Concurrent Lending and Underwriting, Expected Loss Recognition Timeliness and Loan Credit Quality

1. Introduction

While the Glass-Steagall Act strictly enforced the separation of commercial (e.g., lending) and investment banking activities (e.g., securities underwriting), the gradual erosion of its restrictions during the 1980s has allowed banks to engage in both types of activities.[1] The most notable outcome of this deregulation is the increasingly common bank practice of lending to and underwriting the securities of the same corporate client (i.e., concurrent lending and underwriting). Prior research has studied various implications of concurrent lending and underwriting such as for bank stock returns, profitability and market risk but has not examined the implications for financial reporting. We attempt to fill this gap in the literature by examining (i) how concurrent lending and underwriting relates to the timeliness of expected loan loss recognition (hereafter, loss recognition timeliness) and (ii) how the change in loss recognition timeliness induced by concurrent lending and underwriting influences loan portfolio credit quality.

Banks that engage in concurrent lending and underwriting are relatively large and represent approximately 50 percent of the total assets of the banking industry in the United States.[2] Concurrent loans, which are primarily commercial and industrial (C&I) loans, constitute a substantial portion of these banks' C&I loan originations. For example, in 53 (4) percent of the C&I loan originations during 1987-2010, the same bank also underwrote corporate debt (equity) securities of the borrower (Neuhann and Saidi 2018). Concurrent loans constitute, on average, 33

[1] Banks that can engage, either directly or through affiliates, in all aspects of the banking and securities businesses are called universal banks (Wilmarth 2002).

[2] Sample banks that engage in concurrent lending and underwriting account for 49.7 percent of total assets in the U.S. banking industry during our sample period. This ratio has remained quite stable over the subsequent years. For example, it was 53.7 percent in 2010 and 49.8 percent in 2016.

percent of the C&I loans originated during our sample period.[3] More recently, in 40 percent of the corporate bond underwriting deals during 2011-2016, the bank also made a loan to the issuer within six months of the deal (Anenberg et al. 2018).

The implications of concurrent lending and underwriting for bank loan portfolio credit risk have been a controversial issue because such activity could lead to either more prudent or imprudent lending. Banks that engage in concurrent lending and underwriting possess more private information about the quality of the corporate client compared to stand-alone commercial or investment banks (Benston 1990; Saunders and Walter 1994; Mishkin 2004). On the one hand, banks could utilize this informational advantage to assess the credit quality of concurrent lending and underwriting clients more efficiently and to monitor these clients more effectively (Santos 1998; Mishkin 2004). On the other hand, concurrent lending and underwriting could lead to exploitation of conflict of interest and the consequent concentration of low credit quality loans because these banks may opportunistically: (1) impose lower lending standards and extend loans to unqualified clients to win underwriting business, and/or (2) extend imprudent loans to issuers and strengthen their liquidity positions to either facilitate a future issue or support the prices of the securities they already have underwritten (Benston 1989).

From the bank's perspective, concerns and negative perceptions induced by the possibility to exploit conflict of interest may lead to negative outcomes such as more rigorous regulatory scrutiny, higher cost of capital, and lower valuation (Narayanan et al. 2007).[4] Naturally, banks

[3] This ratio is higher in the 1987-2010 sample period of Neuhann and Saidi (2018) mainly because our definition of a concurrent loan is more restrictive. We classify a loan as concurrent if the loan is made to a corporate client between 1 year before and 1 year after the security is issued whereas Neuhann and Saidi (2018) use a period that spans 2 years before to 2 years after the loan issuance.

[4] Given the substantial role of banks that engage in concurrent lending and underwriting as a source of funding in the United States, regulators are concerned that if these banks exploit conflict of interest, the consequent high-risk credit concentration will pose a systemic risk to the overall economy. Exploitation of conflict of interest is also of concern to debtholders because imprudent lending eventually jeopardizes the fulfillment of a bank's future contractual obligations and thus increases the downside risk for debtholders. From the perspective of equity-holders, a bank

have strong incentives to preempt such outcomes after they initiate concurrent lending and underwriting. However, how banks attempt to preempt such outcomes is unclear and remains unresolved in the literature (Narayanan et al. 2007).

Based on the reasoning that banks exercise discretion in timing loss recognition in the direction that yields the largest net benefits (Beatty and Liao 2014), prior literature offers two alternative loss recognition timing strategies that banks that initiate concurrent lending and underwriting could follow. First, banks that initiate concurrent lending and underwriting have an incentive to prop up or increase apparent performance upon the initiation of concurrent lending and underwriting (hereafter, initiation) in order to alleviate concerns about their loan portfolio credit quality and profitability. When such incentives are strong, banks may delay the recognition of expected loan losses (Huizinga and Laeven 2012; Bushman et al. 2016). Delaying the recognition of expected losses increases current profits and lowers current loan loss provisions, and thus also serves to increase the apparent credit quality of the loan portfolio (Dou et al. 2018). Alternatively, banks that initiate concurrent lending and underwriting may choose to alleviate the concerns by resorting to timelier loss recognition. If loan portfolio credit quality begins to deteriorate as a result of concurrent lending and underwriting, timelier loss recognition reduces the potential costs to external stakeholders by informing them promptly about the proneness of the loan portfolio quality to deteriorations (Akins et al. 2016), thereby allowing them to take quicker protective actions.

First, we examine which of these two loss recognition timing strategies dominates, on average, for banks that initiated concurrent lending and underwriting. In across-sample difference-

increases its risk exposure to a client when it lends to and underwrites the securities of that client. There may be potential benefits for equity-holders if credit risks of such clients are low or priced efficiently. However, if these banks exploit the conflict of interest, their profitability relative to the risk they undertake decreases, deteriorating the risk-return trade-off structure for equity-holders.

in-differences tests, we compare the change in C&I loan loss recognition timeliness for these banks around the time of initiation to the corresponding change for a matched sample of banks that did not initiate concurrent lending and underwriting. In in-sample difference-in-differences tests, we compare the change in C&I loan loss recognition timeliness around the time of initiation to the corresponding change for other types of loans. We find evidence that banks that initiated concurrent lending and underwriting recognize C&I loan losses in a timelier manner upon initiation. In complementary analyses, we find that C&I loan loss recognition timeliness increases with banks' exposure to concurrent lending and underwriting.

A question that naturally arises is whether timelier loss recognition induced by concurrent lending and underwriting has real effects on banks' lending prudence. By allowing regulators and market participants to take more prompt interventional and protective actions, timelier loss recognition may be more effective in deterring banks from making imprudent loans, consistent with the broader notion that timelier loss recognition enhances banks' risk-taking discipline (Bushman and Williams 2012). Accordingly, we examine whether timelier C&I loan loss recognition upon initiation is associated with an increase in C&I loan credit quality. We find that the C&I loan credit quality increases from pre- to post-initiation, and timelier loss recognition is a contributing factor in the increase after controlling for the effect of exposure to concurrent lending and underwriting.

Although the finance literature has studied various implications of concurrent lending and underwriting,[5] an important question that remains unanswered is how concurrent lending and underwriting influences banks' financial reporting strategies. Filling this gap is important for

[5] Prior studies examine implications for bank stock returns (Bhargava and Fraser 1998), profitability (Cornett et al. 2002; Drucker and Puri 2005), compensation structure (Fields and Fraser 1999), market-based riskiness (Geyfman and Yeager 2009), competition in the underwriting market (Gande et al. 1999), and lending decisions (Neuhann and Saidi 2018).

several reasons. First, while concurrent lending and underwriting gives banks incentives to alter the timing of their loss recognition, it is not clear a priori whether these incentives will result in more delayed or timelier loss recognition. Because delaying loss recognition contributes to the procyclicality of bank lending and timelier loss recognition reduces procyclicality (Laeven and Majnoni 2003; Beatty and Liao 2011; Bushman and Williams 2012), a shift in loss recognition timeliness following the initiation has implications for capital availability during recessionary and expansionary macroeconomic periods and thus has a significant real impact on the economy. This is particularly important given that banks that engage in concurrent lending and underwriting are major providers of capital in the economy.[6] Second, concurrent lending and underwriting has increased substantially over time and become a widespread and economically substantial practice after commercial banks, which had been primarily engaged in lending activities, were allowed to expand into underwriting activities. However, its implications for discretionary financial reporting have not been examined.[7] In addition, prior evidence on the factors that affect banks' loss recognition timeliness is scarce.[8] We add to this line of research by examining how concurrent lending and underwriting influences banks' loss recognition timeliness. Third, there are a limited number of studies that examine the real effects of banks' discretionary timing of loss recognition.[9] We extend this line of research by examining the effect of loss recognition timeliness on loan credit quality. Fourth, examining the direct effect of concurrent lending and underwriting along with its

[6] These banks provided 64 percent of the loans extended to public firms during 1987-2010 (Neuhann and Saidi 2018).
[7] Prior studies examine discretionary reporting of loan loss provisions in association with tax and capital requirements (Beatty et al. 1995; Collins et al. 1995; Kim and Kross 1998; Ahmed et al. 1999), accounting standards (Kilic et al. 2013; Black, et al. 2018), income management (Kanagaretnam et al. 2004; Liu and Ryan 2006), and loan composition (Liu and Ryan 2006). Most of these studies focus on discretionary reporting in the form of income smoothing through loan loss provisions.
[8] These studies examine the effects of loan composition (Liu and Ryan 1995), competition (Bushman et al. 2016), and, in a cross-country setting, tax system Andries et al. (2017) on banks' loss recognition timeliness.
[9] These studies examine the effect of loss recognition timeliness on bank lending volume during recessionary and expansionary periods (Beatty and Liao 2011), risk-taking discipline (Bushman and Williams 2012), stock market liquidity and downside tail risk (Bushman and Williams 2015) and lending corruption (Akins et al. 2017).

indirect effect (through inducing timelier loss recognition) on loan credit quality is especially relevant in the context of the recent push by some policymakers to split banks.[10] While the risks associated with integrating commercial banking and investment banking are multifaceted, our findings point to at least one benefit of integration with respect to C&I loan credit risk, an issue at the core of an ongoing policy debate.

2. Background

2.1. Concurrent Lending and Underwriting, Informational Advantages, and Conflict of Interest

Regulatory restrictions imposed by the Glass-Steagall Act of 1933 prohibited commercial banks from underwriting or dealing in public offering of securities.[11] This prohibition was intended to address concerns about possible exploitation of conflict of interest resulting from the cohabitation of commercial banking and investment banking activities (Benston 1989; Kroszner and Rajan 1994). However, a gradual erosion of these regulatory restrictions took place with the Federal Reserve's authorizations of certain underwriting activities during the 1980s. In April 1987, commercial banks started to again become active in investment banking activities following the Federal Reserve Board's initial authorization to establish Section 20 subsidiaries that could engage in the underwriting of mortgage-backed securities, asset-backed securities, and commercial paper. The subsequent Federal Reserve Board ruling in January 1989 expanded the scope of authorized underwriting activities to also include underwriting of corporate debt and equity securities. The most notable outcome of allowing the cohabitation of commercial banking and investment banking

[10] For example, Gary Cohn, the former head of the National Economic Council, supported the separation of commercial banking and investment banking in a meeting with the Senate Banking Committee (Wall Street Journal, 2017).

[11] New issues of obligations of the federal government, general obligations of states and political subdivisions, and certain federal agency securities were exempt from the prohibition.

activities is that it became increasingly common for banks to lend to and underwrite the securities of the same corporate clients.

Banks are typically exposed to a variety of risks such as credit risk, interest rate risk, systemic risk, and liquidity risk. While all these risk exposures play a role in the opaque nature of banks, credit risk exposure is relatively less observable and more difficult to verify (Nichols et al. 2009) because banks' lending decisions are based on unobservable private information about the credit quality of the borrower (Diamond 1984). Thus, also underwriting the securities of a borrower exacerbates the uncertainty about the risks banks take.[12]

A bank that lends to and underwrites the securities of the same corporate client produces more private information compared to stand-alone commercial or investment banks (Benston 1990; Mishkin 2004; Drucker and Puri 2007; Neuhann and Saidi 2018) for at least two reasons. First, there is some overlap between firm-specific private information used in lending and in underwriting, which is costly to obtain. Using such information for both services allows banks to achieve greater informational economies of scope, reduce cost of information production, and produce more information about their clients (Drucker and Puri 2007). Second, lending and underwriting are complementary activities in terms of private information production, and banks obtain partially different information when engaging in each of these activities.[13]

On the one hand, the greater informational advantages achieved through concurrent lending and underwriting enables banks to assess the credit quality of concurrent lending and underwriting

[12] Concurrent lending and underwriting increases a bank's exposure to a client in many ways and these exposures are typically additive rather than offsetting [not clear]. For example, lending to low (high) quality firms increases (reduces) the credit risk of the loan portfolio and reduces (increases) the profitability of lending activities. On the other hand, underwriting these firms' securities, which will eventually perform poorly (well), hurts (benefits) the bank's reputation as an underwriter and also reduces (increases) the profitability of underwriting activities.

[13] For example, referring to the informational advantages of concurrent lending and underwriting, Michael Patterson, the Vice Chairman of J. P. Morgan stated in his testimony before the Senate Banking Committee (1999) that "*financial services providers are better able to access information about customers*."

clients more efficiently and to monitor these clients more effectively (Santos 1998; Mishkin 2004). Consequently, the prudence of lending decisions would improve with the extent to which banks engage in concurrent lending and underwriting.

On the other hand, banks could exploit conflict of interest. In the context of concurrent lending and underwriting, this may occur in at least two ways (Benston 1989). First, a bank may lend to a firm on overly favorable terms to obtain fees from the same firm for underwriting its securities. Specifically, the bank may underprice the risk of the loan based on the firm's decision to use the bank's underwriting services. Second, to facilitate a future issue or support the price of a security it has already underwritten, the bank may make a loan to a low quality firm to strengthen that firm's liquidity position.[14] These possible actions generate up-front revenues and improve short-term profitability at the expense of future loan credit quality by leading to concentration of underpriced and low quality corporate loans in banks that engage in concurrent lending and underwriting, subjecting the reintroduction of concurrent lending and underwriting to extensive criticism.[15]

[14] A firm's ability to access bank funding typically conveys the firm's creditworthiness and is often regarded as a positive signal by the capital markets (Lummer and McConnell 1989; Best and Zhang 1993; Billett et al. 1995).

[15] Although concurrent lending and underwriting activities started in the late 1980s, concerns have been voiced until recently. In his letters to the Federal Reserve Board and the Office of the Comptroller of the Currency in 2002, Congressman John D. Dingell expressed concerns about banks extending loans to high credit risk firms in return for their underwriting business, which would lead to a concentration of bad credit risks among these banks. In an article on concurrent lending and underwriting, the Economist (2002) stated that underpricing loans "*has been a chief calling card for commercial banks that wanted to get into the juicy business of investment banking*", and corporate clients of concurrent lending and underwriting are "*precisely the riskiest borrowers*" and therefore "*banks have the debt of seriously weakened or even bankrupt companies on their books*." A 2003 report by the United States Government Accountability Office pointed to the allegations that banks underprice the risk of the borrower firms that also purchase underwriting services from them. In line with these allegations, the Economist (2003) reported mounting concerns about the prevalence of "cut-price loan" tactics among banks to gain underwriting business and provided supporting analyses that raise questions about the prudence of lending in the presence of concurrent lending and underwriting. Later, in his testimony to the Committee on Financial Services in 2007, Robert Kuttner, a former investigator for the Senate Banking Committee, stated that *"[banks] have been able to re-enact the same kinds of structural conflicts of interest that were endemic in the 1920s.*" Related to these concerns, Gary Cohn, the former head of the National Economic Council, supported the separation of commercial banking and investment banking in a meeting with the Senate Banking Committee (Wall Street Journal, 2017).

2.2. Potential Implications of Concurrent Lending and Underwriting for Loss Recognition Timeliness

Banks that initiate concurrent lending and underwriting have pronounced incentives to preempt the possible negative outcomes arising from negative perceptions of concurrent lending and underwriting. Otherwise, they would likely be subject to more rigorous regulatory scrutiny and bear higher costs of debt and equity. However, how banks overcome the concerns about exploitation of conflict is unresolved in the literature (Narayanan et al. 2007).

One potential mechanism for banks to resolve this issue is discretionary timing of loss recognition. Regulatory guidance gives banks considerable discretion to time the recognition of losses, and banks exercise this discretion in the direction that yields the largest net benefit (Beatty and Liao 2014). Accordingly, the timing of loss recognition exhibits significant variation both across banks and over time (Liu et al. 1997; Liu and Ryan 2006; Nichols et al. 2009; Beatty and Liao 2011). Prior literature offers two alternative loss recognition timing strategies that banks that initiated concurrent lending and underwriting could follow.

Given that concerns center on the exploitation of conflict of interest and the consequent high-risk credit concentration, banks have the incentive to increase the perceived credit quality of their loan portfolio and profitability of their lending after the initiation of concurrent lending and underwriting. Therefore, based on the notion that reporting lower provisions increases the perceived credit quality (Dou et al. 2018), delaying the recognition of expected losses is a viable post-initiation strategy for banks. It should be noted, however, that delaying the recognition of expected losses benefits short-term profitability at the expense of long-term profitability. Yet, despite its eventual negative consequences such as increased risk of capital inadequacy (Bushman and Williams 2015), it is a contextually observed reporting strategy for banks, particularly when

the incentive to prop up or increase apparent performance is strong (Huizinga and Laeven 2012; Bushman et al. 2016).[16]

Alternatively, banks could resort to timelier loss recognition. If banks delay loss recognition, external stakeholders would not observe promptly whether concurrent lending and underwriting strengthen or weaken the prudence of lending. If these banks loosen their credit standards to keep/gain underwriting business or to make imprudent loans to support the prices of their underwriting clients' securities, their loan portfolio risk and profitability would deteriorate eventually but outsiders would not uncover the buildup of risks sufficiently early to take interventional or protective actions. However, as noted earlier, banks have incentives to alleviate concerns that arise from concurrent lending and underwriting, and timelier loss recognition would help mitigate concerns by informing external stakeholders more promptly about the proneness of the loan portfolio to deterioration (Akins et al. 2017) and thereby allow these stakeholders to take quicker actions. Also, producing more private information in the course of concurrent lending and underwriting provides banks the means to estimate loan losses in a timelier manner. However, whether banks reveal this information in loan loss provisions and allowances in a timelier or more delayed manner is still the outcome of banks' reporting strategy.

3. Empirical Analyses

3.1. Concurrent Lending and Underwriting and Loss Recognition Timeliness

Nonperforming loans are comprised of delinquent loans and consequently serve as a leading indicator of loan losses and loan portfolio performance.[17] As such, loan loss provisions

[16] Banks, under certain circumstances, use this discretion opportunistically and delay the recognition of expected losses to increase their apparent profitability. For example, Huizinga and Laeven (2012) find that banks with large exposure to mortgage-backed securities delayed recognition of expected losses to manage their regulatory capital during the financial crisis. Bushman and Williams (2016) document delayed recognition of expected losses when banks face higher competition.

[17] Also, nonperforming loans are nondiscretionary relative to loan loss provisions and loan loss allowances because banks largely follow the strict guidelines of the U.S. Securities and Exchange Commission (SEC) and the Financial Accounting Standards Board (FASB) when evaluating whether to classify a loan as nonperforming. Per SEC Industry

and loan loss allowances are delayed (timely) to the extent their estimations rely on past (current and anticipated future) nonperforming loans.

The incentive to change loss recognition timeliness after the initiation of concurrent lending and underwriting will be especially pronounced for C&I loans because concurrent lending and underwriting naturally involve this type of loans, which are typically a large component of heterogeneous loans. In addition, regulatory guidance gives banks greater discretion to time the recognition of losses from these individually large loans because these losses are determined with judgement on a loan-by-loan basis (Liu and Ryan 1995). Therefore, we decompose nonperforming loans into nonperforming C&I loans ($NPL^{C\&I}$) and other nonperforming loans (NPL^{Other}) in our analyses.

3.1.1. Loss Recognition Timeliness Before and After the Initiation of Concurrent Lending and Underwriting

Our tests are based on a sample of banks that established a Section 20 subsidiary and initiated concurrent lending and underwriting (i.e., treatment banks) and a sample of banks that did not establish a Section 20 subsidiary and did not initiate concurrent lending and underwriting (i.e., control banks). Initiation years for the treatment banks in our sample span the 1987-1997 period. Using bank-specific initiation years rather than the same initiation year for the whole sample mitigates the potentially confounding effects of economic events.[18] In order to further ensure that our inferences are not affected by temporal changes in the banking industry or the

Guide 3, we define nonperforming loans as nonaccrual loans (not accruing interest) and past due loans (at least 90 days past due with respect to interest and principal payments, but still accruing interest).

[18] A potential drawback of using the latter approach is that the effects being studied could, in fact, be driven by changes in the economic environment that coincide with the initiation period, making it difficult to attribute the observed change to the initiation. However, when event periods are essentially bank-specific, a given year will belong to the pre-initiation period for certain banks and to the post-initiation period for others, thus mitigating the likelihood that the observed pre- to post-initiation changes are driven by year-specific economic events. It therefore is unlikely that prevailing economic conditions will bias our results.

economy in general, we match each treatment bank with a control bank and use the initiation year for the treatment bank as the pseudo-initiation year for the matched control bank.[19]

Using both regression-based (Nichols et al. 2009; Beatty and Liao 2011; Kanagaretnam et al. 2014) and ratio-based (Beatty and Liao 2011; Akins et al. 2017) measures of loss recognition timeliness, we conduct difference-in-differences tests by comparing the pre- to post-initiation change in loss recognition timeliness for treatment banks to the corresponding change for control banks.

We first assess the change in timeliness based on regression-based measures (i.e., the association of loan loss provisions and loan loss allowances with past, current and future nonperforming loans). Accordingly, we estimate the following model separately for treatment and control banks:

$$\begin{aligned} LLP_{i,t} = {} & \alpha_0 + \alpha_1 Post_{i,t} + \alpha_2 \Delta NPL_{i,t-1}^{C\&I} + \alpha_3 \Delta NPL_{i,t}^{C\&I} + \alpha_4 \Delta NPL_{i,t+1}^{C\&I} + \alpha_5 \Delta NPL_{i,t-1}^{Other} \\ & + \alpha_6 \Delta NPL_{i,t}^{Other} + \alpha_7 \Delta NPL_{i,t+1}^{Other} + \alpha_8 Post_{i,t} * \Delta NPL_{i,t-1}^{C\&I} + \alpha_9 Post_{i,t} * \Delta NPL_{i,t}^{C\&I} \\ & + \alpha_{10} Post_{i,t} * \Delta NPL_{i,t+1}^{C\&I} + \alpha_{11} Post_{i,t} * \Delta NPL_{i,t-1}^{Other} + \alpha_{12} Post_{i,t} * \Delta NPL_{i,t}^{Other} \\ & + \alpha_{13} Post_{i,t} * \Delta NPL_{i,t+1}^{Other} + [Controls] + \varepsilon_{i,t} \end{aligned} \quad (1)$$

All results from estimating Model (1) and subsequent models are based on standard errors clustered at the bank-year level to control for heteroscedasticity and correlation among time-series observations of the same bank and cross-sectional observations in the same year.

In Model (1) and subsequent models, *Post* is a bank- and year-specific indicator variable that equals one (zero) for periods after (before) the initiation year for the bank. α_2, the coefficient on $\Delta NPL_{i,t-1}^{C\&I}$, captures the extent to which banks delay the incorporation of loss indicators for C&I loans in current loan loss provisions in the pre-initiation period. Therefore, a positive

[19] Our approach to identify a sample of control banks is explained in detail in Section 3.1.3.

(negative) α_8, the coefficient on $Post_{i,t} * \Delta NPL_{i,t-1}^{C\&I}$, suggests increased (decreased) reliance on past information in the post-initiation period relative to the pre-initiation period. Similarly, α_3 and α_4, the coefficients on $\Delta NPL_{i,t}^{C\&I}$ and $\Delta NPL_{i,t+1}^{C\&I}$, capture the extent to which banks rely on current and anticipated future performance, respectively, of C&I loans when estimating current loan loss provisions in the pre-initiation period.[20] Positive (negative) α_9 and α_{10}, the coefficients on $Post * \Delta NPL_{i,t}^{C\&I}$ and $Post * \Delta NPL_{i,t+1}^{C\&I}$, indicate an increase (decrease) in reliance on current and forward-looking information, respectively, from pre- to post-initiation.

We include past, current and future changes in nonperforming loans that are not commercial and industrial (ΔNPL^{Other}) and also interact ΔNPL^{Other} with $Post$ to allow the loss recognition timeliness for these loans to vary across pre- and post-initiation periods. Our premise is that it is concurrent lending and underwriting that induces a change in the C&I loan loss recognition timeliness for the treatment banks. However, if some potentially omitted factors induce a change in loss recognition timeliness for all types of loans for the treatment banks, but not for the control banks, allowing only the C&I loan loss recognition timeliness to vary across pre- and post-initiation periods would result in inferences that erroneously attribute the change in loss recognition timeliness to concurrent lending and underwriting. On the other hand, if concurrent lending and underwriting is the primary driver, we should observe a greater pre- to post-initiation change in timeliness for C&I loans than for other types of loans, lending further support to our premise.[21] Therefore, we also conduct in-sample difference-in-differences tests and compare the coefficients on $Post * \Delta NPL^{C\&I}$ and $Post * \Delta NPL^{Other}$.

[20] Following prior studies (e.g., Nichols et al. 2009; Beatty and Liao 2011; Kanagaretnam et al. 2014), we use actual future nonperforming loans to capture anticipated nonperforming loans based on the assumption that, on average, banks can forecast future nonperforming loans with some degree of accuracy.

[21] Our results are robust to interacting $Post$ with all control variables. For expositional brevity, we interact $Post$ with only $\Delta NPL^{C\&I}$ and ΔNPL^{Other} in our main tests.

The control variables are based on prior literature on the determinants of loan loss provisions. A higher beginning loan loss allowance ($Allowance$) requires lower loan loss provisions in the current period, whereas higher net loan loss realizations ($ChargeOff$) in the current period (i.e., loan charge-offs net of loan recoveries) require higher loan loss provisions (Nichols et al. 2009; Kanagaretnam et al. 2014). Banks have more discretion over heterogeneous loans (C&I loans, direct lease financing, commercial real estate loans, and foreign loans) than homogeneous loans (consumer loans, 1-4 family residential mortgages, loans to financial institutions, and acceptances of other banks), suggesting a differential association of different loan types with loan loss provisions (Liu and Ryan 1995, 2006). We include $HetLoan$, heterogeneous loans, to control for the differences in banks' loan composition. We include $Capital$, the ratio of total equity to total assets,[22] to control for capital management through loan loss provisions (Beatty et al. 1995; Ahmed et al. 1999), $Size$, the natural logarithm of total assets, to control for size effects, and $EBTP$, earnings before taxes and provisions, to control for the effect of banks' income smoothing incentives on loan loss provisions (Collins et al. 1995; Kanagaretnam et al. 2004; Liu and Ryan 2006). We control for the effects of prevailing macroeconomic conditions by including $CaseShiller$ (Beck and Narayanamoorthy 2013) and $GdpGrowth$ (Bushman and Williams 2012). $CaseShiller$ is the return on the Case-Shiller Real Estate Index, and $GdpGrowth$ is the annual percentage change in gross domestic product. In Model (1) and subsequent models, we scale all the appropriate variables by beginning total loans.

Next, we assess whether expected losses from C&I loans are recognized in a more delayed or timelier manner in loan loss allowances following the initiation. If banks attempt to reduce (increase) their C&I loan loss recognition timeliness, they are likely to rely more (less) on the past

[22] Tier 1 capital ratios are not available before 1996. Therefore, we use equity capital to be consistent throughout the sample period.

and less (more) on current and anticipated future nonperforming loans as nondiscretionary benchmarks. Accordingly, we examine the change in the association of loan loss allowance with past, current and future nonperforming C&I loans from the pre- to the post-initiation period by estimating the following model separately for treatment and control banks:

$$\begin{aligned} Allowance_{i,t} = {} & \beta_0 + \beta_1 Post_{i,t} + \beta_2 NPL_{i,t-1}^{C\&I} + \beta_3 NPL_{i,t}^{C\&I} + \beta_4 NPL_{i,t+1}^{C\&I} + \beta_5 NPL_{i,t-1}^{Other} \\ & + \beta_6 NPL_{i,t}^{Other} + \beta_7 NPL_{i,t+1}^{Other} + \beta_8 Post_{i,t} * NPL_{i,t-1}^{C\&I} + \beta_9 Post_{i,t} * NPL_{i,t}^{C\&I} \\ & + \beta_{10} Post_{i,t} * NPL_{i,t+1}^{C\&I} + \beta_{11} Post_{i,t} * NPL_{i,t-1}^{Other} + \beta_{12} Post_{i,t} * NPL_{i,t}^{Other} \\ & + \beta_{13} Post_{i,t} * NPL_{i,t+1}^{Other} + [Controls] + \varepsilon_{i,t} \end{aligned} \quad (2)$$

We include control variables in Model (2) based on prior literature on the determinants of loan loss allowance (Nichols et al. 2009; Beck and Narayanamoorthy 2013; Kanagaretnam et al. 2014). In line with the reasoning for Model (1), we assess the pre- to post-initiation change in loss recognition timeliness based on β_8, β_9 and β_{10}, the coefficients on the interactions of $Post$ with past, current and next year's $NPL^{C\&I}$, respectively.

We also examine the change in loss recognition timeliness from pre- to post-initiation using a ratio-based measure of timeliness ($Timeliness^{C\&I}$), the ratio of loan loss allowance for C&I loans to nonperforming C&I loans.[23,24] Using this bank- and year-specific measure as the outcome variable, we estimate the following model separately for treatment and control banks:

$$Timeliness_{i,t}^{C\&I} = \varphi_0 + \varphi_1 Post_{i,t} + [Controls] + \varepsilon_{i,t} \quad (3)$$

Following Choi (2018), we include $Capital$ to control for capital management through loan loss provisions and $Size$ to control for size effects in Model (3). A positive (negative) φ_1, the

[23] The ratio of loan loss allowance to nonperforming loans captures banks' tendency to reserve for expected losses in addition to incurred losses (Beatty and Liao 2011).

[24] While Beatty and Liao (2011) use current nonperforming loans as the denominator, Akins et al. (2017) use next year's nonperforming loans. We use the latter measure to better capture the forward-looking aspect of provisioning because it subsumes the former, as next year's nonperforming loans include the current year's nonperforming loans and the change in nonperforming loans from the current to the next year.

coefficient on $Post$, suggests an increase (decrease) in C&I loss recognition timeliness from pre- to post-initiation.

3.1.2. Exposure to Concurrent Lending and Underwriting and Loss Recognition Timeliness

As complementary analyses, we investigate directly whether C&I loan loss recognition timeliness is a function of the intensity of exposure to concurrent lending and underwriting. If banks' decision to decrease (increase) loss recognition timeliness is driven by concurrent lending and underwriting, we should observe a greater propensity to recognize more delayed (timelier) losses from C&I loans in loan loss provisions and allowances as banks' exposure to concurrent lending and underwriting increases. The weight of concurrent loans in the C&I loan originations displays variation both across banks and over time, ranging from 2.1 percent to 58.4 percent during our sample period. Exploiting this variation, we examine how C&I loan loss recognition timeliness varies with exposure to concurrent lending and underwriting, measured as the ratio of concurrent loans originated to total C&I loans originated. Accordingly, we employ a sample consisting exclusively of post-initiation observations for banks that engage in concurrent lending and underwriting to estimate the following models:

$$\begin{aligned} LLP_{i,t} = {} & \chi_0 + \chi_1 HighExp_{i,t} + \chi_2 \Delta NPL_{i,t-1}^{C\&I} + \chi_3 \Delta NPL_{i,t}^{C\&I} + \chi_4 \Delta NPL_{i,t+1}^{C\&I} + \chi_5 \Delta NPL_{i,t-1}^{Other} \\ & + \chi_6 \Delta NPL_{i,t}^{Other} + \chi_7 \Delta NPL_{i,t+1}^{Other} + \chi_8 HighExp_{i,t} * \Delta NPL_{i,t-1}^{C\&I} + \chi_9 HighExp_{i,t} * \Delta NPL_{i,t}^{C\&I} \\ & + \chi_{10} HighExp_{i,t} * \Delta NPL_{i,t+1}^{C\&I} + \chi_{11} HighExp_{i,t} * \Delta NPL_{i,t-1}^{Other} + \chi_{12} HighExp_{i,t} * \Delta NPL_{i,t}^{Other} \\ & + \chi_{13} HighExp_{i,t} * \Delta NPL_{i,t+1}^{Other} + [Controls] + \varepsilon_{i,t} \end{aligned} \quad (4)$$

$$\begin{aligned} Allowance_{i,t} = {} & \delta_0 + \delta_1 HighExp_{i,t} + \delta_2 NPL_{i,t-1}^{C\&I} + \delta_3 NPL_{i,t}^{C\&I} + \delta_4 NPL_{i,t+1}^{C\&I} + \delta_5 NPL_{i,t-1}^{Other} \\ & + \delta_6 NPL_{i,t}^{Other} + \delta_7 NPL_{i,t+1}^{Other} + \delta_8 HighExp_{i,t} * NPL_{i,t-1}^{C\&I} + \delta_9 HighExp_{i,t} * NPL_{i,t}^{C\&I} \\ & + \delta_{10} HighExp_{i,t} * NPL_{i,t+1}^{C\&I} + \delta_{11} HighExp_{i,t} * NPL_{i,t-1}^{Other} \\ & + \delta_{12} HighExp_{i,t} * NPL_{i,t}^{Other} + \delta_{13} HighExp_{i,t} * NPL_{i,t+1}^{Other} + [Controls] + \varepsilon_{i,t} \end{aligned} \quad (5)$$

$$Timeliness_{i,t} = \rho_0 + \rho_1 HighExp_{i,t} + [Controls] + \varepsilon_{i,t} \quad (6)$$

In Models (4) through (6), $HighExp$ is a bank- and year-specific indicator variable that equals one (zero) for bank-year observations with a higher (lower) than the annual median exposure to concurrent lending and underwriting, and captures the intensity of exposure to concurrent lending and underwriting. Therefore, for banks that engage in concurrent lending and underwriting, we assess how the loss recognition timeliness changes with the exposure to concurrent deals based on χ_8, χ_9 and χ_{10}, the coefficients on the interactions of $HighExp$ with past, current and next year's $\Delta NPL^{C\&I}$, respectively, in Model (4), and δ_8, δ_9 and δ_{10}, the coefficients on the interactions of $HighExp$ with past, current and next year's $NPL^{C\&I}$, respectively, in Model (5). Specifically, a positive χ_8 and δ_8 in Models (4) and (5), respectively, would indicate more delayed loss recognition, whereas positive χ_9 and χ_{10} in Model (4) and positive δ_9 and δ_{10} in Model (5) would indicate timelier loss recognition as exposure to concurrent lending and underwriting increases. Similarly, a positive (negative) φ_1, the coefficient on $HighExp$ in Model (6), would indicate timelier (more delayed) loss recognition as the exposure to concurrent lending and underwriting increases.

3.1.3. Sample Selection

Following prior studies in the finance literature (Gande et al. 1997; Gande et al. 1999; Cornett et al. 2002; Yasuda 2005; Drucker and Puri 2005), our treatment bank sample consists of commercial banks that initiated concurrent lending and underwriting by establishing a Section 20 subsidiary during the period 1987-1997. This sample period constitutes a conservative setting to examine the reporting implications of concurrent lending and underwriting because banks faced significant firewalls under the Federal Reserve Act (Sections 23A and 23B) that could reduce information flow between commercial banking and securities divisions until 1996. We start the selection of banks in 1987 because the Federal Reserve Board authorized the formation of Section 20

subsidiaries by commercial banks in April 1987. Each year, the Federal Reserve Board publishes a list of bank holding companies with Section 20 subsidiaries. We use the list published on March 31, 1997 to identify 42 domestic and foreign publicly traded banks that initiated concurrent lending and underwriting. This initial sample of 42 banks matches the sample of 42 banks used by Gande et al. (1999). After deleting foreign banks and requiring that each bank stay in existence for at least 3 years after initiation, we obtain a sample of 38 domestic banks. We then use the Federal Reserve Bulletins to identify the exact date of Section 20 subsidiary establishment for each bank.

Our sample period for estimating Models (1) through (3) spans 5 years before and 5 years after the initiation of concurrent lending and underwriting. In order to have relatively balanced pre- and post-initiation period samples, we require banks to have at least 3 of the 5 years of data before and after the initiation year. We hand-collect 5 years of pre-initiation financial information for the banks with initiation years from 1987 to 1989 from the 10-K filings obtained from Thomson Reuters because data on nonperforming loans, loan charge-offs and loan loss provisions for these years are not available in machine-readable databases. We obtain the financial information for later years in the sample period from the regulatory FR Y-9C filings. We hand-collect information on C&I loan loss allowances, nonperforming C&I loans and C&I loan charge-offs missing in the FR Y-9C filings from the 10-K filings. We eliminate 3 banks from the sample of 38 banks to test Models (1), (2), (4) and (6) due to insufficient data on nonperforming C&I loans, and 7 banks to test Models (3) and (6) due to insufficient data on C&I loan loss allowances. This procedure results in 35 (31) treatment banks with 158 (142) pre-initiation and 162 (144) post-initiation bank-year observations. For the bank mergers during our sample period, we use the combined pre-merger data of the individual entities in the merger from the 10-K filings of the merger year.

Next, we identify a control sample of banks that did not establish a Section 20 subsidiary and therefore did not initiate concurrent lending and underwriting. We start with all publicly traded

bank holding companies with at least $1 billion in total assets that remained in existence for the sample period. We sort these banks by size and retain the largest 105 in order to have an average of three potential matches for each treatment bank. In the context of our study, difference-in-differences methodology relies on the assumption that C&I loan loss recognition timeliness exhibits similar trends for the treatment and control banks in the pre-initiation period. Therefore, we match each treatment bank to a control bank based on the variable $Timeliness^{C\&I}$ as in Models (3) and (6). We employ a filter of 90 percent to 110 percent of the treatment bank's $Timeliness$ in the year prior to the initiation of concurrent lending and underwriting. We verify that, for both treatment and control bank samples, $Timeliness^{C\&I}$ exhibits low fluctuations without a clear increasing/decreasing trend over the pre-initiation period. Using this procedure, we match the control bank sample with the treatment bank sample in terms of the number of banks and bank-year observations before and after the pseudo-initiation years. Data sources for the control bank sample are the same as those for the treatment bank sample.

Estimating Models (4) through (6) requires a sample consisting exclusively of post-initiation treatment bank observations. We estimate these models using a dataset constructed from three different data sources. We collect data on securities issues (e.g., corporate bonds, stocks, commercial paper) underwritten by the sample treatment banks from Thomson Financial's SDC Platinum United States New Issues database. Next, we manually match the security issuers to the borrowers in the Loan Pricing Corporation's (LPC) DealScan database to identify the loans extended by the sample treatment banks to their underwriting corporate clients between 1 year before and 1 year after the issuance of the securities. We then merge this data with other relevant

financial data from the FR Y-9C and 10-K filings.[25] We estimate these models over a 5-year sample period that starts in 1996 for two reasons. First, a significant portion of commercial loans is missing from Dealscan during the early 1990s. Therefore, matching the issuers in SDC Platinum to the borrowers in Dealscan is likely to result in understatement of the exposure to concurrent lending and underwriting in the early 1990s. Starting the sample period in 1996 ensures a more reliable measure of exposure to concurrent lending and underwriting as Dealscan significantly increased its coverage in 1995. Second, the Federal Reserve relaxed the firewalls between commercial banking and securities divisions in 1996. The relaxation of informational firewalls facilitated the sharing of private information between lending and underwriting divisions, providing us with a less constrained setting to examine the implications of concurrent lending and underwriting. This procedure results in 35 treatment banks with 175 bank-year observations.

3.1.4. Descriptive Statistics

Panel A of Table 1 presents sample statistics for the pre- and the post-initiation periods for both the treatment and the control banks. All variables exhibit descriptive statistics consistent with prior research. Univariate comparisons of the pre- and the post-initiation periods presented in Panel B of Table 1 indicate that asset size ($Size$) and profitability ($EBTP$) increased for both the treatment and the control banks from pre- to post-initiation whereas there is no significant change for either sample in loan composition ($HetLoan$), magnitude of loan loss provisions (LLP) and loan loss allowance ($Allowance$) relative to total loans. The ratio-based measure of C&I loan loss recognition timeliness, $Timeliness^{C\&I}$, for the treatment banks increased from the pre- to the post-

[25] Our approach is similar to the procedure adopted by Drucker and Puri (2005) to define concurrent exposures. However, unlike their study, which examines concurrent lending and underwriting around seasoned equity offerings and therefore employs underwriting data only on seasoned equity issuances, we use all types of securities issues.

initiation period ($p < 0.030$). For control banks, the magnitude of nonperforming C&I loans ($NPL^{C\&I}$) relative to total loans is lower in the post-initiation period ($p < 0.033$).

Cross-sectional comparisons of the treatment and the control banks also presented in Panel B of Table 1 indicate that treatment banks are, on average, larger than control banks, and control banks are better capitalized both in the pre- and the post-initiation period ($p < 0.001$ and $p < 0.003$, respectively). As for recognition of loan losses, treatment banks recognize higher loan loss provisions (LLP) relative to total loans in both periods than control banks ($p < 0.001$ and $p < 0.011$, respectively), whereas they recognize higher loan loss allowances ($Allowance$) only in the post-initiation period ($p < 0.012$). Also, treatment banks have higher nonperforming C&I loans ($NPL^{C\&I}$) relative to total loans in the post-initiation period ($p < 0.024$). As a result of the matching procedure, $Timeliness^{C\&I}$ for the treatment and the controls banks is not significantly different in the pre-initiation period ($p < 0.832$), suggesting no systematic differences between the two samples that are related to the timing of loss recognition. However, $Timeliness^{C\&I}$ for the treatment banks is significantly greater in the post-initiation period ($p < 0.044$).

3.1.5. Results

Table 2 reports the results of Model (1) estimated separately for the treatment (*TRE*) and the control (*CON*) bank samples. For the treatment bank sample, α_8 is not reliably different from zero ($\alpha_8^{TRE} = 0.025$; $p < 0.424$) whereas α_9 ($\alpha_9^{TRE} = 0.050$; $p < 0.008$) and α_{10} ($\alpha_{10}^{TRE} = 0.062$; $p < 0.023$) are positive. These findings indicate that banks that initiated concurrent lending and underwriting align loan loss provisions more with current and anticipated future performance of their C&I loan portfolios following the initiation, making loss recognition timelier and thus more forward-looking for C&I loans. For the control bank sample, α_8 ($\alpha_8^{CON} = 0.011$; $p < 0.365$), α_9 ($\alpha_9^{CON} = -0.047$; $p < 0.212$) and α_{10} ($\alpha_{10}^{CON} = -0.012$; $p < 0.373$) are not reliably different from zero,

indicating that banks that did not initiate concurrent lending and underwriting did not change their C&I loan loss recognition timeliness after the pseudo-initiation years.

Table 3 reports the results of Model (2) estimated separately for the treatment and the control bank samples. For the treatment bank sample, the results indicate that, while these banks did not significantly alter their extent of reliance on past performance of the C&I loan portfolio (β_8^{TRE}= -0.031; p < 0.577), they increased their reliance on current (β_9^{TRE}= 0.051; p < 0.012) and anticipated future performance (β_{10}^{TRE}= 0.042; p < 0.009) from pre- to post-initiation. For the control bank sample, the results indicate no significant change from pre- to post-initiation in the association of loan loss allowance with past (β_8^{CON}= 0.033; p < 0.313), current (β_9^{CON}= -0.022; p < 0.421) and anticipated future (β_{10}^{CON}=0.005; p < 0.373) performance of the C&I loan portfolio.

Table 4 reports the results of Model (3) estimated separately for the treatment and the control bank samples. The results indicate that the treatment banks increased the C&I loan loss recognition timeliness after the initiation of concurrent lending and underwriting (φ_1^{TRE}= 0.135; p < 0.001), while the corresponding change for the control banks is not reliably different from zero (φ_1^{CON}= 0.033; p < 0.252).

Taken together, the findings for Models (1) through (3) indicate that banks that initiated concurrent lending and underwriting recognize loan losses more in line with current and anticipated future performance of their C&I loan portfolios following the initiation, thus increasing the C&I loan loss recognition timeliness.

For the reasons discussed in Section 3.1.3, the sample period for estimating Models (4) through (6) starts in 1996.[26] This period is after the initial 5-year post-initiation period for most

[26] 17 of the 35 treatment banks initiated concurrent lending and underwriting during the period 1987-1989, 14 banks during the period 1990-1995, and 4 banks during the period 1996-1997. In order to have 5 observations per treatment bank, the sample period is from 1996 to 2000 for banks that initiated before 1996, from 1997 to 2001 for banks that initiated in 1996, and from 1998 to 2002 for banks that initiated in 1997.

banks in our sample. Thus, Models (4) through (6) jointly test how loss recognition timeliness changes with the intensity of exposure to concurrent lending and underwriting and whether our inferences based on Models (1) through (3) are applicable to later periods after the initiation.

Table 5 reports the estimation results for Model (4) for the treatment bank sample. The negative and significant χ_8 (χ_8 = -0.043; p < 0.080) indicates that the extent of reliance on past C&I loan performance when recognizing expected losses in loan loss provisions decreases with the intensity of exposure to concurrent lending and underwriting. The positive and significant χ_9 (χ_9 = 0.072; p < 0.010) and χ_{10} (χ_{10} = 0.033; p < 0.025) indicate that as exposure to concurrent lending and underwriting increases, the C&I loan loss recognition timeliness also increases.

Table 6 reports the estimation results for Model (5) for the treatment bank sample. The negative δ_8 (δ_8 = -0.010; p < 0.052) and positive δ_9 (δ_9 = 0.051; p < 0.004) and δ_{10} (δ_{10} = 0.034; p < 0.033) indicate that banks align loan loss allowance more with current and anticipated future performance and less with past performance of their C&I loan portfolios as their exposure to concurrent lending and underwriting increases.

Table 7 reports the estimation results for Model (6) for the treatment bank sample. The positive and significant ρ_1 (ρ_1 = 0.148; p < 0.001) indicates that banks with higher exposure to concurrent lending and underwriting reserve for C&I loan losses in a timelier manner.

Table 8 presents the results of the across-sample and in-sample difference-in-differences tests based on Models (1) through (5). In Model (1), while $\alpha_8^{TRE} - \alpha_8^{CON}$ is not reliably different from zero (p < 0.668), both $\alpha_9^{TRE} - \alpha_9^{CON}$ and $\alpha_{10}^{TRE} - \alpha_{10}^{CON}$ are reliably greater than zero (p < 0.021 and p < 0.014, respectively). The results of the in-sample difference-in-differences tests indicate that, for the treatment banks, the pre- to post-initiation change in the extent of reliance on anticipated future performance is greater for C&I loans than for other loans (p < 0.057), but the

changes in the extent of reliance on past and current performance of C&I loans are not reliably different from the corresponding changes for other loans ($p < 0.472$ and $p < 0.184$, respectively). The difference-in-differences test results based on Model (2) indicate that the pre- to post-initiation changes in the extent of reliance on current and anticipated future performance are greater for treatment banks than for control banks ($p < 0.032$ and $p < 0.031$, respectively), but the change in the extent of reliance on past performance for treatment banks is not reliably different from the corresponding change for control banks ($p < 0.321$). The results of the in-sample difference-in-differences tests indicate that, for the treatment banks, the pre- to post-initiation change in the extent of reliance on current and anticipated future performance is greater for C&I loans than for other loans ($p < 0.041$ and $p < 0.070$, respectively), but the change in the extent of reliance on past performance of C&I loans is not reliably different from the corresponding change for other loans ($p < 0.937$). The difference-in-differences test results based on Model (3) indicate that the pre- to post-initiation increase in the C&I loan loss recognition timeliness is greater for treatment banks than for control banks ($p < 0.006$), consistent with the findings for Models (1) and (2). The results of the in-sample difference-in-differences tests based on Model (4) indicate that, when recognizing loan loss provisions, the effect of higher exposure on the extent of reliance on current and on anticipated future performance is greater for C&I loans than for other loans ($p < 0.015$ and $p < 0.047$, respectively). The results of the in-sample difference-in-differences tests based on Model (5) indicate that the corresponding effect when reserving for loan losses is also greater for C&I loans than for other loans ($p < 0.029$ and $p < 0.017$, respectively).

Overall, the results of the across-sample and the in-sample difference-in-differences tests indicate that the documented increase in loss recognition timeliness based on estimating Models (1) through (3) is not attributable to temporal changes in potentially omitted industry and macroeconomic factors or to potentially omitted factors that affect only the treatment banks.

3.2. Loss Recognition Timeliness and Loan Portfolio Credit Quality

The findings for Models (1) through (6) suggest that banks recognize losses in a timelier manner upon engaging in concurrent lending and underwriting. Next, we examine the real effects of timelier loss recognition induced by concurrent lending and underwriting on banks' loan credit quality.

While informational advantages achieved through concurrent lending and underwriting may be utilized in a manner to improve lending prudence, concurrent lending and underwriting may also lead to exploitation of conflict of interest and the consequent imprudent lending. Regulatory and market discipline are potential mechanisms that constrain exploitation of conflict of interest in the context of concurrent lending and underwriting (Mishkin 2004; Crockett et al. 2004), and timeliness of information is one of the necessary conditions for these mechanisms to be effective (Crockett 2002). In this vein, timelier loss recognition allows regulators and market participants to take more prompt interventional and protective actions. Therefore, by inducing timelier loss recognition, concurrent lending and underwriting may also have an indirect effect on the credit quality of the loans. Given banks' anticipation of more prompt intervention, timelier loss recognition may be more effective in deterring banks from making imprudent loans, consistent with the notion that timelier loss recognition enhances banks' risk-taking discipline in aggregate (Bushman and Williams 2012).

3.2.1. Loan Portfolio Credit Quality Before and After the Initiation of Concurrent Lending and Underwriting

We first examine how the credit quality of the C&I loan portfolio changes from pre- to-post initiation of concurrent lending and underwriting. Next, we examine whether this change is associated with the increase in loss recognition timeliness documented earlier.

We examine the former based on the relatively nondiscretionary measures of credit quality (i.e., charge-offs and nonperforming loans).[27] Accordingly, we estimate the following models separately for treatment and control banks:

$$ChargeOff_{i,t+1}^{C\&I} = \pi_0 + \pi_1 Post_{i,t} + \pi_2 Post_{i,t} * Loan_{i,t}^{C\&I} + \pi_3 Loan_{i,t}^{C\&I} + [Controls] + \varepsilon_{i,t} \quad (7)$$

$$NPL_{i,t+1}^{C\&I} = \eta_0 + \eta_1 Post_{i,t} + \eta_2 Post_{i,t} * Loan_{i,t}^{C\&I} + \eta_3 Loan_{i,t}^{C\&I} + [Controls] + \varepsilon_{i,t} \quad (8)$$

In Models (7) and (8), we expect C&I loan charge-offs relative to total loans ($ChargeOff^{C\&I}$) and nonperforming C&I loans relative to total loans ($NPL^{C\&I}$) to increase with the magnitude of C&I loans relative to total loans ($Loan^{C\&I}$). π_2 and η_2, the coefficients on $Post * Loan^{C\&I}$, capture the pre- to post-initiation change in C&I loan charge-offs and nonperforming C&I loans, respectively. If concurrent lending and underwriting leads to granting of safer (riskier) C&I loans, it would lead to lower (higher) C&I loan loss realizations and lower (higher) C&I loans in nonperforming status post-initiation. Therefore, positive (negative) π_2 and η_2 indicate a decrease (increase) in credit quality of the C&I loan portfolio after the initiation of concurrent lending and underwriting.

We control for bank-specific, industry and macroeconomic factors identified by prior studies as drivers of loan portfolio credit quality. Higher dependence on deposit funding implies more deposit insurance protection, decreases depositors' incentives to monitor and constrain bank risk, exacerbates agency problems, and gives banks incentives to take greater risks (Billett, et al. 1998, Ioannidou and Penas 2010, Karas et al. 2013), suggesting a positive association of deposits ($Deposit$) with loan charge-offs and nonperforming loans. Bank cost structure may also affect the credit quality of the loan portfolios but its effect is ambiguous. On the one hand, high noninterest

[27] We note that C&I loan charge-offs are likely to be more discretionary and less timely than nonperforming C&I loans as a measure of C&I loan credit quality (Ryan 2007).

expense may indicate bank operational inefficiency and poor management practices, which also apply to lending decisions (Berger and DeYoung 1997), suggesting a positive coefficient on $NonInterest$, measured as the ratio of noninterest expense to total expense. On the other hand, low noninterest expense may be the result of the bank's strategy to prop up profitability in the short-run by paring the resources devoted to underwriting and monitoring loans. However, the reduced screening and monitoring efforts eventually increase loan charge-offs and nonperforming loans (Berger and DeYoung 1997), suggesting a negative coefficient on $NonInterest$. Banks with higher profitability have weaker incentives to take excessive risks and to grant riskier loans (Berger and DeYoung 1997), suggesting a negative association of profit ($EBTP$) with loan charge-offs and nonperforming loans. Banks with lower capital ratios exhibit greater propensity to take excessive risks and to grant riskier loans. If these high interest rate loans pay off, banks recoup their losses, and if they default, the Federal Deposit Insurance Corporation bears most of the costs (Keeton and Morris 1987). Banks with higher capital ratios invest in safer loans (Barth, Caprio and Levine 2004; Morrison and White 2005). Therefore, we expect a negative association of bank capital ($Capital$) with loan charge-offs and nonperforming loans. We control for bank size ($Size$) because more extensive implicit guarantees for larger banks give these banks incentives to take greater risks (Boyd and Runkle 1993; Afonso, Santos and Traina 2014). On the other hand, larger banks may be more constrained in taking certain risks due to stricter regulatory monitoring (Boyd and Runkle 1993). Higher competition reduces banks' incentives to act prudently (Keeley 1990) and lowers their lending standards (Bushman et al. 2016). Therefore, we control for competition in C&I lending ($HHIndex^{C\&I}$), measured as the Herfindahl-Hirschman Index of C&I loans. Low levels of $HHIndex^{C\&I}$ indicate higher competition, suggesting a negative association of $HHIndex^{C\&I}$ with C&I loan charge-offs and nonperforming C&I loans. As the macroeconomic

outlook improves, loan defaults and delinquent loans decline. Therefore, we include the annual percentage change in gross domestic product ($GdpGrowth$) as a control variable.

3.2.2. Descriptive Statistics

Panel A of Table 1 presents sample statistics for the variables employed in the loan credit quality analyses for both the treatment and the control banks. Univariate comparisons of the pre- and the post-initiation periods in Panel B of Table 1 indicate that the ratio of noninterest expense to total expense ($NonInterest$) significantly increases from pre- to post-initiation for the treatment banks ($p < 0.003$) but not for the control banks ($p < 0.796$). For the control banks, the magnitudes of deposits ($Deposit$), C&I loans ($Loan^{C\&I}$) and nonperforming C&I loans ($NPL^{C\&I}$) relative to total loans are lower in the post-initiation period ($p < 0.048$, $p < 0.047$ and $p < 0.033$, respectively) and competition in C&I lending ($HHIndex^{C\&I}$) is higher ($p < 0.001$).

Univariate cross-sectional comparisons also presented in Panel B of Table 1 indicate that treatment banks have higher C&I loan charge-offs ($ChargeOff^{C\&I}$), higher C&I loans ($Loan^{C\&I}$) and lower deposits ($Deposit$) relative to total loans than control banks in both the pre- and the post-initiation periods. Treatment banks also have higher nonperforming C&I loans ($NPL^{C\&I}$) relative to total loans than control banks in the post-initiation period ($p < 0.024$).

3.2.3. Results

Tables 9 and 10 report the results for Models (7) and (8), respectively, estimated separately for the treatment and the control banks. π_2 and η_2, the coefficients on $Post * Loan^{C\&I}$ in Models (7) and (8), respectively, capture the pre- to post-initiation change in C&I loan credit quality. The negative and significant π_2 ($\pi_2^{TRE} = -0.001; p < 0.009$) in Table 9 and η_2 ($\eta_2^{TRE} = -0.003; p < 0.008$) in Table 10 indicate that treatment banks have lower C&I loan loss realizations and lower C&I loans in nonperforming status after the initiation of concurrent lending and underwriting,

suggesting a post-initiation increase in the credit quality of the C&I loan portfolio. For the control bank sample, π_2 ($\pi_2^{CON} = 0.000$; p < 0.260) in Table 9 and η_2 (η_2^{CON} = -0.001; p < 0.193) in Table 10 are not reliably different from zero, indicating that the credit quality of the C&I loan portfolio for the control banks did not change after the pseudo-initiation years.

The difference-in-differences tests based on Models (7) and (8) presented in Table 11 indicate that the pre- to post-initiation increase in the credit quality of C&I loans is greater for the treatment banks than for the control banks (p < 0.008 and p < 0.052, respectively).

The coefficients on $Post * Loan^{C\&I}$ and $Loan^{C\&I}$ for the treatment bank sample in Table 9 (Table 10) indicate that the increase in C&I loan charge-offs (nonperforming C&I loans) for a unit increase in C&I loans is 12.1 (13.7) percent lower in the post-initiation period.[28]

We note that, following the prior literature, we interpret higher levels of loan loss provisions and allowances per unit of current and future anticipated nonperforming loans as an increase in timeliness in Models (1) through (6). However, the documented increase could potentially be driven by an increase in the actual C&I loan portfolio credit risk (i.e., decrease in the credit quality of C&I loans) rather than a change in the reporting strategy. That is, if concurrent lending and underwriting leads to granting of riskier C&I loans, this may also lead to greater loan loss provisions and allowances per unit of nonperforming C&I loans. However, the estimation results for Models (7) and (8) indicate that the C&I loan credit quality indeed increased after the initiation of concurrent lending and underwriting, thus suggesting that our results based on Models (1) through (6) are driven by a change in the reporting strategy rather than by an increase in the actual C&I loan portfolio credit risk.

3.2.4. Timelier Loss Recognition and Loan Portfolio Credit Quality

[28] The current and all the subsequent economic magnitude calculations are based on the coefficient estimates that are not rounded.

As noted earlier, concurrent lending and underwriting may affect credit quality directly through its effect on lending prudence and indirectly through its effect on loss recognition timeliness. Thus, π_2 and η_2 in Models (7) and (8) capture the aggregate effect of concurrent lending and underwriting on credit quality. Delineating the effect of the increase in loss recognition timeliness on credit quality requires a bank- and year-specific measure of pre- to post-initiation change in timeliness. Using $Timeliness^{C\&I}$, the ratio of loan loss allowance for C&I loans to nonperforming C&I loans as in Models (3) and (6), we measure the change from the pre-initiation period to year *t* of the post-initiation period for bank *i*, $\Delta Timeliness^{C\&I}$, as the deviation of $Timeliness^{C\&I}$ for bank *i* in year *t* from the five year pre-initiation period average of $Timeliness^{C\&I}$ for bank *i*.

We examine whether the improvement in the credit quality of the C&I loan portfolio from pre- to post-initiation documented in Models (7) and (8) is, at least partially, driven by the increase in loss recognition timeliness from the pre- to the post-initiation period. Accordingly, we estimate the following models:

$$\begin{aligned}\Delta ChargeOff_{i,t+1}^{C\&I} = {} & \theta_0 + \theta_1 HighExp_{i,t} + \theta_2 \Delta Timeliness_{i,t}^{C\&I} + \theta_3 HighExp_{i,t} * \Delta Timeliness_{i,t}^{C\&I} \\ & + \theta_4 HighExp_{i,t} * \Delta Loan_{i,t}^{C\&I} + \theta_5 \Delta Timeliness_{i,t}^{C\&I} * \Delta Loan_{i,t}^{C\&I} \\ & + \theta_6 HighExp_{i,t} * \Delta Timeliness_{i,t}^{C\&I} * \Delta Loan_{i,t}^{C\&I} + \theta_7 \Delta Loan_{i,t}^{C\&I} + [Controls] + \varepsilon_{i,t}\end{aligned} \quad (9)$$

$$\begin{aligned}\Delta NPL_{i,t+1}^{C\&I} = {} & \gamma_0 + \gamma_1 HighExp_{i,t} + \gamma_2 \Delta Timeliness_{i,t}^{C\&I} + \gamma_3 HighExp_{i,t} * \Delta Timeliness_{i,t}^{C\&I} \\ & + \gamma_4 HighExp_{i,t} * \Delta Loan_{i,t}^{C\&I} + \gamma_5 \Delta Timeliness_{i,t}^{C\&I} * \Delta Loan_{i,t}^{C\&I} \\ & + \gamma_6 HighExp_{i,t} * \Delta Timeliness_{i,t}^{C\&I} * \Delta Loan_{i,t}^{C\&I} + \gamma_7 \Delta Loan_{i,t}^{C\&I} + [Controls] + \varepsilon_{i,t}\end{aligned} \quad (10)$$

Models (9) and (10) are based on Models (7) and (8), respectively, and the changes in the variables are derived in the same manner as $\Delta Timeliness^{C\&I}$. Also, because these models include interactions of continuous variables, $\Delta Timeliness_{i,t}^{C\&I}$ and $\Delta Loan_{i,t}^{C\&I}$, we center the variables at

their respective sample means to mitigate potential multicollinearity (Aiken and West 1991) and facilitate reliable interpretations.[29]

If the improvement in credit quality of the C&I loan portfolio documented in Models (7) and (8) is driven by more prudent lending that is facilitated by the greater informational advantages resulting from concurrent lending and underwriting, we should observe greater improvement in credit quality as banks' exposure to concurrent lending and underwriting increases. Therefore, we expect θ_4 and γ_4, the coefficients on $HighExp * \Delta Loan^{C\&I}$ in Models (9) and (10), respectively, to be less than zero.

If the greater discipline imposed on lending by committing to timelier loss recognition has an effect on credit quality incremental to the effect of lending prudence induced by the informational advantages from concurrent lending and underwriting, we should observe greater pre- to post-initiation improvement in C&I loan credit quality for banks with greater pre- to post-initiation increase in loss recognition timeliness. Therefore, we expect θ_5 and γ_5, the coefficients on $\Delta Timeliness * \Delta Loan^{C\&I}$ in Models (9) and (10), respectively, to be less than zero.

3.2.5. Results

[29] As noted earlier, the intensity of exposure can be reliably measured starting from 1996 due to the data coverage limitations in Dealscan. Therefore, when measuring the changes in variables, there are time gaps between the pre- and the post-initiation periods for most treatment banks (i.e., for the treatment banks with initiation years before 1996). While the changes specifications correct for biases from potentially omitted intertemporal constants, time gaps do not create bias in coefficient estimates to the extent year-specific effects are captured by $\Delta HHIndex^{C\&I}$ and $\Delta GdpGrowth$. We also estimate Models (9) and (10) with year-fixed effects to have controls for potential year-specific effects that are not captured by $\Delta HHIndex^{C\&I}$ and $\Delta GdpGrowth$. Also, time gaps vary across sample banks because the initiation years span the period 1987-1997, and they do not create bias to the extent the initiation years are not systematically related to the intensity of exposure ($HighExp$) and the pre- to post-initiation change in timeliness ($\Delta Timeliness^{C\&I}$). Therefore, we check whether specific initiation years are associated with higher/lower $HighExp$ and $\Delta Timeliness^{C\&I}$, and confirm that they are not. In addition, we partition banks based on their exposure data for 1996 and use this partitioning to estimate Models (9) and (10) without a time gap between the pre- and post-initiation periods. Our inferences remain unchanged. Therefore, we present the results based on the measurement period with the most reliable exposure measure.

Table 12 reports the results for Models (9) and (10) estimated for the treatment bank sample in the post-initiation period. θ_4 and γ_4, the coefficients on $HighExp * \Delta Loan^{C\&I}$ in Models (9) and (10), respectively, capture the difference in the pre- to post-initiation change in C&I loan credit quality between banks with above- versus below-median exposures to concurrent lending and underwriting. The negative and significant θ_4 (θ_4= -0.001; p < 0.007) and γ_4 (γ_4 = -0.001; p < 0.082) indicate that banks with higher exposure to concurrent lending and underwriting have greater pre- to post-initiation reductions in C&I loan loss realizations and in C&I loans in nonperforming status, respectively. These findings are in line with the notion that informational advantages achieved through concurrent lending and underwriting lead to more prudent lending. The coefficients on $HighExp * Loan^{C\&I}$ and $Loan^{C\&I}$ based on Model (9) indicate that, assuming no (mean) pre- to post-initiation change in C&I loan loss recognition timeliness, banks with above-median exposure to concurrent lending and underwriting have, on average, a 6.4 (11.1) percent lower increase in C&I loan charge-offs for a unit increase in C&I loans than banks with below-median exposure. Similarly, the coefficients on $HighExp * Loan^{C\&I}$ and $Loan^{C\&I}$ based on Model (10) indicate that, assuming no (mean) pre- to post-initiation change in C&I loan loss recognition timeliness, banks with above-median exposure to concurrent lending and underwriting have, on average, a 4.4 (9.3) percent lower increase in nonperforming C&I loans for a unit increase in C&I loans than banks with below-median exposure. These findings are in line with the findings of Neuhann and Saidi (2018) who document that concurrent lending and underwriting clients have lower bankruptcy risk.

θ_5 and γ_5, the coefficients on $\Delta Timeliness^{C*I} * \Delta Loan^{C\&I}$ in Models (9) and (10), respectively, capture the pre- to post-initiation change in C&I loan credit quality associated with the pre- to post-initiation change in C&I loan loss recognition timeliness. The negative and

significant θ_5 (θ_5= -0.004; p < 0.034) and γ_5 (γ_5 = -0.007; p < 0.011) indicate that banks with greater pre- to post-initiation increase in C&I loan loss recognition timeliness have greater pre- to post initiation reductions in C&I loan loss realizations and in C&I loans in nonperforming status, respectively. The coefficients on $\Delta Timeliness^{C*I} * \Delta Loan^{C\&I}$ and $Loan^{C\&I}$ based on Model (9) indicate that, assuming below-median (above-median) exposure to concurrent lending and underwriting, a bank with mean pre- to post-initiation change in C&I loan loss recognition timeliness has, on average, a 5.4 (10.2) percent lower increase in C&I loan charge-offs for a unit increase in C&I loans than a bank with no pre- to post-initiation change in timeliness. Similarly, the coefficients on $\Delta Timeliness^{C*I} * \Delta Loan^{C\&I}$ and $Loan^{C\&I}$ based on Model (10) indicate that, assuming below-median (above-median) exposure to concurrent lending and underwriting, a bank with mean pre- to post-initiation change in C&I loan loss recognition timeliness has a 6.0 (10.8) percent lower increase in nonperforming C&I loans for a unit increase in C&I loans than a bank with no pre- to post-initiation change in timeliness. We also note that the insignificant θ_6 (p < 0.302) and γ_6 (p < 210), the coefficients on $HighExp * \Delta Timeliness^{C\&I} * \Delta Loan^{C\&I}$, suggest that there is no difference between banks with high and banks with low exposure in terms of the effect of a unit increase in timeliness on loan credit quality. Collectively, these findings suggest that timelier loss recognition for C&I loans induced by concurrent lending and underwriting is a contributing factor in the pre- to post-initiation increase in C&I loan credit quality.

3.3. Robustness Checks

In order to capture the delay in loss recognition, some studies (e.g., Beatty and Liao 2011; Bushman and Williams 2015) include nonperforming loan information for the two prior periods (ΔNPL_{t-1} and ΔNPL_{t-2}), whereas other studies (e.g, Nichols et al. 2009; Kanagaretnam et al. 2014) include information for only one prior period (ΔNPL_{t-1}) in the loan loss provision models.

We do not find a significant association between loan loss provisions and ΔNPL_{t-2} in the pre-initiation period, and the results do not indicate a change in the association from pre- to post-initiation. Including ΔNPL_{t-2} does not change our primary inferences.

Our sample period includes some bank mergers and acquisitions. To the extent that these mergers and acquisitions occur around the time of the initiation of concurrent lending and underwriting, and the associated restructurings change banks' discretionary timing of loss recognition and/or lending prudence, our findings may be due to the merger or acquisition activity rather than to the initiation of concurrent lending and underwriting. To rule out this alternative explanation, we re-estimate our models using a subsample of banks that were not involved in merger or acquisition activity. Our inferences remain unchanged.

When creating the partitioning variable $HighExp$ used in Models (4), (5), (6), (9) and (10), we classify a loan as concurrent if the loan is made to a corporate client between 1 year before and 1 year after the security is issued. The choice of interval for defining a concurrent loan is to some extent arbitrary. For example, Neuhann and Saidi (2018) use a period of 2 years before to 2 years after a loan issuance whereas Drucker and Puri (2005) use a period of 6 months before to 6 months after a seasoned equity offering. Using these alternative intervals does not change our conclusions.

We use two other specifications for the partitioning variable $HighExp$. First, we measure $HighExp$ as an ordinal variable that ranges from 1 to 10 each year, with 10 representing the decile with the highest exposure in the year. Second, we measure $HighExp$ as a continuous variable that equals the proportion of concurrent loans to loans originated in the year. Based on the former measure, all our results, and based on the latter measure, all our results except for Model (5) remain qualitatively similar.

4. Summary and Conclusions

We examine how concurrent lending and underwriting, a widespread practice after the deregulation that expanded the scope of banking, affects banks' loss recognition timeliness. Concurrent lending and underwriting increases uncertainty about loan portfolio credit quality and bank profitability because it could lead to more prudent or imprudent lending. One potential mechanism for banks to alleviate the possible negative outcomes arising from the heightened uncertainty is discretionary timing of loss recognition. However, it is not clear a priori whether banks that initiate concurrent lending and underwriting will resort to more delayed or timelier loss recognition. We find evidence that banks recognize C&I loan losses in a timelier manner subsequent to their initiation of concurrent lending and underwriting, and C&I loan loss recognition timeliness increases with banks' exposure to concurrent lending and underwriting. The evidence that concurrent lending and underwriting leads to estimates of loan loss provisions and allowances that are more forward-looking is relevant in light of the FASB's recent plan to replace the incurred loss model with the more forward-looking expected loss model.

Next, we examine the real effects of timelier loss recognition induced by concurrent lending and underwriting on C&I loan credit quality. We find that C&I loan credit quality increased following the initiation of concurrent lending and underwriting. Moreover, both the informational advantages achieved through and timelier loss recognition induced by concurrent lending and underwriting contribute to this increase. These findings point to at least one benefit of integrating commercial banking and investment banking with respect to C&I loan credit risk, which is especially relevant in the context of the recent push by some policymakers to split banks on the basis of concerns about exploitation of conflict.

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Table 1
Descriptive Statistics

Panel A: Sample Statistics

	Treatment Banks						Control Banks					
	Pre-initiation Period			Post-initiation Period			Pseudo Pre-initiation Period			Pseudo Post-initiation Period		
Variable	N	Mean	Median	N	Mean	Median	N	Mean	Median	N	Mean	Median
Allowance	158	0.022	0.019	162	0.023	0.022	158	0.021	0.018	162	0.021	0.019
Capital	158	0.067	0.066	162	0.071	0.072	158	0.074	0.075	162	0.076	0.075
CaseShiller	158	0.041	0.036	162	0.032	0.024	158	0.041	0.036	162	0.032	0.024
ChargeOff	158	0.009	0.008	162	0.009	0.007	158	0.006	0.005	162	0.006	0.005
ChargeOff$^{C\&I}$	158	0.003	0.002	162	0.003	0.002	158	0.002	0.001	162	0.002	0.001
Deposit	158	1.222	1.214	162	1.213	1.211	158	1.473	1.379	162	1.400	1.332
EBTP	158	0.033	0.031	162	0.037	0.036	158	0.030	0.029	162	0.033	0.032
Exposure	N/A	N/A	N/A	162	0.334	0.357	N/A	N/A	N/A	N/A	N/A	N/A
GdpGrowth	158	0.031	0.035	162	0.030	0.036	158	0.031	0.035	162	0.030	0.036
HetLoan	158	0.558	0.530	162	0.580	0.543	158	0.503	0.518	162	0.511	0.497
HHIndex$^{C\&I}$	158	0.016	0.016	162	0.019	0.016	158	0.016	0.016	162	0.019	0.016
LLP	158	0.010	0.009	162	0.010	0.007	158	0.007	0.005	162	0.008	0.006
Loan$^{C\&I}$	158	0.328	0.328	162	0.314	0.302	158	0.296	0.293	162	0.276	0.262
LoanGrowth	158	0.127	0.101	162	0.094	0.074	158	0.115	0.092	162	0.108	0.088
NonInterest	158	0.459	0.445	162	0.493	0.503	158	0.475	0.440	162	0.478	0.462
NPL$^{C\&I}$	158	0.006	0.006	162	0.006	0.006	158	0.005	0.004	162	0.004	0.003
NPL^{Other}	158	0.012	0.010	162	0.011	0.008	158	0.008	0.005	162	0.008	0.006
Size	158	23.665	23.836	162	24.672	24.733	158	22.444	22.385	162	22.808	22.755
Timeliness$^{C\&I}$	142	1.356	1.227	144	1.488	1.312	142	1.370	1.170	144	1.366	1.151

Allowance = Beginning loan loss allowance scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *CaseShiller* = Return on the Case-Shiller Real Estate Index over the year; *ChargeOff* = Charge-offs on loans net of loan recoveries scaled by beginning total loans; *ChargeOff*$^{C\&I}$ = Charge-offs on C&I loans net of C&I loan recoveries scaled by beginning total loans; *Deposit* = Total deposits scaled by beginning total loans; *EBTP* = Earnings before taxes and loan loss provisions scaled by beginning total loans; *Exposure* = Weight of concurrent loans in the C&I loan originations; *GdpGrowth* = Percentage change in gross domestic product over the year; *HetLoan* = Heterogeneous loans (commercial and industrial loans, direct lease financing, commercial real estate loans, and foreign loans) scaled by beginning total loans; *HHIndex*$^{C\&I}$ = Herfindahl-Hirschman Index of C&I loans; *LLP* = Provision for loan losses scaled by beginning total loans; *Loan*$^{C\&I}$ = C&I loans scaled by beginning total loans; *LoanGrowth* = Change in total loans in the year scaled by beginning total loans; *NonInterest* = Ratio of noninterest expense to total expense; *NPL*$^{C\&I}$ = Nonperforming C&I loans scaled by beginning total loans; *NPL*^{Other} = Nonperforming loans other than C&I loans scaled by beginning total loans; *Size* = Natural logarithm of bank total assets; *Timeliness*$^{C\&I}$ = Ratio of loan loss allowance for C&I loans to next year's nonperforming C&I loans.

Table 1
Descriptive Statistics

Panel B: Intertemporal and Cross-sectional Univariate Comparisons

	H_0: $Treatment^{Pre} = Treatment^{Post}$		H_0: $Control^{Pre} = Control^{Post}$		H_0: $Treatment^{Pre} = Control^{Pre}$		H_0: $Treatment^{Post} = Control^{Post}$	
	t-statistic	Pr > |t|	t-statistic	Pr > |t|	t-statistic	Pr > |t|	t-statistic	Pr > |t|
Allowance	1.039	0.300	0.700	0.484	0.858	0.392	2.520	0.012
Capital	2.804	0.005	0.883	0.378	4.856	<.001	2.959	0.003
CaseShiller	2.354	0.019	2.354	0.019	N/A	N/A	N/A	N/A
ChargeOff	0.190	0.849	0.425	0.671	4.511	<.001	4.046	<.001
$ChargeOff^{C\&I}$	0.276	0.783	1.344	0.180	2.747	0.006	3.867	<.001
Deposit	0.260	0.795	1.998	0.048	6.902	<.001	5.206	<.001
EBTP	3.532	<.001	2.757	0.006	2.304	0.020	2.840	0.005
Exposure	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GdpGrowth	0.760	0.448	0.760	0.448	N/A	N/A	N/A	N/A
HetLoan	1.263	0.208	0.466	0.642	3.129	0.002	4.106	<.001
$HHIndex^{C\&I}$	4.721	<.001	4.721	<.001	N/A	N/A	N/A	N/A
LLP	0.588	0.557	0.395	0.693	3.736	<.001	2.551	0.011
$Loan^{C\&I}$	1.120	0.264	1.994	0.047	2.773	0.006	3.526	<.001
LoanGrowth	2.158	0.032	0.405	0.686	0.746	0.456	0.955	0.340
NonInterest	2.960	0.003	0.259	0.796	1.519	0.130	1.344	0.180
$NPL^{C\&I}$	0.149	0.882	2.141	0.033	0.571	0.568	2.270	0.024
NPL^{Other}	0.962	0.337	0.330	0.742	4.134	<.001	2.588	0.010
Size	8.992	<.001	4.419	<.001	13.124	<.001	18.040	<.001
$Timeliness^{C\&I}$	2.187	0.030	0.061	0.951	0.213	0.832	2.020	0.044

Allowance = Beginning loan loss allowance scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *CaseShiller* = Return on the Case-Shiller Real Estate Index over the year; *ChargeOff* = Charge-offs on loans net of loan recoveries scaled by beginning total loans; $ChargeOff^{C\&I}$ = Charge-offs on C&I loans net of C&I loan recoveries scaled by beginning total loans; *Deposit* = Total deposits scaled by beginning total loans; *EBTP* = Earnings before taxes and loan loss provisions scaled by beginning total loans; *Exposure* = Weight of concurrent loans in the C&I loan originations; *GdpGrowth* = Percentage change in gross domestic product over the year; *HetLoan* = Heterogeneous loans (commercial and industrial loans, direct lease financing, commercial real estate loans, and foreign loans) scaled by beginning total loans; $HHIndex^{C\&I}$ = Herfindahl-Hirschman Index of C&I loans; *LLP* = Provision for loan losses scaled by beginning total loans; $Loan^{C\&I}$ = C&I loans scaled by beginning total loans; *LoanGrowth* = Change in total loans in the year scaled by beginning total loans; *NonInterest* = Ratio of noninterest expense to total expense; $NPL^{C\&I}$ = Nonperforming C&I loans scaled by beginning total loans; NPL^{Other} = Nonperforming loans other than C&I loans scaled by beginning total loans; *Size* = Natural logarithm of bank total assets; $Timeliness^{C\&I}$ = Ratio of loan loss allowance for C&I loans to next year's nonperforming C&I loans.

Table 2
Initiation of Concurrent Lending and Underwriting and
Loss Recognition Timeliness in Loan Loss Provisions

Dependent Variable: LLP		Treatment Banks		Control Banks	
		Parameter Estimates	Pr > |t|	Parameter Estimates	Pr > |t|
Post	α_1	0.001	0.307	0.000	0.534
$\Delta NPL_{t-1}^{C\&I}$	α_2	0.058	0.074	0.035	0.081
$\Delta NPL_{t}^{C\&I}$	α_3	0.168	0.051	0.187	0.009
$\Delta NPL_{t+1}^{C\&I}$	α_4	0.102	0.080	0.118	0.108
ΔNPL_{t-1}^{Other}	α_5	0.032	0.150	0.042	0.460
ΔNPL_{t}^{Other}	α_6	0.105	0.040	0.094	0.031
ΔNPL_{t+1}^{Other}	α_7	0.062	0.087	0.092	0.067
$Post * \Delta NPL_{t-1}^{C\&I}$	α_8	0.025	0.424	0.011	0.365
$Post * \Delta NPL_{t}^{C\&I}$	α_9	0.050	0.008	-0.047	0.212
$Post * \Delta NPL_{t+1}^{C\&I}$	α_{10}	0.062	0.023	-0.012	0.373
$Post * \Delta NPL_{t-1}^{Other}$	α_{11}	-0.003	0.321	0.004	0.439
$Post * \Delta NPL_{t}^{Other}$	α_{12}	0.012	0.191	0.015	0.170
$Post * \Delta NPL_{t+1}^{Other}$	α_{13}	-0.006	0.158	-0.024	0.291
Allowance	α_{14}	-0.203	0.000	-0.157	0.007
ChargeOff	α_{15}	0.763	0.000	0.702	0.000
HetLoan	α_{16}	0.001	0.225	0.002	0.145
Capital	α_{17}	0.075	0.001	0.077	0.000
Size	α_{18}	0.000	0.587	-0.001	0.364
EBTP	α_{19}	0.069	0.080	0.089	0.001
CaseShiller	α_{20}	-0.026	0.004	-0.013	0.071
GdpGrowth	α_{21}	0.004	0.832	-0.004	0.823
Number of Observations			320		320
R-Squared			0.75		0.73

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. *LLP* = Provision for loan losses scaled by beginning total loans; *Post* = A bank- and year-specific indicator variable that equals one (zero) for periods after (before) the initiation year of concurrent lending and underwriting for the bank; $\Delta NPL^{C\&I}$ = Change in nonperforming C&I loans in the year scaled by beginning total loans; ΔNPL^{Other} = Change in nonperforming loans other than C&I loans in the year scaled by beginning total loans; *Allowance* = Beginning loan loss allowance scaled by beginning total loans; *ChargeOff* = Charge-offs on loans net of loan recoveries scaled by beginning total loans; *HetLoan* = Heterogeneous loans (commercial and industrial loans, direct lease financing, commercial real estate loans, and foreign loans) scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets; *EBTP* = Earnings before taxes and loan loss provisions scaled by beginning total loans; *CaseShiller* = Return on the Case-Shiller Real Estate Index over the year; *GdpGrowth* = Percentage change in gross domestic product over the year.

Table 3
Initiation of Concurrent Lending and Underwriting and Loss Recognition Timeliness in Loan Loss Allowance

Dependent Variable: Allowance		Treatment Banks		Control Banks	
		Parameter Estimates	Pr > |t|	Parameter Estimates	Pr > |t|
Post	β_1	-0.001	0.385	-0.002	0.200
$NPL_{t-1}^{C\&I}$	β_2	0.127	0.256	0.227	0.301
$NPL_{t}^{C\&I}$	β_3	0.263	0.016	0.300	0.040
$NPL_{t+1}^{C\&I}$	β_4	0.117	0.116	0.106	0.005
NPL_{t-1}^{Other}	β_5	0.098	0.281	0.064	0.049
NPL_{t}^{Other}	β_6	0.165	0.026	0.103	0.053
NPL_{t+1}^{Other}	β_7	-0.013	0.820	0.021	0.346
$Post * NPL_{t-1}^{C\&I}$	β_8	-0.031	0.577	0.033	0.313
$Post * NPL_{t}^{C\&I}$	β_9	0.051	0.012	-0.022	0.421
$Post * NPL_{t+1}^{C\&I}$	β_{10}	0.042	0.009	0.005	0.373
$Post * NPL_{t-1}^{Other}$	β_{11}	-0.034	0.276	0.025	0.523
$Post * NPL_{t}^{Other}$	β_{12}	0.011	0.365	0.037	0.377
$Post * NPL_{t+1}^{Other}$	β_{13}	-0.028	0.268	0.005	0.837
ChargeOff	β_{14}	0.443	0.002	0.482	0.000
LoanGrowth	β_{15}	0.007	0.090	0.008	0.008
HetLoan	β_{16}	0.005	0.098	0.007	0.005
Capital	β_{17}	0.083	0.018	0.075	0.024
Size	β_{18}	0.000	0.182	0.001	0.110
CaseShiller	β_{19}	-0.012	0.377	-0.044	0.411
GdpGrowth	β_{20}	0.018	0.625	0.035	0.268
Number of Observations			320		320
R-Squared			0.69		0.65

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. *Allowance* = Loan loss allowance scaled by beginning total loans; *Post* = A bank- and year-specific indicator variable that equals one (zero) for periods after (before) the initiation year of concurrent lending and underwriting for the bank; $NPL^{C\&I}$ = Nonperforming C&I loans scaled by beginning total loans; NPL^{Other} = Nonperforming loans other than C&I loans scaled by beginning total loans; *ChargeOff* = Charge-offs on loans net of loan recoveries scaled by beginning total loans; *LoanGrowth* = Change in total loans in the year scaled by beginning total loans; *HetLoan* = Heterogeneous loans (commercial and industrial loans, direct lease financing, commercial real estate loans, and foreign loans) scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets; *CaseShiller* = Return on the Case-Shiller Real Estate Index over the year; *GdpGrowth* = Percentage change in gross domestic product over the year.

Table 4
Initiation of Concurrent Lending and Underwriting and
Loss Recognition Timeliness as an Outcome Variable

Dependent Variable: $Timeliness^{C\&I}$		Treatment Banks		Control Banks	
		Parameter Estimates	Pr > |t|	Parameter Estimates	Pr > |t|
Post	φ_1	0.135	<.001	0.033	0.252
Capital	φ_2	54.351	<.001	67.031	<.001
Size	φ_3	-0.253	0.001	-0.295	0.002
Number of Observations			286		286
R-Squared			0.32		0.25

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. $Timeliness^{C\&I}$ = Ratio of loan loss allowance for C&I loans to next year's nonperforming C&I loans; *Post* = A bank- and year-specific indicator variable that equals one (zero) for periods after (before) the initiation year of concurrent lending and underwriting for the bank; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets.

Table 5
Exposure to Concurrent Lending and Underwriting and Loss Recognition Timeliness in Loan Loss Provisions

Dependent Variable: LLP		Parameter Estimates	Pr > |t|
HighExp	χ_1	0.001	0.221
$\Delta NPL_{t-1}^{C\&I}$	χ_2	0.126	0.211
$\Delta NPL_{t}^{C\&I}$	χ_3	0.172	0.002
$\Delta NPL_{t+1}^{C\&I}$	χ_4	0.070	0.059
ΔNPL_{t-1}^{Other}	χ_5	0.041	0.072
ΔNPL_{t}^{Other}	χ_6	0.140	0.011
ΔNPL_{t+1}^{Other}	χ_7	0.059	0.081
$HighExp * \Delta NPL_{t-1}^{C\&I}$	χ_8	-0.043	0.080
$HighExp * \Delta NPL_{t}^{C\&I}$	χ_9	0.072	0.010
$HighExp * \Delta NPL_{t+1}^{C\&I}$	χ_{10}	0.033	0.025
$HighExp * \Delta NPL_{t-1}^{Other}$	χ_{11}	0.006	0.490
$HighExp * \Delta NPL_{t}^{Other}$	χ_{12}	0.008	0.478
$HighExp * \Delta NPL_{t+1}^{Other}$	χ_{13}	-0.015	0.171
Allowance	χ_{14}	-0.202	0.000
ChargeOff	χ_{15}	0.810	0.000
HetLoan	χ_{16}	0.003	0.061
Capital	χ_{17}	0.072	0.006
Size	χ_{18}	0.000	0.092
EBTP	χ_{19}	0.055	0.110
CaseShiller	χ_{20}	-0.030	0.134
GdpGrowth	χ_{21}	-0.002	0.308
Number of Observations			175
R-Squared			0.68

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. *LLP* = Provision for loan losses scaled by beginning total loans; *HighExp* = A bank- and year-specific indicator variable that equals one (zero) for bank-year observations with a higher (lower) than the annual median exposure to concurrent lending and underwriting; $\Delta NPL^{C\&I}$ = Change in nonperforming C&I loans in the year scaled by beginning total loans; ΔNPL^{Other} = Change in nonperforming loans other than C&I loans in the year scaled by beginning total loans; *Allowance* = Beginning loan loss allowance scaled by beginning total loans; *ChargeOff* = Charge-offs on loans net of loan recoveries scaled by beginning total loans; *HetLoan* = Heterogeneous loans (commercial and industrial loans, direct lease financing, commercial real estate loans, and foreign loans) scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets; *EBTP* = Earnings before taxes and loan loss provisions scaled by beginning total loans; *CaseShiller* = Return on the Case-Shiller Real Estate Index over the year; *GdpGrowth* = Percentage change in gross domestic product over the year.

Table 6
Exposure to Concurrent Lending and Underwriting and Loss Recognition Timeliness in Loan Loss Allowance

Dependent Variable: Allowance		Parameter Estimates	Pr > |t|
HighExp	δ_1	0.003	0.097
$NPL_{t-1}^{C\&I}$	δ_2	0.091	0.077
$NPL_{t}^{C\&I}$	δ_3	0.238	0.048
$NPL_{t+1}^{C\&I}$	δ_4	0.120	0.068
NPL_{t-1}^{Other}	δ_5	0.145	0.146
NPL_{t}^{Other}	δ_6	0.246	0.065
NPL_{t+1}^{Other}	δ_7	0.083	0.053
$HighExp * NPL_{t-1}^{C\&I}$	δ_8	-0.010	0.052
$HighExp * NPL_{t}^{C\&I}$	δ_9	0.051	0.004
$HighExp * NPL_{t+1}^{C\&I}$	δ_{10}	0.034	0.033
$HighExp * NPL_{t-1}^{Other}$	δ_{11}	-0.042	0.274
$HighExp * NPL_{t}^{Other}$	δ_{12}	-0.010	0.315
$HighExp * NPL_{t+1}^{Other}$	δ_{13}	0.012	0.091
ChargeOff	δ_{14}	0.437	0.001
LoanGrowth	δ_{15}	0.006	0.196
HetLoan	δ_{16}	0.008	0.089
Capital	δ_{17}	0.061	0.099
Size	δ_{18}	0.001	0.060
CaseShiller	δ_{19}	-0.052	0.300
GdpGrowth	δ_{20}	0.010	0.337
Number of Observations			175
R-Squared			0.61

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. *Allowance* = Loan loss allowance scaled by beginning total loans; *HighExp* = A bank- and year-specific indicator variable that equals one (zero) for bank-year observations with a higher (lower) than the annual median exposure to concurrent lending and underwriting; $NPL^{C\&I}$ = Nonperforming C&I loans scaled by beginning total loans; NPL^{Other} = Nonperforming loans other than C&I loans scaled by beginning total loans; *ChargeOff* = Charge-offs on loans net of loan recoveries scaled by beginning total loans; *LoanGrowth* = Change in total loans in the year scaled by beginning total loans; *HetLoan* = Heterogeneous loans (commercial and industrial loans, direct lease financing, commercial real estate loans, and foreign loans) scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets; *CaseShiller* = Return on the Case-Shiller Real Estate Index over the year; *GdpGrowth* = Percentage change in gross domestic product over the year.

Table 7
Exposure to Concurrent Lending and Underwriting and Loss Recognition Timeliness as an Outcome Variable

Dependent Variable: $Timeliness^{C\&I}$		Parameter Estimates	Pr > |t|
HighExp	ρ_1	0.148	<.001
Capital	ρ_2	57.636	<.001
Size	ρ_3	-0.261	0.001
Number of Observations			175
R-Squared			0.39

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. $Timeliness^{C\&I}$ = Ratio of loan loss allowance for C&I loans to next year's nonperforming C&I loans; *HighExp* = A bank- and year-specific indicator variable that equals one (zero) for bank-year observations with a higher (lower) than the annual median exposure to concurrent lending and underwriting; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets.

Table 8
Comparison of Pre- to Post-initiation Change in Loss Recognition Timeliness: Treatment Banks versus Control Banks

Model (1):		
Across-sample Difference-in-differences Tests	z-statistic	Pr > |t|
H_0: $\alpha_8^{TRE} - \alpha_8^{CON} = 0$	0.429	0.668
H_0: $\alpha_9^{TRE} - \alpha_9^{CON} = 0$	2.312	0.021
H_0: $\alpha_{10}^{TRE} - \alpha_{10}^{CON} = 0$	2.447	0.014
In-sample Difference-in-differences Tests	t-statistic	Pr > |t|
H_0: $\alpha_8^{TRE} - \alpha_{11}^{TRE} = 0$	0.721	0.472
H_0: $\alpha_9^{TRE} - \alpha_{12}^{TRE} = 0$	1.334	0.184
H_0: $\alpha_{10}^{TRE} - \alpha_{13}^{TRE} = 0$	1.916	0.057
Model (2):		
Across-sample Difference-in-differences Tests	z-statistic	Pr > |t|
H_0: $\beta_8^{TRE} - \beta_8^{CON} = 0$	-0.992	0.321
H_0: $\beta_9^{TRE} - \beta_9^{CON} = 0$	2.144	0.032
H_0: $\beta_{10}^{TRE} - \beta_{10}^{CON} = 0$	2.153	0.031
In-sample Difference-in-differences Tests	t-statistic	Pr > |t|
H_0: $\beta_8^{TRE} - \beta_{11}^{TRE} = 0$	0.080	0.937
H_0: $\beta_9^{TRE} - \beta_{12}^{TRE} = 0$	2.059	0.041
H_0: $\beta_{10}^{TRE} - \beta_{13}^{TRE} = 0$	1.826	0.070
Model (3):		
Across-sample Difference-in-differences Tests	z-statistic	Pr > |t|
H_0: $\varphi_1^{TRE} - \varphi_1^{CON} = 0$	2.732	0.006
Model (4):		
In-sample Difference-in-differences Tests	t-statistic	Pr > |t|
H_0: $\chi_8^{TRE} - \chi_{11}^{TRE} = 0$	-1.147	0.253
H_0: $\chi_9^{TRE} - \chi_{12}^{TRE} = 0$	2.453	0.015
H_0: $\chi_{10}^{TRE} - \chi_{13}^{TRE} = 0$	1.997	0.047
Model (5):		
In-sample Difference-in-differences Tests	t-statistic	Pr > |t|
H_0: $\delta_8^{TRE} - \delta_{11}^{TRE} = 0$	0.764	0.446
H_0: $\delta_9^{TRE} - \delta_{12}^{TRE} = 0$	2.202	0.029
H_0: $\delta_{10}^{TRE} - \delta_{13}^{TRE} = 0$	2.418	0.017

Table 9
Loan Portfolio Credit Quality
Before and After the Initiation of Concurrent Lending and Underwriting

Dependent Variable: $ChargeOff^{C\&I}$		Treatment Banks		Control Banks	
		Parameter Estimates	Pr > |t|	Parameter Estimates	Pr > |t|
Post	π_1	0.000	0.567	0.000	0.826
$Post * Loan^{C\&I}$	π_2	-0.001	0.009	0.000	0.260
$Loan^{C\&I}$	π_3	0.007	<.001	0.005	<.001
Deposit	π_4	0.000	0.006	0.000	0.044
NonInterest	π_5	-0.003	0.006	-0.003	0.029
EBTP	π_6	-0.020	0.107	-0.035	0.035
Capital	π_7	-0.048	<.001	-0.042	<.001
Size	π_8	0.000	0.291	0.000	0.398
$HHIndex^{C\&I}$	π_9	-0.052	0.005	-0.020	0.166
GdpGrowth	π_{10}	-0.013	0.063	-0.013	0.056
Number of Observations			320		320
R-Squared			0.53		0.49

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. $ChargeOff^{C\&I}$ = Charge-offs on C&I loans net of C&I loan recoveries scaled by beginning total loans; *Post* = A bank- and year-specific indicator variable that equals one (zero) for periods after (before) the initiation year of concurrent lending and underwriting; $Loan^{C\&I}$ = C&I loans scaled by beginning total loans; *Deposit* = Total deposits scaled by beginning total loans; *NonInterest* = Ratio of noninterest expense to total expense; *EBTP* = Earnings before taxes and loan loss provisions scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets; $HHIndex^{C\&I}$ = Herfindahl-Hirschman Index of C&I loans; *GdpGrowth* = Percentage change in gross domestic product over the year.

Table 10
Loan Portfolio Credit Quality
Before and After the Initiation of Concurrent Lending and Underwriting

Dependent Variable: $NPL^{C\&I}$		Treatment Banks		Control Banks	
		Parameter Estimates	Pr > |t|	Parameter Estimates	Pr > |t|
Post	η_1	0.003	0.012	0.000	0.916
$Post * Loan^{C\&I}$	η_2	-0.003	0.008	-0.001	0.193
$Loan^{C\&I}$	η_3	0.020	<.001	0.025	<.001
Deposit	η_4	0.001	<.001	0.000	0.045
NonInterest	η_5	-0.003	0.317	-0.002	0.025
EBTP	η_6	-0.076	0.044	-0.021	0.137
Capital	η_7	-0.049	<.001	-0.052	0.002
Size	η_8	0.001	0.027	0.001	0.016
$HHIndex^{C\&I}$	η_9	-0.136	<.001	-0.045	0.050
GdpGrowth	η_{10}	-0.005	0.076	-0.012	0.039
Number of Observations			320		320
R-Squared			0.62		0.58

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. $NPL^{C\&I}$ = Nonperforming C&I loans scaled by beginning total loans; *Post* = A bank- and year-specific indicator variable that equals one (zero) for periods after (before) the initiation year of concurrent lending and underwriting for the bank; $Loan^{C\&I}$ = C&I loans scaled by beginning total loans; *Deposit* = Total deposits scaled by beginning total loans; *NonInterest* = Ratio of noninterest expense to total expense; *EBTP* = Earnings before taxes and loan loss provisions scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets; $HHIndex^{C\&I}$ = Herfindahl-Hirschman Index of C&I loans; *GdpGrowth* = Percentage change in gross domestic product over the year.

Table 11
Comparison of Pre- to Post-initiation Change in Loan Credit Quality:
Treatment Banks versus Control Banks

Model (7):	z-statistic	Pr > |t|
$H_0: \pi_2^{TRE} - \pi_2^{CON} = 0$	-2.638	0.008
Model (8):	z-statistic	Pr > |t|
$H_0: \eta_2^{TRE} - \eta_2^{CON} = 0$	-1.946	0.052

Table 12
Loss Recognition Timeliness and Loan Portfolio Credit Quality

Dependent Variable:		$ChargeOff^{C\&I}$			$NPL^{C\&I}$	
		Parameter Estimates	Pr > |t|		Parameter Estimates	Pr > |t|
HighExp	θ_1	-0.003	0.288	γ_1	-0.006	0.382
$\Delta Timeliness^{C\&I}$	θ_2	-0.001	0.245	γ_2	0.000	0.227
$HighExp * \Delta Timeliness^{C\&I}$	θ_3	0.000	0.319	γ_3	0.001	0.223
$HighExp * \Delta Loan^{C\&I}$	θ_4	-0.001	0.007	γ_4	-0.001	0.082
$\Delta Timeliness^{C\&I} * \Delta Loan^{C\&I}$	θ_5	-0.004	0.034	γ_5	-0.007	0.011
$HighExp * \Delta Timeliness^{C\&I} * \Delta Loan^{C\&I}$	θ_6	-0.003	0.302	γ_6	-0.005	0.210
$\Delta Loan^{C\&I}$	θ_7	0.009	0.002	γ_7	0.016	0.003
$\Delta Deposit$	θ_8	0.001	0.097	γ_8	0.001	<.001
$\Delta NonInterest$	θ_9	-0.006	0.026	γ_9	-0.006	0.139
$\Delta EBTP$	θ_{10}	0.021	0.362	γ_{10}	0.039	0.535
$\Delta Capital$	θ_{11}	-0.048	0.040	γ_{11}	-0.117	0.045
$\Delta Size$	θ_{12}	0.000	0.047	γ_{12}	0.002	0.226
$\Delta HHIndex^{C\&I}$	θ_{13}	-0.048	0.070	γ_{13}	-0.061	0.146
$\Delta GdpGrowth$	θ_{14}	-0.005	0.052	γ_{14}	-0.004	0.038
Number of Observations			175			175
R-Squared			0.38			0.45

1. All p-values are based on standard errors clustered at the bank-year level and two-tailed t-tests.
2. Δ denotes the deviation of the variable for bank *i* in year *t* from the five-year pre-initiation period average of the variable for bank *i*.
3. *ChargeOff* $^{C\&I}$ = Charge-offs on C&I loans net of C&I loan recoveries scaled by beginning total loans; $NPL^{C\&I}$ = Nonperforming C&I loans scaled by beginning total loans; $Timeliness^{C\&I}$ = Ratio of loan loss allowance for C&I loans to next year's nonperforming C&I loans; *HighExp* = A bank- and year-specific indicator variable that equals one (zero) for bank-year observations with a higher (lower) than the annual median exposure to concurrent lending and underwriting; $Loan^{C\&I}$ = C&I loans scaled by beginning total loans; *Deposit* = Total deposits scaled by beginning total loans; *NonInterest* = Ratio of noninterest expense to total expense; *EBTP* = Earnings before taxes and loan loss provisions scaled by beginning total loans; *Capital* = Ratio of total equity to total assets; *Size* = Natural logarithm of bank total assets; $HHIndex^{C\&I}$ = Herfindahl-Hirschman Index of C&I loans; *GdpGrowth* = Percentage change in gross domestic product over the year.