial information. For example, credit rating agencies (CRAs) acknowledge using interim reports to analyse clients' credit risk (S&P, 2008). The ability of interim earnings to forecast rating downgrades reduces the information asymmetry between lead and participating lenders in syndicated loans (Ball et al., 2008a) and the rating dispersion in the bond market (Akins, 2018).⁶

Given this setup, a borrower's voluntary choice to not purchase an AR is likely to be observed by lenders and incorporated into the cost of debt financing. Nonetheless, it is also possible that lenders do not price the absence of the AR, since its findings are available only to internal parties within the firm, where it serves as a monitoring mechanism for potential accounting distortions. Therefore, whether and to what extent firms that opt out of the AR will have a higher cost of borrowing remains an empirical question. Our study attempts to shed light on this issue by addressing the following research question: *Does the cost of debt differ between no-AR firms and AR firms?*⁷

Research indicates that the monitoring of independent auditors reduces the information asymmetry between lenders and borrowers (Watts and Zimmerman, 1983; Balsam, Krishnan, and Yang, 2003) and provides reliable and valuable information for lending decisions (Minnis, 2011). The AR allows auditors to evaluate internal controls and accounts throughout the fiscal year (Bédard and Courteau, 2015).⁸ Therefore, they can detect and signal potential financial reporting

⁶ Moreover, anecdotal evidence suggests that ARs are important for borrowers to obtain bank lending (Forbes, 2016).

⁷ Extant literature that assesses the debt market benefits of auditing concludes that *annual* financial statements' verification is important for the cost of debt. For example, Blackwell (1998) suggests that financial statement audits reduce creditors' information gathering costs and interest rates on loans. In a similar vein, Kim, Simunic, Stein, and Yi (2011a) and Lennox and Pittman (2011) indicate that firms with voluntary audits are perceived as less risky and are compensated by banks with lower interest rates. Finally, Robin, Wu, and Zhang (2016) find that individual auditor quality and financial covenants in debt contracts are negatively associated. Although we build on this emerging stream of literature, our study differs from previous research by focusing on the impact of the AR on *quarterly* financial statements from both the private and the public debt market perspective.

⁸ According to Section 7060, "Auditor Review of Interim Financial Statements" prepared by the Auditing and Assurance Standards Board (AASB) in 2014, "*members of audit committees have indicated that the guidance on*

misstatements made by the management to the audit committee in a timely manner (Ettredge, Simon, Smith, and Stone, 1994). This characteristic of the AR is likely to reduce lenders' screening efforts in assessing borrowers' riskiness. Nonetheless, the no-AR firms forfeit the benefits associated with the AR and assume the potential debt-market costs entailed by their choice. Opting out of the AR is likely to be priced by lenders as a negative signal because it informs them about the borrower's information and credit risks (Chow, 1982; Melumad and Thoman, 1990; Lennox and Pittman, 2011).

Using hand-collected data for a sample of 1,616 non-financial listed Canadian firms from 2004 to 2015 and a propensity-score-matching (PSM) approach to reduce sample heterogeneity based on observable firm characteristics, we test whether no-AR firms have a higher cost of debt than AR firms. We find that no-AR firms obtain debt capital at a higher cost than AR firms by 20 basis points on average. When we conduct our tests on samples of public bonds (610 bond issuances from 174 firms) and private loans (358 loan facilities from 135 firms), we find that the no-AR firms have a higher bond yield spread and loan interest rate spread. For no-AR firms, the yield spread of the public bonds is 90 basis points higher, and the interest rate spread of the private loans is 40 basis points higher than the corresponding values for matched AR firms.

To further strengthen identification and increase confidence in our results, we examine subsamples of firms that switch (1) from a no-AR to an AR status (positive switchers) and (2) from an AR to a no-AR status (negative switchers). We find that, for negative switchers (positive switchers), the pre- to post-switch change in the cost of debt (using various windows of up to three years around the switch) increases (decreases) more than for the matched firms. These results

interim review procedures is particularly useful. Similarly, many practitioners have commented that carrying out interim review procedures has assisted them in identifying financial reporting matters to management and audit committees on a timely basis.”

confirm that lenders are sensitive to the borrowers' voluntary AR status and punish (reward) the firms with negative (positive) switches.

The tests of switchers strengthen our confidence in the positive link between no-AR and the cost of debt. However, given the associated economic costs, it is difficult to explain why firms choose to discontinue the AR. Besides, we are not sure of the mechanism via which the value of AR manifests in the cost of debt. Melumad and Thoman (1990) predict that voluntary auditing will reveal the borrower type, as borrowers with higher information and credit risk may not opt for external auditing. In line with the predictions of agency theory (Jensen and Meckling, 1976), managers could also behave in a self-serving manner at the expense of principals when voluntarily opting out of the AR. Because the external monitoring likely constrains earnings manipulation, managers with strong incentives to manipulate reported earnings may therefore be reluctant to purchase an AR.⁹ If this prediction holds, we anticipate that the information quality of the financial statements will be lower for the negative switchers.

Our tests show that the negative switchers have higher abnormal discretionary accruals following the switch than the matched control firms (i.e., the matched AR firms that do not switch). These results indicate that the no-AR firms are likely to engage in more aggressive financial reporting and, as suggested by Mansi et al. (2004), are unlikely to commit to higher audit quality via purchasing an AR. To further identify a potential self-serving behaviour of managers in connection with the AR, we investigate whether the decision to opt out of the AR is associated with potential managerial benefits. Our analysis indicates that managers of no-AR firms have a higher total stock-based compensation following the negative switch. Moreover, we find that

⁹ It is also possible that firms discontinue the AR because the extra cost of audit fee is too high. Untabulated tests show that the reduction of the audit fee is immaterial to the negative switchers' net income.

negative switchers are more likely to be followed by fewer equity analysts. These findings are particularly insightful because they motivate why firms may voluntarily choose to opt out of the AR. The increases in earnings management and managers' stock-based compensation for the negative switchers are likely to go unobserved due to the reduction in external monitoring. Moreover, we observe that the negative switchers reduce the amount of post-switching borrowing, thereby partially offsetting the increase in the cost of debt. Together, these findings indicate that financial statement quality is the bridge that links AR and the cost of debt and that managers derive personal benefits through higher stock-based compensation when opting out of the AR.

We also conduct cross-sectional tests to examine whether the association between the voluntary choice to opt out of the AR and debt financing cost is moderated by the information asymmetry between the lender and the borrower. Our findings indicate that the impact of not purchasing an AR on the cost of public bonds is greater for firms with a more opaque information environment. Concurrently, we do not find a significant effect for private debt, indicating that bondholders are likely to respond more to the negative signal provided by the absence of the AR than syndicated loan lenders.

Although related to recent work on the implications of frequent financial reporting (Fu, Kraft, and Zhang, 2012; Gigler, Kanodia, Sapa, and Venugopalan, 2014; Kajüter, Klassmann, and Nienhaus, 2016; Kraft, Vashishtha, and Venkatachalam, 2018), our study expands the literature by exploring the effect of the frequency of financial reports' external verification. Given the inconclusive equity market-based evidence on the AR, we turn to the salient setting of the debt market to assess the cost of voluntarily opting out of the AR for listed firms. By doing so, we also contribute to the emerging literature that analyses the implications of auditing for firms' cost of

debt (Blackwell, 1998; Allee and Yohn, 2009; Minnis, 2011; Kim et al., 2011a; Lennox and Pittman, 2011; Robin et al., 2016; Kajuter et al., 2021).

Relative to the US setting, where the AR is mandatory for listed firms, Canadian firms can choose to not have their interim financial statements reviewed by external auditors. Consequently, we are able to assess the cost of not having an AR from a debt market perspective. To the best of our knowledge, our study is the first to analyse the implications of opting out of an AR for *public* firms' cost of debt financing. The literature on this topic provides contradictory predictions, with the empirical evidence being based primarily on limited data from privately held firms. Our study attempts to address this issue; it documents that publicly listed firms without a voluntary AR incur a higher cost of debt. Moreover, it shows that the cost increases with the borrower's level of information opacity.

The significant cross-country variation in regulatory approaches regarding the AR suggests a lack of consensus regarding the desirability of the review (Bédard and Courteau, 2015), and our study provides empirical evidence regarding the costs associated with choosing to not purchase it. We therefore contribute to the worldwide debate on mandatory AR by providing empirical evidence from the Canadian experience.¹⁰ Although prior research assesses whether the AR is associated with better disclosure quality of interim financial statements (Bédard and Courteau, 2015), it does not examine the real economic implications of the AR. Our study documents one important real economic implication of opting out of the AR, the increased cost of public debt financing. Overall, our findings support the voluntary AR setting in Canada by showing that it allows the debt market to better differentiate between high-risk and low-risk borrowers.

¹⁰ The Canadian setting is characterized by ample debates on whether the AR should be mandated (Crawford Committee, 2003; Auditing and Assurance Standards Board of Canada (AASBC), 2014). Critics of this proposed regulatory change highlight the lack of empirical evidence regarding the benefits of an AR.

II. REGULATORY BACKGROUND

Characteristics of the AR in Canada

A unique feature of the Canadian setting that makes it especially appropriate for analysing reporting and auditing practices is that the AR of quarterly reports is done on a voluntary basis. In contrast, in most countries (e.g., the US and Australia), the AR is mandatory for listed firms' interim financial reports. The main reason for this difference in policy is an ongoing debate regarding the asymmetry between the costs of purchasing an AR and the benefits it would bring (OSC, 2000; TSX Venture Exchange, 2002). On the cost side, the AR represents additional work for auditors, which results in increased audit fees (Bédard and Courteau, 2015).

Critics of the review argue that mandating the AR would most likely be disadvantageous for small, listed firms because they would bear the additional costs but not benefit commensurately from the additional verification. Despite this criticism, in 2014, the AASBC initiated a discussion on potentially modifying the current standard on Auditor Review and Interim Financial Statements to make the AR mandatory (AASBC, 2014). The discussion did not end up revising the previous requirements, as the debate on whether to make the AR mandatory did not produce definitive conclusions. Consequently, Canadian firms maintain the right to voluntarily purchase the AR, even when publicly listed in the US, given the exemption granted for “foreign private issuers” (SEC, 1999a).

In addition to allowing the purchase of the AR on a voluntary basis, Canadian law has clear requirements regarding how firms should disclose the purchase of the AR to their stakeholders. National Instrument 51-102 “Continuous Disclosure Obligations” requires firms to disclose in their financial reports if their interim reports *have not* been reviewed by an auditor (OSC, 2004). Moreover, firms are not allowed to reveal the outcome of the AR to external parties. Because its

use is restricted to internal purposes, it mainly serves as a monitoring mechanism for potential accounting distortions in the quarterly financial statements. Although the AR is not mandatory, its purchase is highly recommended by the Canadian Securities Administrators (CSA) because it aims to address, in a timely fashion, potential accounting misstatements in annual reports (OSC, 2004).

III. RESEARCH QUESTION

Audit reviews and debt financing

A growing body of research investigates the role of auditing in assisting lending decisions. In the context of quarterly ARs, previous evidence links their use to improvements in the quality of financial statements (Ettredge, Simon, Smith, and Stone, 1994, 2000). Specifically, external auditors are able to detect potential financial misstatements during the interim periods and not just during the year-end audit, which reduces fourth-quarter adjustments. In this study, we assess the debt market implications of the decision to opt out of the AR, by examining whether the voluntary choice to not purchase the AR by a sample of listed Canadian firms adversely influences their cost of debt.

The AR is likely to be priced by lenders, given that its purchase is voluntary. According to Kausar et al. (2016), borrowers that voluntarily purchase external audit verification send lenders a signal regarding their future investment opportunities and, therefore, the ability to repay their loans. However, given the relatively small cost of the AR, the positive signal sent through its purchase is likely to be reduced because other firms can easily replicate it.

In contrast, we propose that borrowers will *negatively* signal their lenders when they voluntarily opt out of external verification because such an action implies higher riskiness (Melumad and Thoman, 1990). In a similar vein, according to Lennox and Pittman (2011), the choice to not have a voluntary audit implicitly suggests that the firm forfeits any assurance benefits

associated with the external verification. Our proposition fits the Canadian context since the mandatory disclosure about the absence of the AR can be observed by lenders.

The relevance of the AR for lenders could also be explained through auditing's established channels: (1) providing "verification" to the disclosure quality of financial statements (information role) and (2) providing "insurance" to investors through the auditor's legal liability (insurance role). Regarding the information role, an AR of quarterly financial statements has a lower assurance level compared to a statutory audit of year-end financial statements.^{11,12} Despite its reduced scope, the AR aims to improve the reliability of financial information reported in quarterly financial statements by a timely verification of accounting misstatements. This verification is important because managers have significant incentives to use their discretion in preparing quarterly reports. According to Myers, Myers, and Skinner (2007), the main motivations for manipulating interim reports are reporting flows of increasing earnings. Manry et al. (2003) indicate that interim reports are also manipulated to beat financial analysts' and budget targets. The AR, therefore, represents a mechanism through which the financial reporting decisions of management are assessed continuously. If the AR caters to the informational needs of lenders, they are likely to require a lower risk premium for lending due to the improvement in borrowers' reporting quality (Graham et al., 2005). Therefore, the reduced screening costs will be associated with the cost of debt financing (Minnis, 2011).¹³ Nonetheless, the effect of AR through the

¹¹ According to Kajüter, Klassmann, and Nienhaus (2016), the review verifies whether the reported numbers in financial statements are plausible or not.

¹² While an audit provides a positive assurance, i.e., an indication that the financial statements are prepared, in all material aspects, in accordance with the applicable Generally Accepted Accounting Principles (GAAP), the review provides a negative assurance, i.e., an indication of *no evidence* to assume that the financial statements are *not* presented in accordance with the applicable GAAP (Gay, Schelluch, and Baines 1998). For example, Barton, Hodder, and Shepardson (2014) find for a sample of firms in the financial industry, the audit review is associated with reduced likelihood of bank failure.

¹³ This is consistent with Bharath et al. (2008), who find a negative association between the quality of accounting information and the cost of debt.

insurance role of auditing is doubtful, given that the AR in Canada is limited to internal use (CICA, section 7050.08). Since external parties are not able to access the outcome of the AR, its insurance role is constrained.

In summary, it is unclear whether the voluntary decision to not purchase the AR is likely to represent a negative signal that would significantly impact the cost of debt financing for AR firms relative to no-AR firms. We, therefore, formulate our research question as follows:

***RQ:** Does the cost of debt differ between no-AR firms and AR firms?*

IV. DATA

Although the review of interim financial statements is voluntary in Canada, starting from fiscal years on or after January 1, 2004, listed Canadian firms are required to disclose whether their interim financial statements have *not* been reviewed by an auditor (OSC, 2004). This new regulation makes Canada an ideal institutional setting for examining the benefits of the AR because (1) the purchase of the review is voluntary and (2) the disclosure of notice to not have a review is mandatory. Therefore, we begin by selecting all Canadian listed firms included in the Compustat database between 2004 and 2015. We use SEDAR, the official website that provides access to public security documents filed by Canadian firms, to hand-collect the information on the AR purchase and the auditor's name from firms' interim reports.¹⁴ We obtain data on all firm-specific controls from Compustat. This process results in an initial sample of 22,026 firm-year observations from 3,575 firms. We exclude 7,283 observations of financial firms (SIC codes 6000-6799) and 5,903 observations without available interest expense and short-term and long-term debt data in Compustat to compute the average interest rate. We also eliminate 543 observations for firms with

¹⁴ According to the National Instrument 51-102 "Continuous Disclosure Obligations", Canadian firms are mandated to disclose in their quarterly reports if their auditors *do not* perform an audit review (OSC, 2004).

non-listed status, 276 observations with missing review information due to the unavailability of the annual reports, and 436 observations with missing firm-specific controls identified in our research models. These criteria result in a sample of 7,585 observations from 1,616 listed firms for our main analysis. The sample includes 4,815 observations for firms with a voluntary AR (AR sample) and 2,770 observations for firms without an AR (no-AR sample).¹⁵

In addition to the full sample, we use a subsample of publicly listed firms that issue public debt, which we refer to as the *bond sample*, and a subsample of firms that issue private debt, which we refer to as the *loan sample*. The bond sample for the public debt analysis includes 610 straight bond issues from 174 non-financial firms during the 2004-2015 period, of which no-AR firms issued 55 bonds and AR firms issued 555 bonds. We obtain bond data from the SDC Platinum database. The loan sample for the private debt analysis includes 358 loan facilities from 135 firms during the 2004-2015 period, of which 36 facilities are for no-AR firms and 322 facilities for AR firms.¹⁶ We obtain loan data from the Dealscan database.

V. METHODOLOGY

We use the full, bond, and loan samples to answer our research question. We follow the empirical approach of Kim et al. (2011a) and Minnis (2011) and estimate the following model:

$$\begin{aligned}
 \text{Cost of Debt} = & \beta_0 + \beta_1 \text{No_Review} + \beta_2 \text{Size} + \beta_3 \text{ROA} + \beta_4 \text{TANG} + \beta_5 \text{CR} + \beta_6 \text{LEV} \\
 & + \beta_7 \text{MB} + \beta_8 \text{NegE} + \beta_9 \text{INVEST} + \beta_{10} \text{Cross Listed} + \beta_{11} \text{Bond Dummy} \\
 & + \beta_{12} \text{Loan Dummy} + \text{Industry and Year dummies} + \varepsilon
 \end{aligned} \tag{1}$$

¹⁵ Our sample composition is consistent with previous literature, as no-AR observations make up 37 per cent of the overall sample, compared with 41 per cent for Bedard and Courteau (2015).

¹⁶ Over the period 2004-2015, 2,170 loan facilities from 345 Canadian firms are available on Dealscan. However, spread all-in-drawn information is only available for 431 loan facilities and 148 firms. Finally, out of 431 loan facilities, we exclude 73 facilities pertaining to firms with missing reviews, firm characteristics, and auditor information.

The dependent variable, *Cost of Debt*, is the average interest rate on outstanding debt (*InterestRate*), bond spread (*BondSpread*), and loan spread (*Spread All-in-Drawn*) for the full, bond, and loan samples, respectively.

For the full sample analysis, we follow Kim et al. (2011a) and Minnis (2011) and use the average interest rate on outstanding debt (*InterestRate*) as the dependent variable.¹⁷ We compute *InterestRate* as the firm's total interest expense in year t divided by the total short-term and long-term debt outstanding in year t .¹⁸

We use *BondSpread* as the dependent variable for the bond sample analysis. We compute *BondSpread* as the yield-to-maturity (YTM) difference between the firm's public bonds and the maturity-matched Canadian government marketable bonds. For the bond sample analysis, we also use bond-specific controls (*Bond Amount*, *Bond Maturity*, *Foreign Currency*, and *Senior Bond Dummy*) in addition to the firm-specific control variables in Model (1).

We use *Spread All-in-Drawn* as the dependent variable for the loan sample analysis. We compute *Spread All-in-Drawn* as the interest rate on the loan that a borrower pays in basis points over LIBOR or LIBOR equivalents for each dollar drawn down as provided in the DealScan database, divided by 10,000.¹⁹ Similar to the bond sample analysis, for the loan sample analysis,

¹⁷ Using the average interest rate as a proxy for the real interest rate on loan facilities may introduce measurement error (Kim et al., 2011a; Pittman and Fortin, 2004; Francis et al., 2005a; Francis et al., 2005b). If the dependent and independent variables are systematically correlated, the measurement error may result in biased coefficients and inflated significance levels (Greene, 2003). Given that we use econometric models that address the selection bias of our test variable, *No_Review*, it is unlikely that the average interest rate is systematically correlated with *No_Review* because of measurement error.

¹⁸ We do not use a benchmark-adjusted interest rate spread in our main sample. Because the overall maturity structure of a firm's debt is unavailable, it is difficult to select benchmark interest rates with appropriate maturities. In unreported tests, we obtain robust results when adjusting the average interest rate by the rates on Canadian government bonds of different maturities. These results are available upon request.

¹⁹ Kim et al. (2011a) and Bharath et al. (2008) indicate that spread all-in-drawn on a loan facility captures the lenders' perceived level of risk on a specific loan in all aspects and is a more comprehensive measure of loan pricing.

we also include loan-specific controls (*Foreign Currency*, *Loan Amount*, *Loan Maturity*, and *Number of Lenders*) in addition to the firm-specific control variables in Model (1).

We acknowledge that *InterestRate* is a coarse proxy for the cost of debt. While recent literature tends to use the interest rates charged on loans and bonds directly from debt contracts (which is what we do for the subsamples of public bonds and syndicated loans), we note that because Canadian firms do not rely on the public bond market and the syndicated loan market as frequently as their American counterparts, we do not observe sufficient bond and loan issues from Canadian firms. In addition, our database does not provide the details of the debt structure (e.g., maturity, proceeds, and interest rate of all liabilities in a given year) of each Canadian public firm, which means we cannot calculate a precise cost of debt for a firm by weighting different debt instruments. Given these data limitations, we use *InterestRate* as the proxy for the cost of debt for the full sample and complement this analysis by using *BondSpread* and *Spread All-in-Drawn* as the cost of debt proxy for the smaller bond sample and loan sample, respectively.

Our main variable of interest in Model (1) is *No_Review*, an indicator variable that equals one if a firm does not have a voluntary AR and zero otherwise.²⁰ A positive (negative) coefficient for *No_Review* would indicate that the lack of voluntary purchase of an AR is associated with a higher (lower) cost of debt.

In Model (1), we control for firm-specific determinants of the cost of debt. We include firm size (*Size*) because previous literature on debt financing suggests that firm size is negatively associated with the cost of borrowing (e.g., Blackwell et al., 1998). We include return on assets

²⁰ Under National Instrument 51-102 “Continuous Disclosure Obligations,” starting from the fiscal years on or after January 1, 2004, no-AR firms need to disclose a notice in their quarterly financial statements indicating that they have not been reviewed by an auditor (OSC, 2004). Thus, if the firm does not disclose a notice indicating that “the interim financial statements have not been reviewed by an auditor,” we assume that an external auditor reviews the firm’s interim financial statements.

(*ROA*) because lenders charge firms with higher profitability a lower cost of borrowing (Kim et al., 2011a). We include current ratio (*CR*) because firms' ability to meet their short-term obligations is negatively associated with borrowing costs. As indicated by Jensen and Meckling (1976), agency costs increase with the level of debt. We include leverage (*LEV*) and an indicator variable for negative earnings (*NegE*) to control the risks of distress and agency costs. Previous literature on loan contracting suggests that the cost of borrowing is negatively associated with tangible assets, as their use as collateral represents an additional assurance for lenders (e.g., Kim et al., 2011b, and Florou and Kosi, 2015). Therefore, we include asset tangibility (*TANG*). Following Denis and Mihov (2003), Bharath et al. (2008), and Florou and Kosi (2015), we include the market-to-book ratio (*MB*) to control the impact of forward-looking growth opportunities, which are expected to decrease firms' average interest rate. Firms with a higher credit rating have a lower cost of borrowing. Therefore, we include an indicator variable for investment-grade credit rating (*INVEST*) to control the impact of firms' credit ratings on the cost of debt. We control the impact of cross-listing and public bond and syndicate loan offerings by including indicator variables for cross-listed firms (*Cross Listed*), firms with bond issuances (*Bond Dummy*), and firms with syndicated loan issuances (*Loan Dummy*). We also include industry and year indicator variables to control for the effects of unobserved heterogeneity on our estimation. Table 1 defines all the variables used in our analyses.

[Insert Table 1 Here]

Because errors of observations with the same individual auditor may be correlated (Gul, Wu, and Yang, 2013; Francis et al., 2017), we use standard errors clustered by auditor to correct for unobserved within-auditor correlations.

Propensity Score Matching

The potential non-random assignment of firms to AR and no-AR groups resulting from the voluntary nature of the review in Canada could systematically bias our results. To reduce sample heterogeneity based on observable firm characteristics, we use a PSM approach to match firms from the AR and the no-AR groups.²¹ Specifically, we use logistic regression to estimate the following *audit choice model* and the propensity score for each firm, and match firms from the no-AR group (treatment sample) with firms from the AR group (control sample) based on their estimated propensity scores:

$$\begin{aligned}
 No_Review = & \beta_0 + \beta_1 Dec_FYEnd + \beta_2 Big4 + \beta_3 AltmanZ + \beta_4 InfAsym + \beta_5 Size \\
 & + \beta_6 ROA + \beta_7 TANG + \beta_8 CR + \beta_9 LEV + \beta_{10} MB + \beta_{11} NegE \\
 & + \beta_{12} INVEST + \beta_{13} Cross Listed + \beta_{14} Bond Dummy + \beta_{15} Loan Dummy \\
 & + Industry and Year dummies + \varepsilon
 \end{aligned} \tag{2}$$

Dec_FYEnd indicates whether a firm has a fiscal year-end in December. We include this variable to control for the additional working pressures auditors face because most of their clients have a December fiscal year-end. To deal with this issue, auditors encourage clients to have interim reviews in order to shift some procedures to less busy seasons and better utilise their capacity (Hay et al., 2006; López and Peters, 2012). Therefore, we posit that firms with a December fiscal year-end are more likely to have an interim review. *Big4* indicates whether the firm uses a Big4 auditor for external verification. Bédard and Courteau (2015) show that a Big4 auditor decreases the likelihood of not having an interim review. Given that creditworthiness and bankruptcy risk are fundamental factors that might affect firms' choices regarding the AR, we also include the Altman

²¹ We also employ the Heckman (1979) two-stage estimation procedure and add the inverse Mills ratio to our main model to address concerns related to a potential selection bias in our sample. Untabulated results show that our inferences remain the same after including the inverse Mills ratio. The first-stage model in the Heckman procedure is the same as the audit choice model used in the PSM in Table 4.

Z-score (*AltmanZ*) in the choice model. Moreover, information asymmetry is another important factor that may affect a firm's decision to purchase or opt out of the AR. We, therefore, control for *InfAsym*, a ranked measure of analyst forecast dispersion. Furthermore, we include *Size*, *TANG*, and *MB* in the model because Ettredge et al. (1994) show that *No_Review* is negatively associated with these variables. Because agency cost and firms' financial strength are likely related to purchasing an AR, we include *CR*, *LEV*, and *NegE* in the model. We expect *No_Review* to be negatively associated with *CR*, *LEV*, and *NegE*. We also include *ROA*, *INVEST*, *Cross Listed*, *Bond Dummy*, and *Loan Dummy*. We expect firms with lower profitability, non-investment-grade credit rating, and cross-listing to have a higher propensity to not purchase a review.

VI. RESULTS

Descriptive statistics and univariate analysis

We present descriptive statistics for the unmatched full sample and the subsamples with no-AR and AR firms in Table 2. We also report univariate test statistics for the mean differences between the no-AR and the AR groups. The average interest rate for the full sample is 9.2 percent, with no-AR firms having a higher average interest rate (10.3 per cent) than AR firms (8.6 percent). No-AR firms exhibit significantly lower firm size, ROA, tangible assets, leverage, market-to-book ratio, credit rating, and Altman-Z, and higher information asymmetry and probability of having negative equity. We also document that 21% of the no-AR firms and 33% of the AR firms are cross-listed. Lastly, 0.6% (3.6%) of the no-AR firms and 5.9% (18%) of the AR firms have public bonds (syndicated loans). The significant differences between the no-AR and the AR subsamples justify our use of the PSM approach. Table A1 of the online appendix presents the summary statistics for the bond and the loan sample.

[Insert Table 2 Here]

Table 3 presents Pearson correlations. Our variable of interest, *No_Review*, is significantly positively correlated with *InterestRate* (Pearson correlation = 0.14). In line with previous studies, *Size* is significantly negatively correlated with *No_Review* (Pearson correlation = -0.43), indicating that smaller firms are less likely to purchase an AR voluntarily.

[Insert Table 3 Here]

Matched sample

We match the no-AR firms with the AR firms based on propensity scores derived from Model (2). We employ the nearest neighbour matching approach with no replacement within a calliper of 0.01. Our matching yields a sample of 4,066 firm-year observations (2,033 matched pairs) for the full-sample test of our RQ.

Table 4, Panel A, reports the estimation results of the audit choice model. The pseudo R^2 of 0.19 suggests that the voluntary review is not random and warrants the use of PSM. In line with our expectations, the no-AR firms are less likely to have a December fiscal year-end and be audited by a Big4 auditor. Also, the no-AR firms have a higher Altman Z-score (lower bankruptcy risk). Although positive, the coefficient of *InfAsym* is not significant. Firm size, market-to-book ratio, and tangibility are negatively related to the no-AR decision. Consistent with signalling theory, a firm with negative equity is less likely to decline an AR. Firms with a high return on assets have a higher tendency not to purchase an AR. Furthermore, the probability of not purchasing an AR decreases when the firm has a bond issuance or a syndicated loan borrowing. Table 4, Panel B, documents the univariate test comparisons of the PSM matched samples. The differences between

the no-AR and the AR subsamples are insignificant for the matched sample, indicating that the PSM approach is efficacious.

[Insert Table 4 Here]

Main Findings

Table 5 presents the Model (1) estimation results for the matched full, bond, and loan samples. The coefficient of *No_Review* for the matched full sample is significantly positive ($\beta = 0.002$; t-value = 2.40).^{22,23} *Ceteris paribus*, no-AR firms exhibit a 20-basis point higher interest rate than AR firms. Consistent with our expectation, larger firms and firms with better operating performance (proxied by *ROA*) are associated with a lower cost of debt. The coefficient of *Loan Dummy* is negative and significant, consistent with firms with bank loans being monitored more closely and the increased monitoring being priced in new loan facilities.

We present the results of Model (1) for the bond sample in the second column of Table 5. The dependent variable in this model is bond spread (*BondSpread*). The coefficient of *No_Review* is significantly positive ($\beta = 0.009$; t-value = 2.40) and indicates that no-AR firms, on average,

²² We control industry- and year-fixed effects and use standard errors clustered by auditor in our main analyses. In additional tests, we use *AltmanZ* and *InfAsym* as additional controls in our matched full sample, and for the bond and loan samples. Moreover, in a separate test, we repeat our analysis after controlling for auditor opinion on internal controls. Untabulated results are statistically similar to those presented in Table 5.

²³ The PSM approach used in Table 5 matches *observable characteristics* and aims to reduce sample heterogeneity. Therefore, to control for potential bias due to differences in *unobservable* firm characteristics, we follow Minnis (2011), Powers (2007), Hsu et al. (2015), and Ireland and Lennox (2002), and use a two-stage Heckman procedure that includes the exogenous instrument *Dec_FYEnd*. We posit that *Dec_FYEnd* satisfies the exclusion restriction because auditors may advance some procedures to less busy interim periods when they have the excess capacity by encouraging clients to use interim reviews (Hay et al., 2006; López and Peters, 2012). Therefore, *Dec_FYEnd* is directly related to the decision to not have an AR but not directly related to the firm's cost of debt. Using the inverse Mills ratio from the first stage, we separately estimate coefficients for no-AR and AR firms in the second stage to capture the endogenous switching effect and predict the average interest rate for each no-AR and AR firm. Untabulated results of the endogenous switching model approach suggest that the no-AR firms are associated with higher interest rates, in line with the findings of our main test.

have a 90-basis-point higher bond spread than AR firms.²⁴ Our findings are consistent with the review assisting the screening of borrowers' credit risk, which bondholders reward through a lower cost of debt.

We present the results of Model (1) for the loan sample in the third column of Table 5. The dependent variable in this model is the all-in-drawn spread (*Spread All-in-Drawn*). The coefficient of *No_Review* is significantly positive ($\beta = 0.004$; t-value = 3.41). The results for the loan sample document that the spread in private loan contracting is higher by 40 basis points for no-AR firms than for AR firms, suggesting that private bank lenders reward borrowers that voluntarily purchase and AR.²⁵

To summarise, the results in Table 5 indicate that if an external auditor does not review a firm's interim financial statements, the cost of debt is higher relative to the cost of debt for a matched AR firm. Furthermore, this result holds for both the bond and the loan samples. The results also show that the effect of the AR on the cost of debt is asymmetric between private and public debt; it is less strong for private lenders than for bondholders. We contend that this difference is due to banks having alternative channels to access borrowers' private information, which lowers their reliance on the signalling value of the AR. By contrast, the signalling effect of the AR is likely to be more pronounced for the cost of public debt financing because public

²⁴ We also use the S&P's issue rating as the proxy for the cost of public debt financing (untabulated results). The voluntary review is significantly associated with better credit ratings after controlling the determinants of credit ratings. These results are available upon request.

²⁵ In the main tests, for the bond and loan analyses, we present the results from the unmatched samples. In additional tests, we match the no-AR firms with the AR firms based on propensity scores from the choice model presented in Equation (2). We exclude industry dummies, *AltmanZ* and *InfAsym* from the choice model to increase the number of matched firms. We employ the nearest neighbour matching approach with replacement within a calliper of 0.01. However, given the small sample size and many control variables, our final matched bond and loan samples have 65 and 34 observations, respectively. The coefficient of *No_Review* is still positive and significant for both samples ($\beta = 0.014$; t-value = 2.100 for the bond sample and $\beta = 0.012$; t-value = 2.712 for the loan sample).

bondholders do not have access to borrowers' private information and therefore price the borrowers' lack of commitment to have a timely AR higher.

[Insert Table 5 Here]

Additional Tests

Switching to/from an AR

Our sample includes firms that switch their review status from no-AR to AR and others that change from AR to no-AR. We refer to the former as positive switchers and the latter as negative switchers. The subsamples of positive and negative switchers allow us to conduct sharper tests that better identify the relation between the cost of debt and AR.

Depending on the direction of the switch, the decision to purchase (discontinue) an AR provides a positive (negative) signal to creditors. Specifically, relative to no-AR firms, positive switchers are more likely to be rewarded by lenders with a lower cost of debt, given their commitment to increase verification of their interim financial statements. By contrast, relative to AR firms, negative switchers are likely to experience an increase in the cost of debt, given the AR discontinuation and, consequently, the commitment to maintain verification of their interim financial statements.

Again, it is likely that the decision to switch is not random. To examine the effect of switching on the cost of debt, we start with the *audit choice model* and match switchers to non-switchers with similar firm characteristics. Following Francis et al. (2017), we estimate the *audit choice model* annually and match switchers to non-switchers using a one-to-one matching without replacement. We use the switching year of the treatment firm as a pseudo switching year for its

matched non-switching firm. We construct 36 matched pairs for positive switchers and 38 matched pairs for negative switchers.²⁶

We then use the following model to test whether the pre-switch to post-switch change in the cost of debt differs between switchers and non-switchers:²⁷

$$\begin{aligned} \Delta InterestRate = & \beta_0 + \beta_1 Switch + \beta_2 \Delta Size + \beta_3 \Delta ROA + \beta_4 \Delta TANG + \beta_5 \Delta CR \\ & + \beta_6 \Delta LEV + \beta_7 \Delta MB + \beta_8 \Delta NegE + \beta_9 \Delta INVEST \\ & + Year\ dummies + \varepsilon \end{aligned} \quad (3)$$

$\Delta InterestRate$ is the difference in the firm's cost of debt between the post-switch period and the pre-switch period. We use pre-switch and post-switch periods of: (1) one year before and one year after the year of the switch; (2) two years before and two years after the year of the switch; and (3) three years before and three years after the year of the switch. For (2) and (3), we calculate the average $InterestRate$ in the pre-switch and the post-switch periods.²⁸

$Switch$ is an indicator variable that equals one if a firm voluntarily switches its review status from no-AR to AR (AR to no-AR) and 0 if a firm does not switch. $Switch$ is our primary variable of interest because it captures the difference of the impact of AR on the cost of debt between switchers and non-switchers. We use standard errors clustered by auditor. We no longer include the time-invariant control variables because we use differences in all the control variables.

²⁶ We start with a sample of 56 unique positive switchers and 53 unique negative switchers from 2006 to 2015. The number of positive (negative) switchers for the change analysis declines to 36 (38) because we require them to have available data for the dependent and independent variables in pre- and post-switching periods.

²⁷ To further control omitted variables that may simultaneously influence the firm's AR decision and the cost of debt, we include additional variables, such as change in the firm's discretionary abnormal accruals and Altman Z-score. Untabulated tests show that our findings are robust.

²⁸ We do not use the public bond and the syndicated loan samples in the switching test because the number of observations is insufficient to draw meaningful statistical inferences. We present the characteristics of bond and loan issues of the switching and controlling firms in Appendix A2.

Table 6 reports the effects of positive switching (from no-AR to AR) in Columns 1-3 and negative switching (from AR to no-AR) in Columns 4-6 on the change in firms' cost of debt. Column 1 shows that the change in *InterestRate* from t-1 to t+1 (where t is the year of the switch) is lower for positive switchers than for non-switchers; however, the difference is insignificant. We find a negative and significant coefficient of *Switch* in Columns 2 and 3 when we expand the pre-switch and the post-switch periods to t-2 to t+2 ($\beta = -0.026$ and t-value = -2.21) and t-3 to t+3 ($\beta = -0.014$ and t-value = -2.34), respectively. Overall, the results show that positive switching is associated with a reduction in the cost of debt. Columns 4-6 show that the coefficients of *Switch* are positive and significant for all three windows ($\beta = 0.026$ and t-value = 3.51; $\beta = 0.014$ and t-value = 2.77; $\beta = 0.014$ and t-value = 2.36). These results suggest that firms' debt costs significantly increase after they discontinue the AR of their interim financial statements.

Although the impact of switching on the change in the cost of debt is pervasively and statistically significant, we interpret the economic magnitude of the effects with caution. We acknowledge that *InterestRate* is a rough proxy of the firm's cost of debt. Besides, after the switching, the negative switchers experience an increase in the cost of debt which is 140 basis points more than the change in the cost of debt for the matched firms (Column 6) and is larger than the documented effects of voluntary audit on the cost of debt in other studies.²⁹ Considering that Canadian firms do not issue debt securities as frequently as their U.S. counterparts, the impact of AR on the cost of debt could be different between Canadian and U.S. firms. We present the characteristics of the bond and loan issuances by the switchers and the control firms in Table A2 of the online appendix. Compared to the matched control firms, positive switchers experience a

²⁹ For instance, Minnis (2011) shows that voluntarily audited firms are associated with a lower interest rate ranging from 25 to 105 basis points.

larger decrease in bond and loan spreads of 98 (the difference between -20 and 78) and 127 (the difference between -95 and 32) basis points, respectively. In contrast, negative switchers experience a larger increase in bond and loan spreads of 99 (the difference between 229 and 130) and 77 (the difference between 256 and 179) basis points, respectively. Even though our estimates are likely to be noisy because of the small samples of bond and loan issues, the changes in the cost of public bonds and bank loans are comparable to the changes in the *InterestRate*.

[Insert Table 6 Here]

Characteristics of Switchers

The switching analysis in Table 6 shows that positive (negative) switching is associated with a lower (higher) cost of debt. However, we have not demonstrated why no-AR firms are willing to forgo the benefit of an AR and bear a higher cost of debt. We conjecture that lenders interpret the AR as the borrower's commitment to higher financial statement quality and the discontinuation of the AR as a refusal to make such a commitment. Therefore, creditors can differentiate the risk of the AR and the no-AR firms.

One possibility is that after opting out of the AR, some firms may reduce the frequency of accessing external debt financing.³⁰ More likely, the no-AR decision could also signal self-serving managerial behaviour at the expense of the firm's principals. Under this scenario, managers would have incentives to forgo the benefits of the AR so that they could manipulate reported earnings to extract private benefits. We, therefore, expect that the information quality of the financial statements will be lower for the negative switchers. We examine the changes in firm characteristics after the switching to empirically validate this reasoning.

³⁰ Table A2 of the online appendix shows that after the negative switch, the number of firms with syndicated loans decreases from 5 to 3, and the overall number of loan issues decreases from 8 to 6.

Table 7, Column 1 presents a difference-in-differences analysis to test whether the change in absolute abnormal accruals surrounding the switch differs between switchers and non-switchers. We find that after switching, positive switchers experience a reduction in absolute abnormal discretionary accruals, which is significantly larger than the change for the control firms. In contrast, negative switchers have significantly higher absolute abnormal accruals relative to their control firms after the switch. To further validate the existence of private managerial benefits, we assess whether the decision to opt out of the AR is associated with changes in managers' stock-based compensation. Table 7, Column 2 shows that, following the negative switch, managers of no-AR firms receive higher total stock-based compensation.

Lastly, we consider why the self-serving behaviour of no-AR firms' managers goes unobserved. We reason that other stakeholders may not be able to monitor no-AR firms efficiently. Table 7, Column 3 presents the difference in equity analyst following between switchers and non-switchers. In particular, the variable *Analyst Following* is a ranked measure of the number of equity analysts following the focal firm. We sort all Canadian public firms into decile portfolios by year and assign a rank of 1 to the firms with the *highest* analyst following and 10 to those with the *lowest* analyst following. Therefore, the higher the variable *Analyst Following*, the higher the information opaqueness between firm managers and outsiders. After opting out of the AR, we find that fewer equity analysts follow negative switchers than non-switchers.

Overall, the findings in Table 7 indicate that negative switchers engage in more earnings management activities and have higher levels of managerial stock-based compensation. Concurrently, this opportunistic behaviour is likely to go unsanctioned due to independent equity analysts' decrease in external monitoring. The discontinuation of the review is therefore likely to be associated with self-serving managerial behaviour.

[Insert Table 7 Here]

No-AR, cost of debt financing, and information asymmetry

Lenders have less information on which to base their financing decisions for borrowers with a more opaque information environment than borrowers with a more transparent information environment.³¹ The value of the signal provided by the no-AR is likely to be higher when borrowers have a more opaque information environment. It will lead to a greater increase in lender information asymmetry than a similar signal for borrowers with a more transparent information environment. Therefore, we expect that lenders will increase the cost of lending more for no-AR firms with higher levels of information asymmetry for not committing to a higher verification level by purchasing an AR, than for borrowers with lower levels of information asymmetry. In the case of the AR, lenders are likely to assess the value of the signal transmitted by the lack of voluntary purchase of the additional audit verification contingent upon the borrower's level of information asymmetry. We, therefore, examine the moderating role of information asymmetry on the cost of debt-AR relationship by interacting *InfAsym* and *Analyst Following* with our main variable of interest, *No_Review*. The results shown in Table A3 of the online appendix indicate that the impact of not purchasing an AR on the cost of public bonds is more pronounced for firms with a more opaque information environment. Unlike private lenders, public bondholders lack access to the issuer's private information and rely more on public information. Therefore, they are more

³¹ Information asymmetry between lenders and borrowers influences lending decisions (Diamond, 1991, Aghion and Bolton, 1992, Holmstrom and Tirole, 1997). Accounting information plays a crucial role in public and private debt markets because it decreases information asymmetry and better indicates borrower quality (Chen et al., 2016). Low-quality public information leads to higher perceived borrower risk, affecting loan terms (Bharath et al., 2008, 2011). Lenders value the verification offered by auditors (Minnis, 2011) because it improves the reliability of publicly available information.

sensitive to the signalling effect of not purchasing the AR when they lend to firms with higher information asymmetry.

Our findings suggest that public debt holders' inability to access private firm information increases their reliance on publicly available financial information relative to private lenders. Moreover, since bondholders cannot renegotiate debt agreements after bond issuance, they are more likely to reward borrowers with more reliable financial reports and resist borrowers' lack of commitment to external auditor verification.

VIII. CONCLUSION

In this study, we use (1) a sample of 7,585 firm-year observations from non-financial 1,616 public firms in Canada over the 2004-2015 period, (2) a subsample of 610 straight bond issuances from 174 non-financial Canadian listed firms, and (3) a subsample of 358 loan facilities from 135 non-financial Canadian listed firms to examine the impact of not purchasing an AR on a firm's cost of debt. Our results indicate that opting out of the AR is associated with a higher cost of debt, with public debt mostly driving this effect. We also find that the effect is stronger for firms with higher information asymmetry.

We add to the literature by being the first to document that the lack of a voluntary AR purchase is associated with debt market costs for public firms. Relative to previous studies highlighting that the AR is associated with costs and (marginal) benefits for firms, we focus on the debt-market implications of the voluntary decision to *not purchase* the additional audit verification. We observe a decrease in the negative switchers' lending volume, which partially offsets the effect of the increase in the cost of debt. Moreover, our analysis indicates that the managers of no-AR firms engage in more earnings management activities, receive increased stock-

based compensation, and have reduced equity analyst following. Overall, our findings provide evidence of why firms voluntarily opt out of the AR despite an increased cost of debt financing.

We conclude by identifying some avenues for future research and discussing the potential limitations of our study. As the external monitoring from auditors mitigates the information asymmetry between banks and borrowers (Watts and Zimmerman 1983; Balsam, Krishnan, and Yang 2003), private information obtained via an AR is likely to influence lending decisions. However, Biddle and Hilary (2006) and Beatty, Liao, and Weber (2010) suggest that the quality of accounting information might not be a relevant factor for lending decisions if the financiers have alternative ways of reducing agency costs. Future research could examine whether the association between opting out of the AR and the cost of debt persists in the presence of additional agency cost-reducing channels. A limitation of our study concerns the endogenous nature of the no-AR decision and potential structural differences between the no-AR and AR firms. Although we perform multiple tests in our empirical analysis to alleviate endogeneity concerns, our results should be interpreted with caution. Further, our analysis does not include the effect of the outcome of the AR, as we cannot access the content of Canadian firms' ARs. Future research could examine whether the output of the AR has a significant effect on lending decisions, particularly on the cost of debt.

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TABLE 1
Variable Definition

| | |
|--|--|
| <i>InterestRate</i> | Interest expense in year t divided by average total short-term plus long-term debt at the beginning and the end of year t . |
| <i>No_Review</i> | An indicator variable that equals one (zero) if a firm's interim reports are not reviewed (reviewed) in year $t-1$. |
| Bond and Syndicated Loan Sample Variables | |
| <i>BondSpread</i> | The difference in the yield-to-maturity (YTM) between the public bond and the maturity-matched Canadian government marketable bond as provided in the SDC database. |
| <i>Spread All-in-Drawn</i> | The interest rate on loan contracting that a borrower pays in basis points over LIBOR or LIBOR equivalents for each dollar drawn down as provided in the DealScan database, scaled by 10,000. |
| <i>BondAMT</i> | The log of the proceeds of a public bond. |
| <i>BondMaturity</i> | The log of bond maturity measured in months. |
| <i>BondSeniority</i> | An indicator variable that equals 1 if the public bond is a senior security; 0 otherwise. |
| <i>DForCurr</i> | An indicator variable that equals 1 if the public bond (syndicated loan) is not quoted (set) in Canadian or U.S. dollars; 0 otherwise. |
| <i>LoanAMT</i> | The log of the amount of a loan facility. |
| <i>LoanMaturity</i> | The log of the loan maturity measured in months. |
| <i>Nlender</i> | The total number of lenders in each loan facility. |
| Firm-Specific Controls | |
| <i>Size</i> | The log of total assets in year $t-1$. |
| <i>ROA</i> | Net income divided by total assets in year $t-1$. |
| <i>TANG</i> | Net property, plant, and equipment divided by total assets in year $t-1$. |
| <i>CR</i> | Current assets divided by current liabilities in year $t-1$. |
| <i>LEV</i> | Total liabilities divided by total assets in year $t-1$. |
| <i>MB</i> | A firm's market value divided by its book value in year $t-1$. |
| <i>NegE</i> | An indicator variable that equals 1 if total year-end liabilities are greater than total year-end assets in year $t-1$; 0 otherwise. |
| <i>INVEST</i> | An indicator variable that equals 1 if a firm's Standard & Poor's or Predicted credit rating is BBB- or higher; 0 otherwise. ³² |
| <i>Cross Listed</i> | An indicator variable that equals 1 if a firm is cross-listed; 0 otherwise. |
| <i>Bond Dummy</i> | An indicator variable that equals 1 if a firm has issued a new bond for year $t-1$; 0 otherwise. |
| <i>Loan Dummy</i> | An indicator variable that equals 1 if a firm has a new loan for year $t-1$; 0 otherwise. |
| Other Variables | |
| <i>Dec_FYEnd</i> | An indicator variable that equals 1 if a firm's fiscal year end is in December in year $t-1$; 0 otherwise. |
| <i>Big4</i> | An indicator variable that equals 1 if a firm is audited by Big4 auditors in year $t-1$; 0 otherwise. |
| <i>AltmanZ</i> | Altman Z-score is computed using the following equation: $\text{AltmanZ} = 1.2 * (\text{working capital} / \text{total assets}) + 1.4 * (\text{retained earnings} / \text{total assets}) + 3.3 * (\text{earnings before interest and tax} / \text{total assets}) + 0.6 * (\text{market value of equity} / \text{total liabilities}) + 1.0 * (\text{sales} / \text{total assets})$ |

³² Following Florou and Kosi (2015) and (Barth et al. 1998), we estimate the following equation in each year. Rating = $\beta_0 + \beta_1$ Total Assets + β_2 Return on Assets + β_3 (Long-term Debt/Total Assets) + β_4 (1 if a firm paid dividends in the current year) + ε . Based on the predicted coefficients, we generate a rating for all firms to capture a Standard & Poor's credit rating equivalent on a scale of 2–27 (AAA to D).

| | |
|--------------------------|--|
| <i>InfAsym</i> | Information asymmetry is proxied using analyst forecast dispersion, which is the square of the difference between the mean analyst forecast and the firm's actual earnings divided by stock price, measured at the end of the eleventh month of year t-1. We rank the analyst forecast dispersion into deciles each year and assign a value of 10 to the decile with the highest analyst forecast dispersion and a value of 1 to the decile with the lowest analyst forecast dispersion. The decile ranking is based on all Canadian public firms. |
| <i>Analyst following</i> | A ranked measure of the number of equity analysts following the firm. We rank the number of equity analysts into deciles each year and assign a value of 10 to the decile with the smallest number of equity analysts and 1 to the decile with the largest number of equity analysts. The decile ranking is based on all Canadian public firms. A higher value represents a lower financial analyst following. |
| <i>Compensation</i> | Total stock-based compensation in the form of company stock divided by total assets. |
| <i>Abs(ABN_ACC)</i> | Following Dechow and Dichev (2002) and Peek, Meuwissen, Moers, and Vanstraelen (2013), we estimate abnormal accruals by regressing working capital accruals on current cash flow, previous year's cash flow, and next year's cash flow for each country, industry, and year group. |

TABLE 2
Sample Descriptive Statistics

| Variable | Full Sample (N=7,585) | | | | No-AR (N=2,770) | AR (N=4,815) | Univariate test Ha: A ≠ B | | |
|--------------------------|-----------------------|-----------|---------|--------|--------------------|-----------------|------------------------------|-----|---------|
| | Mean | Std. Dev. | Min. | Max. | (A) Mean | (B) Mean | (A – B) Difference | | t-value |
| <i>InterestRate</i> | 0.092 | 0.058 | 0.031 | 0.223 | 0.103 | 0.086 | 0.017 | *** | 11.774 |
| <i>No_Review</i> | 0.365 | 0.482 | 0.000 | 1.000 | - | - | - | - | - |
| <i>Size</i> | 4.863 | 2.125 | 1.202 | 8.084 | 3.659 | 5.556 | -1.898 | *** | -42.821 |
| <i>ROA</i> | -0.085 | 0.262 | -0.774 | 0.131 | -0.166 | -0.038 | -0.129 | *** | -19.574 |
| <i>TANG</i> | 0.464 | 0.308 | 0.032 | 0.899 | 0.421 | 0.489 | -0.068 | *** | -9.204 |
| <i>CR</i> | 1.734 | 1.259 | 0.250 | 4.361 | 1.752 | 1.724 | 0.028 | | 0.914 |
| <i>LEV</i> | 0.142 | 0.147 | 0.000 | 0.426 | 0.109 | 0.161 | -0.051 | *** | -15.055 |
| <i>MB</i> | 1.817 | 1.419 | 0.000 | 4.667 | 1.696 | 1.886 | -0.191 | *** | -5.474 |
| <i>NegE</i> | 0.086 | 0.280 | 0.000 | 1.000 | 0.136 | 0.056 | 0.080 | *** | 10.920 |
| <i>INVEST</i> | 0.404 | 0.491 | 0.000 | 1.000 | 0.309 | 0.459 | -0.150 | *** | -13.237 |
| <i>Cross Listed</i> | 0.286 | 0.452 | 0.000 | 1.000 | 0.210 | 0.330 | -0.120 | *** | -11.673 |
| <i>Bond Dummy</i> | 0.040 | 0.195 | 0.000 | 1.000 | 0.006 | 0.059 | -0.052 | *** | -14.061 |
| <i>Loan Dummy</i> | 0.129 | 0.335 | 0.000 | 1.000 | 0.036 | 0.182 | -0.146 | *** | -22.225 |
| <i>Dec_FYEnd</i> | 0.713 | 0.452 | 0.000 | 1.000 | 0.614 | 0.769 | -0.155 | *** | -14.013 |
| <i>Big4</i> | 0.796 | 0.403 | 0.000 | 1.000 | 0.647 | 0.881 | -0.234 | *** | -22.939 |
| <i>AltmanZ</i> | 0.295 | 9.205 | -34.290 | 13.180 | -1.402 | 1.271 | -2.672 | *** | -10.838 |
| <i>InfAsym</i> | 8.204 | 2.852 | 1.000 | 10.000 | 8.970 | 7.763 | 1.207 | *** | 19.519 |
| <i>Analyst Following</i> | 8.170 | 2.882 | 1.000 | 10.000 | 9.221 | 7.564 | 1.657 | *** | 28.728 |
| <i>Compensation</i> | 0.029 | 0.110 | 0.000 | 1.136 | 0.045 | 0.019 | 0.026 | *** | 8.271 |
| <i>Abs(ABN_ACC)</i> | 0.080 | 0.077 | 0.007 | 0.243 | 0.092 | 0.073 | 0.019 | *** | 9.445 |

This table presents the summary statistics for the full sample, AR sample, and no-AR sample. The mean difference test is conducted between the AR and no-AR firms for each variable. All variables are described in Table 1. ***, **, and * denote significance at 1%, 5%, and 10%, respectively. We have 6,815 and 6,954 observations in the full sample for *Compensation* and *Abs(ABN_ACC)*, respectively.

TABLE 3
Correlation Matrix

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | 18 | 19 |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|
| (1) <i>InterestRate</i> | 1.00 | | | | | | | | | | | | | | | | | | |
| (2) <i>No_Review</i> | 0.14 | 1.00 | | | | | | | | | | | | | | | | | |
| (3) <i>Size</i> | -0.32 | -0.43 | 1.00 | | | | | | | | | | | | | | | | |
| (4) <i>ROA</i> | -0.34 | -0.24 | 0.65 | 1.00 | | | | | | | | | | | | | | | |
| (5) <i>TANG</i> | -0.07 | -0.11 | 0.21 | 0.11 | 1.00 | | | | | | | | | | | | | | |
| (6) <i>CR</i> | 0.03 | 0.00 | 0.03 | 0.10 | -0.21 | 1.00 | | | | | | | | | | | | | |
| (7) <i>LEV</i> | -0.10 | -0.17 | 0.34 | 0.15 | 0.02 | -0.13 | 1.00 | | | | | | | | | | | | |
| (8) <i>MB</i> | -0.01 | -0.09 | 0.08 | 0.07 | -0.07 | 0.17 | 0.01 | 1.00 | | | | | | | | | | | |
| (9) <i>NegE</i> | 0.19 | 0.14 | -0.40 | -0.50 | -0.20 | -0.26 | 0.10 | -0.39 | 1.00 | | | | | | | | | | |
| (10) <i>INVEST</i> | -0.24 | -0.14 | 0.41 | 0.31 | -0.07 | -0.03 | 0.15 | 0.09 | -0.12 | 1.00 | | | | | | | | | |
| (11) <i>Cross Listed</i> | -0.11 | -0.11 | 0.31 | 0.20 | 0.02 | 0.02 | 0.10 | 0.04 | -0.07 | 0.19 | 1.00 | | | | | | | | |
| (12) <i>Bond Dummy</i> | -0.09 | -0.13 | 0.27 | 0.11 | 0.09 | -0.04 | 0.19 | 0.06 | -0.05 | 0.15 | 0.16 | 1.00 | | | | | | | |
| (13) <i>Loan Dummy</i> | -0.18 | -0.21 | 0.44 | 0.21 | 0.13 | -0.10 | 0.23 | 0.05 | -0.11 | 0.25 | 0.19 | 0.23 | 1.00 | | | | | | |
| (14) <i>Dec_FYEnd</i> | -0.10 | -0.16 | 0.28 | 0.17 | 0.21 | -0.03 | 0.11 | 0.02 | -0.15 | 0.11 | 0.03 | 0.08 | 0.12 | 1.00 | | | | | |
| (15) <i>Big4</i> | -0.16 | -0.27 | 0.52 | 0.39 | 0.00 | 0.11 | 0.17 | 0.06 | -0.26 | 0.21 | 0.13 | 0.10 | 0.19 | 0.19 | 1.00 | | | | |
| (16) <i>AltmanZ</i> | -0.17 | -0.16 | 0.45 | 0.67 | 0.11 | 0.41 | -0.07 | 0.29 | -0.65 | 0.12 | 0.10 | 0.04 | 0.09 | 0.13 | 0.30 | 1.00 | | | |
| (17) <i>InfAsym</i> | 0.19 | 0.20 | -0.45 | -0.31 | -0.05 | -0.09 | -0.09 | -0.19 | 0.19 | -0.26 | -0.18 | -0.21 | -0.24 | -0.11 | -0.24 | -0.22 | 1.00 | | |
| (18) <i>Analyst Following</i> | 0.20 | 0.27 | -0.57 | -0.30 | -0.12 | -0.06 | -0.13 | -0.14 | 0.18 | -0.27 | -0.23 | -0.30 | -0.34 | -0.17 | -0.28 | -0.20 | 0.71 | 1.00 | |
| (19) <i>Compensation</i> | 0.15 | 0.10 | -0.32 | -0.46 | -0.13 | -0.08 | -0.07 | -0.02 | 0.36 | -0.09 | -0.08 | -0.05 | -0.09 | -0.08 | -0.25 | -0.44 | 0.12 | 0.13 | 1.00 |
| (20) <i>Abs(ABN_ACC)</i> | 0.15 | 0.12 | -0.33 | -0.28 | -0.18 | -0.01 | -0.11 | 0.04 | 0.27 | -0.13 | -0.09 | -0.09 | -0.14 | -0.08 | -0.18 | -0.23 | 0.14 | 0.14 | 0.16 |

This table presents the Pearson correlation matrix. Values in bold indicate statistically significant correlations. All variables are described in Table 1.

TABLE 4
Selection of the Matched Sample

| Panel A: Logit Analysis of the Choice of not-Purchasing Audit Review | | | | | |
|--|-----------------|-----------|-------|-----------------------------|---------|
| $No_Review = \alpha + \beta_1 Dec_FYEnd + \beta_2 Big4 + \beta_3 AltmanZ + \beta_4 InfAsym + \beta_5 Size + \beta_6 ROA + \beta_7 TANG + \beta_8 CR$ | | | | | |
| $+ \beta_9 LEV + \beta_{10} MB + \beta_{11} NegE + \beta_{12} INVEST + \beta_{13} Cross\ Listed + \beta_{14} Bond\ Dummy$ | | | | | |
| $+ \beta_{15} Loan\ Dummy + Industry\ and\ Year\ dummies + \varepsilon$ | | | | | |
| Dependent Variable: No_Review | Coef. | z-value | | | |
| <i>Dec_FYEnd</i> | -0.136** | (-2.200) | | | |
| <i>Big4</i> | -0.257** | (-3.420) | | | |
| <i>AltmanZ</i> | 0.0200*** | (4.120) | | | |
| <i>InfAsym</i> | -0.0104 | (-0.870) | | | |
| <i>Size</i> | -0.531*** | (-21.070) | | | |
| <i>ROA</i> | 0.302* | (1.790) | | | |
| <i>TANG</i> | -0.381*** | (-3.000) | | | |
| <i>CR</i> | -0.043 | (-1.640) | | | |
| <i>LEV</i> | -0.273 | (-1.240) | | | |
| <i>MB</i> | -0.125*** | (-5.270) | | | |
| <i>NegE</i> | -0.331*** | (-2.390) | | | |
| <i>INVEST</i> | 0.057 | (0.860) | | | |
| <i>Cross listed</i> | 0.026 | (0.380) | | | |
| <i>Bond Dummy</i> | -0.579*** | (-2.210) | | | |
| <i>Loan Dummy</i> | -0.421*** | (-3.390) | | | |
| Constant | 3.492*** | (11.89) | | | |
| Industry dummies | Yes | | | | |
| Year dummies | Yes | | | | |
| Pseudo R2 | 0.193 | | | | |
| LR chi2 (p-value) | 1918.07 (0.000) | | | | |
| Observations included in the matching | 7,520 | | | | |
| Panel B: Descriptive Statistics for the Matched Sample | | | | | |
| <i>Determinants of Review</i> | (A) | (B) | %bias | Test of difference in means | |
| | No-AR | AR | | Difference | p-value |
| <i>Dec_FYEnd</i> | 0.653 | 0.663 | -2.20 | -0.01 | 0.488 |
| <i>Big4</i> | 0.759 | 0.754 | 1.10 | 0.00 | 0.715 |
| <i>AltmanZ</i> | -0.311 | -0.231 | -0.80 | -0.08 | 0.801 |
| <i>InfAsym</i> | 8.670 | 8.700 | -1.20 | -0.03 | 0.701 |
| <i>Size</i> | 4.153 | 4.107 | 2.60 | 0.05 | 0.408 |
| <i>ROA</i> | -0.121 | -0.123 | 0.40 | 0.00 | 0.896 |
| <i>TANG</i> | 0.428 | 0.430 | -0.60 | 0.00 | 0.841 |
| <i>CR</i> | 1.809 | 1.803 | 0.40 | 0.01 | 0.888 |
| <i>LEV</i> | 0.121 | 0.119 | 1.40 | 0.00 | 0.666 |
| <i>MB</i> | 1.752 | 1.777 | -1.70 | -0.03 | 0.586 |
| <i>NegE</i> | 0.109 | 0.103 | 1.80 | 0.01 | 0.575 |
| <i>INVEST</i> | 0.342 | 0.318 | 4.90 | 0.02 | 0.117 |
| <i>Cross listed</i> | 0.235 | 0.226 | 2.20 | 0.01 | 0.480 |
| <i>Bond Dummy</i> | 0.008 | 0.006 | 2.40 | 0.00 | 0.448 |
| <i>Loan Dummy</i> | 0.048 | 0.041 | 3.60 | 0.01 | 0.254 |
| Observations | 4,066 | | | | |

This table presents the coefficients of the audit-choice model (Panel A) and the univariate tests post-matching (Panel B). All variables are described in Table 1. T-values are presented in parentheses. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

TABLE 5
Relation between Cost of Debt and no-AR

| Dependent Variable: | Full Sample- <i>Matched</i> | Bond Sample | Loan Sample |
|---------------------|----------------------------------|----------------------------------|----------------------------------|
| | <i>InterestRate</i> | <i>BondSpread</i> | <i>Spread-All-in-Drawn</i> |
| <i>No_Review</i> | 0.002** (2.399) | 0.009** (2.400) | 0.004** (3.409) |
| <i>BondAMT</i> | | -0.002 (-1.702) | |
| <i>BondMaturity</i> | | 0.003** (3.073) | |
| <i>SENIORITY</i> | | 0.002 (0.608) | |
| <i>DForCurr</i> | | 0.005** (3.100) | 0.004** (3.981) |
| <i>LoanAMT</i> | | | -0.003* (-2.361) |
| <i>LoanMaturity</i> | | | 0.001 (0.620) |
| <i>NLender</i> | | | -0.001* (-2.254) |
| <i>Size</i> | -0.002** (-2.691) | -0.003 (-1.693) | -0.001 (-0.983) |
| <i>ROA</i> | -0.046*** (-9.396) | -0.091*** (-3.540) | -0.018 (-1.024) |
| <i>TANG</i> | 0.003 (0.424) | 0.004 (0.870) | -0.003 (-0.807) |
| <i>CR</i> | 0.001 (0.348) | 0.002 (0.907) | -0.001 (-1.110) |
| <i>LEV</i> | 0.001 (0.159) | 0.025*** (6.302) | 0.013* (2.159) |
| <i>MB</i> | 0.001 (0.747) | -0.001** (-3.335) | 0.000 (0.414) |
| <i>NegE</i> | 0.002 (0.213) | 0.002 (0.252) | -0.005* (-2.288) |
| <i>INVEST</i> | -0.014*** (-6.548) | -0.014*** (-7.002) | -0.007*** (-9.418) |
| <i>Cross listed</i> | -0.006*** (-3.446) | -0.003 (-1.455) | 0.000 (0.153) |
| <i>Bond Dummy</i> | 0.010 (1.528) | | |
| <i>Loan Dummy</i> | -0.010*** (-3.557) | | |
| Constant | 0.086*** (7.856) | 0.038** (2.776) | 0.084*** (5.216) |

| | | | |
|-------------------|------------|------------|------------|
| Industry dummies | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> |
| Year dummies | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> |
| Observations | 4,066 | 610 | 358 |
| Adjusted R-Square | 0.138 | 0.605 | 0.645 |

This table presents the relation between the cost of debt and the no audit review for the matched full sample, bond sample, and syndicated loan sample. All variables are described in Table 1. T-values are presented in parentheses. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

TABLE 6
Relation between Changes in Cost of Debt and AR Switching

| Dependent Variable: | Positive Switching | | | Negative Switching | | |
|------------------------------|----------------------|---|---|----------------------------------|---|---|
| | (1) (t+1) – (t-1) | (2) Avg (t+1, t+2) - Avg (t-2, t-1) | (3) Avg (t+1, t+3) - Avg (t-3, t-1) | (4) (t+1) – (t-1) | (5) Avg (t+1, t+2) - Avg (t-2, t-1) | (6) Avg (t+1, t+3) - Avg (t-3, t-1) |
| <i>Switch</i> | -0.024 (-1.09) | -0.026** (-2.21) | -0.014** (-2.34) | 0.026*** (3.51) | 0.014** (2.77) | 0.014** (2.36) |
| $\Delta Size_{post - pre}$ | -0.039 (-1.28) | -0.012 (-0.84) | -0.021 (-1.51) | -0.016 (-1.50) | -0.007 (-0.84) | -0.006 (-0.63) |
| $\Delta ROA_{post - pre}$ | 0.045 (1.31) | -0.009 (-0.30) | -0.065 (-0.82) | 0.014 (0.45) | 0.031* (2.22) | 0.047 (1.16) |
| $\Delta TANG_{post - pre}$ | 0.000 (0.00) | 0.027 (0.52) | 0.002 (0.04) | 0.030 (0.41) | -0.006 (-0.24) | -0.009 (-0.75) |
| $\Delta CR_{post - pre}$ | 0.007 (0.83) | 0.003 (0.39) | -0.005 (-0.69) | 0.005 (1.05) | 0.002 (0.71) | 0.002 (0.60) |
| $\Delta LEV_{post - pre}$ | 0.037 (0.48) | 0.040 (1.03) | 0.153* (2.02) | 0.014 (0.74) | 0.039** (3.03) | 0.014 (0.80) |
| $\Delta MB_{post - pre}$ | 0.009 (1.66) | 0.010* (2.03) | 0.016** (2.53) | 0.010** (3.00) | 0.009*** (3.98) | 0.013*** (3.64) |
| $\Delta NegE_{post - pre}$ | 0.134*** (4.82) | 0.144** (3.01) | 0.023 (0.27) | 0.075*** (5.54) | 0.034 (1.30) | 0.040 (1.72) |
| $\Delta INVEST_{post - pre}$ | -0.020 (-1.06) | -0.028** (-2.50) | -0.011 (-0.75) | -0.001 (-0.14) | -0.016 (-0.97) | -0.013 (-0.48) |
| Constant | 0.028 (1.07) | 0.015 (0.52) | -0.008 (-0.16) | -0.065*** (-6.92) | -0.069*** (-4.30) | -0.083*** (-4.84) |
| Year dummies | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> | <i>Yes</i> |
| Observations | 72 | 72 | 72 | 76 | 76 | 76 |
| R-squared | 0.457 | 0.475 | 0.497 | 0.566 | 0.454 | 0.428 |

This table presents the changes in the cost of debts after firms start purchasing external ARs for their interim reports (positive switching) or stop obtaining the AR (negative switching). In particular, we use the following model to test whether the pre-switch to post-switch change in the cost of debt differs between switchers and non-switchers:

$$\Delta InterestRate = \alpha + \beta_1 Switch + \beta_2 \Delta Size + \beta_3 \Delta ROA + \beta_4 \Delta TANG + \beta_5 \Delta CR + \beta_6 \Delta LEV + \beta_7 \Delta MB + \beta_8 \Delta NegE + \beta_9 \Delta INVEST + Year\ dummies + \varepsilon;$$

$\Delta InterestRate$ is the difference in the firm's cost of debt between the post-switch period and the pre-switch period. We use pre-switch and post-switch periods of: (1) one year before and one year after the year of the switch; (2) two years before and two years after the year of the switch; and (3) three years before and three years after the year of the switch. For (2) and (3), we calculate the average *InterestRate* in the pre-switch and the post-switch periods. *Switch* is a dummy equals one if a firm has voluntarily switched its interim review status from no-AR to AR (AR to no-AR) in the positive (negative) switching sample in year *t*, and 0 for a matched non-switcher. We follow Francis et al. (2017) to match each positive (negative) switcher with a constant no-AR (AR) firm within the year of switching, i.e., our PSM is running annually without replacement. Because controlling firms have never experienced any switching, we appoint the switcher's switching year as the pseudo switching year for its corresponding matching firm. All other variables are described in Table 1. T-values are presented in parentheses. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

TABLE 7
Characteristics of Positive and Negative Switchers

| Dependent Variable: | <i>Abs(ABN_ACC)</i> | <i>Compensation</i> | <i>Analyst following</i> |
|---|----------------------------|-----------------------------|----------------------------|
| <i>Positive Switcher_Pre (1)</i> | 0.093*** (9.528) | 0.023*** (3.086) | 8.694*** (25.009) |
| <i>Positive Switcher_Post (2)</i> | 0.069*** (8.753) | 0.009*** (4.441) | 8.087*** (20.970) |
| <i>Positive Switcher_ (Post – Pre) (3)</i> | -0.024** (-2.00) | -0.014** (-1.981) | -0.607* (-1.884) |
| <i>Control_Pre (4)</i> | 0.079*** (11.261) | 0.028** (2.337) | 8.845*** (26.060) |
| <i>Control_Post (5)</i> | 0.075*** (9.312) | 0.022** (2.304) | 8.181*** (19.746) |
| <i>Control_ (Post – Pre) (6)</i> | -0.004 (-0.553) | -0.006 (-0.533) | -0.664** (-2.084) |
| <i>Difference-in-Differences (3) - (6)</i> | -0.020* (-1.72) | -0.008 (-0.590) | 0.057 (0.901) |
| | <i>Abs(ABN_ACC)</i> | <i>Compensation</i> | <i>Analyst following</i> |
| <i>Negative Switcher_Pre (1)</i> | 0.096*** (11.416) | 0.028*** (4.501) | 9.465*** (4.501) |
| <i>Negative Switcher_Post (2)</i> | 0.114*** (10.905) | 0.036*** (2.789) | 9.333*** (37.440) |
| <i>Negative Switcher_ (Post – Pre) (3)</i> | 0.018* (1.716) | 0.008 (0.740) | -0.132 (-0.817) |
| <i>Control_Pre (4)</i> | 0.097*** (11.320) | 0.033*** (3.719) | 9.530*** (65.124) |
| <i>Control_Post (5)</i> | 0.092*** (9.833) | 0.017*** (3.346) | 8.730*** (23.833) |
| <i>Control_ (Post – Pre) (6)</i> | -0.005 (-0.700) | -0.016** (-2.11) | -0.800** (2.446) |
| <i>Difference-in-Differences (3) - (6)</i> | 0.024* (1.804) | 0.024* (1.850) | 0.668* (1.771) |

This table presents the average value of firm characteristics. *Abs(ABN_ACC)* is a proxy to capture earnings management. Following Dechow and Dichev (2002) and Peek, Meuwissen, Moers, and Vanstraelen (2013), we estimate abnormal accruals by regressing working capital accruals on current cash flow, previous year's cash flow, and next year's cash flow for each country, industry, and year group. *Analyst Following* is a ranked proxy for the number of equity analysts following the firm at the end of the eleventh month of year $t-1$. We rank this into deciles each year and assign a value of 10 to the most asymmetric decile and 1 to the least asymmetric decile. A higher value represents a lower financial analyst following. *Compensation* is the managerial stock-based compensation scaled by the firm's total assets. Following Francis et al. (2017), we conduct a PSM to select constant no-AR firms as controlling firms for the positive switchers and constant AR firms as the controlling firms for the negative switchers. We then present difference-in-difference tests based on the switchers and their controlling firms. T-values are presented in parentheses. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

