Do Lenders Have Favorite Auditors?*

Andrew Bird

Stephen A. Karolyi

Thomas G. Ruchti

February 2018

Abstract

Yes. We construct a novel revealed preference measure of financial statement verification based on matching among lenders, borrowers, and auditors. When borrowers use their lenders' preferred auditors, they borrow larger amounts and at lower rates and contracts depend more on accounting information. Lender preferences are determined by their historical experience with individual auditors; when borrowers in their loan portfolio default or restate their financials, lenders shift their loan portfolio away from the implicated auditor. These preferences impact borrowers' post-financing auditor choices as well as subsequent matching between borrowers and lenders. Finally, when borrowers follow their lenders' preferences, loan terms are more sensitive to financials and borrowers are less likely to default in the future. Our findings suggest that, through financial statement verification, auditors play a significant role in contracting efficiency and matching in the private loan market.

Keywords: lenders, auditor choice, financial statement verification, contracting efficiency, matching

---

*Bird, Karolyi, and Ruchti are at the Tepper School of Business, Carnegie Mellon University (apmb@andrew.cmu.edu; skarolyi@andrew.cmu.edu; ruchti@andrew.cmu.edu). We thank Ken Bills, Pietro Bonaldi, Aytekin Ertan, Christian Leuz, Michael Minnis, Heidi Packard, Stephen Rowe (discussant), Andrew Sutherland, Rodrigo Verdi and audiences at the AAA Audit Midyear Meetings and MIT for helpful comments.

1 Introduction

Financial statement verification is an important component of the information environment that supports arm's length financing. For example, when setting loan terms, a lender considers not only information about the creditworthiness of the borrower, but also the degree of uncertainty about this information. On the extensive margin of lending to a new client, a bank may condition on whether it can trust information about a borrower, and whether or not it has any informational advantage over other potential lenders. Indeed, firms with verified financials[1] have a lower cost of loan financing (Blackwell, Noland, and Winters 1998; Minnis 2011; Kim, Simunic, Stein, and Yi 2011), consistent with a demand for financial verification on the part of lenders. In this paper, we investigate whether lenders have preferences over who provides this verification, and whether such preferences affect loan contracting and the equilibrium matching between lenders, borrowers, and auditors.

We take a revealed preference approach to the measurement of lender preferences (Samuelson 1948). Our measure of a lender's preference for a particular auditor in a particular year is simply the share of that lender's new loans (over the past three years) for which the borrower is audited by that particular auditor. The measure thus captures the familiarity of the lender with that auditor, and varies both as the lender's portfolio of borrower's changes over

[1] By verified financials, we are referring to audited financial statements, and more generally, to assurance services by auditors.

time, as well as through auditor switches by borrowers in long-term relationships with the lender.[2]

The importance of borrower-auditor relationships (Johnson, Khurana, and Reynolds 2002; Ghosh and Moon 2005) and lender-borrower relationships (Petersen and Rajan 1994; Berger and Udell 1995) is well known. We extend the literature by using our lender preference measure to investigate the economic consequences of lender-auditor relationships. Just as investors may place greater weight on the financial statements of a borrower in a long-term relationship with a particular auditor, so lenders may place more weight on audits by auditors with whom they are familiar. This could reflect greater trust in the veracity of the underlying numbers, such as through reputation or information processing channels.

Using our lender-year specific measures of preferences for auditors, we produce three sets of results. First, we show that the match between the borrower's auditor and its lender's preferences has significant effects on loan contracting. A better match is associated with significantly lower spreads and larger loan amounts. These loans are more likely to include covenants, and, conditional on including any covenants, include more covenants. This is consistent with higher quality financial statement verification leading to better terms for the borrower in exchange for more conditionality on the financial statements. We show that this shift in contracting is beneficial in the sense that a one standard deviation increase in the preference of a lender for a borrower's auditor makes borrowers 10% less likely to default in the

[2] An important concern with this method for measuring preferences is that persistence in borrower-lender relationships could lead mechanically to persistent lender-auditor relationships. To avoid this problem, we restrict our preference measure to *new* loans.

subsequent three years. To underscore the fact that information from the financial statements is the channel through which lender preferences matter, we also test and find that higher lender preference leads loan terms to depend more on financial statement information.

We next investigate the determinants of lender preferences. If these preferences relate to the financial statement verification role of auditors, rather than some unobservable variable affecting lender-borrower-auditor matching, then lender preferences should be associated with the lender's experience with specific auditors. First, we show that the preference for an auditor is negatively affected by the incidence of defaults in the lender's portfolio where that particular auditor was involved. This is reasonable to expect, given default is presumably the main event the lender is interested in avoiding. To ensure that this relationship is driven specifically by information problems (rather than perhaps unavoidable operational issues), we also investigate the incidence of restatements and accounting and auditing enforcement releases (AAERs). Both of these negative signals about the performance of the auditor lead to a subsequent shift in lender preferences away from the implicated auditor.

If lender preferences are indeed important to loan contracting, we would expect that lender-borrower-auditor matching also prioritizes lender preferences for auditors. Thus, in our final set of tests, we show that lender-borrower matching and borrower-auditor choice also respond in the expected direction to lender preferences. Specifically, new loans and new lender-borrower relationships are more likely to be formed when that would lead to a high lender preference for the borrower's auditor. At the other end of the lending relationship, borrowers are more likely to switch lenders for their next loan when lender preferences are low. In terms of

auditor choice, we find both that borrowers are more likely to switch auditors when preference for the incumbent auditor is low and that the new auditor is better aligned with the lender's preferences. These results complement those in Blackwell, Noland, and Winters (1998), Minnis (2011), and Kim, Simunic, Stein, and Yi (2011), which show that private firms choose to have their financial statements audited to satisfy lenders. Since the SEC mandates that public firms be audited, the first order decision they face is not whether to be audited, but who should do the auditing.

There is a long literature in accounting and finance studying the role of auditing and financial statement verification in financing choices and outcomes. Auditors play a key role in ensuring the reliability of the financial statements. For example, Krishnan (2003), Becker, Defond, Jiambalvo, and Subramanyam (1998) and Francis, Maydew, and Sparks (1999) show that audit quality constrains earnings management. This improvement in the information environment improves corporate governance (Fan and Wong 2005) and constrains rent-seeking behavior by managers (Hope and Thomas 2008). Firms care about these effects, as evidenced primarily by higher audit fees for auditors with better reputations and more industry expertise (Ferguson, Francis, and Stokes 2003; Francis, Reichelt, and Wang 2005). This appears to be a rational choice by firms since higher quality audits improve investment efficiency (Biddle and Hilary 2006; Biddle, Hilary, and Verdi 2009) and reduce the cost of capital (Lambert, Leuz, and Verrecchia 2007). Our results demonstrate how company's financing demands provide an incentive for auditor choice to cater to the preferences of lenders. This is particularly important because lender preferences for auditors vary significantly across the Big 4, even though most of

the extant literature treats the largest auditors as homogeneous in quality. Further, our results speak to the need to consider the three-way matching between stakeholders, firms, and auditors, rather than just lending and auditing relationships separately.

The effects of high quality assurance services on firms are also of direct interest to lenders. Reliable financial statements help to reduce information asymmetry between firms and lenders, as demonstrated, for example, by easier access to external finance for public vs. private firms (Holod and Peek 2007). Sufi (2007) demonstrates the importance of information in the syndicated lending context; less transparent borrowers see higher retained share by lead arrangers and more consolidated syndicate structures, consistent with a greater information asymmetry problem between members of the syndicate. Kim, Song, and Zhang (2011) show that poor information quality, as measured by internal control weaknesses, leads to less competition between prospective lenders, and so higher spreads and tighter non-price terms. Mansi, Maxwell, and Miller (2004) find that lenders value a close relationship between the borrower and its auditor, as measured by a reduction in the cost of debt financing as auditor tenure grows; we extend this finding to show that lenders are also concerned with their own implicit relationships with auditors.

It is well understood that auditors play an indirect role in loan contracting, since the accounting rules for the short-term vs. long-term debt classification, for example, require an understanding of loan covenants. However, Baylis, Burnap, Clatworthy, Gad, and Pong (2017) show that in many cases, lenders choose to give auditors a direct role in the loan contract, by requiring the borrower to get the auditor to submit a letter explicitly certifying that no financial

covenants have been breached. Similarly, Menon and Williams (2016) show that loan contracts often contain covenants restricting auditor choice, and Carrizosa and Ryan (2017) document the existence of covenants requiring the borrower to share with the lender its communications with its auditor concerning internal control deficiencies and other audit-related issues. Given these findings, it is not surprising that information quality and the financial statement verification process also affect whether and how information is used in loan contracts in the first place, particularly through restrictive financial covenants. On one hand, if the underlying financials of a borrower are trusted by the lender, the usefulness of including covenants that depend on these financials increases. Conversely, if the financials are very noisy, then it becomes difficult to efficiently allocate control rights between the borrower and lender across states.

The literature has highlighted this tension in the context of loan contracting subsequent to negative revelations about information quality. Graham, Li, and Qiu (2008) investigate loans initiated after restatements by the borrower and find relatively greater use of covenants, which means that the ex post outcome of the loan depends more tightly on the financial performance of the borrower. However, Costello and Wittenberg-Moerman (2011) find that after the disclosure of a material internal control weakness, lenders use fewer covenants. The difference between the two findings likely relates to work by Doyle, Ge, and McVay (2007), who find that internal control weaknesses are related to decreased accrual quality because of company-level issues that are difficult to audit around. This contrasts with the restatement setting, which relates directly to the work of the auditor. We find that a good match between the lender and the auditor of the borrower leads to both an increase in the use of covenants as well as an

increase in the sensitivity of the terms of the loan to the borrower's financial health at the initiation of the loan. Thus, the way that information is used in loan contracting depends on the details of the information production process, and particularly on the identity of the verifier of the financial statements.

Finally, we contribute to the literature highlighting the importance of the identity of information intermediaries on financing outcomes. For example, Billett, Flannery, and Garfinkel (1995) study the market reaction to borrower's announcements of new loans and find that they are more positive when the lender is of higher quality. Of particular relevance for our setting, Beatty (1989) shows that the identity of the auditor matters for initial public offering outcomes, while Slovin, Sushka, and Hudson (1990) find that the quality of the auditor and the underwriter lead to better price reactions to seasoned equity offerings. With our construct of lender preferences for auditors, we document a new dimension on which the identity of financial intermediaries matters for financing choices and outcomes.

The rest of the paper proceeds as follows. Section 2 discuss the data and how lender preferences are measured; Section 3 shows how lender preferences affect loan terms; Section 4 investigates the determinants of lender preferences; Section 5 shows how lender preferences affect lender-borrower-auditor matching; Section 6 concludes.

2 Data and Preference Measurement

2.1 DATA

We obtain data to construct our estimation sample from four main sources. We use Compustat to identify the auditor for each borrower-year and for supplemental financial statement information about borrowers. We get information on lending relationships and loan terms from Dealscan. We collect borrower restatements, which reflect past errors in the audited financial statements, from Audit Analytics. Finally, we get Accounting and Auditing Enforcement Releases (AAERs) from the AAER database maintained by the Berkeley Center for Financial Reporting & Management. AAERs are issued by the SEC and identify firms which have been subject to enforcement actions for alleged financial misstatements. Given the SEC's budget constraint, it is likely that the evidence of manipulation for this set of firms was particularly strong (Dechow, Ge, Larson, and Sloan 2011), such that firms with AAERs are likely to have had more significant accounting problems than restating firms. Table 1 shows summary statistics for our main variables of interest, at both the level of individual loans and at the level of the borrower.

Our final dataset includes information from 23,468 loan packages, and spans 1987 to 2012. These loans were generated by 1,234 unique lenders (i.e., lead arrangers), 8,360 unique borrowers, and 17,176 realized lender-borrower pairs. The money terms of our sample of loans are representative of the private loan market in general: the average loan in our sample has an interest spread of 238.5 basis points, maturity of 43 months, amount of $208 million, and 81.5%

were secured by collateral. Almost 31% of these loans had at least one covenant, and, conditional on having at least one, the average covenant packages were written on 2.5 different ratios or amounts. Less than half of our loans are syndicated, but, among those that are not sole led, the lead arranger retained a 35% share, on average. These loan terms are characteristic of the typical public borrower that accesses the private loan market. Our sample borrowers have average market-to-book ratios of 3.3, leverage of 66%, were in default 1.1% of the time, and had restatements and AAERs 3.4% and 4.8% of the time, respectively.

2.2 MEASURING LENDER PREFERENCES

We take a revealed preference approach to the measurement of lender preferences (Samuelson 1948). That is, we learn about the preferences of economic agents—lenders—by observing the choices they make—the lending relationships they begin. Specifically, our measure of a lender's preference for a particular auditor in a particular year is simply the share of that lender's new loans (over the past three years) for which the borrower is audited by that particular auditor. The measure thus captures the familiarity of the lender with that auditor, and varies both as the lender's portfolio of borrower's changes over time, as well as through auditor switches by borrowers in long-term relationships with the lender.

In all studies of public auditors, a key point of discretion on the part of the econometrician is identifying the key players in the industry. Although we present evidence that our results are robust to measuring preferences for every unique auditor that has been reported as auditing public companies in Compustat, for our main results we focus on a preference classification of auditors that spans five categories. Four of these categories represent the Big 4

auditors; Deloitte, EY, PwC, and KPMG. The final category represents all other auditors. Theoretically, in our tests, this means that we restrict lenders to have preferences over each of the Big 4 auditors and a catch-all other category that includes several large auditors that were major players in the industry in the past. We view this as a reasonable dimensionality reduction because the Big 4 auditors dominate the audit market for most of our sample period. Similarly, from a statistical perspective, measuring revealed preferences for small auditors will be highly volatile over time—matching with one borrower that uses a small auditor could increase the lender's revealed preferences for that auditor by a significant multiplier.

In principle, lenders could have preferences for auditors at either the audit firm level or at the audit office level; indeed, the literature has found evidence that characteristics at both levels matter for the audit process and outcomes (e.g. Chaney and Philipich 2002). Although studying both dimensions of preferences would be interesting, we restrict our focus to audit firm level preferences to keep the analysis tractable. In order to estimate lenders' revealed preferences, we need sufficient variation in auditor matching within lender-borrower pairs. Extending this approach from the firm to the office level would multiply the needed variation by approximately 388, the number of metropolitan statistical areas in the US. Each office-level preference for each lender would necessarily be estimated using much less data, increasing the noise in preference estimates and reducing the statistical power of our empirical tests.

An important concern with this method for measuring preferences is that persistence in borrower-lender relationships could lead mechanically to persistent lender-auditor relationships. It might then appear that lender preferences for auditors are important, when in fact, it is the

borrower-lender relationship that drives the matching. To avoid this problem, we restrict our preference measure to *new* loans.[3]

2.3 DESCRIBING LENDER PREFERENCES

Our preferred measure of lenders' revealed preferences for auditors, *Preference* has an average of 25.1% in our sample. Because, mechanically, we measure preferences over five categories (four of which make up a significant fraction of the market), having a mean preference that exceeds 20% suggests that the matching between borrowers and lenders with respect to the borrower's auditor is not random. Additionally, the standard deviation of *Preference* is 17.0%, which suggests that preferences for auditors vary significantly across lenders and over time. In Appendix A, we present a simulation procedure that allows us to more formally assess the nonrandomness of the sorting between lenders, borrowers, and auditors in the data. We can reject the null hypothesis of random sorting with a very high degree of statistical confidence.

Before using Preference in regressions to study its effects on loan contracting, it is important to first understand the variation in the measure both cross-sectionally and over time. We start by doing so graphically, and to keep the number of data points somewhat manageable, we restrict to the top 10 lenders and the Big 4 auditors. Figure 1 depicts these lender-auditor-year preferences, and shows considerable variation across auditors and over time, with preferences varying at least as low as 10%, and at least as high as 30% for each of the Big 4

[3] Further, in Table 9, we restrict to loans that mark the start of the lender-borrower relationship and find that lender preferences are related to even the incidence of new relationships.

auditors. One can also see significant overlap of the preferences for each auditor, even though some pattern based on aggregate market shares is also visible. For example, in both 1996 and 2009, both the highest and lowest auditor preferences of different lenders are for KPMG.

The above figure may conceal important variation within lender preferences over time (because too much visual clutter would be created by connecting the dots for particular lender-auditor pairs). For this reason, in Figure 2, we show a scatter of *Preference* in year *t-1* and year *t* for each lender-auditor pair in the above figure to highlight how specific preferences are changing over time. We can see that that there is significant persistence, with the observations clustering around the 45° line which describes constant preferences. However, there is substantial variation around this line for different lenders and auditors.

To zoom in on this variation in preferences, in Figure 3, we show the difference between *Preference* in year *t* and year *t-1* for each lender-auditor pair. In each year and for each of the Big 4 auditors (dot color), there are both lenders for whom their preference for that auditor is increasing, and those for whom their preference for that auditor is decreasing. The absolute value of changes in preferences depicted in the figure is 1.55 percentage points, with a standard deviation of 1.33 percentage points.

2.4 DISCUSSION

The importance of borrower-auditor relationships (Johnson, Khurana, and Reynolds 2002; Ghosh and Moon 2005) and lender-borrower relationships (Petersen and Rajan 1994; Berger and Udell 1995) is well known. The goal of our paper is to extend the literature by using our lender preference measure to investigate the economic consequences of lender-auditor

relationships. Given the size of loan portfolios, at any given time all large lenders will have relationships with all of the large auditing firms. For this reason, the length of the relationship is not a particularly useful measure since any big lender will have ongoing relationships with all the big auditors. Instead, our measure is designed to capture the intensity of the relationship, in the sense of how many of the lender's loans are to companies audited by the particular auditor. Further, the importance of preferences can only be investigated empirically as they relate to the actual choices made by firms. In this regard, what we aim to study is the match quality between the lender and the auditor chosen by the borrower, i.e. does the lender like the borrower's auditor?

Lender perceptions across auditors could impact loan contracting and matching with borrowers through a number of different channels. Just as investors may place greater weight on the financial statements of a borrower in a long-term relationship with a particular auditor, so lenders may place more weight on audits by auditors with whom they are familiar. This could reflect greater trust in the veracity of the underlying numbers, such as through a reputation channel, or a greater ease of processing the information in the financials when the lender has a better understanding of the financial statement verification process. Finally, connections, either personal or institutional, could be built in the course of interactions between lenders and auditors as part of existing borrower relationships. These connections could lead to future borrowing relationships; for example, an audit partner who has come to know a loan officer could help build a new relationship by suggesting to another borrower in her audit portfolio that this would be a suitable lender. Below, we discuss each of these possibilities in greater detail.

The ability for auditors to fulfill the role of financial statement verification depends critically on their reputation (DeAngelo 1981; Craswell, Francis, and Taylor 1995). This is due to the fundamental nature of the auditing process as one of checking for relatively rare problems. A good quality audit is necessarily a function of the inputs to that process, such as the number of hours spent checking the accuracy of recorded transactions underlying the financial statements. However, these inputs are not typically observable to the intended audience of the audit—the users of the financial statements. They must rely on outputs of the audit process, such as restatements and internal control weaknesses. Since these outputs are largely negative, a "good" audit is observably similar to an audit where no verification actually happened, since in either case, no problems would be reported.[4] Given these arguments, it then follows that the financial statement verification process is more effective and valuable when it is performed by an auditor in whom a user of the financial statements, such as a prospective lender, places greater trust.

Familiarity is an important source of trust (Gulati 1995) and the most obvious way for a lender to become familiar with an auditor is through past borrowing relationships. Moreover, the more interactions, both past, current, and future, between the lender and the auditor, the more opportunities there are to punish poor past audits, such as through a higher cost of financing for borrowers using auditors the lender has observed not to be fulfilling their duties

[4] Of course, rules and institutions (such as the Public Company Auditing Oversight Board) exist to mitigate this problem, but the fundamental issue remains, given the difficulty of fully auditing the auditors.

effectively. This opportunity to punish increases the value of reputation and so increases the incentive for the auditor to do a good job in the first place.

A related mechanism by which lender familiarity with an auditor could be helpful is information production and processing. An auditor that better understands the needs of financial statement users could help firms to produce information that better fits the demands of investors, especially through increased discretionary disclosure about mandatory information, such as providing more detail in particular footnotes to the financial statements. For example, if an auditor knows, based on past interactions, that the borrower's lender is especially interested in revenue recognition, it could both place extra weight on auditing this information, and encourage the borrower to provide extra disclosure about the rationale underlying these accounting choices. Similarly, a lender that understands how a particular auditor works would have a better understanding of the meaning of the information in the financial statements and could have a better idea of what kinds of supplementary information to request from the borrower.

Contrary to the previous example, suppose a lender knows that a particular auditor is lax in verifying revenue recognition. The lender then knows exactly where to expend effort in screening a potential borrower. Even in such a case, where the lender-auditor relationship reveals something negative about one of the parties, it might still be beneficial, relative to a lender who does not have any knowledge about a particular auditor. In that case, much more effort would have to be expended to assess the fitness of the borrower. Both of these first two related channels should lead to increased informativeness of the financial statements, which

should improve the likelihood of a future borrower-lender match, improve the efficiency of loan contracting, and reduce the risk of the loan.

Alternatively, lender relationships with auditors could matter not because of financial statement informativeness, but because of personal or institutional connections built across firms. In particular, auditors and lenders could build connections that lead to changes in current financing relationships and increase the likelihood of future financing relationships. A borrower could get better terms from a lender simply because employees of its auditor are friends with employees of the lender. Or, it could be the case that an auditor exploits connections with a lender to convince the lender to give preferential treatment to a particular borrower.

It is important to note that the personal connections channel could have either positive or negative implications for lending outcomes. It could be the case that relationships built through the auditor lead to better matches between borrowers and lenders, along many margins. For example, an astute audit partner who has built a deep understanding of the preferences and competencies of a particular lender through audit engagements with other borrowers of that lender could play matchmaker for a well-suited borrower. On the other hand, connections could lead to rent-seeking and thus poor matches between lenders and borrowers. For example, an audit partner could exploit her personal relationship with a lender to get better terms for a favorite borrower, perhaps in exchange for higher audit fees, or the opportunity to expand the relationship to non-audit services.

While the theoretical and empirical literatures suggest a possible role for lender-auditor relationships to impact lending terms and outcomes, we believe that the importance of lender

preferences is ultimately an empirical question. In the following sections, we investigate two margins on which these preferences could matter if they are indeed associated with increased informativeness and the potential for more efficient contracting. Can lender preferences help explain variation in loan terms and outcomes, and can lender preferences affect lender-borrower-auditor matching in equilibrium?

3 Lender Preferences and Loan Contracting

In this section, we investigate the effect of lender preferences on loan contracting. If lender familiarity and trust in the auditor are important, then we would expect that a lender would be comfortable giving better terms, and making more use of the information in the financial statements, to a borrower with an auditor for which the lender has a high preference.

3.1 SPREADS

Our first test of the importance of lender preference for auditors is how this preference affects spreads, since this is a key term for the borrower, as well as a reasonable summary measure of the lender's perceived risk of the loan. We measure spreads using the all-in-drawn spread, which is the sum of the difference between the interest rate and LIBOR and any annual fees paid to the lender. In Table 2, we regress this spread on loan-level controls (indicators for loan type and purpose), borrower characteristics (leverage, return on assets, and the market-book ratio), and a variety of fixed effects.

The first column of Table 2, which includes auditor and year fixed effects, shows that lender preferences are negatively and significantly related to loan spreads. A one standard

deviation increase in lender preference (an increase of 0.17) for the borrower's auditor leads to a 4.34 basis point decrease in spreads, or about 2% of the average spread. Note that particularly the inclusion of auditor fixed effects is important in the interpretation of the preference variable; without auditor fixed effects, the apparent effect of preferences could be coming from the fact that auditors with larger market shares might be of higher quality and so either help their borrowers get better terms, or simply match with unobservably better borrowers. With these fixed effects (which we allow to vary by year below), we identify the effect of the difference of the auditor's share of the borrowers in that particular lender's portfolio of newer loans from the auditor's average share of the whole market, thus alleviating this concern.

As we move across the columns of Table 2, successively more fixed effects are added, starting with both lender and industry (of the borrower) fixed effects to control for unobservable characteristics which could affect either preferences or spreads. For example, the inclusion of lender fixed effects means that we obtain our results using changes in preferences over time and changes in loan portfolios for a particular lender, rather than unobserved differences across lenders. We next add auditor by year and industry by year fixed effects. This allows unobservable auditor and borrower characteristics, such as quality, to vary over time without affecting our inferences. Finally, we add in auditor by lender and lender by industry fixed effects. These fixed effects provide assurance that our results are not driven by shared lender and auditor expertise in a particular industry. The broad set of fixed effects means that the relevant preference variation is a function of lender-specific variation in experience with different auditors over time, rather than trends in quality or market share of different auditors over time.

With all of these fixed effects to isolate the relevant identifying variation, our estimate of the effect of lender preferences on spreads actually increases in magnitude to a 10.4 basis point reduction for a one standard deviation increase in lender preference.

3.2 AMOUNTS

If the lender has a high preference for the auditor of the borrower, we might also expect the lender to be comfortable expanding the supply of credit. In Table 3, we investigate the effect of lender preference on loan amounts. The first column of Table 3 shows the result from our baseline regression of the log of the loan amount on lender preference, including borrower controls, loan-level controls and auditor and year fixed effects. A one standard deviation increase in lender preference for the borrower's auditor leads to a 3.2% increase in the loan amount. In subsequent columns, we successively add the full set of fixed effects; in the fourth column, which includes auditor by year, borrower industry by year, auditor by lender, and lender by borrower industry fixed effects, the magnitude of the effect increases to a 5.3% increase in the loan amount.

These results on the importance of lender preferences for loan spreads and amounts potentially reflect a contracting tradeoff. For firms that use a more preferred auditor, our findings are consistent with lenders having a better understanding and confidence in the financials for those borrowers, as has been found in the recent literature (Graham, Li, and Qiu 2008; Kim, Song, and Zhang 2011; Bharath, Sunder, and Sunder 2008).

3.3 COVENANTS

The preceding results suggest a benefit to the borrower of having an auditor with which the lender is more familiar. This could partly reflect a reduction in the lender's perceived risk of the loan, but could also reflect other changes in the loan contract. If the mechanism for the contracting effects is an informational one, we might also expect lenders to make relatively greater use of financial statement information when they have greater trust in the verification of that information. To investigate this possibility, in Table 4, we regress measures of covenant use on lender preferences, starting with an indicator variable for the presence of at least one covenant.

With our baseline controls and fixed effects, we find that a one standard deviation increase in lender preference leads to a 2.8% (relative) increase in the likelihood of using any covenants. This is consistent with lenders trusting the financials of firms using a more preferred auditor, given that lenders are more willing to condition loans on financial information for borrowers with better financial reporting (Costello and Wittenberg-Moerman 2011). When we include the full set of fixed effects in column (4), the magnitude increases significantly, to a 6.7% increase in the likelihood of using covenants. In column (5), we use the same specification to look at the incidence of covenant use on the intensive margin. Conditional on using any covenants at all, a one standard deviation increase in lender preference is associated with a 2.6% increase in the number of covenants in the loan contract.

Taken together, from the borrower's perspective, these results suggest that a better match between the lender and the borrower's auditor yields better terms, in the sense of lower

spreads and larger amounts, in exchange for more dependence of the contract on performance. From the lender's perspective, a higher preference means that the borrower's financials are more informative; the lender thus makes more use of this information and is then willing to lend more at lower spreads. In untabulated tests, we find that the effects on spreads, amounts, and covenants are stronger for smaller borrowers, which suggests that lender preferences, or financial statement verification in general, are more important for these borrowers.

3.4 PREFERENCE MEASUREMENT ROBUSTNESS

Since there are multiple ways that preferences could be measured, even within the revealed preference paradigm, it is important to check the robustness of our main results to these variations in methodology. In the first row of Table 5, we replicate the main results of Tables 2, 3, and 4 on spreads, amounts, and covenant use for the specification with the full set of controls and fixed effects.

The remaining rows of Table 5 show the three main results for different ways of calculating lender preferences. In the second row, we drop observations in the fifth category of auditor (non-Big 4 auditors), which means that the sum of lender preferences across auditors included in the sample is then less than one. This change ensures that our results are driven by variation in the share of the members of the Big 4 in the lender's portfolio of borrowers. We find consistent results across all three main dependent variables.

Next, in the third row, we allow lenders to have preferences for every auditor in the data, yielding similar results. This is not particularly surprising, given that most of the added auditors have very low market shares and so have little effect on the relationship between lender

preferences and loan terms and conditions. In the last three rows of Table 5, we drop some auditors from the full sample. Dropping Arthur Andersen, or restricting to the largest seven or eight auditors all yield similar statistically significant effects of preferences on loan contracting.

3.5 FUTURE DEFAULT

So far, we have shown that the match between the borrower's auditor and the lender's preference over auditors has a significant impact on loan contracting. However, we do not know whether this is "good" or not, especially for the lender (since we observe several clear benefits for the borrower). On the one hand, a lender that learns more information from the borrower's financials (in addition to better trusting the monitoring of the auditor going forward) could make better ex ante use of financials in loan contracting. In that case, the lender could also monitor the borrower more efficiently, such as through selecting and targeting interventions into the borrower's operations in the event of financial trouble (Bird, Ertan, Karolyi, and Ruchti 2017a,b). On the other hand, lender preferences could reflect cronyism or could lead the lender to place undue trust in the auditor, resulting in worse outcomes for the borrower. To distinguish between these possibilities, in this subsection, we investigate the relationship between lender preferences and subsequent borrower default.

In Table 6, we regress an indicator for borrower default in the subsequent three years (as reflected by an S&P rating of "D") on lender preference and the usual set of controls and fixed effects. Column (1), which includes auditor and year fixed effects, shows that a one standard deviation increase in lender preference leads to a 9.9% reduction in the probability of default.

Higher lender preference for auditors is associated with lower default rates. With the full set of fixed effects, the magnitude of the reduction increases to 13.5%. These results suggest that a good match between the lender's preferences and the borrower's auditor has beneficial effects on an important real borrower outcome, the probability of default.

The potential channels for lender preferences to matter, discussed in Section 2.3, have much different implications for borrower outcomes. These results are consistent with improved information processing or greater trust in the financial statements when audited by a preferred auditor. Importantly, they are not consistent with an institutional or personal connections story of cronyism whereby relationships between auditors and lenders are used for the private benefit of the parties, at the expense of the lending relationship. Rather, if these kinds of connections are important, the reduction in future default suggests that they are in fact useful in either the screening process involved in making new loans, or the monitoring of existing loans. For example, consider an audit partner who certifies to a lender with which she has a past relationship, that a borrower is a good risk, conditional on observables. According to our earlier results, the borrower would pay lower spreads and potentially get a larger loan. Since such borrowers are in fact less likely to default, the certification of the auditor appears to be helpful to the lender and so increase the efficiency of loan contracting.

3.6 LOAN TERM SENSITIVITY TO FINANCIAL STATEMENTS

To better understand the mechanism for the beneficial effects of lender preferences on borrower outcomes, we next investigate how the borrower's financials affect loan terms. The idea is that if a lender places more weight on the borrower's financials, not only will it grant

better loan terms, as demonstrated above, but it should also more strongly condition the contract on those financials.

In general, the dependence of loan terms on borrower financials should be quite complicated. To construct a simple test, we investigate the effect of the distress Z-score (Altman 1968) on loan terms. We use this distress measure (an indicator for $Z < 1.81$) as a summary of the borrower's financial health based on financial statement information.[5] We expect that loan terms should be worse for borrowers in financial distress according to this measure, but more importantly that this effect should be stronger where the lender preference for the auditor is higher, since in such a case, the lender places more weight on the borrower's financials, and so would be more certain that the borrower is in poor financial shape.[6]

In Table 7, we regress spreads and loan amounts on lender preference, an indicator for a borrower in the distress zone, and their interaction. For both dependent variables, the lower order terms are as expected. For non-distressed firms, lender preference is, as above, related to lower spreads and larger amounts. Likewise, high distress firms face much larger spreads, and get (weakly) smaller loan amounts. The latter result likely reflects the tradeoff between a greater need for financing versus a greater cost of financing from increased risk of insolvency. The interaction terms show that the effect of distress is significantly amplified for loans where the lender has a strong preference for the borrower's auditor. Note that this finding is consistent

[5] We follow Altman (1968) in calculating Z-Score as follows:

$$Z\text{- }Score = 1.2 \times \frac{WorkingCapital}{TotalAssets} + 1.3 \times \frac{RetainedEarnings}{TotalAssets} + 3.3 \times \frac{EBIT}{TotalAssets} + 0.6 \times \frac{MVEquity}{TotalLiabilities} + \frac{Sales}{TotalAssets}$$

[6] A potentially important countervailing factor is that, as shown above, the likelihood of default for a borrower with a good lender-auditor match is lower. It is possible that the auditor could help reduce the lending risk particularly for worse borrowers.

with the results from Table 4 on the increased use of covenants when lender preference for the auditor is high. Essentially, contractual terms are more sensitive to borrower financials when those financials were audited by the lender's preferred auditor. Further, as discussed in the previous subsection, our results are inconsistent with cronyism as the first-order explanation for the effects of lender-auditor relationships. Rather, a good lender-auditor match is associated with greater use of financial statement information, which helps to explain the reduction in the likelihood of future default.

4 Determinants of Lender Preferences

In the previous section, we showed that lender preferences for auditors have a significant effect on loan terms, with associated benefits for borrower outcomes. We now turn to the question of where these preferences come from, both to better understand the mechanism of lender preferences and to lend credence to the role of preferences for auditors specifically rather than some alternative channel related to unobservable matching-relevant variables.

In Table 8, we regress a lender's preference for auditor j in year t on outcomes related to the borrowers in the lender's portfolio who used auditor j in year *t-1*, with the goal of understanding how these preferences evolve as a result of the lender's experience with that auditor.[7] The three outcomes we consider are defaults, since these are salient negative events for which the auditor might bear some responsibility, restatements and accounting and auditing enforcement releases (AAERs). The latter two outcomes are specifically indicative of a problem

[7] Thus, the observations in this set of tests are lender-auditor-year triples.

with the borrower's accounting. Note that when we measure the number of restatements for the particular lender-auditor pair, we use the date the restatement was announced, but associate the restatement to the auditor of record at the time of the restatement, rather than the auditor at the time the restatement was discovered.

The first three columns of Table 8 show that all three of these outcomes, individually, are negatively and significantly related to future lender preferences.[8] That is, when borrowers in the lender's portfolio experience financial distress or announce accounting errors, that lender is less likely to make future loans to borrowers who use the implicated auditor. In column (4), we show that all three outcomes have the expected negative effect even when we include them all in the same model. Overall, these results on lender preferences are consistent with prior findings on the importance of the audit firm-level dimension of reputation for equityholders and auditor choice (Chaney and Philipich 2002; Barton 2005; Skinner and Srinivasan 2012).

This mechanism for explaining variation in lender preferences is similar in spirit to Murfin (2012), which finds that lenders respond to defaults in their loan portfolios by increasing the ex ante strictness of new loan contracts, because the negative shock causes them to update their beliefs about their own screening ability. In our setting, lenders update their beliefs about the quality of the financial statement verification process. These beliefs are then reflected in

[8] In untabulated tests, we investigate the time horizon over which these determinants affect lender preferences. Specifically, we replace preferences in year t in the specification of Table 8 with preferences in year *t+1* or year *t+2*, and find similar results. This suggests that lender preferences adjust reasonably quickly (but persistently) to negative revelations about the auditors of borrowers in their loan portfolios.

their preferences for different auditors going forward, leading to changes in loan contracting, as described in the previous section.

An additional potential determinant of lender preferences is the identity of the lender's own auditor, since familiarity and trust could be built directly through such a relationship. On the other hand, the set of employees involved in the lender's financial reporting process is likely quite different from the set of employees involved in making lending decisions. Further, the nature of the audit services demanded by the lender for its own audit should differ considerably from the lender's objectives for the borrower's audit. For example, the lender would like to be able to exercise discretion in its own financial reporting, while having this discretion curtailed for its borrowers. To address these competing mechanisms, we empirically investigate the relationship between lender preferences and the identity of the lender's auditor. In untabulated results, we find that the average lender preference for the lender's own auditor is indeed greater than would be expected by chance. Regressing lender preferences for auditors in each year on an indicator variable for the lender's auditor yields a coefficient estimate of 0.0484 with a standard error (clustered at the lender-level) of 1.81. This means that the lender's preference for its own auditor when making new loans is 4.84% higher than would be expected, or 28% of a standard deviation.[9]

[9] Given the set of fixed effects included in the regressions in Section 3, and particularly the inclusion of auditor by lender fixed effects, it is unlikely that the lender's relationship with its own auditor is an important determinant of our main results. However, as a further robustness check, we have verified that our results continue to hold after including in these regressions an indicator variable equal to one if the lender and the borrower share the same auditor in that year.

5 Lender Preferences and Lender-Borrower-Auditor Matching

If lenders have preferences for auditors, which are driven by that lender's experience with that particular auditor in its portfolio of borrowers, and this has significant effects on loan terms, and borrower outcomes, we would expect that both lender-borrower relationships and the borrower's choice of auditor should also respond to lender preferences. There are three different possible margins of behavioral adjustment which we investigate in the following subsections. The first is matching between lenders and borrowers – do new relationships between lenders and borrowers result in a good match between the lender's preferences over auditors and the borrower's actual auditors? At the other end of the relationship, are relationships between lenders and borrowers where there is a poor match between the lender's preferences over auditors and the borrower's actual auditors more likely to end (that is, result in the borrower switching lenders for its next loan)? Then, given this matching of lenders and borrowers, do borrower's switch auditors *during* lending relationships in ways which increase the lender's preference for their auditor?

5.1 LENDER-BORROWER MATCHING

We start by investigating lender-borrower matching in Tables 9 and 10. Specifically, in Table 9, we regress the share of borrowers with auditor j in a lender's portfolio of new loans in year t on the lender's preference for auditor j in year *t-1*. Thus, the unit of observation is again the lender-auditor-year triple. Essentially, given the way we measure preferences, this is a test of the persistence of preferences, where it is important to note that there is no mechanical

persistence since the lender's preferences in the two periods are calculated using distinct sets of loans. The first two columns of Table 9 show that a high preference of a lender for a particular auditor is indeed associated with a greater likelihood of subsequently making a loan to a borrower with that auditor. The same result obtains even after including both lender and auditor by year fixed effects in column (2), so that the relevant variation is changes within a particular lender's experience with different auditors over time.

One might be concerned that this result is related to persistence in borrower-lender relationships, where the persistence in auditors simply reflects multiple loans made to the same borrower, which happens to have the same auditor at both times. While this concern is mitigated by the way we calculate preferences, using only the previous three years of new loans, which is not very likely to include another loan to the same borrower, we want to be sure that persistence in borrower-lender relationships cannot be driving our results. So, in columns (3) and (4), we restrict our calculation of lender-specific auditor shares in year t to include only new borrowers (rather than just new loans, which could have been made within existing lender-borrower relationships). We find similar results – lender preferences significantly affect the subsequent matching between lenders and borrowers.

For the same theoretical reasons, one might expect that a lender and borrower for whom the auditor is a bad match would be less likely to continue their relationship. We investigate this possibility in Table 10 by regressing an indicator equal to one if the borrower switched lenders for its next loan on the lender's preference for the current auditor. Across a range of specifications including a variety of fixed effects, we find a robust negative relationship. If the

lender's preference for the current auditor is low, the borrower is more likely to switch lenders for the next loan. Taken together with the results in Table 9, we know that this new relationship is likely to be with a lender for whom the match with the auditor is high.

5.2 BORROWER-AUDITOR MATCHING

Changes in lender-borrower matching are one way to increase the quality of the match between the lender's preferences and the borrower's auditors; another possibility is changes in the borrower-auditor match within a lending relationship. Such changes could improve the match along two margins; borrowers could be more likely to switch when the lender's preference is low, and, conditional on switching, could switch auditors to one with a high lender preference.

In Table 11, we investigate the former possibility by regressing an indicator for a borrower switching auditors on lender preference. As expected, we find that the lower is the lender preference for the current auditor, the more likely is the borrower to switch auditors. This result holds after including auditor, year, auditor by year, lender and borrower fixed effects.

In these cases where the borrower switches auditors, we would also expect the new auditor to be one favored by the current lender. The results in Table 12 show that this is indeed the case. Subsequent lender preference for the auditor is higher after an auditor switch by the borrower. This result holds, and even gets stronger, after including the full set of fixed effects. The preceding two sets of results show that lender preferences and demand for financial statement verification are an important factor in borrower auditor choice.

6 Conclusion

In this paper, we use the matching between lenders, borrowers, and auditors to build a revealed preference measure of lender preferences for financial statement verifiers. We show that these preferences are related directly to the recent experience of the lender with particular auditors; for example, preferences shift away from the implicated auditor when financials are restated for a borrower in the lender's portfolio. When a borrower's auditor is a good match for its lender's preferences, the borrower is able to borrow larger amounts at lower rates. Further, these preferences help empirically predict future changes in borrower auditor choices and lending relationships. The channel through which preferences affect these outcomes appears to be informational – higher lender preference for the borrower's auditor leads to more use of financial statement information in loan contracting and results in a reduction in borrower default. Our findings suggest that, through financial statement verification, auditors play a significant role in contracting efficiency and matching in the private loan market.

Appendix A

In this appendix, we present evidence on the nonrandomness of lender-borrower-auditor matching using simulations. To keep the number of parameters manageable, we restrict our simulations to the top 10 lenders in the sample (by volume of loans) and the Big 4 auditors.

The simulations work as follows:

1. Take the actual auditor-client matches and re-match bank loan portfolios by randomly assigning borrowers to banks, maintaining the same total loan portfolio size.

2. We calculate three statistics per simulation. The first is the "Preference" parameter from our paper. The second two are the weighted average percentages for the first and second top auditors by lender (i.e. how often does a borrower use the auditor most common, or second most common, in the lender's portfolio); these statistics reflect components of the preference variable in the paper.

3. Randomly rematch 10,000 times.

We present the results of these simulations in several figures below and discuss tests of the nonrandomness of the equilibrium match. Figure A.1a is a histogram of the "Preference" variable calculated in each of the simulations. The mean of this distribution is 20.62%, with a standard deviation of 0.03%. Given this distribution, the empirical mean of the "Preference" variable—25.07%—is 132.99 standard deviations away from the randomly generated mean. This corresponds to a p-value smaller than the smallest numbers most computers express (machine ϵ). Below Figure A.1a, we present Figure A.1b, which presents the same distribution as Figure A.1a, but zooms out enough to include the location of the empirical mean of the "Preference" variable with a vertical red line.

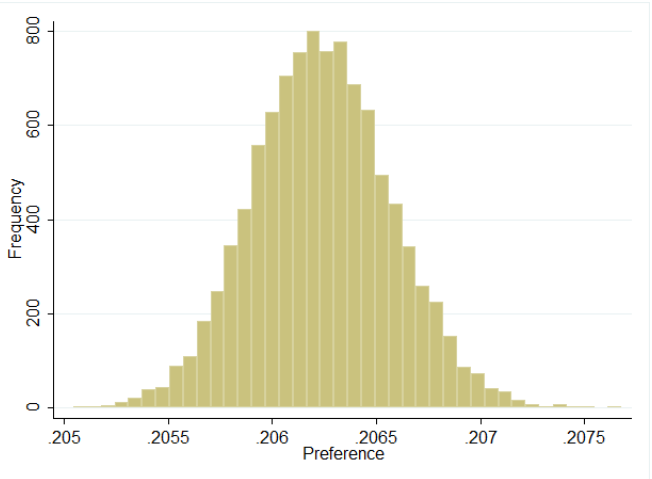

Figure A.1a

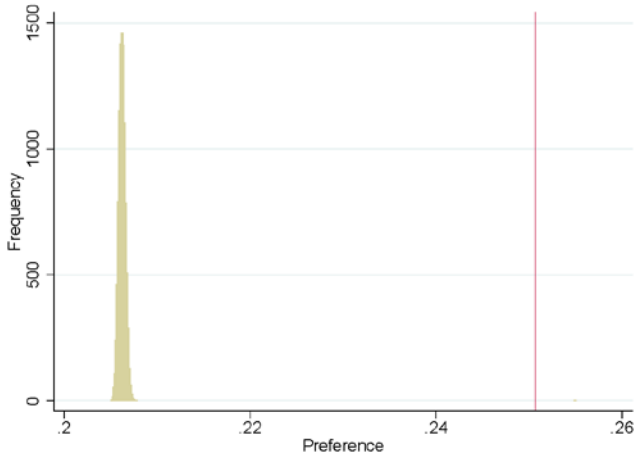

Figure A.1b

In an effort to show further robustness of this measure, and to show that it indeed appears to be nonrandom, we also graph in two dimensions the weighted averages of the first and second preferences over auditors of the top ten banks. In Figure A.2, we show 10,000 simulations of the random sorting for these two preferences. In the right-upper corner of the graph, the empirical statistics are marked by a red cross (×). While it is hard to see all the dots, it is indeed the case that out of the 10,000 simulations, none of them are greater than the preferences in our data in either dimension. In particular, the mean for the randomization first preferences is 26.32% with a standard deviation of 0.20%, whereas the mean for the randomization second preferences is 20.29% with a standard deviation of 0.15%. Given the mean first and second preferences in the data are 27.11% and 21.21%, this is 3.88 and 5.98 standard deviations away from the means of the simulated distributions, respectively. If we put that in terms of p-values, we have significance at the 5.19e-5 and 1.082e-9 levels, corresponding to chances of 1 in 19,257 trials and 1 in 924M trials, respectively.

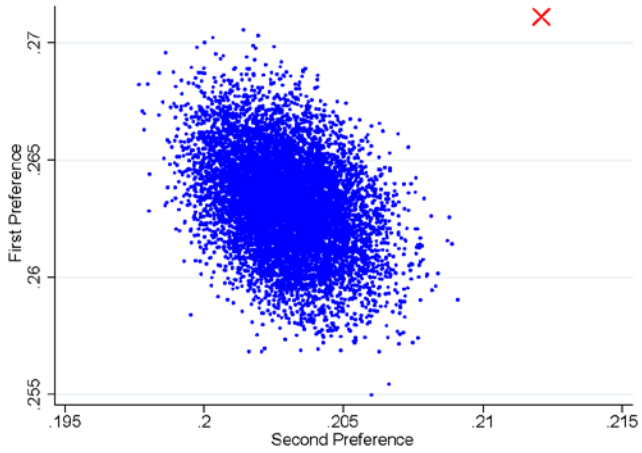

Figure A.2

References

Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *Journal of Finance, 23*(4), 589-609.

Barton, J. (2005). Who cares about auditor reputation? *Contemporary Accounting Research, 22*(3), 549-586.

Baylis, R. M., Burnap, P., Clatworthy, M. A., Gad, M. A., & Pong, C. K. (2017). Private lenders' demand for audit. *Journal of Accounting and Economics, 64*(1), 78-97.

Beatty, R. P. (1989). Auditor reputation and the pricing of initial public offerings. *The Accounting Review, 64*(4), 693-709.

Becker, C. L., DeFond, M. L., Jiambalvo, J., & Subramanyam, K. (1998). The effect of audit quality on earnings management. *Contemporary Accounting Research, 15*(1), 1-24.

Berger, A. N., & Udell, G. F. (1995). Relationship lending and lines of credit in small firm finance. *Journal of Business, 68*(3), 351-381.

Bharath, S. T., Sunder, J., & Sunder, S. V. (2008). Accounting quality and debt contracting. *The Accounting Review, 83*(1), 1-28.

Biddle, G. C., & Hilary, G. (2006). Accounting quality and firm-level capital investment. *The Accounting Review, 81*(5), 963-982.

Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics, 48*(2), 112-131.

Billett, M. T., Flannery, M. J., & Garfinkel, J. A. (1995). The effect of lender identity on a borrowing firm's equity return. *Journal of Finance, 50*(2), 699-718.

Bird, A., Ertan, A., Karolyi, S. A., & Ruchti, T. G. (2017a). Short-termism spillovers from the financial industry. *Working Paper.*

Bird, A., Ertan, A., Karolyi, S. A., & Ruchti, T. G. (2017b). Lender forbearance. *Working Paper.*

Blackwell, D. W., Noland, T. R., & Winters, D. B. (1998). The value of auditor assurance: Evidence from loan pricing. *Journal of Accounting Research, 36*(1), 57-70.

Carrizosa, R., & Ryan, S. G. (2017). Borrower private information covenants and loan contract monitoring. *Journal of Accounting and Economics, 64*(2-3), 313-339.

Chaney, P. K., & Philipich, K. L. (2002). Shredded reputation: The cost of audit failure. *Journal of Accounting Research, 40*(4), 1221-1245.

Costello, A. M., & Wittenberg-Moerman, R. (2011). The impact of financial reporting quality on debt contracting: Evidence from internal control weakness reports. *Journal of Accounting Research, 49*(1), 97-136.

Craswell, A. T., Francis, J. R., & Taylor, S. L. (1995). Auditor brand name reputations and industry specializations. *Journal of Accounting and Economics, 20*(3), 297-322.

DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics, 3*(3), 183-199.

Dechow, P. M., Ge, W., Larson, C. R., & Sloan, R. G. (2011). Predicting material accounting misstatements. *Contemporary Accounting, 28*(1), 17-82.

Doyle, J. T., Ge, W., & McVay, S. (2007). Accruals quality and internal control over financial reporting. *The Accounting Review, 82*(5), 1141-1170.

Fan, J. P., & Wong, T. J. (2005). Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. *Journal of Accounting Research, 43*(1), 35-72.

Ferguson, A., Francis, J. R., & Stokes, D. J. (2003). The effects of firm-wide and office-level industry expertise on audit pricing. *The Accounting Review, 78*(2), 429-448.

Francis, J. R., Maydew, E. L., & Sparks, H. C. (1999). The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice \& Theory, 18*(2), 17-34.

Francis, J. R., Reichelt, K., & Wang, D. (2005). The pricing of national and city-specific reputations for industry expertise in the US audit market. *The Accounting Review, 80*(1), 113-136.

Ghosh, A., & Moon, D. (2005). Auditor tenure and perceptions of audit quality. *The Accounting Review, 80*(2), 585-612.

Graham, J. R., Li, S., & Qiu, J. (2008). Corporate misreporting and bank loan contracting. *Journal of Financial Economics, 89*(1), 44-61.

Gulati, R. (1995). Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *Academy of Management Journal, 38*(1), 85-112.

Holod, D., & Peek, J. (2007). Asymmetric information and liquidity constraints: A new test. *Journal of Banking \& Finance, 31*(8), 2425-2451.

Hope, O.-K., & Thomas, W. B. (2008). Managerial empire building and firm disclosure. *Journal of Accounting Research, 46*(3), 591-626.

Johnson, V. E., Khurana, I. K., & Reynolds, J. K. (2002). Audit-firm tenure and the quality of financial reports. *Contemporary Accounting Research, 19*(4), 637-660.

Kim, J.-B., Simunic, D. A., Stein, M. T., & Yi, C. H. (2011). Voluntary audits and the cost of debt capital for privately held firms: Korean evidence. *Contemporary Accounting Research, 28*(2), 585-615.

Kim, J.-B., Song, B. Y., & Zhang, L. (2011). Internal control weakness and bank loan contracting: Evidence from SOX Section 404 disclosures. *The Accounting Review, 86*(4), 1157-1188.

Krishnan, G. V. (2003). Does Big 6 auditor industry expertise constrain earnings management? *Accounting Horizons, 17*, 1-16.

Lambert, R., Leuz, C., & Verrecchia, R. E. (2007). Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research, 45*(2), 385-420.

Mansi, S. A., Maxwell, W. F., & Miller, D. P. (2004). Does auditor quality and tenure matter to investors? Evidence from the bond market. *Journal of Accounting Research, 42*(4), 755-793.

Menon, K., & Williams, D. D. (2016). Audit report restrictions in debt covenants. *Contemporary Accounting Research, 33*(2), 682-717.

Minnis, M. (2011). The value of financial statement verification in debt financing: Evidence from private US firms. *Journal of Accounting Research, 49*(2), 457-506.

Murfin, J. (2012). The supply-side determinants of loan contract strictness. *Journal of Finance, 67*(5), 1565-1601.

Petersen, M. A., & Rajan, R. G. (1994). The benefits of lending relationships: Evidence from small business data. *Journal of Finance, 49*(1), 3-37.

Samuelson, P. A. (1948). Consumption theory in terms of revealed preference. *Economica, 15*(60), 243-253.

Skinner, D. J., & Srinivasan, S. (2012). Audit quality and auditor reputation: Evidence from Japan. *The Accounting Review, 87*(5), 1737-1765.

Slovin, M. B., Sushka, M. E., & Hudson, C. D. (1990). External monitoring and its effect on seasoned common stock issues. *Journal of Accounting and Economics, 12*(4), 397-417.

Sufi, A. (2007). Information asymmetry and financing arrangements: Evidence from syndicated loans. *Journal of Finance, 62*(2), 629-668.

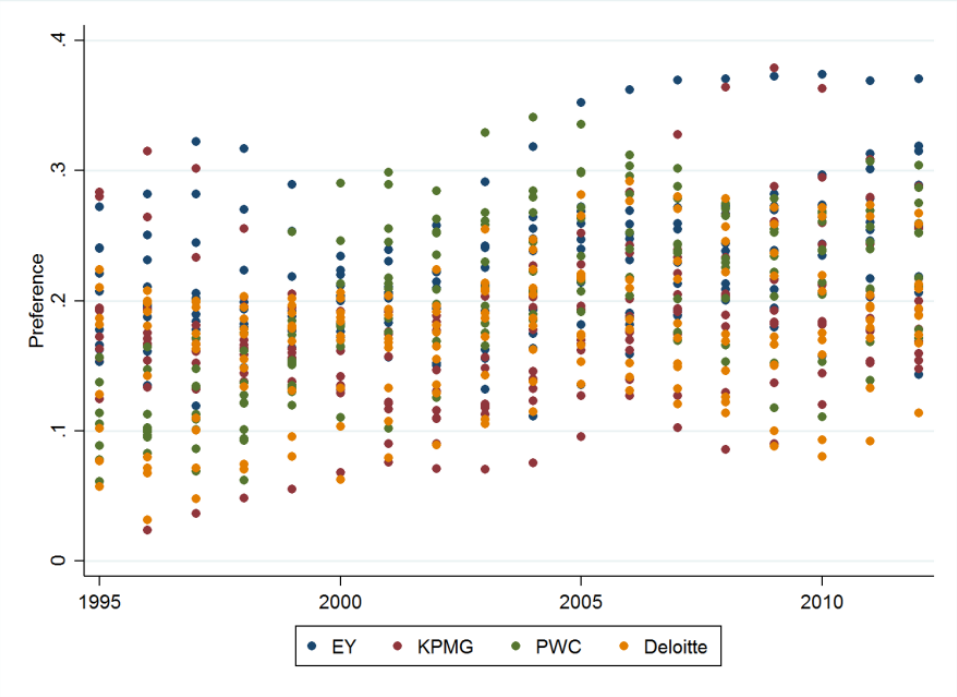

Figure 1. Lender Preferences over time

This figure shows how *Preference* varies over time in the sample. Each dot represents a lender-auditor-year triple, restricting to the ten largest lenders in the sample by volume and calculated using the preceding three years of new loans made by that lender to borrowers using that particular auditor. The color of the dot denotes the auditor.

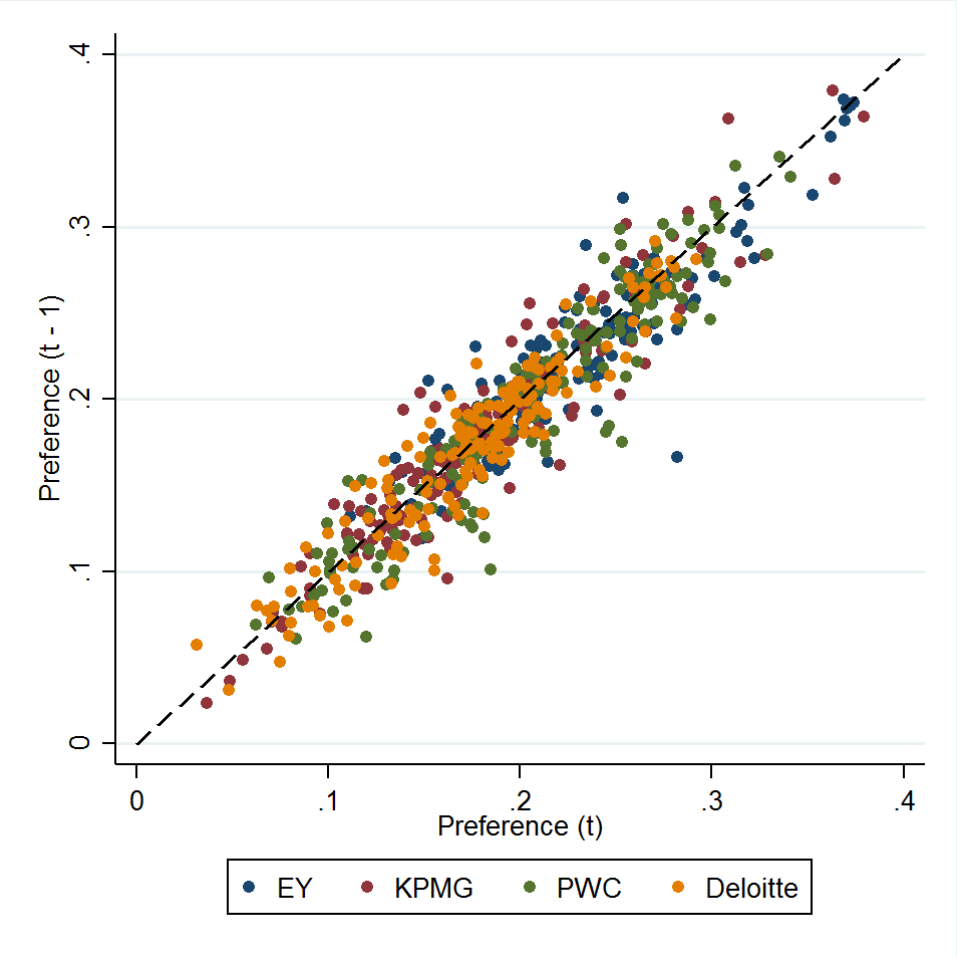

Figure 2. Changes in Lender Preferences

This figure shows how *Preference* changes from year to year in the sample. Each dot represents a lender-auditor-year triple, restricting to the ten largest lenders in the sample by volume and calculated using the preceding three years of new loans made by that lender to borrowers using that particular auditor. The color of the dot denotes the auditor. The y-axis is the preference in year *t-1* and the x-axis is the preference in year *t*, so that the 45° line indicates constant preferences across the two years.

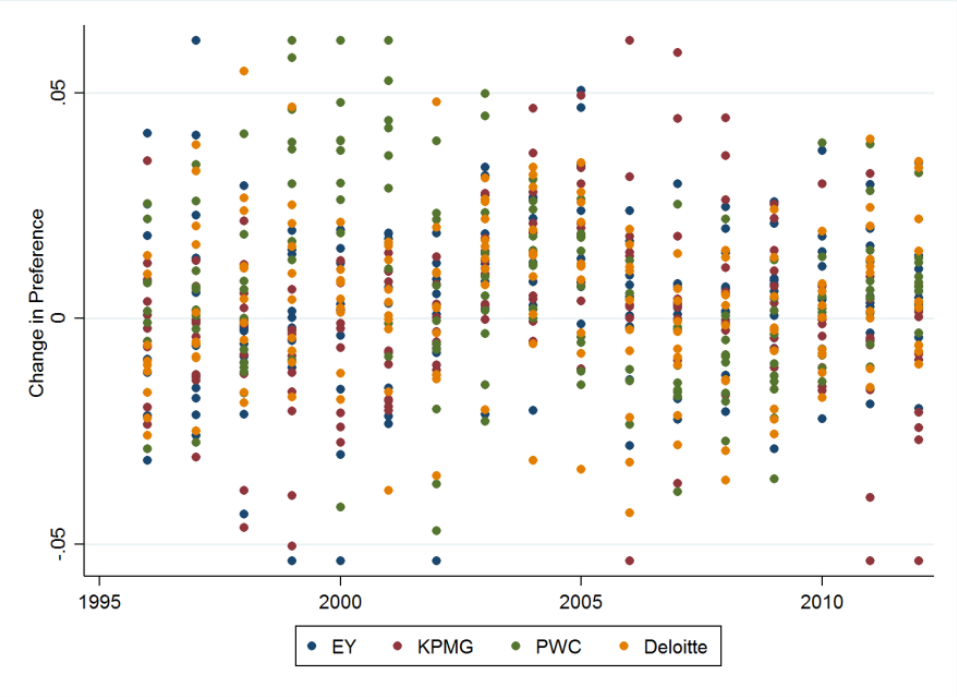

Figure 3. Changes in Lender Preferences over time

This figure shows how *Preference* changes from year to year in the sample over time. Each dot represents a lender-auditor-year triple, restricting to the ten largest lenders in the sample by volume and calculated using the preceding three years of new loans made by that lender to borrowers using that particular auditor. The color of the dot denotes the auditor. The y-axis is the preference in year t minus the preference in year *t-1* for each lender-auditor-year triple. The mean absolute change in *Preference* is 1.55 percentage points with a standard deviation of 1.33 percentage points.

Table 1. Summary Statistics

This table presents summary statistics for the regression variables of interest.

	Mean	SD	P25	Median	P75
Loan:					
Spread	238.48	131.17	150	240	300
Amount ($million)	208	782	10	40	150
Maturity (months)	43.35	32.04	16	36	60
Collateral	81.45%				
$1_{[Covenants>0]}$	30.76%				
$CovenantIntensity_{[Covenants>0]}$	2.48	1.09	2	2	3
RetainedShare	34.70	20.09	17	33.33	50
NumLenders	2.07	2.70	1	1	2
Borrower:					
Z-Score	26.78	41.83	1.99	5.78	34.10
Z-Score Distress	12.55%				
$1_{[LenderSwitch]}$	32.38%				
$1_{[AuditorSwitch]}$	8.40%				
M/B	3.29	6.50	1.82	2.28	3.25
ROA	−0.01%	33.82%	−1.12%	2.33%	5.86%
Leverage	66.18%	32.58%	47.63%	64.53%	81.79%
Default	1.08%				
AAER	4.83%				
Restatement	3.35%				
Preference	25.07%	17.01%	13.90%	21.39%	32.41%

Table 2. Lender Preferences and Credit Spreads

This table presents loan package level regression estimates of *Spread*, the all-in-drawn spread of the loan, on *Preference*, the lender's preference for the borrower's auditor as described in Section 2.2, and control variables. Regression models always include auditor and year fixed effects, and incrementally incorporate lender, industry, auditor × year, industry × year, auditor × lender, and lender × industry fixed effects to alter the identifying variation and, therefore, economic inferences. Other controls, X_{it}, include indicators for loan type and purpose, as well as borrower characteristics (i.e., leverage, return on assets, M/B). Heteroskedasticity-robust standard errors are clustered by lender, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: *Spread*				
	(1)	(2)	(3)	(4)
Preference	-28.452***	-29.018***	-19.717***	-60.891***
	(5.785)	(5.845)	(6.719)	(12.974)
X_{it}	Yes	Yes	Yes	Yes
Fixed Effects:				
Auditor	Yes	Yes	No	No
Year	Yes	Yes	No	No
Lender	No	Yes	Yes	No
Industry	No	Yes	Yes	No
Auditor × *Year*	No	No	Yes	Yes
Industry × *Year*	No	No	Yes	Yes
Auditor × *Lender*	No	No	No	Yes
Lender × *Industry*	No	No	No	Yes
R^2	0.0530	0.2521	0. 3255	0.4797
Obs.	24,354			

Table 3. Lender Preferences and Credit Supply

This table presents loan package level regression estimates of ln*Amount*, the natural log of the loan amount, on *Preference*, the lender's preference for the borrower's auditor as described in Section 2.2, and control variables. Regression models always include auditor and year fixed effects, and incrementally incorporate lender, industry, auditor × year, industry × year, auditor × lender, and lender × industry fixed effects to alter the identifying variation and, therefore, economic inferences. Other controls, X_{it}, include indicators for loan type and purpose, as well as borrower characteristics (i.e., leverage, return on assets, M/B). Heteroskedasticity-robust standard errors are clustered by lender, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: ln*Amount*				
	(1)	(2)	(3)	(4)
Preference	0.189*	0.331***	0.292***	0.312**
	(0.108)	(0.103)	(0.092)	(0.152)
X_{it}	Yes	Yes	Yes	Yes
Fixed Effects:				
Auditor	Yes	Yes	No	No
Year	Yes	Yes	No	No
Lender	No	Yes	Yes	No
Industry	No	Yes	Yes	No
Auditor × *Year*	No	No	Yes	Yes
Industry × *Year*	No	No	Yes	Yes
Auditor × *Lender*	No	No	No	Yes
Lender × *Industry*	No	No	No	Yes
R^2	0.1895	0.5207	0.5403	0.7022
Obs.	24,354			

Table 4. Lender Preferences and Contracting on Verifiable Information

This table presents loan package level regression estimates of $1_{[Covenants>0]}$ and *CovenantIntensity* (given *Covenants*>0), which are an indicator that equals one if the loan contains at least one financial covenant and zero otherwise and the count of the number of covenants, respectively, on *Preference*, the lender's preference for the borrower's auditor as described in Section 2.2, and control variables. Regression models always include auditor and year fixed effects, and incrementally incorporate lender, industry, auditor × year, industry × year, auditor × lender, and lender × industry fixed effects to alter the identifying variation and, therefore, economic inferences. Other controls, X_{it}, include indicators for loan type and purpose, as well as borrower characteristics (i.e., leverage, return on assets, M/B). Heteroskedasticity-robust standard errors are clustered by lender, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable:	$1_{[Covenants>0]}$				$CovenantIntensity_{[Covenants>0]}$
	(1)	(2)	(3)	(4)	(5)
Preference	0.050***	0.045**	0.070***	0.121***	0.380***
	(0.019)	(0.020)	(0.023)	(0.043)	(0.140)
X_{it}	Yes	Yes	Yes	Yes	Yes
Fixed Effects:					
Auditor	Yes	Yes	No	No	No
Year	Yes	Yes	No	No	No
Lender	No	Yes	Yes	No	No
Industry	No	Yes	Yes	No	No
Auditor × *Year*	No	No	Yes	Yes	Yes
Industry × *Year*	No	No	Yes	Yes	Yes
Auditor × *Lender*	No	No	No	Yes	Yes
Lender × *Industry*	No	No	No	Yes	Yes
R^2	0.1754	0.3475	0.4114	0.5450	0.5545
Obs.	24,354				9,072

Table 5. Lender Preferences: Measurement Robustness

This table presents loan package level regression estimates of *Spread*, ln*Amount*, and $1_{[Covenants>0]}$ (all as defined in the preceding tables) on *Preference*, the lender's preference for the borrower's auditor as described in Section 2.2, and control variables. Regression models correspond to the most restrictive specification (i.e., column (4)), from Tables 2, 3, and 4. Other controls, X_{it}, include indicators for loan type and purpose, as well as borrower characteristics (i.e., leverage, return on assets, M/B). Heteroskedasticity-robust standard errors are clustered by lender, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable:	*Spread*		ln*Amount*		$1_{[Covenants>0]}$	
	(1)		(2)		(3)	
	β	*s.e.*	β	*s.e.*	β	*s.e.*
Baseline	-60.891***	(12.974)	0.312**	(0.152)	0.121***	(0.043)
Big4 only	-40.558**	(19.211)	0.367**	(0.160)	0.101**	(0.036)
All Auditors	-46.424***	(16.375)	0.302**	(0.154)	0.074**	(0.031)
Drop Arthur Anderson	-42.170**	(17.958)	0.372**	(0.159)	0.090**	(0.038)
Big7 only	-45.933**	(19.019)	0.417**	(0.184)	0.092**	(0.036)
Big8 only	-44.571**	(19.020)	0.407**	(0.182)	0.086**	(0.035)

Table 6. Lender Preferences and Future Default

This table presents loan package level regression estimates of $1_{[Default\ within\ 3\ years]}$, an indicator that equals one if the borrower defaults at least one time in years *t+1* to *t+3*, on *Preference*, the lender's preference for the borrower's auditor in year t as described in Section 2.2, and control variables. Regression models always include auditor and year fixed effects, and incrementally incorporate lender, industry, auditor × year, industry × year, auditor × lender, and lender × industry fixed effects to alter the identifying variation and, therefore, economic inferences. Other controls, X_{it}, include indicators for loan type and purpose, as well as borrower characteristics (i.e., leverage, return on assets, M/B). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: $1_{[Default\ within\ 3\ years]}$				
	(1)	(2)	(3)	(4)
Preference	-0.0063***	-0.0063***	-0.0065***	-0.0086**
	(0.0018)	(0.0021)	(0.0024)	(0.0040)
X_{it}	Yes	Yes	Yes	Yes
Fixed Effects:				
Auditor	Yes	Yes	No	No
Year	Yes	Yes	No	No
Lender	No	Yes	Yes	No
Industry	No	Yes	Yes	No
Auditor × *Year*	No	No	Yes	Yes
Industry × *Year*	No	No	Yes	Yes
Auditor × *Lender*	No	No	No	Yes
Lender × *Industry*	No	No	No	Yes
R^2	0.0034	0.0375	0.2218	0.4361
Obs.	24,354			

Table 7. Lender Preferences and the Sensitivity of Terms to Verifiable Information

This table presents loan package level regression estimates of *Spread* or ln*Amount* (each as defined in previous tables) on *Preference*, the lender's preference for the borrower's auditor as described in Section 2.2, interacted with $1_{[Z\text{-}Score\ Distress]}$, an indicator that equals one if the borrower has a Z-Score less than 1.81 (Altman 1968) and zero otherwise, and control variables. Regression models always include auditor and year fixed effects, and incrementally incorporate lender and auditor × year fixed effects to alter the identifying variation and, therefore, economic inferences. Other controls, X_{it}, include indicators for loan type and purpose, as well as borrower characteristics (i.e., leverage, return on assets, M/B). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable:	*Spread*		ln*Amount*	
	(1)	(2)	(3)	(4)
Preference	-48.895***	-42.412***	0.503***	0.310***
	(10.736)	(18.328)	(0.071)	(0.079)
$1_{[Z\text{-}Score\ Distress]}$	52.851***	44.461***	-0.069	-0.069
	(6.586)	(8.574)	(0.052)	(0.053)
Preference × $1_{[Z\text{-}Score\ Distress]}$	52.868**	42.247***	-0.527***	-0.547***
	(24.277)	(20.983)	(0.190)	(0.197)
X_{it}	Yes	Yes	Yes	Yes
Fixed Effects:				
Auditor	Yes	No	Yes	No
Year	Yes	No	Yes	No
Lender	No	Yes	No	Yes
Auditor × *Year*	No	Yes	No	Yes
R^2	0.2491	0.3566	0.5187	0.5236
Obs.	24,354			

Table 8. Determinants of Lender Preferences

This table presents panel regression estimates of $Preference_{it}$, the lender's preference for auditor i as described in Section 2.2, on $\ln Defaults_{it-1}$, the natural log of the number of defaults by borrowers with auditor i in year *t-1*, $\ln Restatements_{it-1}$, the natural log of the number of restatements by borrowers with auditor i in year *t-1*, $\ln AAERs_{it-1}$, the natural log of the number of AAERs by borrowers with auditor i in year *t-1*. The unit of observation is lender-auditor-year triples. Regression models always include auditor and year fixed effects. Heteroskedasticity-robust standard errors are clustered by lender, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: $Preference_{it}$				
	(1)	(2)	(3)	(4)
$\ln Defaults_{it-1}$	-0.076***			-0.037***
	(0.012)			(0.013)
$\ln Restatements_{it-1}$		-0.083***		-0.069***
		(0.010)		(0.010)
$\ln AAERs_{it-1}$			-0.028***	-0.024***
			(0.004)	(0.004)
Fixed Effects:				
Auditor	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Lender	No	No	No	No
Auditor × *Year*	No	No	No	No
R^2	0.1122	0.1167	0.1163	0.1227
Obs.	15,732			

Table 9. Lender Preferences and Matching Lenders and Borrowers

This table presents panel regression estimates of *NewLoanAuditorPortfolio*, the proportion of loans issued in period t by the lender that have borrowers audited by auditor i, and *NewBorrowerAuditorPortfolio,* the proportion of loans to first-time borrowers audited by auditor i issued in period t by the lender, on $Preference_{t-1}$, the lender's preference for auditor i as described in Section 2.2, and control variables. The unit of observation is lender-auditor-year triples. Regression models always include auditor and year fixed effects, and include lender and auditor × year fixed effects in columns (2) and (4) to focus identifying variation on the cross-section of lender preferences. Heteroskedasticity-robust standard errors are clustered by lender, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable:	*NewLoanAuditorPortfolio*		*NewBorrowerAuditorPortfolio*	
	(1)	(2)	(3)	(4)
$Preference_{t-1}$	0.719***	0.590***	0.545***	0.327***
	(0.032)	(0.033)	(0.057)	(0.042)
Fixed Effects:				
Auditor	Yes	No	Yes	No
Year	Yes	No	Yes	No
Lender	No	Yes	No	Yes
Auditor × *Year*	No	Yes	No	Yes
R^2	0.6438	0.7277	0.3668	0.4523
Obs.	15,732			

Table 10. Lender Preferences and Lender Choice

This table presents panel regression estimates of $1_{[LenderSwitch]}$, an indicator that equals one if the borrower switches lenders in year t and zero otherwise, on $Preference_{t-1}$, the lender's preference for the borrower's auditor in year *t-1* as described in Section 2.2, and control variables. The unit of observation is borrower-lender-year triples. Regression models always include auditor and year fixed effects, and incrementally incorporate lender, auditor × year, and borrower fixed effects to alter the identifying variation and, therefore, economic inferences. Other controls, X_{it}, include borrower characteristics (i.e., leverage, return-on-assets, M/B). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: $1_{[LenderSwitch]}$				
	(1)	(2)	(3)	(4)
$Preference_{t-1}$	-0.281***	-0.256***	-0.312***	-0.304***
	(0.009)	(0.012)	(0.013)	(0.017)
X_{it}	Yes	Yes	Yes	Yes
Fixed Effects:				
Auditor	Yes	Yes	No	No
Year	Yes	Yes	No	No
Lender	No	Yes	Yes	Yes
Auditor × *Year*	No	No	Yes	Yes
Borrower	No	No	No	Yes
R^2	0.0429	0.0696	0.0733	0.1928
Obs.	54,807			

Table 11. Lender Preferences and Auditor Switching

This table presents panel regression estimates of $Preference_{t-1}$, the lender's preference for the borrower's auditor in year *t-1* as described in Section 2.2, on $1_{[AuditorSwitch]}$, an indicator that equals one if the borrower switches auditors in year t and zero otherwise, and control variables. The unit of observation is borrower-lender-year triples. Regression models always include auditor and year fixed effects, and incrementally incorporate lender, auditor × year, and borrower fixed effects to alter the identifying variation and, therefore, economic inferences. Other controls, X_{it}, include borrower characteristics (i.e., leverage, return-on-assets, M/B). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: $1_{[AuditorSwitch]}$				
	(1)	(2)	(3)	(4)
$Preference_{t-1}$	-0.178***	-0.224***	-0.137***	-0.036***
	(0.014)	(0.012)	(0.013)	(0.014)
X_{it}	Yes	Yes	Yes	Yes
Fixed Effects:				
Auditor	Yes	Yes	No	No
Year	Yes	Yes	No	No
Lender	No	Yes	Yes	Yes
Auditor × *Year*	No	No	Yes	Yes
Borrower	No	No	No	Yes
R^2	0.1290	0.1574	0.1859	0.5055
Obs.	54,807			

Table 12. Lender Preferences and Auditor Choice

This table presents panel regression estimates of $Preference_{t+1}$, the lender's preference for the borrower's auditor in year *t+1* as described in Section 2.2, on $1_{[AuditorSwitch]}$, an indicator that equals one if the borrower switches auditors in year t and zero otherwise, and control variables. The unit of observation is borrower-lender-year triples. Regression models always include auditor and year fixed effects, and incrementally incorporate lender, auditor × year, and borrower fixed effects to alter the identifying variation and, therefore, economic inferences. Other controls, X_{it}, include borrower characteristics (i.e., leverage, return-on-assets, M/B). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: $Preference_{t+1}$				
	(1)	(2)	(3)	(4)
$1_{[AuditorSwitch]}$	0.016**	0.007	0.021**	0.032***
	(0.008)	(0.008)	(0.009)	(0.009)
X_{it}	Yes	Yes	Yes	Yes
Fixed Effects:				
Auditor	Yes	Yes	No	No
Year	Yes	Yes	No	No
Lender	No	Yes	Yes	Yes
Auditor × *Year*	No	No	Yes	Yes
Borrower	No	No	No	Yes
R^2	0.1512	0.3245	0.6447	0.6772
Obs.	54,807			