Real Earnings Management through Syndicated Lending*

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Abstract

I examine whether banks manage syndicated loan originations to achieve financial reporting goals. Using a large sample of loans and relying on a within-quarter analysis, I find that publicly traded banks that narrowly beat earnings benchmarks initiate more loans in the last month of the fiscal quarter to book origination fees. Relative to otherwise similar loans, these loans are associated with front-end fees that are 4.2% higher but have credit spreads that are 3.3% lower, resulting in a net price discount of 2.5%. The findings are stronger for bigger banks, for lenders that are funding-constrained, and for banks whose managers' pay is more sensitive to stock performance. Further, these loans underperform in terms of future defaults and rating downgrades. Finally, I find that while the hypothesized earnings management helps banks raise capital in the short term, it is costly in the longer term, as it is associated with lower capital and profitability ratios. Overall, I provide model-free evidence on banks' real earnings management and the costs of this behavior.

JEL codes: G21, G24, G32, M41

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1. Introduction

A central question in accounting research is whether, and how much, firms alter their real operations to achieve financial reporting objectives (Jackson and Wilcox 2000; Roychowdhury 2006; Gunny 2010). Labeled as 'real earnings management' (REM), this practice is of central importance because firms bear significant costs for the operating decisions they make to achieve reporting goals (e.g., Kedia and Philippon 2009). Despite REM's far-reaching economic implications and prevalence in the corporate world (Graham et al. 2005), data limitations and identification concerns have hindered this literature (DeFond 2010). The setting of lenders' syndication activity allows one to capture the practice and costs of REM, because the timing, pricing, and subsequent performance of loan contracts are observable in a large sample, over a long time-series. Accordingly, this paper explores banks' REM through syndicated loan originations, as well as its consequences.

Syndicated credit origination is one of the most significant operations for banks and the largest source of external financing for nonfinancial firms (Gorton and Winton 2003; Sufi 2007). The primary syndicated loan market constitutes a suitable setting to analyze the dynamics, costs and benefits, and higher-order effects of REM for at least two reasons. First, syndicated lending, unlike bilateral lending, allows lead banks to recognize economically significant loan origination fees. As a result, syndicated lending creates an opportunity for banks to boost reported earnings by initiating more loans and/or charging higher front-end fees. Such new loans could arise from lenders' lowering the bar for loan acceptance or expediting already-awarded mandates. Second, syndicated lending is linked to the bank's high-level management given the large size of a syndicated loan deal, and is likely influenced by executive incentives that affect corporate financial reporting objectives. Therefore, syndicated lending creates the potential to boost earnings to meet market expectations and support managerial compensation.

Just-beating earnings benchmarks is a common, ex-post proxy for the intensity of corporate short-term incentives and earnings management (e.g., Burgstahler and Dichev 1997; Degeorge et al. 1999; Roychowdhury 2006). In keeping with this view, I classify *income-constrained* lender-quarters as those with reported earnings narrowly exceeding benchmarks. I acknowledge, however, that income-constrained lender-quarters could be different from other lender-quarters in ways other than just-beating benchmarks. I address this empirical challenge by analyzing lending behavior within the quarter. Because managers' assessment of firm performance relative to benchmarks becomes clearer as the quarter progresses, I assume that they alter their operations to beat performance targets, especially toward the end of the fiscal quarter. Accordingly, I identify *suspect* loans originated in the third (and final) month of income-constrained lender-quarters (similar to Roychowdhury 2006). To account for unobservable lender heterogeneity, I compare suspect loans with loans initiated in the first two months of income-constrained quarters, as well as with loans initiated in non-income-constrained quarters. This quasi-difference-in-differences approach mitigates cross-sectional selection concerns, given that differences between income-constrained and non-income-constrained lenders other than benchmark-beating objectives should be observed in all three months in the quarter.

Using a sample of over 105,000 syndicated loans originated by North American public lenders from 1993 to 2017, I find that income-constrained lenders initiate more loans in the third month of a fiscal quarter than in the first two months. Although I observe the same temporal pattern for other lenders as well (i.e., there is a significant third-month effect in the overall loan origination), the incremental loan issuance in the third month is significantly higher for income-constrained lenders. There may be various reasons for the third-month effect (e.g., borrowers' preferences); however, the fact that this pattern is more pronounced for income-constrained banks suggests that incremental factors relating to lenders' financial reporting goals play a role.

Quantitatively, for every 50 monthly loans issued in the first two months of the fiscal quarter, income-constrained lenders (other lenders) originate 76 loans (61 loans) in the third month of the fiscal quarter. These figures are economically meaningful, as I estimate that the pre-tax earnings per share impact of the average loan is about 0.2 cents for the sample banks.

Furthermore, I find that banks' loan syndication activity declines after income-constrained quarters, which is consistent with a reversal in lending. For every 100 loans originated in the third month of the current quarter, income-constrained lenders (other lenders) initiate 66 loans (82 loans) per month over the first two months of the subsequent quarter. Using novel data, I also explore the syndication process. I find that relative to other loans, suspect loans are packaged 8% more quickly and are 24% more likely to be associated with price decreases during the syndication process. These inferences suggest that some suspect loans could result from the expedition of already-awarded mandates.

Relying on tests at the individual contract level, I next examine the pricing of suspect deals. I find that suspect loans might generate lower long-term income for lenders. Compared to other loans, suspect loans are associated with 3.3% lower spreads, but have 4.2% higher one-time fees, after I account for a variety of borrower, lender, loan, and time effects. I estimate that the combined effect of higher fees and lower spreads is a net discount of 2.5% per annum.

To better understand the driver of these main effects, I also examine the cross-bank variation in banks' incentives and ability to engage in REM. I find stronger results for banks that subsequently issue equity and for managers whose compensation is more closely linked to the bank's share price. As for ability, the results become weaker for smaller lenders with limited resources to manage the syndication process and loan terms, and for income-constrained banks that just surpass analyst forecasts in the prior quarter, in keeping with a temporal decline/reversal in REM behavior. Overall, these inferences suggest that income-constrained lenders—especially

when they have the incentive and ability to do so—prefer short-term income over longer-term income, even though this choice results in a net discount.

I also run a cross-bank analysis that helps speak to the real costs of REM. I find that suspect loan origination and pricing are more pronounced for lenders with relatively little capital and liquidity. This inference indicates that the credit allocated to the making of suspect loans may result in a decline in the funds available to other borrowers, which implies that suspect lending may entail an efficiency loss.

Alternative lender-side effects are unlikely to explain the pricing patterns I document because these factors typically vary across lenders or lender-quarters, but not within the lender-quarter. My main findings are based on a within-lender-quarter analysis with lead-bank fixed effects. For this reason, for confounding non-REM factors to drive my results, these factors should systematically vary not only with income-constrained quarters, but also with the incremental changes in lenders' behavior in the third month of each quarter.[1] As for the borrower-side confounds, I study whether a form of endogenous matching between borrowers and lenders—not lenders' REM efforts—explains my findings. From a theoretical standpoint, borrowers do not observe the extent to which the lender may be income-constrained before the end of the quarter. Also, it is unclear why such borrower effects may systematically influence income-constrained banks' lending behavior only in the third month of the fiscal quarter. From an empirical standpoint, my models employ controls to account for time-varying borrower and lender effects (as well as lender times borrower fixed effects in robustness analyses). Moreover, additional tests reveal that my inferences hold for public and private borrowers, as well as for new loans and renegotiations. These results suggest that borrowers' financial reporting goals or

[1] I also examine empirically whether income-constrained lead banks respond to incentives other than short-term capital market expectations. I find that loan spread discounts and fee increases are present in all quarters, not just in the fourth fiscal quarter, which potentially drives loan officers' compensation. I also find no results for sole-lender corporate loans, whose fees are not recognizable at initiation. These suggest that omitted time-varying factors related to lending and the likelihood of being income-constrained do not explain my findings.

renegotiation objectives—while not necessarily irrelevant—are not driving the main findings; thus, lender opportunism appears to remain a contributing factor.

Next, I examine whether income-constrained banks' lax screening and monitoring could deteriorate the ex-post performance of suspect loans. I observe that these loans are 0.6 percentage points more likely to default than their non-suspect counterparts. I also examine credit rating downgrades and find evidence that suspect-loan borrowers are 1.4 percentage points more likely than other borrowers to experience subsequent rating downgrades. Given the sample averages of defaults (0.016) and downgrades (0.049), these results are economically meaningful. Overall, these findings suggest that REM via syndicated lending is costly for lenders.

A critical player in this setting is non-lead lenders, which seem to bear the costs of spread discounts without enjoying the fee incomes from loan originations. I find that the average creditor that participates in suspect loans is relatively inexperienced in the syndicated loan market. The evidence also suggests that syndicate members become more active in the loan market after they join suspect deals and that they are more likely to collaborate with the lead lender subsequently. This finding is in line with the institutional dynamics pointed out by Miller (2006) and Benmelech et al. (2012); namely, syndicate participants value subsequent business and access to the deal flow more than the pro-rata spread from a loan. A participant could accept the spread discounts because they provide reputational benefits and future business opportunities.

Lastly, I adopt an entity-level approach and investigate whether the REM in question takes place concurrently with other ways to boost earnings. Firms achieve financial reporting goals using a portfolio of earnings management tools and rely on a variety of methods (Zang 2012), most likely due to the convex costs of pursuing a specific method of earnings management. In keeping with this narrative, I find that income-constrained lender-quarters are associated with lower provisions for loan losses and higher gain realizations from the selling of

available-for-sale and held-to-maturity securities (Beatty et al. 2002). The bank-level design also helps present a more comprehensive picture of the economic significance and consequences of REM. Complementing my earlier inferences regarding loan pricing, this analysis suggests that income-constrained banks generate 1.73 cent higher fees per share from loan origination. In addition to experiencing this contemporaneous boost, these lenders raise more equity in the following quarter. However, I also find evidence that REM is costly in the long term, as income-constrained lenders are associated with lower profitability and capital ratios three years out.

This study offers several contributions to the literature. I provide large-sample evidence of REM in a within-quarter setting. Despite REM's far-reaching economic implications and prevalence in the corporate world (Graham et al. 2005), data limitations and identification concerns have hindered large-sample investigations (DeFond 2010). In addition to mitigating selection concerns, the syndicated lending setting permits a model-free analysis of REM in contrast to prior work on earnings management that relies on imperfect models. The insights I convey are based on an operation at the individual contract level, rather than aggregated figures from financial statements. In this sense, this paper complements and extends the REM literature.

One particularly relevant paper is Dechow and Shakespeare (2009), which documents a quarter-end peak in securitization activities and proposes securitizers' window-dressing as an explanation. The current study adds to Dechow and Shakespeare's (2009) findings by presenting contract-level evidence that the opportunistic timing of transactions occurs in syndicated lending as well. I further extend Dechow and Shakespeare (2009) by speaking to the costs of such REM activities, including the pricing and performance of individual loan deals.[2] Overall, the

[2] Several other papers in this domain are also relevant and deserve attention. Cohen et al. (2010) find that the earnings incentives of firms are associated with lower abnormal advertising expenses. The authors, however, find no within-quarter variation in suspect firms' advertising behavior. Chapman and Steenburgh (2011) study a specific firm's manipulation of marketing expenditures for a durable consumer product to boost earnings, while Ahearne et al. (2016) report cross-country survey evidence that sales executives engage in REM when there is earnings pressure. These studies build on the insights provided by Jackson and Wilcox (2000), who show that managers grant sales price reductions to customers in the fourth quarter to boost earnings, and those

transaction-specific setting I rely on exploits the details and pricing of individual contracts, hence the costs of REM, which are critical to understand but have proved elusive to prior work. I also provide insights on lenders' choice between short-term income (origination fees) and long-term income (credit spreads), their incentives contributing to these decisions, their concurrent earnings management activities, and the ensuing performance of borrowers.

This study contributes to the work on banking as well. Banks are special, and their REM through syndicated loan origination is a noteworthy example of how some public firms' financial reporting objectives could affect other firms. Researchers have demonstrated the economic importance of bank disclosures (Ertan et al. 2017; Balakrishnan and Ertan 2018; Granja 2018) and bank accruals (Beatty and Liao 2011; Bushman and Williams 2012; Beatty and Liao 2014; Ertan 2020). In this respect, the influence of lenders' short-term incentives on the design and timing of loan contracts is a significant, yet hitherto unexplored, real outcome of banks' financial reporting (Acharya and Ryan 2016). Although my paper cannot directly speak to the welfare consequences of this behavior, the poor performance and pricing of suspect loans indicate costs on lenders. While we know that altering economic activities to achieve short-term reporting objectives could inflict long-term costs (e.g., Kedia and Philippon 2009), one innovation in this paper is that it could shed light on how such choices affect banks' activities, especially corporate lending.[3] This issue is important to understand because banks' incentives could trigger and/or worsen financial crises and economic downturns (Jorda et al. 2013; Beatty and Liao 2014).[4]

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offered by Oyer (1998), who reports that firms increase sales and cut prices in the last quarter of the fiscal year relative to other fiscal quarters.

[3] What we know about the REM behavior of non-financial firms need not carry over to banks. Banks are highly levered and subject to asset-liability mismatch. They are regulated and face higher scrutiny, yet a majority of bank liabilities (deposits) are insured. Banks may also be affected by state guarantees and bailouts.

[4] The insights this study provides are also relevant to the work studying the lender side of loan contracting (e.g., Santos 2011; Murfin 2012; Martin and Roychowdhury 2015) and agency issues among lenders (e.g., Sufi 2007; Gopalan et al. 2011).

2. Background and Predictions

2.1. Syndicated Loans and the Lending Process

Syndicated loans are the largest subset of bank financing to firms, and occur when multiple creditors provide funding to a borrower based on a single contract. The origination process of syndicated loans is complex and highly customized, unlike homogeneous arms-length transactions like mortgages and consumer loans (Mugasha 1997). The mechanics of syndicated credit depend on several factors at the time of origination. In general, the prospective borrower approaches a bank, and after successful negotiations of general terms, it awards the bank with the mandate, which marks the beginning of the syndication process. With the mandate, the lead bank begins to promote the loan and seek commitments from potential participants. This is usually achieved by the term sheet, which describes the loan terms and the borrower. Later, the lead bank provides interested parties with the information memorandum, which contains detailed projections and other material non-public information about the firm and credit agreement. This phase is followed by administrative steps, finalization of the pricing terms, and deal signing.

Once a deal is signed, the lead bank earns a significant fee for syndicating the loan and performing other work. This income is an attractive aspect of syndicated lending from the viewpoint of lenders; the other benefits include diversifying lending risks, complying with regulatory capital limits, cross-selling, and developing future relationships. Although syndicated lending is only one of the many business aspects of banks, this operation is closely linked to top management (e.g., lead-bank executives often chair large syndicated lending committees). Further, syndicated lending revenue may significantly contribute to a bank's bottom line. For example, Weidner (2000) remarks that syndicated lending represents more underwriting revenue for banks than public debt and equity underwriting combined.

In most cases, banks that arrange and administer syndicated loans are publicly traded companies. Considering the salience of performance thresholds for public companies (Graham et al. 2005), one could expect that banks turn this dial to gain immediate capital-market benefits from managing earnings upward (Beatty et al. 2002). Hence, the question is whether, and how much, lenders exploit syndicated loan underwriting to achieve their financial reporting goals.

2.2. Loan Origination Fees and Reported Income: Accounting Treatment

Loan origination fees are significant, and corporate objectives are factored into large-scale lending transactions. Yet, another necessary condition for REM through syndicated lending is the impact of syndication fees on contemporaneous earnings. The pertinent accounting standard, FAS 91, states that origination fees are integral parts of a typical loan; therefore, even though these fees are fully received at initiation, their recognition should be deferred and amortized over the life of the loan just as with annual fees and the yield (Par. 5 and Q&A par. 22 and 35–44). (This requirement applies to single-lender loans that remain on the balance sheet.)

In the specific case of syndicated loans, however, closing a credit deal does impact the lead lender's bottom line, as per the revenue recognition criterion for syndicated loans—the effective interest rate method. FAS 91 governs this issue and ensures that the amortized portion of the arranger's proceeds from the loan matches the amount deferred by the participants (Par. 11). Lead banks syndicate out a substantial portion of the loan yet retain the fees paid up front. They recognize the excess amount of initial fees as income, provided that the yield on the portion of the loan retained is not less than the average yield on the loan (Sangiuolo and Seidman 2009).[5] One other relevant factor to better understand the eventual income effect of loan origination is

[5] Suppose there is a deal that is funded a lead bank and four participants (20% each). Suppose also that the lead bank receives a total fee of 100 bps, while the members receive 30 bps each. The lead recognizes 70 bps of the fees immediately as income and defers recognition of 30 bps to match the average yield held by participants.

the accounting treatment of pertinent costs. FAS 91, however, suggests that such costs do not dramatically affect the net fee revenue.[6]

2.3. Overview of Research Design and Empirical Predictions

To empirically examine REM in the syndicated loan market, one needs to determine the treatment and control groups of lender-quarters. The first phase of my identification approach relies on the standard benchmark-beating classification (Burgstahler and Dichev 1997; Roychowdhury 2006). According to this method, bank-quarters that narrowly beat earnings targets are more likely to have engaged in income-increasing earnings management. Thus, I define *income-constrained* lender-quarters as banks whose reported EPS beat the consensus analyst forecasts by up to three cents.

Relying on the plausible assumption that the alteration of real activities increases as the quarter progresses (Dechow and Shakespeare 2009; Zang 2012), the second, and more novel, phase includes a within-lender-quarter classification. Specifically, the treatment group includes loans issued in the third month of income-constrained lender-quarters, namely *suspect loans*. I use the first two months of income-constrained lender-quarters and each of the three months of non-income-constrained lender-quarters as separate control groups. This simple adjustment allows me to mitigate confounding factors at the lender-quarter level, because months one and two are associated with the same lender-quarter as is month three. By comparing the activities of income-constrained lenders to those of other lenders, I also control for within-quarter trends in loan origination that are unrelated to lenders' benchmark beating.

[6] First, there are loan origination costs, such as the expenditures related to evaluating the prospective borrower's condition, initial credit analysis, and appraisals. Just like the effective yield, these costs should be deferred. Although a portion of these costs apply pro-rata to the current quarter, so does the deferred yield, which offsets the impact of the costs (Par. 6 and Q&A Par. 20). Second, costs relating to soliciting borrowers, unsuccessful loan origination efforts, and administrative activities should be expensed. However, these costs should be expensed immediately, irrespective of loan origination (Para. 7 and Q&A para. 13–15 and 39).

A direct way of exploiting syndicated lending to book additional income is to boost loan initiations. To figure out whether such an origination effect exists, I compare the number of loans issued in the last month of the current quarter to the number of loans issued in the first two months of the current quarter, which allows for a within-quarter comparison. A higher ratio signifies a larger concentration of issuance in the third month, holding quarterly issuance fixed. Nonetheless, I note that a jump in the third month relative to the first two months is not sufficient evidence of strategic manipulation of loan originations. A systematic within-quarter variation in the entire banking industry (e.g., due to a demand effect or intertemporal price discrimination in the spirit of Murfin and Petersen 2016) may well be responsible for fluctuations that result in a third-month jump for all banks. To avoid this weak null, I study the difference between these (contemporaneous) issuance ratios of income-constrained and non-income-constrained lender-quarters. This quasi-difference-in-differences characterization leads to the following prediction:

Prediction 1a. Compared to the share of lending by non-income-constrained lenders, a larger share of lending by income-constrained lenders occurs in the third month of the current quarter.

I supplement this prediction by analyzing the loan origination trends in the next quarter. This procedure helps to better understand the drivers of the contemporaneous origination effect discussed above. There could be two mutually compatible ways of initiating suspect loans: drawing contracts from scratch (i.e., finding borrowers that would not borrow from the lead bank otherwise) or accelerating the ongoing syndication process (i.e., moving the funding date of existing mandates before the quarter-end). If some suspect loans are expedited deals that would otherwise take place in the following quarter or if creating new loans puts pressure on the lender's available funds, then the issuance activity of income-constrained lenders could decline in the subsequent quarter. I explore this issue by employing a second, forward-looking metric to compare the number of loans issued in the last month of the current quarter to those launched in

the next quarter. (This allows an across-quarter comparison.) A higher ratio is consistent with lenders completing a disproportionately greater number of deals in the current quarter (than in the next quarter).[7] This rationale leads to the following prediction:

Prediction 1b. Compared to non-income-constrained lenders, income-constrained lenders conduct less lending in the first two months of the next quarter.

Loan origination speaks to the extensive margin, namely, whether suspect lenders originate comparatively more loans than non-suspect lenders. By examining the pricing of suspect loans, one can determine whether suspect loans are associated with higher front-end income and lower long-term income. Thus, examining the pricing of suspect loans can also reveal the costs and benefits of earnings management. Whether firms engage in REM is hardly debatable, but shedding light on the cost-benefit tradeoff of this behavior and the management's consideration of different horizons is one of the key contributions of this paper.

From the lender's perspective, each loan initiation constitutes short-term and long-term wealth inflows in the form of various fees and the yield spread. If lenders manage syndicated lending, there could be a systematic variation in spreads and fees. Specifically, to maximize revenue from loan origination while managing their loan supply, banks could choose to charge higher fees, which they recognize as income in the quarter of origination. The incentive to exploit origination fees, however, would distort the balance between short-term and long-term outflows for the borrower, and thus should be compensated with spread discounts. These spread reductions could result in a net price discount due to the borrower's increasing bargaining power or the need to compensate the borrower for the extra leverage it reports on its financial

[7] To further speak to this issue, I also study the timetable and pricing adjustments of the syndication process.

statements in the current period.[8] Accordingly, to assess the costs associated with originating suspect loans, I test Predictions 2a and 2b on a large sample of individual loan contracts.

Prediction 2a. Suspect loans are associated with low credit spreads relative to other loans.

Prediction 2b. Suspect loans are associated with high syndication fees relative to other loans.

One important task here is to distinguish between borrower selection (for example, borrowers' actively targeting of income-constrained banks) and lenders' incentives. The within-quarter variation I describe above mitigates such inherent concerns by holding the lender fixed in the quarter. Importantly, the key institutional feature that negates the possibility that borrowers might take advantage of suspect loans is that borrowers cannot observe the lenders' reporting preferences or REM pressure in a timely manner. Still, I employ exhaustive fixed effects on lenders and borrowers to mitigate the confounding effects of borrower-lender matching.[9]

In addition to analyzing pricing, I evaluate the performance of suspect loans, in particular, subsequent credit defaults and rating downgrades. These tests help speak to the real costs associated with suspect loans. Because borrowers' credit deterioration is undesirable for lenders, evidence on such costs might imply that income-constrained lenders are lax at monitoring, screening, and/or choosing unobservably riskier borrowers.[10]

Earnings management decisions are not made in isolation, and I acknowledge that REM through syndicated lending is an open empirical question—it is neither necessary nor sufficient for beating performance benchmarks. To further explore this issue, I adopt an entity-level view,

[8] Note that the bargaining power explanation applies to competitive bidding (i.e., new loans), as well as expedited deals, whereas early reporting of leverage is a scenario that applies mainly to accelerated deals.

[9] I also analyze various subsamples of borrowers and lenders to validate this argument. For example, I study sole-lender deals, loans issued by private firms, and new credit agreements (i.e., non-renegotiations). If borrowers are the main drivers of the origination and pricing of suspect loans, as borrowers take advantage of the lenders' manipulation objectives, they should do so for sole-lender deals as well. Likewise, if borrowers' financial reporting goals are the omitted effect in this setting, I should observe no result for private borrowers.

[10] The latter case is within the scope of my arguments, as it suggests that the lead lender actively targets certain borrowers to manage earnings. However, this explanation is inconsistent with my finding of conditionally lower, not higher, spreads for suspect loans. After all, unobservably risky borrowers should pay higher spreads.

and test whether these lead arrangers concurrently engage in other means of achieving earnings targets. In particular, I examine loan loss provisions and gains from security sales, following research that reports an association between the management of these accounts and banks' benchmark beating (e.g., Beatty et al. 2002). Importantly, these specifications also allow me to investigate the benefits and costs of REM from an entity-level perspective—e.g., lenders' subsequent equity issuance, as well as their long-term profitability and capital adequacy ratios.

Although the above investigations speak to various contractual and operational aspects of REM through syndicated lending, they remain silent about syndicate dynamics, an important friction in this setting. I explore this dimension by analyzing non-lead lenders. If the evidence supports my predictions above, participant lenders bear the costs of suspect loans (since the income of these lenders is limited to spreads). In this case, the average participant is either exploited by the lead lender or willingly accepts some discount, to the extent that the participant does not evaluate the contract in isolation but does assign value to potential future benefits. Prior work does not seem to support the former explanation due to lead arrangers' reputation concerns (e.g., Panyagometh and Roberts 2010). Yet, this non-rational/frictional argument is consistent with the declining trend in small-bank participation in the syndicated loan market (Rhodes 2009). As for the second explanation, relationship formation is crucial for cross-selling (e.g., letters of credit, swaps) and for taking part in lucrative deals (Taylor and Sansone 2007).

I analyze these institutional features by examining the syndicate structure, primarily lenders' past and future activities in the credit market. I anticipate that inexperienced creditors may be more likely to participate in suspect deals, whether through exploitation or because they are trying to enter the syndicated loan market. However, I note that this prediction does not require each suspect-loan participant to be an inexperienced bank. There is scope for 'regular' lenders to join suspect transactions to engage in a quid pro quo with the lead lender (Cai 2010)

and/or to ensure the viability of their future business, such as cross-selling, with the borrower (e.g., Rhodes 2009). To explore these explanations, I examine the future activities of syndicate participants. If syndicate members, inexperienced or not, later become more active in the loan market and collaborate more with the lead lender, this pattern would be in line with a relatively rational/intentional choice. The testable predictions are as follows.

Prediction 3a. Suspect loan syndicates are more associated with relatively inexperienced banks.

Prediction 3b. Participants of suspect loans later become more active in the syndicated loan market and become more likely to collaborate with the lead bank.

3. Data

I obtain data on private loan contracts from the following three Thomson Reuters databases: Eikon, LoanConnector, and DealScan. Eikon offers a combination of analytics and information on various asset classes, including the fixed income market. LoanConnector is a platform for the primary and secondary global loan markets and includes a practitioner-friendly variant of DealScan.[11] Henceforth, I refer to LoanConnector DealScan as "LoanConnector" and WRDS (Wharton Research Database Services) DealScan as "DealScan."

I focus on deals arranged by North American lenders between 1993 and 2017 and identify the pricing and non-pricing clauses of each tranche. (Variable definitions are in the Appendix.) To accurately capture the variation within and across credit packages, and because loan pricing and other key variables (e.g., amount, maturity) are defined at the individual tranche level, I perform my analysis at this unit of observation. I code indicator variables to determine

[11] Compared to the version of DealScan offered by WRDS, LoanConnector includes more information regarding deal remarks, sales figures for most private borrowers, and covenant comments. Two of these additional fields play a direct role in my empirical tests. Specifically, I study the price flex movements during the loan syndication process, and the pertinent variable, *Flex down*, comes from LoanConnector (Table 4). Another useful LoanConnector field is *New Money* (i.e., the amount of new funds the borrower obtains other than renegotiation/refinancing). I use this metric in a robustness test (column 2 in Table 8, Panels A1 and A2).

the purpose, type, and collateral status of each loan. Financial covenants and performance pricing clauses are defined at the package level and used as-is. As for deal-level syndication fee revenue, I employ *Fees*, which I hand-collect from Eikon. This variable represents the deal-level proceeds from the borrower to the lead lender at origination, net of deferred fees under FAS 91.[12] The information on the length of the syndication process (*Duration*) comes from DealScan and LoanConnector, while the data on price adjustments during the syndication process (*Flex down*) is hand-collected from LoanConnector's deal comments.

I focus on lead banks by relying on DealScan's and LoanConnector's definitions of the lead arranger (e.g., Sufi 2007; Gopalan et al. 2011). To assess the characteristics of lead banks, I construct a historical link table that shows the connections between DealScan lenders and their appearance in conventional databases.[13] I combine subsidiaries, banking segments, and regional offices under a single bank name.[14] To account for mergers and acquisitions, I use the information provided by the Federal Reserve System, National Information Center, Thomson Reuters SDC, and Standard & Poor's Capital IQ. In addition to help identify lead lenders, these sources contain information on deal participants, which I use to examine the syndicate dynamics.

Just-beating earnings benchmarks is typically viewed as an outcome of firms' responding to short-term performance targets (e.g., Burgstahler and Dichev 1997). The underlying assumption is that among the bins comprising the earnings surprise distribution, the bin to the right of zero includes more firms that have followed income-increasing actions than other bins. Consistent with Cheong and Thomas (2011, 2016), who document a lack of variation in earnings surprises with scale, as well as a right shift of the median earnings surprise (to the one-cent and

[12] Eikon keeps the detailed collection and construction procedure of this variable proprietary, and my requests for information on the exact computation of this field were denied. However, Thomson Reuters states that Eikon fees capture the fee revenues that the lead recognizes at the quarter of origination, net of the deferred amount, which is the figure that I intend to measure.

[13] This is the lender equivalent of the borrower link table provided by Chava and Roberts (2008).

[14] For example, Bank of America Illinois, Bank of America National Association, Bank of America Securities, and Bank of America are merged into Bank of America.

two-cent bins), I define *income-constrained* lender-quarters as those that beat (by up to three cents) the average analyst forecast consensus, and *suspect loans* as loans arranged in the last month of income-constrained lender-quarters. The assumption relating to the benchmark beating of publicly traded banks seems justified, given the discontinuity around zero (Figures 1a and 1b) and given the positive stock reaction beginning from beating the benchmarks by one cent (Figure 2). I rely on analyst forecasts to assess the subset of lender-quarters most likely to be associated with earnings management. Furthermore, compared to a time-series definition of earnings surprises, analyst forecasts are less biased by macroeconomic trends or mergers and acquisitions, a common phenomenon in the financial sector.

The main sample consists of 105,619 contracts originated in 3,361 lender-quarters by 151 unique banks. The median spread is 210 bps (i.e., the median value of log(*Spread*) is 5.35, and $e^{5.35}$ equals 210), while the median loan amount is more than $150 million and maturity is almost five years. About one-fifth of the sample loans are initiated by income-constrained banks, and about two-fifths of the loans are originated in the third fiscal months (of the lender).

4. Results

4.1. Loan Issuance and Basic Syndication Properties

Do lenders arrange more deals to generate additional revenue to achieve earnings targets? In this subsection, I address this question and test Predictions 1a and 1b by relying on the intertemporal variation in the loan origination behavior of income-constrained and non-income-constrained lenders. Figure 3 depicts this within- and across-lender-quarter variation in loan originations. The figure shows strong evidence of a third-month effect irrespective of lender type: for both groups of lenders, month three (and month six, for that matter) represents much more than one-sixth of total issuance (p-value < 0.01).

Figure 3 also shows that the third-month effect is economically and statistically greater for income-constrained lender-quarters, which provides support for Prediction 1a. For income-constrained lenders (other lenders), for every 100 loans financed in the first two months of the quarter, there are 76 (61) loan originations in the third month of the quarter (p-value < 0.05).[15] These results are consistent with Prediction 1a; lead banks' benchmark beating is associated with an increase in their contemporaneous loan issuance. Regarding the economic impact of an additional loan, according to the fees data from Eikon, lead lenders receive an average earnings boost of about $2.3 million when they complete a loan deal. Using the shares outstanding in the sample of banks with available information on fees, I estimate the pre-tax EPS impact of an additional loan origination as about 0.2 of a cent.

Figure 3 also shows the subsequent issuance activity of income-constrained lenders. These lenders experience a sharper decline in the following fiscal quarter than do other lenders. This gap is statistically significant (p-value < 0.05) and economically meaningful. For example, for every 100 loans originated in the third month of the current quarter, income-constrained lenders (other lenders) initiate 66 loans (82 loans) over each of the first two months of the next fiscal quarter. In keeping with Prediction 1b, this subsequent drop in loan origination suggests that income-constrained lead banks shift (at least some of) their lending activities. This finding is important also because it provides multi-period evidence consistent with a reversal.

4.2. Borrowing Costs

[15] The values are calculated as follows: 0.76 = 22 / (14 + 15). In Figure 3, 14, 15, and 22 show the densities of the current fiscal quarter of income-constrained lenders. In untabulated tests, I also evaluate the within-month evolution of loan origination. Relative to the difference three weeks prior to the end of the fiscal quarter, income-constrained lenders issue 12% more loans (20% more loans) in the second-to-last week of the quarter (in the very last week of the quarter) than other lenders. Lastly, in further untabulated tests, I find evidence of a seasonality in loan issuance and costs as well, in line with Murfin and Petersen (2016). This inference highlights the importance of comparing income-constrained banks to other banks at a given point in time.

Are suspect loans priced differently than other loans made by the same lender and by other lenders, conditional on other determinants of loan pricing? Do income-constrained lenders pursue immediate income over long-term value? To answer these questions, I examine the fees and spreads of individual loan contracts using the following loan-level estimation framework:

$$\begin{aligned} \textit{Loan pricing} \quad &= \beta_0 + \beta_1 \times \textit{IC lender} + \beta_2 \times \textit{Third fiscal month} \\ &\quad + \beta_3 \times \textit{IC lender} \times \textit{Third fiscal month} + \boldsymbol{\Theta} \times \text{Controls} + \varepsilon. \end{aligned} \tag{1}$$

Loan pricing is the loan spread or fees. The first two terms on the right-hand side of Equation (1) are indicators for income-constrained lenders (*IC lender*) and third fiscal months (*Third fiscal month*). These terms capture the average pricing of loans made by income-constrained banks and that of loans originated in the third fiscal month of the bank-quarter, respectively. The variable of interest is the interaction variable, *IC lender* × *Third fiscal month*, signifying the loans arranged by income-constrained lenders in the final month of the fiscal quarter (i.e., suspect loans). The tabulated portion of the controls vector consists of the amount, maturity, collateral status, number of covenants, number of performance pricing terms, number of tranches, and an indicator variable for publicly traded firms.[16] Additional variables for loan type and purpose are also included in the model but suppressed for brevity. Overall, these regressors control for the factors that drive *Loan Pricing* and the propensity of an observed credit agreement to be a suspect loan. For example, if income-constrained lenders are simply issuing systematically different but fairly and efficiently priced loans in the final month of the fiscal quarter, these differences will be picked up by the controls, driving β_3 to zero.

[16] The simultaneous determination of pricing and non-pricing terms could be a confounding factor. The alleviating fact in this estimation framework (which uses the spread on the left-hand side) is that, in a typical syndication process, non-pricing terms are determined *before* the level of the spread is finalized. However, it is still important to explore the non-pricing terms. Thus, I explore the number of covenants and covenant strictness as dependent variables but find no significant results relating to suspect loans (Section 4.7.3).

As for the other controls, of which coefficients are suppressed for brevity, lender fixed effects account for time-invariant lender effects, and additional lender characteristics (leverage, size, and profitability) control for the effects of lenders' time-varying financial performance on their lending (Hubbard et al. 2002). These variables take into account lender characteristics and priorities (other than their REM objectives) that might induce lenders to make suspect loans. Year-quarter fixed effects mitigate the concern that income-constrained quarters are more likely to be observed during certain periods that might influence the within-quarter variation in loan pricing. In the main analyses, I account for borrower attributes using borrower-industry × year-quarter fixed effects. These controls hold constant time-varying sectoral developments and better isolate the influence of the lender's reporting preferences on loan pricing. In the remaining loan-level tests, I focus on the model used in column (3), which is the specification with the most restrictive fixed effects vector.

4.2.1. Evidence on spread discounts

Panel A of Table 2 presents the results from loan-level regressions in which the dependent variable is log(*Spread*). In the first specification with only time and loan controls (column 1), the variable of interest, *IC lender* × *Third fiscal month*, has a coefficient of -0.040, translating into a relative discount of 3.92 percentage points (= $e^{-0.04} - 1$). Across columns (2) and (3), these estimates become -0.033 and -0.032 after I include respective controls for lenders and indicators for the borrower's industry-quarter. Overall, I interpret these findings as evidence of loan pricing discounts offered by income-constrained lead arrangers.

The coefficients on the control variables are largely consistent with prior work. Smaller and long-maturity loans have a higher credit spread (Ivashina 2009). Credit spreads are positively associated with the number of loan covenants and collateral requirements (Berger and Udell 2004). The negative link between the number of performance pricing terms and the spread

is consistent with Asquith et al. (2005); performance pricing clauses are more likely to be included in the contracts of borrowers that receive lower credit spreads.

4.2.2. Long-term versus short-term income

My findings regarding Predictions 1a and 1b imply that income-constrained lenders make more loans (extensive margin). Another important question here is whether these banks charge higher fees for a given loan (intensive margin). Accordingly, I next examine syndication fees to find out whether the spread discounts are accompanied or offset by loan fees. It is sensible to expect the former (i.e., complementarity), as loan pricing terms likely move together. However, on the margin, a preference for short-term income could also result in the latter (i.e., substitution), conditional on other loan characteristics.

Panel B of Table 2 presents the results from fixed-effects regressions of Equation (1), estimated for credit spread, fees, and the total cost of borrowing, which represents the annualized loan costs that incorporate both spreads and fees. Note that the sample size goes down in these tests, since the fee data is available for a subset of deals. Suspect loans have a smaller spread (coeff. = -0.033 in column 1) but larger fees (coeff. = 0.042 in column 2), conditional on observables. Further, the net price effect is negative (Table 2, column 3): suspect loans are about 2.5% cheaper. Overall, these findings confirm that lenders' REM affects loan pricing. Lead arrangers in these cases seem to proffer borrowers lower credit spreads (Prediction 2a) and higher fees (Prediction 2b). Moreover, in net terms, suspect loans are associated with a discount.

4.2.3. Cross-sectional analyses and the underlying channels

To complement these inferences and provide insights into the mechanisms at work, I explore the cross-section of income-constrained lenders. Prior work argues that firms engage in income-increasing earnings management and are more likely to beat benchmarks, especially

when they have the incentives to do so (Healy and Wahlen 1999). I capture this notion by exploring firm-level and managerial incentives. My proxy for firm-level incentives is the bank's equity issuance in the next quarter (e.g., Cohen and Zarowin 2010; Kothari et al. 2016). Accordingly, I partition the income-constrained lenders into *IC lender (high firm incentives)* and *IC lender (low firm incentives)* based on the median level of the next quarter's equity issuance. To examine managerial incentives, I perform a similar median split to divide income-constrained lenders into *IC lender (high managerial incentives)* and *IC lender (low managerial incentives)*. This partitioning is based on the value of stock and options divided by the value of total compensation, obtained from Compustat ExecuComp (e.g., Bergstresser and Philippon 2006).

Panel A of Table 3 presents the results of the analysis of incentives. As shown in columns (1) and (3), among the benchmark-beating banks, those with corporate and managerial incentives provide larger spread discounts. Likewise, income-constrained lenders, which have a greater incentive to keep the share price high, charge higher loan origination fees (columns 2 and 4). In fact, income-constrained lenders without the incentive to engage in REM seem to price their loans not much differently than do other lenders—i.e., the coefficient on *IC lender (low firm incentives)* × *Third fiscal month* and *IC lender (low managerial incentives)* × *Third fiscal month* are statistically zero in most cases.

Next, I explore whether the main effects are any different for banks that consecutively just-beat earnings benchmarks. Although such banks could be better at engaging in REM, it is also possible that earnings management has limits and needs to reverse (in the spirit of Barton and Simko 2002). To analyze this statement, I partition the *IC lender* group as *IC lender* (*repeat*), which denotes lenders that just-beat the analyst forecast in the previous quarter as well as the current quarter, and *IC lender* (*no repeat*), which denotes banks that just-beat the analyst forecast in the current quarter but not in the previous quarter. Columns (1) and (2) of Table 3,

Panel B present the relevant results. In keeping with a specific form of earnings management not being sustainable at a high level in multiple periods, I find that the main effects are driven primarily by the *IC lender* (*no repeat*) group. This inference is interesting because, along with the subsequent equity issuance evidence above and the loan-performance test results below (Section 4.4), it speaks to the multi-period na ture of REM. To further explore the ability issue, I investigate how my findings vary with bank size. The estimates in columns (3) and (4) of Table 3, Panel B suggest larger effects for big banks, which is in line with the idea that banks with more resources and infrastructure are more capable of managing loan syndications.

I extend the above inferences through analysis of funding constraints. This dimension helps to provide insights into the efficiency effects of suspect lending. Specifically, if income-constrained lenders are funding-constrained, the credit allocated to the making of suspect loans could imply a decline in the funds available to other borrowers, having wider ramifications for the allocation of limited capital across firms in the economy. To evaluate this proposition, I estimate the baseline tests separately for capital-constrained and liquidity-constrained banks. I find that the results are more pronounced among income-constrained lead banks that suffer from funding constraints (Table 3, Panel C). This result implies that suspect lending may be resulting in an efficiency loss.

4.3. Dynamics of Suspect Loan Syndicates

Next, I examine the syndication process by exploring two new measures: the length of the syndication process and the probability of a downward price flex—the lead lender's loan pricing reduction during the syndication process. Table 4 reports the regression results, in which the first dependent variable is *Duration*—the number of days between the date of the mandate

award and the funding date. The second variable, *Flex down*, is an indicator that switches on only if the deal comments refer to a reduction in spreads during the syndication process.[17]

Column (1) of Table 4 shows a negative and significant coefficient for suspect loans, conditional on various loan, lender, and time effects. The relevant estimate suggests that suspect loans are arranged about 3.8 days faster than they would have been otherwise. (The gap of 4.2 days between suspect and non-suspect contracts across the first two months of the fiscal quarter seems to be closed.) Representing about 8% of the sample's standard deviation (~48 days), this relatively rapid timetable is in line with the lead arranger's objectives (Ivashina and Sun 2011).

The sample that I examine in column (2) includes hand-collected comments about pricing dynamics during the syndication process. I find that suspect loans are 0.143 more likely than other loans to be associated with a downward adjustment in credit spreads, which translates to a marginal effect of about 24%, relative to the sample average likelihood of 0.597 for downward price flex. Overall, these results suggest that suspect loans are accelerated, in that lenders close these deals more quickly. This could be because lenders expedite already-awarded mandates or because lenders create new loans and package them faster.[18]

4.4. Performance of Suspect Loans

What is the cost of REM through syndicated lending? Are suspect loans associated with unfavorable credit events following issuance? To answer these questions, the analysis presented in this section explores the performance of suspect loans. I measure loan performance as the ex-post incidence of defaults and credit rating downgrades, as these events are important to lenders.

[17] LoanConnector includes detailed deal comments. To give a couple of short examples, one deal comment reads: "societe generale is leading the deal. pricing: lib+275 (flexed down from lib+300). libor floor = 1%. oid = 99.75 (from oid = 99.5)." For this deal, *Flex down* equals one. Another deal comment reads: "pricing: l+500 from the talk of l+250-500 bps. libor floor = 1.25%. oid = 99." For this deal, *Flex down* equals zero.

[18] Extensive data requirements render these estimation samples substantially smaller. I verify that my main findings on spread discounts and fee increases hold in these small samples (untabulated).

If suspect loans are made, priced, and monitored efficiently, conditional on observables, they should perform as other loans. I analyze a loan's performance using the baseline estimation model (Equation 1) with indicators as dependent variables. The sample size is smaller since I require nonmissing credit rating data and since the dependent variables are determined at the borrower-quarter level. The independent variable of interest, *IC lender* × *Third fiscal month*, and the dependent variables are indicators denoting subsequent defaults and rating downgrades.

The results presented in Table 5 suggest that suspect loan borrowers experience a default (credit rating downgrade) with an incremental probability of 0.6 percentage points (1.4 percentage points). For context, the sample average default probability is 1.6 percentage points, and the sample average downgrade probability is 4.9 percentage points.

Overall, this finding suggests that suspect loans are associated with additional, economically significant costs, which may be a sign of capital misallocation and increased deadweight losses (due to default). While the goal of this analysis is to ascertain *whether* suspect loans are costlier than other loans in terms of future performance, it is also critical to understand *why* these additional costs occur, as this could provide important insights into the mechanism. The relevant factors on the lender side are lax screening and inadequate monitoring, which are not mutually exclusive. The screening explanation is the rationale that lenders' due diligence gets weaker in periods of suspect loan origination. This rationale is consistent with income-constrained lenders making new loans that they would not have made otherwise. The monitoring story, on the other hand, predicates on the notion that since suspect loans present the lead bank a greater portion of the compensation up front, the originator is less incentivized to engage in

costly monitoring. I believe both channels could explain the results I document above; namely, income-constrained lenders may create some loans and shift some loans.[19]

These inferences are important for two reasons. First, they highlight an economic cost for lenders. Even if the lead lender can enjoy higher fees and thus limit the adverse consequence of lower credit spreads, the subsequent deterioration in credit quality is a problem for the entirety of the syndicate, including the lead lender. Second, these findings pertain to the subsequent periods for suspect deals, and, by extension, speak to the oft-overlooked multi-period facet of REM.

4.5. Syndicate Structure

Are suspect loans an outcome of efficient contracting by income-constrained lenders? Why do the parties bearing extra costs participate in these deals? The results thus far suggest an overall discount in loan pricing and possible future issues with suspect loans. In this sense, borrowers appear to obtain "bargains," while the cumulative effect for the lead arranger is unclear—benefits from higher fees and achieving financial reporting objectives could offset the costs of lower spreads and even mitigate the issues with the subsequent underperformance of suspect loans (Bartov et al. 2002; Graham et al. 2005; DeFond 2010). Syndicate participants, however, seem to bear only the costs, since they are not entitled to the higher fees.

There are two explanations for this observation. Participants in syndicates are exploited by lead arrangers, or they join suspect syndicates for other benefits (e.g., to build or maintain relationships). An important aspect of these viewpoints is that some participants are more willing than others to finance suspect loans. Foremost among such creditors are the relatively inexperienced banks trying to be a part of the lucrative syndicated loan market. The key point here is that even if such lenders might be interested in any deal, they are more likely to join

[19] Creating new deals may require income-constrained lenders to outbid competitors or negotiate more leniently with the borrower. These goals could induce income-constrained lenders to give a price discount, consistent with my findings.

syndicates in which other lenders show relatively little interest. Namely, the lead bank, which is responsible for choosing syndicate members (note that potential participants can show interest or submit a bid only if the lead contacts them), has more incentive to involve inexperienced lenders when making suspect loans. Certainly, some participant lenders, even if they are not inexperienced, may as well be interested in joining a suspect syndicate. These lenders value working with the lead lender (quid pro quo) or with the borrower (cross-selling, relationship building) (Rhodes 2009; Cai 2010).[20] Accordingly, I assess the behavior of syndicate participants by investigating their past and future activities. Since each participant is different, I estimate the following regression at the participant-loan level, following Sufi (2007):

$$\begin{aligned} \textit{Creditor Activity} \quad &= \beta_0 + \beta_1 \times \textit{IC lender} + \beta_2 \times \textit{Third fiscal month} \\ &\quad + \beta_3 \times \textit{IC lender} \times \textit{Third fiscal month} + \boldsymbol{\Theta} \times \textit{Controls} + \varepsilon. \quad (2) \end{aligned}$$

Columns (1) and (2) in Table 6 present the results from these tests. The estimates capture the difference in the past syndicated lending activities (*Experience*) of participants of suspect loans and those of other loans. The coefficient in column (1) indicate that the average syndicate member of suspect loans is less experienced than other lenders by about 3.2 percentage points.

Although the results on participants' past activities indicate lender experience, they are not sufficient to distinguish whether these creditors are exploited by lead lenders or participate in suspect loans in anticipation of future benefits. If an opportunistic lead lender takes advantage of the participants, the latter's participation in the loan market should decline on average. However,

[20] Rhodes (2009) explains that experienced banks, to protect or enhance their business relationships, would be willing to participate in deals even if the price is not attractive in isolation: "The rationale given by banks for joining transactions at pricing levels that do not, at the transaction level, offer an appropriate return for banks or bank shareholders, was to secure access to the borrower for the more lucrative fee-based business. Inevitably, the banks most able to accept the low pricing levels were the ones offering the widest range of products. They could effectively cross-subsidize their different product offerings to achieve an acceptable level of return from each of their business relationships."

the results in column (2) of Table 6 suggest otherwise—syndicate members in suspect loans become some 2.6 percentage points more active in the market after they fund these transactions.

In terms of the collaboration between participant lenders and lead banks, I find a positive but insignificant coefficient (*t*-statistic = 1.19) for the propensity of past collaborations (column 3). Importantly, the estimates in column (4) imply that suspect-loan participants not only become more active in the syndicated loan market as a whole, but also collaborate specifically with the income-constrained lead arranger to a greater extent (by 1.3 percentage points) in the future.[21]

Collectively, the results in Table 6 are consistent with the idea that suspect loans are skewed toward lenders that are relatively inexperienced. These entities could be taking part in suspect deals to obtain access to the syndicated loan flow (and, potentially, to take advantage of other business opportunities) or to develop a better relationship with the lead bank. They seem to achieve these objectives because the average participant in a suspect-loan becomes a more active creditor afterward. Although one cannot entirely rule out the exploitation argument, the results suggest that participants in suspect-loan syndicates rationally pay an entrance fee (for inexperienced lenders) or pay a relationship-maintenance/relationship-building fee (for experienced lenders), which they capitalize on later.

4.6. Other Activities of Income-Constrained Lenders

Why do lenders engage in REM through syndicated lending? Given the cost and complexity of this practice, do they also pursue other activities to achieve their financial reporting targets? What are REM's economic importance and long-term implications? In this subsection, I provide a broader picture of income-constrained lenders. In particular, I explore

[21] Although not within the scope of this study, another interesting result in columns (2) and (3) is the statistically significant positive coefficient on *Third fiscal month*, which implies that third-month participation is generally valuable. This observation is sensible given the overall peaks in loan issuance in third months. Lead banks, in general, could be rewarding participation more at certain times, such as quarter-ends.

alternative earnings management methods that banks could pursue, the potential costs and benefits of REM, and the subsequent benchmark-beating behavior.

To examine whether these banks concurrently engage in other income-increasing activities, I follow Beatty and Harris (1999) and Beatty et al. (2002). I focus on loan loss provisions and security gain realizations, and estimate the following regression:

$$Other\ activities = \beta_0 + \beta_1 \times IC\ lender + \boldsymbol{\Theta} \times Controls + \varepsilon. \quad (3)$$

In this lender-quarter-level model, the term *Other activities* denotes the level of loan loss provisions (*Provisions for loan losses*) and an indicator variable that equals one if the bank has negative unrealized gains and positive gain realizations from available-for-sale and held-to-maturity securities (*Realized gains, unrealized losses*). Gains and losses in these portfolios do not affect the income statement until they are realized, and loan loss provisions are an accrual expense. Gains from investment sales capture more of an operation-based earnings manipulation (i.e., cherry-picking and realizing profitable investments).[22] The provisioning measure, on the other hand, is designed to test income-increasing accruals management (i.e., under-provisioning). Thus, if income-constrained lenders rely on these tools to boost earnings, opportunistic gains from realized security sales should be higher and lower loan loss provisions should be lower.

In keeping with Beatty et al. (2002), the control vector includes the following bank characteristics, which are lagged by one period to avoid look-ahead and simultaneity biases: *Size*, *Loan intensity*, *Change in NPLs*, *Capital*, *Loan loss reserves*, *Agricultural loans*, *Commercial & industrial loans*, *Real estate loans*, and *Individual loans*. Panel A of Table 7 reports an average loan loss provision of 0.186 percentage points (of total loans) and a likelihood of positive realized gains and negative unrealized gains of 0.261 (i.e., 26.1 percentage points).

[22] Note that the within-quarter timing of these portfolio decisions is not observable to the researcher, unlike that of loan originations.

Panel B of Table 7 presents the regression results. In addition to the bank characteristics above (the original regressors in Beatty et al. 2002), I also control for lender fixed effects to account for the likelihood of banks' time-invariant tendency to narrowly beat analyst benchmarks and engage in income-increasing earnings management. The results in column (1) suggest that loan loss provisions are 0.024 percentage points smaller for income-constrained lenders (for context, the sample standard deviation is 0.245 percentage points). Furthermore, as shown in column (2), income-constrained lenders are more likely to report a positive realized gain from security sales and a negative unrealized gain. The coefficient of interest here is 0.051 (or 5.1 percentage points), representing almost one-fifth the average probability of reporting positive realized and negative unrealized gains in the sample.

While loan pricing and origination tests in earlier sections present evidence for the importance of REM behavior at the transaction level, they do not speak to REM's bank-level implications. I next explore this issue also by using Equation (3). On the benefits front, a natural extension of this lender-level analysis is the significance of syndication fees at the lender-quarter level. The estimation results suggest meaningful effects. As shown in column (1) of Panel C of Table 7, the syndication fee revenue per share is 1.73 cents higher for income-constrained lender-quarters. (For context, the sample standard deviation of *Syndication fees* is 11.27 cents.) Having shed light on the contemporaneous significance of REM, I investigate whether achieving earnings benchmarks through loan syndications helps lenders raise capital in the short term. Consistent with this rationale, I find that income-constrained lenders issue more equity over the subsequent quarter (Table 7, Panel C, column 2). A coefficient estimate of 3.769 corresponds to 9.3% of the sample standard deviation of *Next-quarter equity issuance*.

As shown in Panel D of Table 7, however, evidence also suggests that REM is costly. In particular, income-constrained banks are associated with lower profitability and capital ratios in

the long term (three years out). Economically speaking, income-constrained lenders' long-term profitability (return on equity) and capital ratios are lower by 0.514 percentage points and 0.151 percentage points, respectively. These figures correspond to 6.5% and 8.4% of the sample standard deviations of *Long-term profitability* and *Long-term capital ratio*. This inference is important because it implies that the cost of the hypothesized REM is not limited to banks pushing out a few slightly lower-quality loans. Instead, this practice seems to be a determinant or indicator of economically significant, lender-level consequences for bank shareholders.

4.7. Sensitivity Tests

In this subsection, I examine the robustness of my main multivariate findings on spread discounts and fee increases shown in Panel B of Table 2. Table 8 presents the results obtained from the estimation of the main specification, Equation (1). I include the results of alternative estimation samples in Panel A (spread results in Panel A1 and fee results in Panel A2). Panel B presents the results of the robustness tests that keep the sample constant but allow the estimation models to vary (spread results in Panel B1 and fee results in Panel B2). The coefficient of interest is again that on *IC lender* × *Third fiscal month* (i.e., suspect loans). For presentation purposes, I suppress the coefficients of the remaining regressors.

4.7.1. Sample robustness

Despite the exhaustive controls in the main models, I acknowledge the importance of the demand side (i.e., borrowers). Indeed, I do not deny that borrowers may be the main driver of the general issuance peaks in the third months in Figure 3, since they may choose to adjust their debt maturity, short-term leverage, or liquidity before the end of the quarter.[23] However, to invalidate my lender-side interpretation, this channel must also be responsible for the cross-sectional

[23] Investigating this possibility thoroughly is a significant undertaking that is beyond the scope of this paper.

variation in lenders' earnings goals and the *incremental* discounts offered by income-constrained lenders in the third months. Certainly, the borrower, as an outsider, does not observe the lender's financial reporting priorities or objectives (before the quarter-end). Still, to address the concern that opportunistic borrowers might take advantage of the lender's condition when attaining new loans, I focus on various subsets of borrowers and loans, for which borrower opportunism is less salient or may even be absent. Column (1) in Panels A1 and A2 of Table 8 shows a suspect-loan spread discount and a fee increase for private borrowers, which mitigates the confounding effects of the intensity of capital market pressures on the borrower. If anything, the estimates of interest are economically stronger for this group of firms, suggesting that the lead bank may be able to extract more rents and/or better manipulate the syndication process for opaque borrowers.

Column (2) in Panels A1 and A2 reports the results from tests on a sample of new loans only. The idea here is to examine to extent to which the documented pricing patterns are an artifact of renegotiations. The pertinent estimates indicate that there are credit spread discounts (and fee increases) in contracts in which the new funding from lenders equals the loan amount.[24]

Although the effects I observe are likely due to lenders, not borrowers, REM may not be driving the results. For instance, non-executive loan officer compensation (or other lender-side objectives unrelated to benchmark beating) could be responsible for the results. These alternatives warrant consideration and may well be one of the explanations for the overall third-month effect in loan issuance (Figure 3). This issue, however, needs to coincide with firms just-beating the quarterly benchmarks, for which there seems no obvious reason, especially after I control for lender fixed effects. Nevertheless, I perform additional tests excluding the fourth quarter—the effects of benchmark beating should be observed, if to a lesser extent, across the

[24] This information is based on LoanConnector's *New Money*, which reflects the realized proceeds. This measure disregards renegotiations and amendments that do not entail any new funds. As for refinancings, if there is a $100 million loan outstanding and a new $150 million loan refinances the previous one, then new money equals $50 million. In contrast to these, if the loan is a new credit agreement, then the loan amount and new money amount are the same.

first three quarters, whereas loan officer compensation would manifest itself exclusively in the final quarter because such contracts are usually based on annual performance. The results in column (3) in Panels A1 and A2 of Table 8 support the conclusion that lenders' benchmark-beating objectives matter. The multivariate results, albeit smaller, persist and are economically and statistically significant for the first three fiscal quarters.[25]

The results in column (4) of Panels A1 and A2 in Table 8 are from models estimated on a sample that includes controls for time-varying borrower characteristics. These restrictive data requirements shrink the sample size by more than half (from 46,803 to 21,453 observations), which is the main reason my primary sample does not impose this costly data constraint. Nevertheless, my conclusions hold in these tests; namely, even after accounting for time-varying borrower attributes, suspect loans are associated with lower credit spreads and higher fees.

Another potential concern regarding my sample choices pertains to non-U.S. borrowers and non-IBES lenders. In order to maintain a large sample and adopt a holistic approach, I consider in my main analyses a sample of my lenders' global lending practices. Nonetheless, in this sensitivity test, I investigate the subset of U.S. borrowers only. As shown in column (5) in Panels A1 and A2 of Table 8, on a sample of loans made to U.S. borrowers, which constitute the vast majority of my main sample (45,143 of 46,803 observations), suspect loans continue to be associated with a spread discount of 3.3% and a fee increase of 4.4%. This inference ensures my inferences are not driven by cross-border lending. Likewise, my conclusions are not sensitive to the removal of banks without analyst coverage.[26] In particular, suspect loans have statistically

[25] Also, in untabulated tests, I examine sole-lender deals as a placebo. If syndicated loans are ordinary contracts that do not provide a channel through which banks can increase reported earnings, then I should observe similar results for single-lender deals made by income-constrained lenders. Likewise, if certain borrowers are exploiting income-constrained lenders, then they should exhibit this behavior (at least as much) in the case of single-lender loans. My results contradict this narrative; *IC lender* × *Third fiscal month* is not negatively associated with credit spreads for single-lender deals (untabulated due to the lack of fee data).

[26] In the main tests, I keep IBES lenders as well as non-IBES lenders, since non-IBES lenders, which are coded as non-income-constrained lenders, do not manage earnings to beat analyst forecasts.

significant coefficients for spreads (-0.032 in Panel A1, column 6) and fees (in 0.038 Panel A2, column 6).

Another lender-side analysis I conduct is the fee-intensity of lenders. On a subset that consists exclusively of underwriting-intense banks (i.e., those whose lagged underwriting fee revenues relative to total assets are above the median), I find that the results are more significant (coefficients of -0.058 in column 7, Panel A1 and 0.062 in column 7, Panel A2). Finally, in the time series, my main results remain virtually unaffected when I exclude the recent financial crisis period from my analysis (column 8).

4.7.2. Specification robustness

In this subsection, I focus on alternative model choices, holding the main estimation sample constant. I first examine the link between benchmark beating and earnings management. Prior work questions this notion in that a coarse comparison between the just-beat group and the rest of the distribution could lead to the observed results (Dechow et al. 2003). Likewise, lenders may seem income-constrained *because* they offer discounts. To address these concerns, I assign separate intercepts and interaction terms to large-positive-surprise bins: *Big positive earnings surprise* and *Big positive earnings surprise* × *Third fiscal month*. As shown in column (1) of Panels B1 and B2 of Table 8, my conclusions continue to hold: the coefficient on *IC lender* × *Third fiscal month* remains statistically and economically significant for spreads as well as fees.[27]

In the next two models, I adopt a more restrictive structure. First, I account for lender × year-quarter fixed effects, which subsumes all the variation across lender-quarters and fully renders a within-bank-time design. Second, I account for the potentially confounding effects of

[27] The coefficient on *Big positive earnings surprise* × *Third fiscal month* is 0.007 (*t*-statistic = 0.73) in the spread regressions and -0.0032 (*t*-statistic = -0.14) in the fees regression.

inherent borrower and lender characteristics, as well as the relationship between the borrower and the lender, by accounting for borrower × lender fixed effects.[28] This specification removes the influence of the time-invariant matching between borrowers and lenders on my estimates. As columns (2) and (3) show, my inferences hold in these highly restrictive models, albeit marginally for *Fees* in column (3) of Panel B2. The results suggest that an income-constrained lender offers a cheaper deal to the borrower in the final month of the fiscal quarter.

Finally, the results in columns (4) through (8) in Panels B1 and B2 of Table 8 show the robustness of the main results to alternative definitions of earnings benchmarks. Columns (4)–(6) pertain to different thresholds for analyst forecasts, while in columns (7) and (8), I adopt a specification based on small positive changes in banks' return on assets and return on equity. In keeping with these bins also including a subset of lenders who likely engaged in income-increasing REM, the coefficient on the interaction term remains statistically significant.[29]

4.7.3. Covenants

In the last part of my robustness tests, I explore financial covenants. It would be useful to understand whether covenants systematically differ across the loans I study, because these clauses could trigger loan renegotiations, giving the lender the opportunity to increase the loan spread. To be sure, I control for covenants in my models, but this particular test uses them as the dependent variable. If suspect loans are associated with systematically more or stricter covenants, this could be viewed as a way in which income-constrained banks insure themselves and the syndicate.

[28] In untabulated tests, I examine the mediating role of relationship lending. The estimates are insignificant, but the direction suggests that suspect loans are more likely to be made to relationship borrowers.

[29] Note that the economic magnitudes under these GAAP-based definitions are weaker, which could be due to measurement error. This highlights the relevance of analyst forecasts as the main benchmark of interest.

Table 9 reports the relevant results. The dependent variables are the number of covenants and covenant strictness, proxied by Demerjian and Owen's (2016) *pviol* measure. The coefficient of interest (i.e., the estimate for suspect loans) is statistically zero across all specifications. This finding suggests that lead lenders do not make up for the monetary discounts using state-contingent contractual clauses. In sum, this finding supports the claim that REM through syndicated lending is a costly practice.

5. Conclusion

This study provides evidence that public banks that narrowly beat earnings benchmarks initiate more loans toward the quarter-end than do other banks. These 'income-constrained' lenders charge higher upfront fees but offer discounts through lower credit spreads. I also find that borrowers of these loans are more likely to experience defaults and rating downgrades, and that income-constrained lenders tend to have lower long-term capital and profitability ratios.

Overall, this paper's insights contribute to the accounting literature by capturing costly real earnings management in a large-sample within-quarter setting that does not require modeling assumptions. My findings should also be of interest to the banking and corporate finance research, especially to the line of work that explores the effects of bank short-termism and the lender-side determinants of debt contracting.

Several questions are left for future work. For example, researchers could explore the variation in other aspects of financial contracting with lender/managerial incentives. Also, while this paper highlights the roles of creating new deals and shifting future deals as alternative REM mechanisms, it does not distinguish between these or attempt to quantify their relative importance. Future studies evaluating these issues would make a useful contribution to the REM literature.

Appendix. Variable Definitions

Variable	Definition (original mnemonics, where available, in parentheses)	Source
# Covenants	Number of financial covenants in the loan package, zero if missing.	DealScan
# Perf. pricing terms	Number of performance pricing clauses in the loan, zero if missing.	DealScan
# Tranches	Number of tranches in the package.	DealScan
Agricultural loans	Agricultural loans (*bhck1590*) divided by total loans (*bhck2122*). (Expressed in percentage points.)	Bank regulatory
Amount	Tranche amounts in the loan package (*facilityamt*). (Used in the natural logarithm form in the tests.)	DealScan
Commercial & industrial loans	Commercial & industrial loans (*bhck1766*) divided by total loans (*bhck2122*). (Expressed in percentage points.)	Bank regulatory
Covenant strictness	Ex-ante probability of a covenant violation, varies between 0 and 1.	Demerjian and Owens (2016)
Default	Indicator that switches on if the borrower defaults up to three years following the loan issuance.	S&P and Moody's
Downgrade	Indicator that switches on if borrower's up to three-year-ahead credit rating is lower than that at issuance.	S&P and Moody's
Duration	Number of days between the mandate date and loan start date.	DealScan and Loan Connector
Fees	Syndication fees recognized by the lead lender, net of FAS-91 deferred fees (in basis points). (Used in the natural logarithm form in the tests.)	Eikon
Flex down	Indicator that switches on if the loan price is adjusted downward during the syndication process.	Loan Connector
Future collaboration	Indicator that switches on if the lead and participant appear in a syndicate in the three years post-deal.	DealScan
Future lending	Number of loans by the creditor over the subsequent three years. (Used in the natural logarithm form in the tests.)	DealScan
Growth in NPLs	Quarterly change in percentage nonperforming loans. Nonperforming loans are computed as (*bhck5524* + *bhck5525* + *bhck5526* – *bhck3505* – *bhck3506* – *bhck3507*) / *bhck2122*.	Bank regulatory
IC lender	Indicator that switches on if the lender's earnings-per-share beats the consensus analyst forecast by up to three cents (unscaled). The reported EPS figure and the consensus forecast are from unadjusted summary files of IBES.	IBES
Individual loans	Loans to individuals (*bhck1975*) divided by total loans (*bhck2122*). (Expressed in percentage points.)	Bank regulatory
Leverage	Total debt (*dlcq* and *dlttq*) at quarter t-1 as a percentage of total assets (*atq*) at quarter t-1. (Expressed in percentage points.)	Compustat
Loan intensity	The ratio of quarter-ago total loans (*bhck2122*) to quarter-ago total assets (*bhck2170*). (Expressed in percentage points.)	Bank regulatory
Loan loss reserves	The ratio of quarter-ago loan loss reserves (*bhck3123*) to quarter-ago total loans (*bhck2122*). (Expressed in percentage points.)	Bank regulatory

Loan purpose	Separate indicators for corporate, working capital, investment, and financing purposes (*primarypurpose*).	DealScan
Loan type	An indicator for revolvers and another indicator for term loan tranches B to K (*loantype*).	DealScan
Long-term capital ratio	Risk-adjusted capital ratio (*capr3q*) at quarter t+12. (Expressed in percentage points.)	Compustat
Long-term profitability	Earnings before extraordinary items (*ibq*) aggregated across quarters t+12, t+11, t+10, and t+9, divided by shareholders' equity (*seqq*) as at the end of quarter t+8. (Expressed in percentage points.)	Compustat
Maturity	Number of months between the stated loan start date and end dates (*maturity*). (Used in the natural logarithm form in the tests.)	DealScan
Next-quarter equity issuance	Quarter-over-quarter growth in banks' contributed capital (*capsq*) from quarter t to quarter t+1, divided by contributed capital (*capsq*) at quarter t. (Expressed in percentage points.)	Compustat
Past collaboration	Indicator that switches on if the lead and participant appear in a syndicate in the three years pre-deal.	DealScan
Past lending	Number of loans made by the creditor over the past three years. (Used in the natural logarithm form in the tests.)	DealScan
Profitability	Earnings before extraordinary items (*ibq*) aggregated at quarter t-1, quarter t-2, quarter t-3, and quarter t-4, divided by shareholders' equity (*seqq*) as at the end of quarter t-5. (Presented in percentage points.)	Compustat
Provisions for loan losses	Loan loss provisions (*bhck4230*) divided by total loans (*bhck2122*). (Expressed in percentage points.)	Bank regulatory
Public borrower	Indicator that switches on if the borrower is publicly traded.	DealScan
Real estate loans	Real-estate loans (*bhck1410*) divided by total loans (*bhck2122*). (Expressed in percentage points.)	Bank regulatory
Realized gains, unrealized losses	Indicator that switches on if realized gains from security sales are positive and unrealized gains negative. (Unrealized gains equal *bhck8434*, and realized gains are *bhck3521* + *bhck3196*.)	Bank regulatory
Size	Total assets (*atq*) at quarter t-1. (Used in the natural logarithm form in the tests.)	Compustat
Spread	All-in-drawn spread over a pre-determined floating rate (in basis points). (Used in the natural logarithm form in the tests.)	DealScan
Syndication fees	Deferral-free loan syndication fees (proxied by SNL field 132581) divided by the number of shares of the bank (*cshoq*). (Expressed in cents).	SNL Financial and Compustat
Third fiscal month	Indicator that switches on if the loan is initiated in the third month of the lender-quarter.	Compustat
Unsecured	Indicator variable that switches on if the loan is without collateral (*secured*).	DealScan

Notes: The raw flow figures in the Bank regulatory data are not standalone quarterly numbers but year-to-date values. My variable calculations adjust for this effect.

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Table 1. Descriptive Statistics

This table presents pertinent summary statistics. The unit of analysis is a loan. For indicator variables, only averages are presented, as other moments are redundant for these variables. Variable definitions appear in the Appendix.

	Mean	stdev	p10	p50	p90	N
IC lender	0.208	.	.	.	.	105,619
Third fiscal month	0.404	.	.	.	.	105,619
log*(Spread)*	5.221	0.774	4.135	5.347	6.052	105,619
log*(Fees)*	3.839	0.996	2.402	4.094	5.010	46,803
log*(Total borrowing costs)*	5.358	0.689	4.512	5.432	6.145	46,803
Duration	36.236	48.339	11.000	24.000	67.000	8,219
Flex down	0.597	.	.	.	.	2,291
Default	0.016	.	.	.	.	14,147
Downgrade	0.049	.	.	.	.	14,147
log*(Amount)*	18.751	1.509	16.811	18.826	20.723	105,619
log*(Maturity)*	3.761	0.655	2.485	4.094	4.369	105,619
Unsecured	0.470	.	.	.	.	105,619
# Covenants	0.821	1.335	0.000	0.000	3.000	105,619
# Perf. pricing terms	0.286	0.475	0.000	0.000	1.000	105,619
# Tranches	2.067	1.419	1.000	2.000	4.000	105,619
Public borrower	0.629	.	.	.	.	105,619

Table 2. Loan Pricing

The unit of observation is a loan. Panel A includes the estimation results for credit spreads, and Panel B presents those for spreads, fees, and total borrowing costs. Variable definitions appear in the Appendix. Bank characteristics include size, leverage, and profitability. Loan purpose fixed effects are indicators for corporate, working capital, financing, and investment purposes. Loan type fixed effects include indicators for tranches that are coded as revolver and those that are coded as term loan B to K. *T*-statistics (in parentheses) are robust to within-borrower, within-lender, and within-quarter correlation and heteroskedasticity. ***, **, and * denote results significant at the 1%, 5%, and 10% levels, respectively.

Panel A. Loan spreads

	(1)	(2)	(3)
	log(*Spread*)	log(*Spread*)	log(*Spread*)
IC lender × *Third fiscal month*	-0.040***	-0.033***	-0.032***
	(-4.26)	(-3.64)	(-3.51)
IC lender	0.007	-0.004	-0.004
	(0.58)	(-0.27)	(-0.34)
Third fiscal month	0.004	-0.002	-0.003
	(0.52)	(-0.35)	(-0.48)
log(*Amount*)	-0.164***	-0.162***	-0.158***
	(-21.95)	(-21.56)	(-20.71)
log(*Maturity*)	0.106***	0.101***	0.093***
	(11.16)	(10.64)	(10.05)
Unsecured	-0.387***	-0.370***	-0.367***
	(-19.42)	(-16.66)	(-16.73)
# *Covenants*	0.045***	0.044***	0.044***
	(6.65)	(6.72)	(6.57)
# *Perf. pricing terms*	-0.126***	-0.123***	-0.125***
	(-9.58)	(-10.08)	(-10.10)
# *Tranches*	0.017***	0.016***	0.018***
	(3.20)	(3.10)	(3.70)
Public borrower	-0.120***	-0.123***	-0.125***
	(-12.36)	(-12.70)	(-12.38)
Observations	105,619	105,619	105,619
Adjusted R-squared	0.523	0.533	0.545
Year-quarter fixed effects	YES	YES	Absorbed
Loan purpose and type FE	YES	YES	YES
Bank FE and characteristics	NO	YES	YES
Borrower industry × year-quarter FE	NO	NO	YES

Panel B. Fees and spread trade-off

	(1)	(2)	(3)
	log(*Spread*)	log(*Fees*)	log *(Total borrowing costs)*
IC lender × Third fiscal month	-0.033***	0.042**	-0.025***
	(-3.76)	(2.63)	(-3.32)
IC lender	0.003	-0.015	0.002
	(0.40)	(-0.77)	(0.23)
Third fiscal month	-0.012*	0.037***	-0.002
	(-1.81)	(2.93)	(-0.24)
log(*Amount*)	-0.111***	-0.316***	-0.207***
	(-19.33)	(-35.46)	(-20.13)
log(*Maturity*)	0.076***	0.015	-0.072***
	(7.33)	(1.37)	(-6.41)
Unsecured	-0.291***	-0.191***	-0.351***
	(-14.38)	(-9.04)	(-13.62)
# Covenants	0.036***	-0.006	0.032***
	(5.53)	(-1.00)	(4.75)
# Perf. pricing terms	-0.122***	-0.021*	-0.133***
	(-8.90)	(-1.69)	(-9.70)
# Tranches	0.024***	0.023***	0.032***
	(7.24)	(3.69)	(9.30)
Public borrower	-0.116***	-0.066***	-0.129***
	(-11.82)	(-6.01)	(-13.41)
Observations	46,803	46,803	46,803
Adjusted R-squared	0.616	0.531	0.579
Loan purpose and type FE	YES	YES	YES
Bank FE and characteristics	YES	YES	YES
Borrower industry × year-quarter FE	YES	YES	YES

Table 3. Loan Pricing—Cross-section

The unit of observation is a loan. Each model partitions the *IC lender* space. In Panel A, *IC lender (high firm incentives)* denotes income-constrained firms with above-median equity issuance in the next quarter, and *IC lender (low firm incentives)* denotes income-constrained lenders with below-median equity issuance in the next quarter. Next quarter's equity issuance is as defined in the Appendix. *IC lender (high managerial incentives)* denotes income-constrained firms with above-median variable compensation, and *IC lender (low managerial incentives)* denotes income-constrained lenders with below-median variable compensation. Variable compensation is calculated as the value of stock and options divided by the value of total compensation, obtained from Compustat ExecuComp. In Panel B, the *IC lender (repeat)* classification includes banks that just-beat analyst forecasts in the current as well as past quarter, and *IC lender (no repeat)* includes banks that just-beat analyst forecasts in the current quarter only. *IC lender (big bank)* switches on IC lenders with above-median total assets, whereas *IC lender (small bank)* switches on for income-constrained lenders with below-median total assets. In Panel C, *IC lender (capital constrained)* is an indicator variable denoting income-constrained banks above-median leverage, while *IC lender (capital unconstrained)* is an indicator for income-constrained banks with below-median leverage. Leverage is as defined in the Appendix. *IC lender (liquidity constrained)* is a dummy that turns on for income-constrained lenders whose cash & cash equivalents to assets ratio (*cheq* divided by *atq*) is below the median. By contrast, if this ratio is above the median, *IC lender (liquidity unconstrained)* switches on. All other variable definitions are in the Appendix. All previous controls include loan amount, maturity, collateralization, the number of covenants and performance pricing provisions, the number of tranches in the loan package, loan purpose and loan type dummies, and an indicator denoting public borrowers, as well as bank size, bank leverage, and bank profitability. All previous fixed effects include bank fixed effects and borrower-industry × year-quarter fixed effects. All individual slopes stand for the individual inclusion of *IC lender* dummies and the *Third fiscal month* indicator. *T*-statistics (in parentheses) are robust to within-borrower, within-lender, and within-quarter correlation and heteroskedasticity. ***, **, and * denote results significant at the 1%, 5%, and 10% levels, respectively.

Panel A. Incentives

	(1)	(2)	(3)	(4)
	log(*Spread*)	log(*Fees*)	log(*Spread*)	log(*Fees*)
IC lender (high firm incentives) × Third fiscal month	-0.053***	0.049*		
	(-3.48)	(1.93)		
IC lender (low firm incentives) × Third fiscal month	0.000	0.033*		
	(0.01)	(1.80)		
IC lender (high managerial incentives) × Third fiscal month			-0.042***	0.050**
			(-6.15)	(2.53)
IC lender (low managerial incentives) × Third fiscal month			-0.008	0.015
			(-0.42)	(0.85)
Observations	43,663	43,663	44,643	44,643
Adjusted R-squared	0.616	0.531	0.611	0.530
All individual slopes, previous controls & previous FE	YES	YES	YES	YES

Panel B. Ability

	(1)	(2)	(3)	(4)
	log(*Spread*)	log(*Fees*)	log(*Spread*)	log(*Fees*)
IC lender (no repeat) × Third fiscal month	-0.053***	0.038***		
	(-5.53)	(3.07)		
IC lender (repeat) × Third fiscal month	-0.003	0.037		
	(-0.20)	(1.16)		
IC lender (big bank) × Third fiscal month			-0.047***	0.052**
			(-4.56)	(2.23)
IC lender (small bank) × Third fiscal month			-0.015	0.026
			(-0.94)	(1.43)
Observations	44,517	44,517	46,803	46,803
Adjusted R-squared	0.616	0.531	0.616	0.531
All individual slopes, previous controls & previous FE	YES	YES	YES	YES

Panel C. Constraints

	(1)	(2)	(3)	(4)
	log(*Spread*)	log(*Fees*)	log(*Spread*)	log(*Fees*)
IC lender (capital constrained) × Third fiscal month	-0.038***	0.048**		
	(-2.70)	(2.24)		
IC lender (capital unconstrained) × Third fiscal month	-0.029**	0.039		
	(-2.20)	(1.39)		
IC lender (liquidity constrained) × Third fiscal month			-0.038***	0.052**
			(-3.24)	(2.52)
IC lender (liquidity unconstrained) × Third fiscal month			-0.014*	-0.003
			(-1.92)	(-0.15)
Observations	46,803	46,803	46,727	46,727
Adjusted R-squared	0.616	0.531	0.616	0.531
All individual slopes, previous controls & previous FE	YES	YES	YES	YES

Table 4. Syndicate Structure

The unit of observation is a loan. Variable definitions appear in the Appendix. Bank characteristics include size, leverage, and profitability. Loan purpose fixed effects are indicators for corporate, working capital, financing, and investment purposes. Loan type fixed effects include indicators for tranches that are coded as revolver and those that are coded as term loan B to K. *T*-statistics (in parentheses) are robust to within-borrower, within-lender, and within-quarter correlation and heteroskedasticity. ***, **, and * denote results significant at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)
	Duration	*Flex down*
IC lender × *Third fiscal month*	-3.836***	0.143*
	(-2.73)	(1.93)
IC lender	4.229*	-0.074*
	(1.89)	(-1.73)
Third fiscal month	1.434	-0.057
	(1.37)	(-1.32)
log(*Amount*)	1.174*	0.014
	(1.92)	(0.62)
log(*Maturity*)	0.725	0.142***
	(0.36)	(3.02)
Unsecured	5.565***	0.175**
	(2.98)	(2.06)
# *Covenants*	-1.500**	-0.010
	(-2.42)	(-0.61)
# *Perf. pricing terms*	-0.290	0.101**
	(-0.28)	(2.46)
# *Tranches*	3.988***	0.011
	(7.89)	(0.95)
Public borrower	-1.912	0.022
	(-1.17)	(0.64)
Observations	8,219	2,291
Adjusted R-squared	0.180	0.181
Loan purpose and type FE	YES	YES
Bank FE and characteristics	YES	YES
Borrower industry × year-quarter FE	YES	YES

Table 5. Subsequent Performance

The unit of observation is a bank-borrower-quarter. Variable definitions appear in the Appendix. Bank characteristics include size, leverage, and profitability. Loan purpose fixed effects are indicators for corporate, working capital, financing, and investment purposes. Loan type fixed effects include indicators for tranches that are coded as revolver and those that are coded as term loan B to K. *T*-statistics (in parentheses) are robust to within-borrower, within-lender, and within-quarter correlation, as well as heteroskedasticity. ***, **, and * denote results significant at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)
	Default	*Downgrade*
IC lender × Third fiscal month	0.006*	0.014*
	(1.75)	(1.79)
IC lender	-0.000	0.004
	(-0.11)	(0.54)
Third fiscal month	-0.000	0.005
	(-0.07)	(1.26)
log(*Amount*)	0.002	0.009***
	(1.24)	(3.73)
log(*Maturity*)	-0.013**	-0.054***
	(-2.08)	(-4.16)
Unsecured	-0.001	-0.002
	(-0.26)	(-0.34)
# *Covenants*	-0.002	-0.002
	(-1.22)	(-0.98)
# *Perf. pricing terms*	0.000	0.009***
	(0.04)	(2.88)
# *Tranches*	-0.001	-0.000
	(-0.99)	(-0.05)
Public borrower	0.012***	0.031***
	(6.00)	(6.58)
Observations	14,177	14,177
Adjusted R-squared	0.134	0.064
Loan purpose and type FE	YES	YES
Bank FE and characteristics	YES	YES
Borrower industry × year-quarter FE	YES	YES

Table 6. Syndicate Members

The unit of observation is a loan-participant lender. Variable definitions appear in the Appendix. Bank characteristics include size, leverage, and profitability. Loan purpose fixed effects are indicators for corporate, working capital, financing, and investment purposes. Loan type fixed effects include indicators for tranches that are coded as revolver and those that are coded as term loan B to K. *T*-statistics (in parentheses) are robust to within-borrower, within-lender, and within-quarter correlation and heteroskedasticity. ***, **, and * denote results significant at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	log*(Experience)*	log*(Future activities)*	*Past collaboration*	*Future collaboration*
IC lender × Third fiscal month	-0.032**	0.026*	0.011	0.013*
	(-2.32)	(1.95)	(1.19)	(1.96)
IC lender	0.038*	-0.008	0.003	-0.006
	(1.74)	(-0.71)	(0.24)	(-0.56)
Third fiscal month	-0.006	0.028***	-0.008*	0.003
	(-0.64)	(4.45)	(-1.97)	(0.78)
log(*Amount*)	-0.005	-0.006	0.028***	0.029***
	(-0.25)	(-1.44)	(6.87)	(7.79)
log(*Maturity*)	-0.031*	0.022***	0.016***	0.020***
	(-1.94)	(3.87)	(3.42)	(3.74)
Unsecured	0.078***	0.029***	0.013**	0.013***
	(4.19)	(4.67)	(2.06)	(2.83)
# *Covenants*	-0.032***	-0.010***	0.008***	0.004
	(-4.18)	(-2.75)	(3.50)	(1.31)
# *Perf. pricing terms*	-0.021	0.007	0.034***	0.026***
	(-1.05)	(0.90)	(3.65)	(5.50)
# *Tranches*	-0.027**	-0.005*	-0.000	0.000
	(-2.43)	(-1.67)	(-0.02)	(0.07)
Public borrower	0.096***	0.004	0.013**	0.015***
	(2.98)	(0.40)	(2.59)	(2.71)
log(*Spread*)	-0.024	-0.007	-0.006	-0.009
	(-1.28)	(-1.10)	(-1.53)	(-1.51)
Observations	510,229	510,229	510,229	510,229
Adjusted R-squared	0.072	0.619	0.173	0.115
Loan purpose and type FE	YES	YES	YES	YES
Bank FE and characteristics	YES	YES	YES	YES
Borrower industry year-quarter FE	YES	YES	YES	YES

Table 7. Other Activities of Lenders

The unit of observation is a lender-quarter. Panel A presents the sample statistics. For indicator variables, only averages are presented, as information on other moments is redundant. Panels B through D present the results from multivariate regressions. All variable definitions appear in the Appendix. Loan portfolio controls include *Agricultural loans*, *Commercial loans*, *Real estate loans*, and *Individual loans*. *T*-statistics (in parentheses) are robust to within-lender and within-quarter correlation, as well as heteroskedasticity. ***, **, and * denote results significant at the 1%, 5%, and 10% levels, respectively.

Panel A. Descriptive statistics for bank-level tests

	Mean	stdev	p10	p50	p90	N
Provisions for loan losses (%)	0.186	0.245	0.016	0.112	0.426	2,433
Realized gains, unrealized losses	0.261	.	.	.	.	2,433
Syndication fees per share	11.424	11.266	0.758	9.666	21.445	427
Next-quarter equity issuance (%)	5.419	40.401	-1.632	0.322	9.383	2,276
Long-term profitability (%)	12.779	7.888	5.281	12.857	21.008	2,039
Long-term capital ratio (%)	13.111	1.805	11.110	12.700	15.700	1,858
log*(Size)*	11.344	1.569	9.440	11.294	13.602	2,433
Leverage (%)	20.429	11.378	8.060	19.348	33.156	2,433
Profitability (%)	13.828	8.974	5.315	14.561	21.996	2,433
Loan intensity (%)	58.539	17.872	33.582	64.081	75.015	2,433
Growth in NPLs (%)	0.008	0.719	-0.490	-0.013	0.597	2,433
Loan loss reserves (%)	1.904	1.008	1.060	1.640	3.084	2,433
Agricultural loans (%)	0.445	0.742	0.003	0.156	1.243	2,433
Commercial & industrial loans (%)	29.268	13.991	15.608	26.564	47.737	2,433
Real estate loans (%)	42.156	17.694	16.059	43.944	64.760	2,433
Individual loans (%)	13.542	9.739	1.866	13.155	25.574	2,433

Panel B. Alternative earnings management tools

	(1)	(2)
	Provisions for loan losses (%)	*Realized gains, unrealized losses*
IC lender	-0.024***	0.051**
	(-4.61)	(2.40)
log*(Size)*	0.013***	0.023***
	(2.70)	(2.75)
Leverage (%)	0.082	-0.092
	(1.11)	(-1.04)
Profitability (%)	-0.381***	-0.014
	(-3.16)	(-0.15)
Loan intensity (%)	0.001	0.000
	(1.52)	(0.48)
Growth in NPLs (%)	0.031**	-0.008
	(2.15)	(-0.79)
Loan loss reserves (%)	0.054***	0.021
	(3.88)	(1.63)
Agricultural loans (%)	-0.036	-0.009
	(-1.39)	(-0.79)
Commercial & industrial loans (%)	0.002**	0.000
	(2.19)	(0.24)
Real estate loans (%)	0.001	-0.001
	(1.64)	(-1.12)
Individual loans (%)	0.005***	-0.002*
	(3.14)	(-1.92)
Observations	2,433	2,433
Adjusted R-squared	0.591	0.294
Bank and year-quarter FE	YES	YES

Panel C. Benefits of REM

	(1)	(2)
	Syndication fees	*Next-quarter equity issuance* (%)
IC lender	1.730*	3.769*
	(1.78)	(1.78)
log*(Size)*	1.892*	-0.757
	(1.97)	(-0.62)
Leverage (%)	-0.252	0.057
	(-0.98)	(0.46)
Profitability (%)	0.403*	0.259*
	(1.89)	(1.81)
Loan intensity (%)	0.060	0.122
	(0.42)	(1.11)
Growth in NPLs (%)	2.781*	-0.585
	(1.90)	(-0.35)
Loan loss reserves (%)	1.162	4.206***
	(0.45)	(2.91)
Observations	427	2,276
Adjusted R-squared	0.375	0.006
Loan portfolio controls	YES	YES
Bank and year-quarter FE	YES	YES

Panel D. Costs of REM

	(1)	(2)
	Long-term profitability (%)	*Long-term capital ratio* (%)
IC lender	-0.514*	-0.151**
	(-1.80)	(-2.44)
log*(Size)*	0.120	-0.062
	(0.47)	(-0.39)
Leverage (%)	-0.061**	-0.026***
	(-2.51)	(-2.79)
Profitability (%)	0.013	-0.016*
	(0.24)	(-1.73)
Loan intensity (%)	0.002	-0.025***
	(0.06)	(-3.66)
Growth in NPLs (%)	0.148	-0.091
	(1.10)	(-1.43)
Loan loss reserves (%)	-0.353	0.230
	(-1.12)	(1.27)
Observations	2,039	1,858
Adjusted R-squared	0.622	0.580
Loan portfolio controls	YES	YES
Bank and year-quarter FE	YES	YES

Table 8. Robustness Tests

The unit observation is a loan. Variable definitions appear in the Appendix. Panels A1 and A2 (Panels B1 and B2) include the results of the robustness tests of sample choices (model choices). Each column heading describes the subsample or the specific regression model. The models presented in Panels A1 and A2 are defined as follows. The subsample studied in column (1) includes loans to borrowers that are identified as privately held companies. The no-renegotiation group contains contracts that are verified as non-renegotiations (column 2). In column (3), the sample excludes loans issued in the third month of the final fiscal quarter of the lead lender. The model presented in column (4) is estimated on a sample that includes controls for borrower characteristics. Column (5) focuses only on U.S. borrowers, and the model shown in column (6) is estimated on a subsample in which all lenders have a non-missing IBES earnings surprise. The regression for column (7) includes a subset of lender-quarters for which the underwriting fee is above the sample median, while the sample that yields the results in column (8) excludes loans originated in 2008 and 2009, the recent global financial crisis. The models presented in Panels B1 and B2 are defined as follows. The regression results in column (1) are based on a model that includes on the right-hand side *Big positive earnings surprise* (which switches on for lender-quarters with earnings surprises over three cents) and *Big positive earnings surprise* × *Third fiscal month*. (Coefficient estimates of these variables are omitted for brevity.) The model presented in column (2) includes two-dimensional lender × year-quarter fixed effects, and that in column (3) includes two-dimensional lender × borrower fixed effects. As denoted in the headings of columns (4) through (6), *IC lender* is defined within a different range of analyst forecast errors in these specifications. In column (7) (column 8), *IC lender* switches on for banks that narrowly beat their year-ago same-quarter return on assets (return on equity), computed as *ibq* divided by lagged *atq* (*ibq* divided by lagged *seqq*). Narrowly beating past ROA and ROE are defined based on the first 5% of the distribution of positive changes. All previous controls are log*(Amount)*, log(*Maturity*), *Unsecured*, # *Covenants*, # *Performance pricing clauses*, # *Tranches*, *Public borrower*, as well as bank characteristics—size, leverage, and profitability. All previous fixed effects include bank fixed effects, borrower-industry × year-quarter fixed effects, and loan type and loan purpose fixed effects. Loan purpose fixed effects are indicators for corporate, working capital, financing, and investment purposes. Loan type fixed effects include indicators for tranches that are coded as revolver and those that are coded as term loan B to K. *T*-statistics (in parentheses) are robust to within-borrower, within-lender, and within-quarter correlation and heteroskedasticity. ***, **, and * denote results significant at the 1%, 5%, and 10% levels, respectively.

Panel A1. Sample Robustness—Spread

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Privately held borrowers	No renegotiation	Excluding fourth fiscal quarters	Including borrower characteristics	US borrowers only	IBES lenders only	Underwriting-intense lenders	Crisis excluded
	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)
IC lender × Third fiscal month	-0.071***	-0.039*	-0.024**	-0.024**	-0.033***	-0.032***	-0.058***	-0.029***
	(-6.53)	(-1.90)	(-2.18)	(-2.22)	(-3.87)	(-3.66)	(-4.38)	(-3.44)
Observations	20,170	12,898	34,708	21,453	45,143	44,547	26,110	44,421
Adjusted R-squared	0.560	0.607	0.623	0.655	0.624	0.616	0.618	0.619
All previous controls	YES	YES	YES	YES	YES	YES	YES	YES
All previous FE	YES	YES	YES	YES	YES	YES	YES	YES

Panel A2. Sample Robustness—Fees

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Privately held borrowers	No renegotiation	Excluding fourth fiscal quarters	Including borrower characteristics	US borrowers only	IBES lenders only	Underwriting-intense lenders	Crisis excluded
	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)
IC lender × Third fiscal month	0.065***	0.060**	0.025*	0.051*	0.044**	0.038**	0.062***	0.045***
	(3.38)	(2.04)	(1.72)	(1.71)	(2.53)	(2.47)	(2.97)	(2.83)
Observations	20,170	12,898	34,708	21,453	45,143	44,547	26,110	44,421
Adjusted R-squared	0.485	0.463	0.532	0.521	0.534	0.531	0.533	0.535
All previous controls	YES	YES	YES	YES	YES	YES	YES	YES
All previous FE	YES	YES	YES	YES	YES	YES	YES	YES

Panel B1. Specification Robustness—Spread

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Multiple earnings bins included	Lender-quarter FE included	Lender-borrower FE included	Forecast error [0, 3]	Forecast error [1, 2]	Forecast error [2, 3]	Benchmark ΔROA	Benchmark ΔROE
	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)	log(*Spread*)
IC lender × Third fiscal month	-0.029***	-0.029***	-0.043***	-0.033***	-0.027***	-0.041***	-0.031	-0.041**
	(-2.87)	(-3.70)	(-4.73)	(-3.14)	(-2.71)	(-3.26)	(-1.64)	(-2.00)
Observations	46,803	46,803	46,803	46,803	46,803	46,803	46,803	46,803
Adjusted R-squared	0.616	0.621	0.737	0.621	0.616	0.616	0.615	0.615
All previous controls	YES	YES	YES	YES	YES	YES	YES	YES
All previous FE	YES	YES	YES	YES	YES	YES	YES	YES

Panel B2. Specification Robustness—Fees

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Multiple earnings bins included	Lender-quarter FE included	Lender-borrower FE included	Forecast error [0, 3]	Forecast error [1, 2]	Forecast error [2, 3]	Benchmark ΔROA	Benchmark ΔROE
	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)	log(*Fees*)
IC lender × Third fiscal month	0.040*	0.041**	0.033	0.022*	0.039**	0.060**	0.072**	0.070**
	(1.86)	(2.43)	(1.53)	(1.66)	(2.61)	(2.22)	(2.44)	(1.99)
Observations	46,803	46,803	46,803	46,803	46,803	46,803	46,803	46,803
Adjusted R-squared	0.531	0.533	0.592	0.533	0.531	0.531	0.531	0.531
All previous controls	YES	YES	YES	YES	YES	YES	YES	YES
All previous FE	YES	YES	YES	YES	YES	YES	YES	YES

Table 9. Suspect Loans and Covenants

The unit of observation is a loan. Variable definitions appear in the Appendix. The *Public borrower* dummy is omitted from these models because all borrowers are public companies. Bank characteristics include size, leverage, and profitability. *T*-statistics (in parentheses) are robust to within-borrower, within-lender, and within-quarter correlation and heteroskedasticity. ***, **, and * denote results significant at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	# Covenants	*# Covenants*	*Covenant strictness*	*Covenant strictness*
IC lender × Third fiscal month	0.016	-0.014	0.000	-0.009
	(0.36)	(-0.34)	(0.01)	(-0.52)
IC lender	-0.031	0.007	-0.001	0.009
	(-1.06)	(0.26)	(-0.06)	(0.69)
Third fiscal month	-0.000	0.009	-0.015	-0.012
	(-0.01)	(0.37)	(-1.48)	(-1.28)
log(*Amount*)		-0.147***		-0.037***
		(-7.11)		(-5.83)
log(*Maturity*)		0.232***		-0.005
		(10.11)		(-0.65)
Unsecured		-0.414***		-0.184***
		(-13.53)		(-21.64)
# Perf. pricing terms		0.165***		-0.036***
		(5.62)		(-2.79)
# Tranches		0.021		0.008
		(1.39)		(1.34)
Observations	19,141	19,141	19,141	19,141
Adjusted R-squared	0.236	0.359	0.118	0.198
Loan purpose and type FE	NO	YES	NO	YES
Bank FE and characteristics	YES	YES	YES	YES
Borrower industry × year-quarter FE	YES	YES	YES	YES

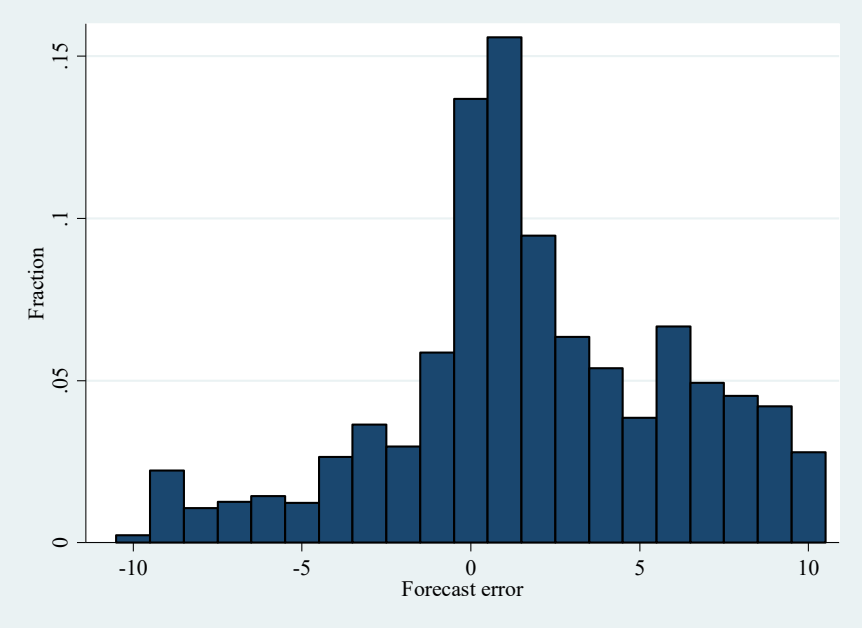

Figure 1a. Distribution of earnings surprises (loans)

This figure presents the distribution of earnings surprises, which are calculated as the difference between IBES actual forecast and IBES mean consensus forecast, unadjusted, unscaled. Each observation underlying this histogram is a loan.

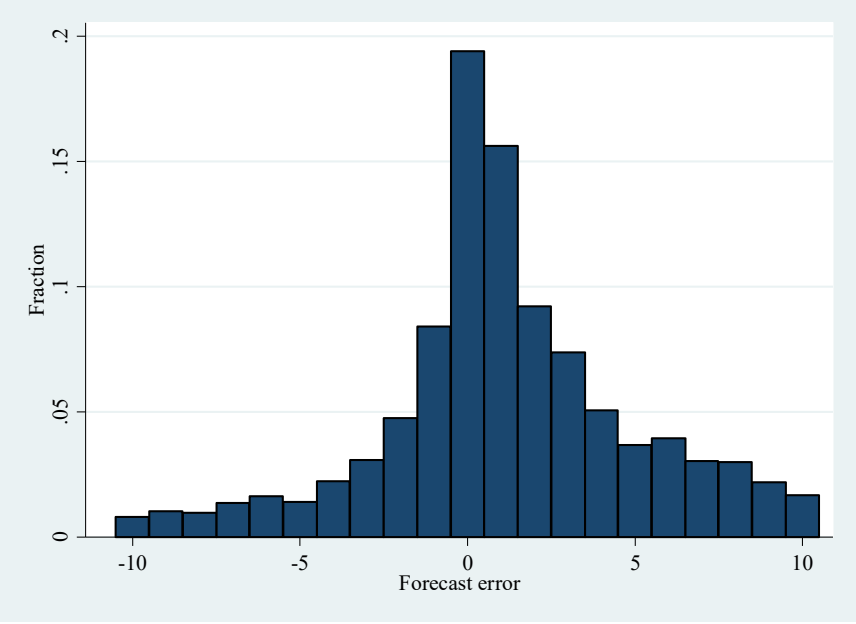

Figure 1b. Distribution of earnings surprises (bank-quarters)

This figure presents the distribution of earnings surprises, which are calculated as the difference between IBES actual forecast and IBES mean consensus forecast, unadjusted, unscaled. Each observation underlying this histogram is a bank-quarter.

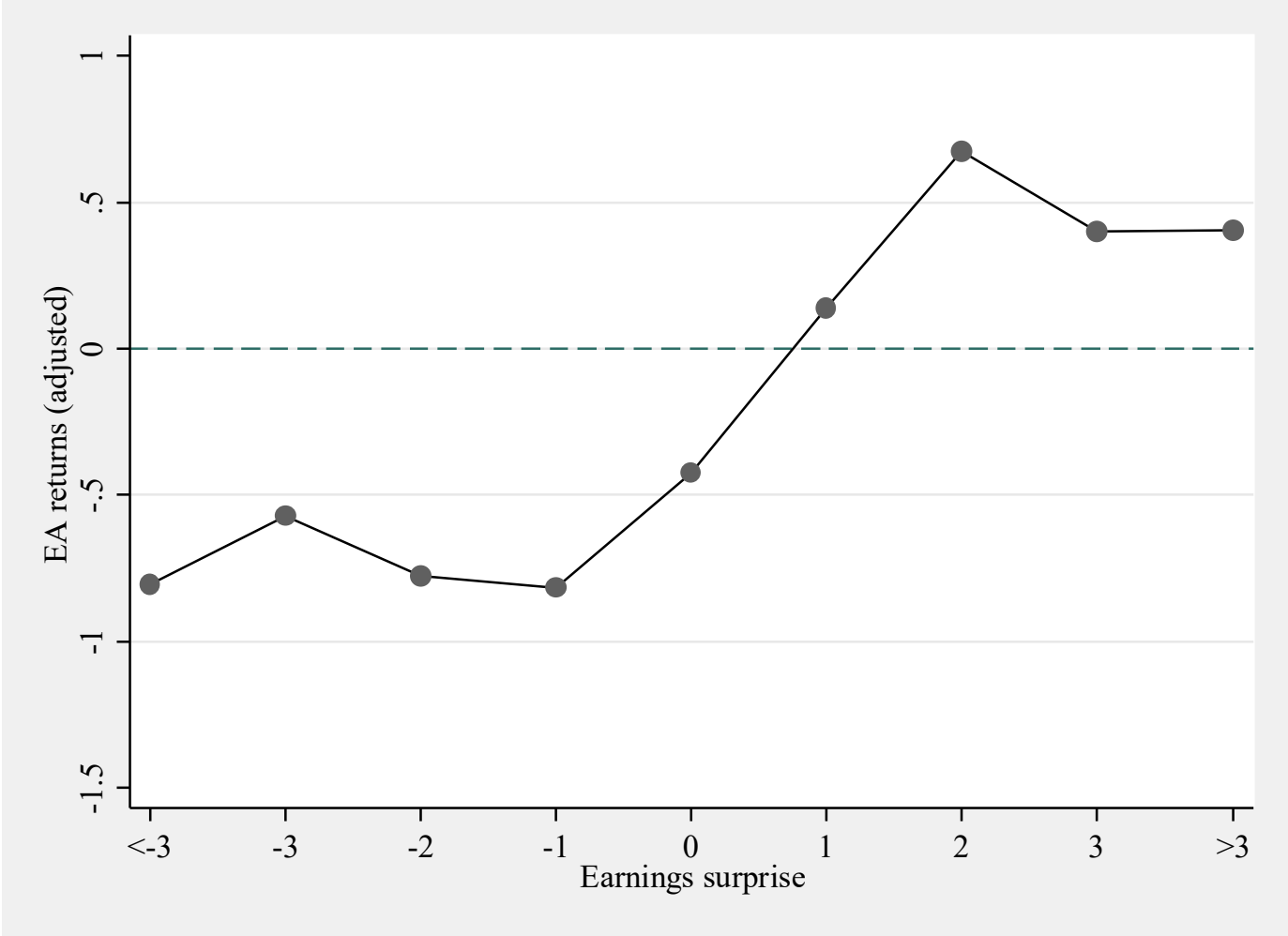

Figure 2. Earnings surprises and earnings announcement returns

This figure presents the average earnings announcement returns for earnings surprise bins. The presented values are adjusted for S&P 500 returns on the same day and are converted into percentage points for ease of interpretation.

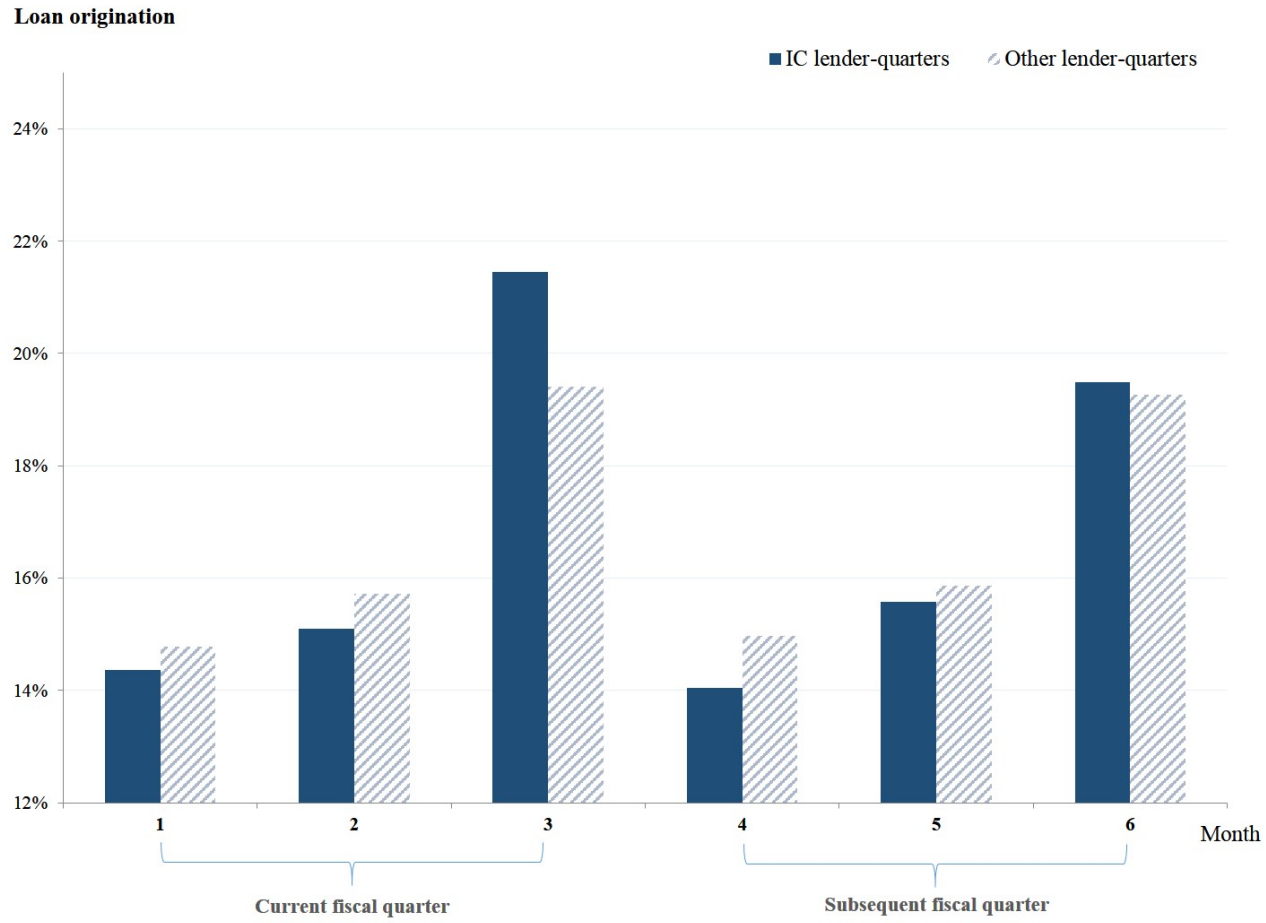

Figure 3. Income-constrained lead lenders and syndicated loan origination

This figure presents the average monthly distribution of syndicated lending. The x-axis includes the months of the lender's current and next fiscal quarter. That is, for a lender whose fiscal quarter ends in March, the months from January to June are the six points on the x-axis. The numbers of loans originated in the corresponding month are depicted on the y-axis. For ease of interpretation, this value is normalized, such that for each lender-quarter, the issuance over the six months adds up to 100. These density distributions are weighted equally across lenders. Solid (dashed) bars denote income-constrained (other) lender-quarters. Statistical comparisons are detailed in the text.