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Abstract

The Basel I Accord introduced a discontinuity in required capital for undrawn credit commitments. While banks had to set aside capital when they extended commitments with maturities in excess of one year, short-term commitments were not subject to a capital requirement. The Basel II Accord sought to reduce this discontinuity by extending capital standards to most short-term commitments. We use these differences in capital standards around the one-year maturity to infer the cost of bank regulatory capital. Our results show that following Basel I, undrawn fees and all-in-drawn credit spreads on short-term commitments declined (relative to those of long-term commitments). In contrast, following the passage of Basel II, both undrawn fees and spreads went up. These results are robust and confirm that banks act to conserve regulatory capital by modifying the cost and supply of credit.

Key words: Basel accords, capital regulation, cost of capital, loan spreads

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1 Introduction

Modigliani and Miller (1958) seminal paper showed us that in a world *á la* Arrow-Debreu, where markets are complete, information is symmetric and other frictions are not present, the firm value is independent from its capital structure. However, the world we live in is quite different from that envisioned by Arrow-Debreu. The deductibility of interest expenses from income taxes makes debt financing attractive to firms. On the other hand, the cost of financial distress makes equity financing appealing. Firms tradeoff these, and other frictions, to chose their optimal capital structure.

Banks, like nonfinancial corporations, also face these tradeoffs when choosing their capital structure. Additionally, they factor in the presence of the safety net, which is believed to tilt their choices towards debt financing. This helps explain why banks operate with much higher leverage ratios than nonfinancials (Pennacchi and Santos 2018). It is also likely a contributing factor for banks' claim that capital regulation is costly, forcing them to charge higher prices for their services, including corporate lending. Ascertaining these claims has proven challenging. Estimating the cost of different sources of bank funding, in particular capital, remains a problematic exercise. Further, we have had only a very limited number of instances of capital regulatory changes, and they are often confounded by corresponding events that make it difficult to infer the cost of bank capital.

In this paper, we attempt to overcome these challenges by capitalizing on the differential treatments that Basel I and Basel II gave to commitments with maturities shorter than one year. When Basel I was introduced, it exempted banks from setting aside capital when they extended commitments (e.g. formal standby facilities and credit lines) with an original maturity of up to one year. The Basel II Accord sought to reduce this discontinuity by extending capital standards to short-term commitments. Basel accords appear to have had an important effect on the market place. As we can see from Figure (1), up until the early 1990s, there was not much evidence of 364-day facilities in the market. However, soon after Basel I, these instruments became quite prevalent, only to lose their popularity with the passage of Basel II. These revolving credit facilities appear to have been developed in response to Basel I because they run for 364 days, one day short of the one-year cut off on whether banks had to reserve capital against unused amounts under revolving credits. This gave banks the incentive to offer more attractive pricing on 364-day facilities than on multi-year revolvers. This de-

sire was reduced when Basel II added a capital charge to most commitments with maturities shorter than one year.

We start by comparing banks' pricing of commitments with maturities below one year with their pricing of commitments with maturities above one year around Basel I. Next, we perform a similar exercise, but this time around Basel II. The pricing structure of a commitment includes both an undrawn fee and an all-in-drawn spread. The undrawn fee includes both the commitment fee and the annual fee that the borrower must pay its bank for funds committed under the credit line but not taken down.[1] The undrawn fee, therefore, compensates the bank for the liquidity risk it incurs by guaranteeing the firm access to funding at its discretion over the life of the credit line and up to the total commitment amount. In contrast, the all-in-drawn spread, which is defined over Libor and equals the annual cost to a borrower for drawn funds, compensates the bank for the credit risk it incurs when the borrower draws down on its credit line.

The Basel Accords' "special" treatment of short-term commitments applies only to the portion of the commitment that is undrawn. Once the borrower draws down its commitment, the drawdown amount receives a capital treatment that is independent from its maturity. Given this, we would expect the Basel Accord effects to be more pronounced on undrawn fees. However, because the all-in-drawn spread takes into account both one-time and recurring fees associated with the loan we may also see an effect on these spreads.[2] For this reason, we investigate the impact on both undrawn fees and all-in-drawn spreads. We do these exercises controlling for loan-, borrower-, and bank-specific factors as well as market conditions known to explain commitments' pricing.

Our results show that commitments with maturities up to one year, including 364-day facilities, became relatively less expensive following the passage of Basel I. Both the undrawn fees and all-in-drawn spreads on these commitments decline relative to those of commitments with maturities longer than one year. Our investigation of commitments' pricing around Basel II yields exactly the opposite results on both undrawn fees and all-in-drawn credit spreads.

[1] Dealscan uses the wording all-in-undrawn spread when referring to the price firms pay on undrawn commitments, but in reality that price is not a spread because the fees are not markups over market interest rates.

[2] It may also be that reducing the price of credit risk acts as an additional inducement for a firm to switch to a shorter maturity revolver that is unlikely to be fully drawn.

These findings are robust to different time windows around the Accords and different control groups of long-term commitments, and also continue to hold when we compare the commitments' pricing within banks. Further, they appear to be driven by the Basel Accords because we do not find similar evidence when we use a placebo test based on the pricing of commitments with maturities above one year but below two years.

Based on our findings, we estimate that banks are willing to pay at least \$0.05 to reduce regulatory capital by one dollar. This suggests that the cost of regulatory capital is lower than banks have indicated. However, we are conducting further work to understand whether this estimate is simply a lower bound. If it is, then banks may in fact be willing to pay much more in order to reduce regulatory capital.

Our paper is most closely related to Kisin and Manela (2017) who also try to infer the cost of regulatory capital by exploiting a loophole in the corresponding regulation. Kisin and Manela uses the cost of holding assets in an asset-backed commercial paper (ABCP) conduit to estimate the marginal cost for which banks are indifferent to creating a zero capital requirement investment. The authors assume banks can move what they want into an ABCP conduit, so that if they are indifferent, the marginal cost of adding to the ABCP conduit must be equivalent to the benefit of not holding capital against the investment. However, their identification strategy based on liquidity guarantees to ABCP conduits is extremely sensitive to two tenuous assumptions. First, they assume that banks can move almost any asset into an ABCP conduit and second that these contributions can be financed at low CP rates. Deviations in either assumption can significantly change the inferred cost of capital to banks.

Two other related papers are Kashyap, Stein, and Hanson (2010) and Van den Heuvel (2008). The former paper attempts to estimate the impact on loan rates of heightened capital requirements on large financial institutions. The latter paper estimates the cost of bank capital requirements but using a general equilibrium model in which capital requirements reduce liquidity.

The remainder of the paper is organized as follows. Section 2 provides background on Basel Accords and lays out our empirical hypotheses. Section 3 presents our data and methodology, and characterizes our sample. Sections 4 and 5 discuses the results of our investigation of the impact of Basel I and Basel II on the pricing of credit commitments, respectively. Section 6 discusses the economic significance of our findings, and Section 7 concludes with some final

remarks.

2 Background on Basel Accords and Hypotheses

The Basel I Accord introduced in 1988 assigned a risk weight for each on-balance sheet exposure and specified the minimum capital banks had to hold against their risk weighted assets. Risk weights ranged from 0 to 100 percent, depending on the creditworthiness of the counterparty and the nature of the risk.[3] For example, on-balance sheet exposures to corporate borrowers generally received a 100 percent weight.

The Accord also specified a credit conversion factor for off-balance sheet exposures (eg. credit commitments), which could potentially reduce the amount of capital the bank had to set aside and therefore reduce the relative costs associated with that exposure. Commitments to lend to corporations with an original maturity in excess of one year (or a maturity shorter than one year but that could not be unconditionally canceled by the bank), were treated as off-balance exposures and the undrawn portion of the commitment received a 50 percent conversion factor. In contrast, commitments with an "original maturity" of up to one year or the ability to be unconditionally canceled at any time received a 0 percent conversion factor.[4] This difference in the conversion factors meant that banks were not required to set aside capital when they extended commitments with a maturity shorter than one year but had to set aside capital to account for the 50 percent conversion factor when they extended commitments with an original maturity in excess of one year. This gave rise to the so-called 364-day facilities.

To the extent that bank capital is costly, that difference should have made short-term credit lines (those with maturities less than one year at origination) relatively less expensive following the introduction of Basel I. This gives rise to the first hypothesis we consider in this paper:

Hypothesis 1: The relative cost of short-term to long-term credit lines declined after the introduction of Basel I when compared to the period prior to the Basel Accord.

The benefit of the 0 percent conversion factor is greater the higher the assigned risk weight of the loan. The advantage of applying a 0 percent conversion factor to a 100 percent

[3] See Santos (2001) for a detailed description of the Basel I Accord.

[4] The 0 percent risk conversion applied only to the portion of the commitment that was undrawn. Once drawn, that portion would receive a treatment similar to on-balance sheet exposures to corporates.

risk weight loan is more beneficial than to a AAA loan that is assigned a risk weight of 20%. Therefore a corollary to our first hypothesis is that the relative decline in the cost of short-term commitments was greater for commitments to riskier borrowers.

The Basel II Accord, which was finalized in June of 2004, sought to reduce the "special" treatment for 364-day facilities. Basel II introduced two alternative approaches, the standardized approach and the internal ratings based approach, for banks to determine the amount of capital they needed to set aside to account for the credit risk of their exposures. Under the standardized approach, banks determine the amount of required capital for each exposure in a standardized way using the exposure's rating as determined by external credit agencies. In contrast, under the internal approach, banks use their own internal rating systems to ascertain the credit risk of their exposures.

Both approaches changed the treatment that 364-day facilities received under Basel I. Under the standardized approach, 364-day facilities will now only benefit from a 0 percent credit conversion factor if the bank has the discretion to unconditionally cancel the facility at any time without prior notice, or if the facility contains a covenant triggering automatic cancelation in case there is a deterioration in the borrower's financial condition. Any 364-day facility that does not meet this revised criteria will be subject to a 20 percent credit conversion factor.

Under the 'foundation' internal ratings approach, 364-day facilities are subject to a conversion factor of up to 75 percent, unless the facility is unconditionally cancelable without prior notice, in which case it will qualify for a 0 percent conversion factor. Banks that adopt the advanced internal ratings approach had the discretion to estimate the potential exposure at default and set the credit conversion factor for each facility.

Whichever approach banks use, it is apparent that Basel II made it more expensive for banks to provide 364-day facilities, with such additional cost being passed onto borrowers. This gives the second hypothesis we consider in this paper:

Hypothesis 2: The relative cost of short-term to long-term credit lines increased after the introduction of Basel II when compared to the period prior to the Basel Accord.

Note that Basel II did not fully reverse the advantages of short term facilities. Not only are some 364 day loans still able to receive a 0 percent conversion factor if they meet the necessary conditions, but other short term loans receive an advantaged conversion factor of

20 percent. Hence, the relative increase may not be of the same magnitude as the decrease predicted in the first hypothesis.

The pricing structure of credit lines has two components: an undrawn fee that the borrower pays for the right to draw down its credit line and a credit spread that the borrower will pays additionally on the amounts it draws down. Because the differential treatment granted by Basel I and Basel II Accords to commitments with maturities up to one year applied only to funds committed but not yet drawn down, the natural place to look for evidence of an effect of the Accords is the undrawn fee. However, because banks may set both price components jointly, the Basel effect may also extend to the credit spread component of credit lines' prices. For this reason, in our investigation while we focus on undrawn fees we also study the credit spreads banks set on credit lines.

3 Data, methodology and sample characterization

3.1 Data

The data for this project come from several sources. We use the Loan Pricing Corporation's (LPC) Dealscan database of business loans to identify the firms that took out credit lines from banks. We also use the Dealscan database to obtain information on individual credit lines, including undrawn fee and all-in-drawn spread over LIBOR, maturity, seniority status, and purpose; the borrower, including its sector of activity, and its legal status (private or public firm); and finally, the lending syndicate, including the identity and role of the banks in the loan syndicate.

Dealscan goes back to the beginning of the 1980s; in the first part of that decade it was not very comprehensive, but this has improved steadily over time. For this reason, we begin our sample in 1987. Our sample ends in December 2007, before the start of the recent financial crisis. The crisis was a once-in-a-few-generations event, during which questions of interbank spillovers and government policy and intervention loomed much larger than in normal times, or even "normal" crises. At a minimum, the crisis is a very different regime than our sample period and demands separate analysis. Further, there is ample evidence that it affected bank lending.[5]

[5]Examples of the impact of bank-specific conditions on corporate lending during the crisis include Santos

We use Compustat to get information on firms' balance sheets. Even though LPC contains loans from both privately-held and publicly-held firms, Compustat is dominated by publicly-held firms. Thus, we focus on our analysis on publicly-listed firms.

We use the Center for Research on Securities Prices's (CRSP) stock prices database to link companies and subsidiaries that are part of the same firm, and to link companies over time that went through mergers, acquisitions or name changes. We then use these links to merge the LPC and Compustat databases in order to find out the financial condition of the firm at the time it borrowed from banks. We also use CRSP to determine each borrower's excess stock return, and stock return volatility.

We rely on the Salomon Brothers/Citigroup yield indices on new long-term industrial bonds to control for changes in the market's credit risk premium. We use the yield difference between the indices of triple-A and triple-B rated bonds because these indices go back to December of 1988. We complement these indices with Moodys' corporate seasoned bond yields in order to get information on the triple-B spread further back to January of 1987.

Finally, we use the Reports of Condition and Income compiled by the FDIC, the Comptroller of the Currency, and the Federal Reserve System to obtain bank data for the lead bank(s) in each loan syndicate. Wherever possible we get this data at the bank holding company level from Y9C Reports. If these reports are not available, then we rely on Call Reports, which have data at the bank level.

3.2 Methodology

Our goal is to investigate how the Basel Accords affected the relative pricing of credit lines with an origination maturity of less than one year versus credit lines with an origination maturity larger than one year. To that end, we estimate the following loan spread Difference-in-Differences (DiD) model separately on credit lines originated around Basel I, and on credit lines originated around Basel II.

$$\begin{aligned} PRICE_{f,l,b,t} = c + \alpha ST_{f,l,b,t} + \beta BASELi_t + \gamma BASELi_t \times ST_{f,l,b,t} \\ + \sum_{i=1}^{I} \psi_i X_{i,l,t} + \sum_{j=1}^{J} \nu_j Y_{j,f,t-1} + \sum_{k=1}^{K} \eta_k Z_{k,b,t-1} + \rho M_t + \epsilon_{f,t}. \end{aligned} \tag{1}$$

(2011), who focuses on the impact of banks' financial condition, and Ivashina and Sharfstein (2010) and Cornett et al. (2011), who focus on the impact of banks' exposure to unused credit lines.

$PRICE_{f,l,b,t}$ is either the undrawn fee or the all-in-drawn spread over LIBOR of credit line l of firm f from bank b at issue date t. According to Dealscan, our source of loan data, the undrawn fee includes both the commitment fee and the annual fee that the borrower must pay its bank for funds committed under the credit line but not taken down. The all-in-drawn spread, in turn, is a measure of the overall cost of the loan, expressed as a spread over the benchmark London interbank offering rate (LIBOR), that takes into account both one-time and recurring fees associated with the loan, and which the borrower pays on the amount it draws down.

ST is a dummy variable equal to one for credit lines with a maturity at origination up to (and including) one year. In some specifications we narrow this definition to include only facilities with maturities up to eleven months and in some specifications we consider only the so-called 364-day facilities. Both of these variants assure us that the target commitments are below the one-year cut off specified in the Basel Accords, but they pose some challenges. For example, there were a reduced number of facilities categorized as 364-day prior to Basel I, most likely because they did not have any special status.

$BASELi$ with $i \in \{1, 2\}$, is a dummy variable equal to one for credit lines originated after the Basel I or Basel II Accords. When we investigate Hypothesis 1, $BASEL1$ takes the value one for credit lines originated after the Basel I Accord. US banks were required to apply Basel I on a transitional basis starting in 1991, but the Accord became fully phased in only starting in 1993. We begin our investigation of Basel I on a sample containing credit lines originated between 1987 and 2003, with the post Basel I period defined by the years 1993-2003. As noted earlier, we start in 1987 because our data source on credit lines is not comprehensive prior to that year. We end in 2003 the Basel II Accord was finalized in 2004. However, we focus on a three-year window balanced period (1990-1995, maintaining 1993 as the first year after Basel I) to reduce concerns that we may pick up other aggregate effects unrelated to Basel I.

When we investigate Hypothesis 2, $BASEL2$ takes the value one for credit lines originated after the Basel II Accord. US agencies announced they would accept public comments on Basel Committees consultative document on Basel II on January 2001, but the Accord was finalized only in June 2004. Contrary to the expectations at the time, the Board did not ap-

prove the final rules to implement Basel II until November 2007. Notwithstanding this delay, US banks appear to have began adjusting their business to incorporate Basel II around the time the Accord was finalized. As we can see from Figure (1), starting in 2004/05 there is a sharp decline in the issuance of 364-day facilities, consistent with the premise that Basel II would make these facilities less appealing to borrowers. For this reason, when we investigate loan pricing around Basel II, we restrict our analysis to the period 2000-2007 and specify the years between 2005 and 2007 as the post Basel II period. Following the example of our analysis of Basel I, we focus on the shorter (balanced) sample period (2002-2007, maintaining 2005 as the first year after Basel II).

Our key variable of interest in our pricing model is the interaction between ST and $BASELi$. The coefficient on this variable, γ, estimates a DiD: the change in the relative price of commitments with maturities up to one year versus longer term commitments from the period prior to the Basel Accords compared to the period after. We expect it to be negative (positive) under Hypothesis 1 (Hypothesis 2). As we noted above, in addition to considering commitments with maturities up to one year, we also estimate our models focusing on 364-day facilities to make sure our target group meets the Basel Accords' one-year cut off. Another potential concern with our tests is that we compare the pricing of these very short-term commitments with a pool of commitments containing a wide variety of maturities. Ideally, one would like to do the comparison instead to commitments with maturities only slightly above one year. However, there are not enough observations to carry out this exercise – maturities at origination are issued at discrete maturity horizons. Instead, we narrow our control group to commitments with maturities between one and three years. In our robustness tests, we also consider a linear control for maturity log(maturity in years) to emphasize the discontinuity in pricing around the 1 year cutoff by controlling for the impact of maturity on spreads.

We attempt to identify the effects of Basel accords on commitments' pricing controlling for loan-, borrower-, and bank-specific controls as well as the market conditions at the time of the commitment origination which have been used in the literature on loan pricing.[6]

[6]See Bord and Santos (2014) for a study of commitments' undrawn fees, and Santos and Winton (2008, 2017), Hale and Santos (2009), Santos (2011) and Paligorova and Santos (2017) for studies of credit spreads on corporate loans.

Our loan-specific controls ($X_{i,l,t}$) include loan maturity, amount, and number of lenders in the syndicate, along with indicators to account for whether the loan is senior, secured, the presence of dividend restrictions, the presence of a guarantor, and the loan purpose. Our firm-specific controls ($Y_{j,f,t-1}$) include standard variables such as firm size (proxied by sales), leverage, profitability, asset tangibility, and market-to-book ratio, along with cash flow variables (net working capital and the log of the interest coverage truncated at zero). We complement these variables with two market-based controls, the stock return (in excess of the market return) and volatility of the firm's stock return. We also include dummies for different credit rating levels and for single digit SIC codes.

Our bank-specific controls ($Z_{k,b,t-1}$) focus on the characteristics of the bank that is the lead arranger. Our reasoning is that it is the lead bank that not only negotiates initial loan terms but is charged with enforcing these terms over the life of the loan, so its characteristics will directly affect this behavior. Other members of the syndicate are likely more passive, so their characteristics will have a much weaker effect on the loan negotiations. Our bank-specific controls include bank size, profitability, risk, liquid asset holdings and subordinated debt (both scaled by assets), and credit rating, along with the capital/assets ratio.

Lastly, our market controls (M_t) include the spread between BBB and AAA rated bond index yields at the time of the loan origination. The full list and definitions are given in the appendix.

We estimate our commitments' pricing models with a pooled regression and also with bank fixed effects. We do not consider specifications with borrower fixed effects because only a small number of firms take out multiple loans within the short windows that we consider around the implementation of Basel I and II, respectively. Throughout our errors are clustered by borrower.

3.3 Sample characteristics

Table 1 presents the characteristics of the samples that we use to investigate Basel I (left panel) and Basel II (right panel), respectively. The left panel compares credit lines issued before Basel I (1987-1992) with those issued afterwards (1993-2003). The right panel, in turn, compares credit lines issued before Basel II (2000-2004) with those issued afterwards (2005-2007).

We compare the credit lines for a wide set of variables that we use in our study. Panels

A and B compare the credit lines with respect to their undrawn fees and credit spreads, respectively. Panels C, D and E compare them with respect to the sets of loan-, borrower- and bank-specific controls that we use in our investigation of pricing, respectively. Finally, Panel F compares the credit lines with regards to our control for the market conditions, the triple-B bond spread at the time of the credit line issuance.

Looking at Panels A and B, we see some interesting variations around the Basel I and Basel II Accords. First, undrawn fees and all-in-drawn spreads covary across time periods, though, at different rates. Second, both of these variables decline after Basel I and Basel II. Third, and more relevant for our purposes, we see that undrawn fees and credit spreads of short-term commitments, regardless of how we identify them, decline by more than for long-term commitments in the post-Basel I period, consistent with our Hypothesis 1. In contrast, we see that both undrawn fees and credit spreads of short-term commitments decline by less than for long-term commitments in the post-Basel II period, which is consistent with our expectation that the Basel II accord reverted some of the favorable treatment that the Basel I Accord had given to short-term commitments (Hypothesis 2).

Turning our attention to the remaining panels we see that many of the controls we use in our pricing analysis exhibit statistically significant differences before and after the Basel Accords. In the interest of space, we do not provide here a detailed analysis of these differences. However, they suggest that it will be important to investigate the robustness of our findings to a specification which allows the control variables to have different loadings before and after each Accord. Further, there is one control variable, the loan maturity, that is worth taking a close look because it provides an important insight on our priors about the effects of the Basel Accords. The average maturity declined significantly after the introduction of Basel I (it went down from four years to three years), while moving in the opposite direction after Basel II (it increased from three years to four years). These changes are consistent with our priors that Basel I gave a favorable treatment to commitments with maturities below one year while Basel II erased at least in part that special treatment.

In order to get a deeper understanding of these changes in the maturities of credit lines, we report in Table 2 the transition matrices for loan maturities around Basel I (top panel) and around Basel II (bottom) panel. This table reports for each credit commitment taken out after the Accord, what was the maturity of the last commitment the borrower took

out beforehand. Given that we want to compare the maturities before and after the Accord, these transition matrices report information only for borrowers that take out commitments before *and* after the Accord. The top panel depicts two results that support our assertion that Basel I made commitments with maturities up to one year relatively more attractive. First, looking at the diagonal of the matrix, which focuses on borrowers that retained the maturity of their commitments before and after Basel I, we see that borrowers who took out one-year maturity commitments before Basel I are the most likely to take out one-year commitments afterwards. Second, looking at the first column, we see that there was a high incidence of borrowers that switch to one-year commitments after Basel I. For example, among borrowers that use to take out two-year commitments, we see that nearly as many of them switch to one-year commitments (17.4%) when compared to those that continue to take out two-year commitments after Basel I (17.6%). As further evidence of the increase in the attractiveness of one-year commitments after Basel I, it is interesting to note that the first column in the top panel is always larger than the first column in the bottom panel. In words, for each maturity the percentage of borrowers that switched to one-year commitments after Basel I is always higher than the percentage of borrowers that does a similar switch after Basel II.

4 Basel I and the pricing of credit lines

We start by looking at the time series of the undrawn fees and all-in-drawn spreads on credit lines with maturities up to one year and credit lines of longer maturities around Basel I. To facilitate the identification of Basel I impact, we scale these variables by their average 1992 annual level, the last year before the full implementation of Basel I. The results of this exercise are reported in Figure (3).

It is apparent from that figure that short-term credit lines became less expensive relative to longer term credit lines starting in 1993. Both their undrawn fees and all-in-drawn credit spreads declined relative to those of longer term commitments. This supports the assertion that regulatory capital is costly as the favorable treatment Basel I gave to short-term commitments resulted in lower prices. Of course, these insights are based on univariate comparisons and do not control for any of the factors known to help explain these elements of credit line prices.

We proceed with our investigation by estimating our pricing model, Equation 1. The results of this exercise are reported in Table 3. Models 1 through 3 report results for the

undrawn fees while models 4 through 6 report results for all-in-drawn credit spreads. Models 1 and 4 report the results of a pooled model when we do not account for firm-specific controls. This allows us to consider credit lines of privately-held borrowers. Models 2 and 5 repeat that analysis after we add our set of firm-specific controls. This restricts our sample to credit lines of publicly listed borrowers. Finally, models 3 and 6 report the results estimated with bank fixed effects on our sample of credit lines of publicly listed borrowers.

A careful inspection of the three variables in Table 3 that are critical to our analysis, ST, $BASEL1$, and the interaction between these variables, reveals several important insights. First, the results do not vary substantially across the models. While, there are some differences in statistical significance, those variables that retain their significance also retain their signs across the three models in each panel.

Second, prior to Basel I, short-term commitments had lower undrawn fees, but the difference was generally not statistically significant. In contrast, these commitments carried all-in-drawn spreads that were on average 36 basis points higher than those of longer-term commitments.

Third, after Basel I, long-term commitments observed a decline in their undrawn fees, but their credit spreads went up. Last, and most importantly for our purposes, both the undrawn fees and the credit spreads on commitments up to one year declined relative to those of longer term commitments following the passage of Basel I. Undrawn fees declined by about 3 bps while all-in-drawn spreads declined by about 44 bps. This evidence supports, from a statistical point of view, Hypothesis 1 that Basel "favorable" treatment of short-term commitments lowered the relative cost for borrowing firms that rely on short-term funding. Of course it is unclear from this evidence whether the impact is economically significant. We discuss the economic significance of our findings at the end of this section.

Looking at the loan-, borrower-, and bank-specific controls as well as our market control, we see that those which are statistically significant are generally consistent with expectations. In the interest of space, we do not provide a detailed discussion of these controls here. Instead, in the remainder of this section we focus on the robustness of our finding that the relative cost of short term commitments declined following the introduction of Basel I, and on whether that decline was indeed induced by the Basel Accord.

4.1 Robustness tests

In this section we report the results of a series of robustness tests we carried out. The first tests focus on the control group, the sample period, and the approach we use to identify commitments that benefited from the favorable treatment of Basel I, respectively. This is followed by some placebo tests. Next, we control for changes in banks' loan pricing policies and for bank-year fixed effects. We finish with a brief discussion of some additional robustness tests.

4.1.1 Tightening our Basel I base tests

Our base models compare credit lines with maturities at origination up to one year with all remaining credit lines. A concern with our control group in these models is that it includes a set of credit lines with a wide set of maturities. To address this concern, we redid our analysis after we restrict our control group to credit lines with maturities up to three years. The results of this test are reported in Panel A of Table 4. As in our original analysis models 1 through 3 report results for undrawn fees while models 4 through 6 report results for all-in-drawn spreads.

Restricting the control group to this more homogenous set of credit lines generates one difference vis-á-vis our initial results. We do not find that credit spreads went up for credit lines with maturities above one year after Basel I. Note that $BASEL1$ is no longer statistically significant in models 4 through 6. However, and most importantly, $BASEL1 \times ST$ continues to be negative in all of the models and its statistical significance went up. In other words, we continue to find, consistent with Hypothesis 1, that the relative cost of commitments with maturities up to one year declined relative to commitments with two or three year maturities after the passage of Basel I.

Another concern with our base models relates to our sample period, which encompasses the years between 1987 through 2003. This is a long sample period (17 years), which raises the prospects of other events driving our findings. In addition, our sample is unbalanced in the sense that the period it considers after Basel I is almost twice as long (eleven years) than the pre-Basel I sample period (six years). To address both concerns, we redo our analysis on a shorter, balanced sample period encompassing three years before (1990-1992) and three after (2003-2005) the passage of Basel I. Also, for this exercise we retain the restriction we introduced to address the previous concern, that is, we limit the control group to commitments

with maturities up to three years.

The new results are reported in Panel B of Table 4, which has a similar structure as the top panel. Narrowing the window around Basel I does not affect our key findings in any meaningful way. $BASEL1{\times}ST$ continues to be negative and highly statistically significant in all of our models, with the exception of Model 6 where that variable is significant only at the 10% level. Further, narrowing the window of our test lowers the magnitude of $BASEL1{\times}ST$ in our models of credit spreads (models 4 through 6), but it increases the size of that variable in our models of undrawn fees (models 1 through 3), arguably the component of the credit lines' prices most likely to be affected by the favorable treatment that Basel I granted to short-term commitments. According to the latest results, the relative undrawn fees and all-in-drawn spreads of short-term credit lines declined by about 5 and 18 bps, respectively, following the implementation of Basel I.

4.1.2 Basel I and the pricing of 364-day facilities

In all of the tests reported thus far, we have focused on commitments with maturities at origination up to (and including) one year. We decided to include the one-year facilities because notwithstanding their maturity many of these facilities are classified as 364-day facilities. These are revolving credit facilities that run 364 days. They appear to have been developed to benefit from the favorable treatment offered by Basel I.[7] However, as we noted above the Basel I discontinuity occurs exactly at a maturity of one year. It is possible, therefore, that we have in our target sample commitments that did not benefit from the zero-risk weight defined in Basel I. While this biases us against finding any effect of Basel I, it is still interesting to carry our tests on a set of commitments that have maturities at origination strictly lower than one year.

One way to accomplish this objective is to restrict the target sample to facilities that have eleven or less months to maturity. This assures us that these facilities benefited from the

[7]Dealscan has a variable with information on the maturity of the facility (which reports months to maturity) and another one with information on the type of the facility (which indicates whether it is a term loan, a credit line, a 364-day facility and so forth). While nearly all 364-day facilities have 12 months to maturity, there is a good number of facilities that have less than 12 months to maturity and benefit from the Basel I special treatment and yet are not classified as 364-day facilities. In other words, relying exclusively on information about the maturity or the type of the credit facility will introduce some noise.

favorable treatment granted by Basel I. The downside of this approach is that we are certainly leaving out from the target sample facilities that also benefited from that treatment. The results of this test are reported in the top panel of Table 5. We use in this test our shorter and balanced window around Basel I, and the control group made of commitments with two- or three-year maturities. As we can see from the negative sign and statistical significance of $BASEL1{\times}ST$, we continue to find that following the introduction of Basel I facilities with maturities strictly lower than one year benefited from a reduction in both their undrawn fees and credit spreads relative to facilities with maturities up to three years.

Another way to investigate this maturity issue is to focus on 364-day facilities. This poses a challenge because there were very few of these prior to Basel I. For this reason, we first compare commitments with maturities up to (and including) one year issued prior to Basel I with 364-day facilities taken out by borrowers afterwards. The results of this test are reported in the middle panel of Table 5. Next, we the repeat this exercise when we also restrict the pre-Basel I commitments to 364-day facilities. The results of this test are reported in the bottom panel of Table 5. Again, we do both of these tests on our shorter and balanced window around Basel I, and use as a control group only commitments with two- or three-year maturities.

Looking at the middle panel of Table 5, we see that restricting our post-Basel I sample of short-term commitments to 364-day facilities does not affect of our findings: we continue to see that $BASEL1{\times}364FACa$ is negative and statistically significant in all of our models of undrawn fees and credit spreads.

Turning our attention to the bottom panel of that table, we see that when also restrict the pre-Basel I to 364-day facilities, we no longer find an effect on credit spreads. Doing so does also weakens our findings on undrawn fees, but we still find $BASEL1{\times}364FAC$ to be negative and statistically significant in two of the three models we consider. As we noted above, while this test assures us we are focusing on commitments that meet the cut off set in Basel I, it has the limitation that we only have 36 364-day facilities in our sample prior to Basel I. That said, it is interesting to see that we still retain a statistically significant effect in undrawn fees, precisely the component of the credit line pricing that we expected to be affected the most by the discontinuity introduced by Basel I.

4.1.3 Placebo tests

The results presented thus far demonstrate the robustness of the decline in relative cost for commitments with maturities below one year under the Basel I Accord. However, one may wonder whether the decline in the relative cost of these commitments was indeed driven by the discontinuity introduced by the Basel I Accord. While we control for the market conditions at the time of the loan origination, could it be that our results are driven instead by a generalized decline in the cost of short term borrowing relative to long term borrowing?

To ascertain whether that is the case, we designed two placebo tests. In the first test, we compare commitments with maturities between one and two years with commitments with maturities between three and four years. If Basel I is the driver of our results, we should not find a similar effect in this test because all of these commitments received the same treatment under the Basel Accord. If, on the other hand, what is driving our result is a generalized decline in the relative cost of short term borrowing then we should find some evidence of this among commitments with maturities between one and two years.

Panel A of Table 6 reports the results of this investigation. As in previous robustness tests, we consider our narrow sample around Basel I. In this case, however, we include in the control group commitments with maturities between three and four years. In contrast to previous findings, we find *no* evidence of a decline in the relative cost of two-year maturity commitments. Note that $BASEL1{\times}ST2y$ is not statistically significant for any of our models on undrawn fees or our models on credit spreads. In some of the models, this interaction term is even positive, although not significant. This adds important support that the decline in the relative cost of commitments with maturities up to one year was indeed driven by the exemption of these commitments from capital charges under the Basel I Accord.

In the second placebo test we repeat our analysis of short-term credit lines but using instead term loans. In this case, we compare how the cost of term loans with maturities up to one year relative to the cost term loans with maturities between one and three years changed around Basel I. In this case, however, we have to restrict our investigation to credit spreads since borrowers do not pay an undrawn fee when they take out a term loan. Nonetheless, if what is driven our findings on credit lines is a generalized decline in the relative cost of short-term borrowing we should also find evidence of this in the credit spreads of term loans. The results of this second placebo test are reported in Panel B of Table 6. It is interesting

to see that $BASEL1 \times STtl$ is positive, though not statistically significant. In other words, while we find strong evidence of a decline in the relative credit spreads of commitments with maturities up to one year in the period immediately after Basel I, our results show that the relative credit spreads of term loans with similar maturities in fact went up around that same period of time. This suggests that our evidence on short-term credit lines is unlikely driven by a generalized decline in the relative cost of short term funding and is instead the result of Basel I, which granted a special treatment to short-term credit lines but not term loans.

4.1.4 Accounting for changes in pricing policies

Our tests thus far account for a large set of loan-, borrower- and bank-specific controls as well as the market conditions at the time of issuance of commitments. Not withstanding that, one may worry about our findings because our specifications are not flexible enough to account for a potential generalized change in banks' loan pricing policies following the introduction of Basel I. To address this concern, we reestimate our models after we also account for all of our controls interacted with the dummy variable we use to control for the introduction of the Basel I Accord, $BASEL1$. The results of this exercise are reported in Table 7. Panel A presents the results analogous to Panel B of Table 4 but after we include the additional set of controls. Recall that in Panel B of Table 4 we use the balanced sample period encompassing three years before (1990-1992) and three after (2003-2005) the passage of Basel I, and restrict the control group to commitments with maturities above one year and below four years. Panels B, C and D, in turn, present the results analogous to Table 6 except we include the new set of controls. Again recall that in Table 5 we investigate the robustness of our findings when use different criteria to isolate the commitments that benefit from the favorable treatment offered by Basel I.

Comparing the results reported in Table 7 with the previous results we obtained without interacting all of our controls with $BASEL1$, we see that adding the new controls does not affect our findings in any meaningful way. Our key variable of interest, the interaction of $BASEL1$ with our variables that identify short-term commitments continues to be negative in all of our tests. Further, this variable retains the same level of statistical significance as in our original tests for most of the models. In a small number of models, the level of statistical significance declines but in an equal number of models it goes up after we add the additional

controls.

4.1.5 Controlling for bank-year fixed effects

Throughout, we have also presented results from a model estimated with bank fixed effects. In this case, the identification of the Basel effect comes from a comparison between banks' loan pricing policies before versus after the introduction of Basel I. While we also account for borrower-specific controls, a potential concern with the results derived with bank fixed effects is that they are not immune to changes in the pool of borrowers before and after the arrival of the Basel I Accord. One way to address this concern would be to include bank-borrower fixed effects. However, there are not enough borrowers in the sample that took out repeated credit lines from the same bank within the six-year we considered in our investigation. For this reason, we considered the intermediate case where we use bank-year fixed effects. In this case, the identification is driven by a comparison of banks' loan pricing policies within each given year.

The results of this test are reported in Table 8. The top panel reports the result estimated without firm controls while the bottom panel adds firm controls. Models 1 though 4 report results for undrawn fees while models 5 through 8 report results for all-in-drawn credit spreads. Models 1 and 5 report the results when we compare commitments with maturities up to one year with commitments with maturities between two and three years. Models 2 and 6 refine the previous analysis by leaving out from the target sample commitments with exactly one-year maturity. The remaining models repeat the analysis we did before using 364-day facilities.

As we can see from both the top and bottom panel, with exception of models 4 and 8 which focus exclusively on 364-day facilities, we find that $BASEL1{\times}ST$ is negative and statistically significant in all other models. The absence of an effect when we restrict to 364-day facilties is not surprising given that there are only 36 of these in our sample before the implementation of Basel I. In other words, even when we account for bank-year fixed effects, we continue to find strong evidence that the relative cost of those credit lines that received a favorable treatment under Basel I declined in the years following the implementation of the Basel I Accord. Indeed, the largest declines in undrawn fees ($\tilde{1}0$ basis points) can be found in specifications accounting for bank-year fixed effects and firm-specific controls.

4.1.6 Other robustness tests

In all of our models we did not control for the maturity of the credit line other than through restricting the sample to credit lines with maturities up to four years. We have re estimated all of our models after we also include the log of the maturity of the credit line. Doing so has no meaningful effect on our findings.

We have investigated the robustness of our key findings when we interact all of our controls with the $BASEL1$ dummy variable and when we include bank-year fixed effects. We have carried out similar tests on our placebo tests. Doing so did not impact the findings reported in Table 6.

Lastly, we assume the first year after the Basel I Accord was 1993, the first year the Accord was fully phased in the US. However, since US banks were required to apply Basel I on a transitional basis starting in 1991, we have also done our tests using 1991 or 1992 as the first year after the Accord. While this changes some of our results it does not change the thrust of our key finding that commitments with maturities up to one year became relatively less costly following Basel I.

In sum, the results from our robustness tests add important support to our base findings showing that the favorable treatment Basel I offered to credit lines with maturities up to one year lowered the relative cost of these credit lines by an amount that is statically different from zero, thereby, suggesting that regulatory capital is costly. It remains unclear, though, to what extent this reduction is economically meaningful. We will investigate this in Section 6.

4.2 Did riskier borrowers benefit more from Basel I?

Given that one of the cornerstones of the Basel I Accord was to force banks to hold capital commensurate their credit risk exposures, we would expect that among the short-term commitments that received a favorable treatment under Basel I, those of riskier borrowers to benefit more than those of safer borrowers. To investigate this hypothesis we extend of pricing model with a set of variables to distinguish credit lines of below-grade rated borrowers from those of investment-grade borrowers (the control group). We lump together commitments of unrated borrowers and commitments of below-grade rated borrowers because they both received a less

favorable treatment under Basel I.[8]

The results of this investigation are reported in Table 9, which has a structure similar to Table 7. The key variable of interest in that table is the triple interaction $BASEL1 \times STtimesRISKY$, which identifies the effect the Basel I Accord had on commitments with maturities up to one from risky borrowers (i.e. borrowers rated below investment grade or that do not have a credit rating). A quick look at this variable reveals it is always negative. However, it is only statistically significant for about half of the time, which is not surprising given it is a triple interaction and our relatively small sample size. The results of this investigation are consistent with our previous findings and add further, albeit moderate, support to the prior that regulatory capital is costly.

5 Basel II and the pricing of credit lines

As we noted in Section 2, the Basel II Accord sought to erase, at least in part, the "special" treatment that the Basel I Accord had given to commitments with maturities at origination shorter than one year. The exact extent of this effect, however, depends on whether the lending bank uses the standardized approach or the advanced approach to determine capital requirements. Under the standardized approach, commitments with maturities up to one year continue to benefit from a 0 percent credit conversion factor, but only if the bank has the discretion to unconditionally cancel the facility at any time without prior notice, or if the facility contained a covenant triggering automatic cancelation in case there is a deterioration in the borrower's financial condition. Absent these conditions, the commitment would be subject to a 20 percent credit conversion factor, which was still lower than the 50 percent factor applied to commitments with original maturities above one year. Under the 'foundation' internal ratings approach, commitments with maturities up to one year were subject to a conversion factor of up to 75 percent, unless the facility could be unconditionally cancelable without prior notice, in which case it qualified for a 0 percent conversion factor.[9]

To the extent that bank capital is costly, it is apparent that Basel II increased the

[8] We opted for lumping together these commitments because there are not enough observations in the sample to consider them separately.

[9] Banks that adopt the advanced internal ratings approach had the discretion to estimate the potential exposure at default which effectively allows them to set the credit conversion factor for each facility.

cost to grant most commitments up to one year for banks under the standardized approach and possibly for banks that rely on internal models. So, in contrast to Basel I, which applied equally to all internationally active banks, this difference in Basel II will make it harder to identify its potential impact on the relative cost of short-term commitments. There is a second important difference between the two Accords when applied to US banks. As we noted before, US adopted the Basel I Accord, first on a transition basis starting in 1991 and it fully phased in the that Accord starting in 1993. In contrast, even though the Basel II Accord was finalized in June 2004 and the US was an active participant in its design, the Board of Governors did not approve its implementation until November 2007.

Notwithstanding that uncertainty, US banks appear to have responded to the Basel II Accord. As we saw from Figure (2), starting in 2004/05 there is a rapid decline in the volume of 364-day facilities, which had been created to take advantage of the one-year cut off introduced in the first Basel Accord but became less attractive under the second Accord. Further, looking at Figure (4), which plots undrawn fees and all-in-drawn spreads around Basel I and Basel II, we see a striking difference in these variables after each Accord. While both undrawn fees and credit spreads of short-term commitments relative to long-term commitments decline after Basel I, we see the opposite pattern after Basel II. Interestingly, consistent with the more nuanced impact of Basel II, the effects after Basel II are not as striking as those we see after Basel I.

Building on this evidence, we investigate the impact of Basel II by looking at the relative pricing of commitments up to one year originated after 2004 with similar commitments originated beforehand. We follow a similar approach to that we used to investigate Basel I and study both undrawn fees and all-in-drawn spreads on commitments. Our initial results are reported in Table 10, which has a similar structure as Table 3.

While there are several differences between the results reported in Table 11 and those reported in Table 3, there is one which is crucial to our investigation of the cost of bank regulatory capital: We documented in Section 3 that there was a decline in both the undrawn fees and credit spreads of commitments up to one year relative to those of longer term commitments after the passage of Basel I. The results reported in Table 11 show exactly the opposite pattern following the passage of Basel II; $BASEL2{\times}ST$ is positive and statistically significant for all of the models on undrawn fees and all-in-drawn credit spreads. In other words, while

commitments up to one year became relatively less expensive following Basel I, their relative cost went up after Basel II. As we did before, in the interest of space we skip a detailed analysis of the controls used in our pricing models, and focus the remainder of this section on the robustness of the results reported in Table 10.

5.1 Robustness tests

We carried out a set of robustness tests similar to those we did for our investigation of Basel I. In the interest of space, in what follows we focus on the results and only briefly describe the tests, including the rationale behind them. For details on these aspects of our robustness tests, the reader is invited to look back at the robustness tests in Subsection 3.1.

5.1.1 Tightening our Basel II base tests

The results reported in Table 11 build on a comparison between facilities up to one year (including one year) and commitments with maturities above one year. We reestimate our pricing models after we drop from our sample commitments with maturities longer than three years in order to get a more homogeneous control group. In this case, we compare the pricing of commitments with maturities up to one year with commitments with maturities between one and three years. The results of this exercise are reported in Panel A of Table 11.

Looking at the new results we see that dropping from our control group commitments with longer maturities does not affect the sign of our key variable of interest, $BASEL{\times}ST$. Further, that variable continues to be statistically significant in all of the models (with exception of model 1). This reduction in statistical significance was expected given that our control group becomes more similar to our target set of commitments once we drop longer term commitments.

Another concern with the results we reported thus far is that they rely on an unbalanced sample that over weights the pre-Basel II time period. The sample period used in Tables 10 and 11 encompasses five years before the Basel II Accord (2000-2004), but only three years afterward (2004-2007). We did not go beyond 2007 because there is widespread evidence that the financial crisis had a profound effect on banks' corporate lending policies.[10] To address this concern, and as we did when we investigated commitments' pricing around Basel I, we

[10]See, for example, Ivashina and Sharfstein (2010), Santos (2011) and Cornett et al. (2011).

restrict our sample to three years before Basel II (2002-2004) and three years afterward (2005-2007). Also, we continue to rely on our more homogenous sample, that is, after we exclude commitments with maturities longer than three years. The results of this test are reported in Panel B of Table 11.

Again, narrowing the sample to a three-year period around Basel II has no material impact on our key variable of interest. $BASEL \times ST$ continues to be positive in all of the models. Furthermore, that variable retains or even increases its statistical significance throughout. Looking at its magnitude we see that the relative undrawn fees and all-in-drawn credit spreads for short-term credit lines went up by about 3 and 21 bps, respectively, following Basel II.

Comparing these effects with those we unveiled in similar tests on Basel I (Panel B of Table 4), we that as expected the increase in undrawn fees on short-term commitments after Basel II (ranging from 2.4 to 3.7 bps) is smaller than the decline these commitments experienced after Basel I (which ranged from 4.8 to 6.2 bps). However, this relationship does not extend to all-in-drawn credit spreads. There, we find that the decline after Basel I (ranging from 17.6 to 18.7 bps) was smaller than the increase that short-term commitments experienced after Basel II (which ranged from 21.1 to 23.7 bps). It is possible, though, that the recent increase in credit spreads was in part attributable to a flattening of the term-structure credit spread curve at that time (more on this below).

5.1.2 Basel II and the pricing of 364-day facilities

As we noted above the adjustment introduced with Basel II targeted commitments with maturities up to one year. However, the results we reported thus far are for commitments with maturities up to (and including) one year. It is possible, therefore, that we have in our target sample commitments that were not affected by the changed introduced with Basel II. While this biases us against finding any effect of Basel II, it would still be interesting to carry our tests on a set of commitments that have maturities at origination strictly lower than one year.

As in the case of Basel I, one way to accomplish this objective is to continue to focus on information about the maturity of the credit facility and restrict the target sample to facilities that have eleven or less months to maturity. This assures us that these facilities benefited from the favorable treatment granted by Basel II. The downside of this approach is that we are certainly leaving out from the target sample facilities that also benefited from that treatment.

An alternative way to accomplish that objective is to focus on 364-day facilities. A challenge with this exercise is that 364-day facilities declined substantially after Basel II. To address this problem, following the approach we adopted while investigating 364-day facilities around Basel I, we first compare the pricing of 364-day facilities issued before Basel II with the pricing of commitments with maturities up to one year issued afterwards. Next, we go a step further and also consider only 364-day facilities issued after Basel II.

The results of these three tests are reported in Table 12. As we can see from the positive sign of the interaction term in the three panels we find that following the introduction of Basel II both undrawn fees and credit spreads of facilities with maturities strictly lower than one year went up relative to facilities with maturities up to three years. However, that increase is not always statistically different from zero. For example, $BASEL2{\times}STa$ is never statistically significant when we restrict to facilities with maturities up to eleven months (Panel A of Table 13). In contrast, we find that $BASEL2{\times}364FACa$ is generally statistically significant throughout with the exception of model 1 in Panel C. These results add important support to our previous finding (and Hypothesis 2) that the relative cost of commitments with maturities lower than one year increase following the passage of the Basel II Accord.

5.1.3 Placebo test

When we investigate Basel I, we noted that a concern with our finding on the decline of the relative cost of commitments with maturities lower than one year after the enactment of the Accord was that it could be driven by a generalized decline in the cost of short term commitments. We rule out this possibility using a placebo test that focuses on the cost of commitments with maturities between one and two years and a placebo test using one-year term loans. A similar concern applies to our findings on the impact of Basel II, with the difference that now the concern is that the relative cost of short term commitments is increasing at the time Basel II is implemented.

To test that possibility we investigate two placebo tests similar to the ones we carry out when we investigate the impact of Basel I. The results of this investigation are reported in Table 13. Looking at Panel A, which compares the of commitments with maturities between one and two years with commitments with maturities between two and four years, we see that $BASEL2{\times}ST2y$ is never positive and significant. In fact this variable is generally negative

and in some cases it is even statistically significant. This evidence adds important support to our assertion that the increase in the relative cost of commitments with maturities up to one year following Basel II was driven by the capital tax Basel II posed on these commitments and not by a potential generalized increase in the relative cost of short term commitments at the time.

However, looking at Panel B, which compares term loans with maturities up to (and including) one year with term loans with maturities between one and three years, we see that $BASEL2{\times}STtl$is always positive and statistically significant. This suggests that there may have been a generalized increase in the relative cost of loans (commitments and term loans) with maturities up to one year around the time of Basel II. Recall that while Basel II increased the "capital cost" of granting short term commitments it did not have a similar impact on term loans. It is possible therefore that this is a contributing factor for the larger increase in the credit spreads of short term commitments after Basel II when compared to the decrease that these commitments experienced after Basel I that we discussed above.[11]

5.1.4 Accounting for changes in pricing policies

Our next robustness test attempts to account for banks' changes in pricing policies following Basel II. To that end, we reestimate our models after we also account for all of our controls interacted with $BASEL2$, the dummy variable we use to control for the introduction of the Basel II Accord. The results of this exercise are reported in Table 14. Panel A of Table 14 repeats the analysis reported in Panel B of Table 11 while the remaining panels of that table repeat the analysis after we expand our set of controls.

Adding the new controls weakens the statistical significance of the interaction variable which identifies the difference in the relative cost of short-term commitments after Basel II, but overall the results continue to point to an increase in both undrawn fees and credit spreads of short-term commitments after the passage of Basel II. With the exception of model 2 in Panel B, both $BASEL2{\times}ST$ in Panels A and B and $BASEL2{\times}364FAC$ in panels C and D retain their positive signs.

[11] It is interesting to note that we did not find a similar decline in the credit spreads of short-term loans after Basel I.

5.1.5 Controlling for bank-year fixed effects

As we did with our investigation of Basel I, our next robustness test accounts for bank-year fixed effects The results of this test are reported in Table 15. The top panel reports the result estimated without firm controls while the bottom panel adds firm controls. Models 1 though 4 report results for undrawn fees while models 5 through 8 repot results for all-in-drawn credit spreads. Models 1 and 5 report the results when we compare commitments with maturities up to one year with commitments with maturities between two and three years. Models 2 and 6 refine the previous analysis by leaving out from the target sample commitments with exactly one-year maturity. The remaining models repeat the analysis we did before using 364-day facilities.

As we can see from both the top and bottom panel, we continue to find that both $BASEL1{\times}ST$ are $BASEL1{\times}364FAC$ are positive and statistically significant across all models. Therefore, even when we account for bank-year fixed effects, we continue to find strong evidence that the relative cost of those credit lines that were "penalized" under Basel II increased in the years following the implementation of this Basel Accord.

5.1.6 Other robustness tests

As we did in our investigation of Basel I, we have re estimated all of our models after we also include the log of the of the credit line. Doing so has no meaningful effect on our key variable of interest, $BASEL2{\times}ST$.

We assumed the first year after the Basel II Accord was 2005, the first full year after the Accord was approved by the Basel Committee. However, as we noted before even though the US only implemented the Basel II in 2007 we started seeing a sharp decline in the volume of 364-day facilities staring around 2003/2004. We have also done our tests using 2004 as the first year after the Accord. This changes some of our results it does not change the thrust of our key finding that commitments with maturities up to one year became relatively less costly following Basel II.

Finally, we have investigated the robustness of our findings on the impact of Basel II on undrawn fees and credit spreads both when we interact all of our controls with $BASEL2$ and when we include bank-year fixed effects. We have performed similar tests on our placebo tests. Doing so did not impact the results we reported in Subsection 5.1.3.

In sum, the results we unveiled in this section show that the relative cost of commitments with maturities up to one year increased following the passage of Basel II. These results, while statistically significant, do not appear to be as strong as those we unveiled after the passage of Basel I. Further, as we noted above the post-Basel II effects appear to be generally smaller in magnitude than the post-Basel I effects. These differences were expected. For once, Basel II sought only to reduce, not eliminate, the favorable treatment that Basel I had given to short-term commitments. Further, while Basel I applied to all banks, the impact of Basel II varied depending on whether banks used a standardized approach or their internal approaches to determine the capital requirements. Last, and perhaps, most importantly, while US adopted the Basel I accord soon after its approval by the Basel Committee, it only implemented the Basel II Accord three years after its approval by the Basel Committee, at a time when there were already discussions to revise the Basel II Accord.

5.2 Were riskier borrowers more penalized by Basel II?

Following our investigation of the cross section effect of Basel I Accord, we investigate whether among the short-term commitments that were "taxed" under Basel II, those of riskier borrowers paid a higher "price." To investigate this hypothesis we extend of pricing model with a set of variables to distinguish credit lines of below-grade and unrated borrowers from those of investment-grade borrowers (the control group).

The results of this investigation are reported in Table 16. The key variables of interest in that table are the triple interactions $BASEL2{\times}STtimesRISKY$ and $BASEL2{\times}364FACtimesRISKY$, which identify the effect the Basel II Accord had on commitments with maturities up to one from risky borrowers (i.e. borrowers rated below investment grade or that do not have a credit rating). A quick look at these variables reveal they are generally positive. However, with the exception of three models in the bottom panel these interactions are not statistically significant. Thus, while these results are consistent with our priors, once again we find weaker evidence after Basel II when compared to the results of a similar test after Basel I.

6 Economic significance

Thus far, our analysis has found that banks adjust their prices in response to regulatory capital requirements and that these price adjustments have a significant effect on the types of credit

obtained by the real sector of the economy. However, we can go a step further with this analysis to estimate the implied price banks put on lowering their capital requirements. We do so by comparing the foregone profits banks incurred as a result of lowering their spreads on short-term commitments to the capital they can avoid holding. If banks are at an interior solution (they have not exhausted their ability to create one year revolvers), then this reflects their marginal willingness to pay for lower capital requirements. If not, then the price is a lower bound on their willingness to lower capital requirements. This ratio effectively summarizes the profits banks are willing to forego in order to avoid holding a marginal dollar of capital[12]

Under Basel I, an undrawn 364 day facility received a risk weighting of 0 percent while longer maturity facilities received a risk weight equal to the conversion factor of 50 percent times the risk weighting of drawn commitment. For example, a A rated borrower receives a risk weighting of 50 percent. Hence, the risk weight difference for issuing a 364 day facility for the unrated borrower is $50\% \times 50\% = 25\%$. The capital saved per dollar of risk weight reduction is the product of 25% and the actual Tier 1 ratio which is approximately 8% for active DealScan banks at this time. Putting this all together, the shift of a \$1 undrawn commitment from a long-term revolver to a 364-day facility reduces the need to hold \$0.02 in capital.

The cost of this reduction in capital is roughly the reduced undrawn fee which could range from 5-10 basis points depending on the empirical specification. Hence the ratio of lost fees to capital savings is roughly 2.5% to 5.0%. If we believe banks could shift even more revolvers to short-term facilities if they further lowered spreads, then we can interpret this as a reflection of bankers willingness to pay to mitigate capital requirements; it suggests on the margin banks are willing to forego as much as \$0.05 in profits for a \$1 reduction in capital. However, if we believe banks exhausted this capital arbitrage opportunity then they will not have had to reduce fees as much as they are willing to in order to save on regulatory capital. In that case, we can say that banks are willing to forego at least \$0.05 to save \$1 in capital. This trade-off results in an ROE improvement given banks at this time typically have ROEs around 15 percent.

Given the banks' own estimates of regulatory capital costs are typically in double digits, our findings appear to be low. If there are limits on the degree to which undrawn spreads can

[12]The methodology is similar in spirit to Kisin and Manela (2017. Also, see Anderson and Sallee 2011 for the original use of this logic in the context of automobile regulation

be reduced, then it may be that banks knowingly reduced all-in-drawn spreads to induce firms to accept shorter maturity revolvers. This might be particularly attractive to banks that anticipated large portions of the revolvers to remain untapped or to be unused for extended periods of time. In expectation the cost of this would be equal to the dawn portion of the reolver times the all in drawn spread. Assuming a draw rate of 20%, the banks very well may be foregoing two times what we find in the undrawn spread or \$0.10 per dollar saved in capital. Further work is focused on refining these estimates by better understanding the risk of the underlying commitments and the extent to which banks had exhausted the opportunity to transform longer-term commitments to short-term commitments.

7 Final remarks

In this paper, we built on a discontinuity introduced by Basel I on its capital treatment of commitments with less that one year maturity versus those with longer maturities to identify the cost of bank regulatory capital. We find strong statistical evidence that regulatory capital is costly. Undrawn fees and all-in-drawn spreads of commitments with matures lower than one year relative to those of longer term commitments decline in the years immediately after the implementation of Basel I. Consistent with these findings, we find a reversal of these effects in the years following the implementation of Basel II, which sought to reduce the favorable treatment that Basel I had granted short term commitments.

Our findings, particularly those related to Basel I, are robust to a large set of robustness tests and do appear to be driven by the Basel Accord because we do not find similar evidence in either one of our placebo tests. The weaker evidence we unveil associated with Basel is not surprising. As we noted, Basel II sought only to reduce the favorable treatment that Basel I had given to short-term commitments. Further, in contrast to Basel I, the potential impact of Basel II was dependent on the approach banks used to determine the capital requirements. Last, and also in contrast to Basel I, the US only implemented the Basel II Accord three years after its approval by the Basel Committee, at a time when there were already discussions to revise that Accord.

Looking at economic significance, our results show that a lower bound is that banks are willing to pay roughly five cents for a dollar saving in capital. While perhaps below what banks may suggest is the cost of capital, it is enough for them to induce a signficant change in the

composition of credit in the marketplace. During the Basel I period there was a tremendous shift toward longer-term credit lines that appears solely explained by their regulatory treatment by banks, hence it may well be that they were willing to pay more but had largely exhausted the opportunities with small changes in price. It is also important to note that the price banks were willing to pay may very well have been higher because there is a significant decline in the price of credit risk, the all-in-draw spread, that could also be related to banks desire to encourage shorter maturity revolvers.

Finally, our paper has some important insights for the design of regulation. First, and not surprisingly, our evidence on banks' adjustments in credit lines' pricing confirms that discontinuous treatment of "similar" securities induces regulatory optimization. Second, our evidence on the rapid growth of 364-day facilities when Basel I was introduced and equally rapid decline in these contracts after Basel II shows the ability of the marketplace to response to regulatory changes. Finally, our paper shows a novel link between capital regulation and liquidity risk. By offering a significantly differential treatment to commitments with different maturities that impact their relative cost, capital regulation can alter the maturity preferences of corporate borrowers and consequently the liquidity risk they pose to banks.

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Appendix 1: Definition of variables

FIRM CONTROLS

$AA, AA, ...C$: Credit rating of the borrower.
$ADVERTISING$: Advertising expenses over sales.
$LEVERAGE$: Debt over assets.
$LINTCOV$: Log of interest coverage truncated at 0.
$LSALES$: Log of sales of the borrower in 100 million dollars.
$MKTOBOOK$: Market to book value.
NWC : Net working capital (current assets less current liabilities) divided by total debt.
$PROF\ MARGIN$: Net income over sales.
$R\&D$: Research and development expenses over sales.
$STOCKRET$: Return on the borrower's stock over the market return.
$STOCKVOL$: Standard deviation of the borrower's stock return.
$TANGIBLES$: Share of the borrower's assets in tangibles.

LOAN CONTROLS

$364FAC$: Dummy variable equal to 1 if the credit line is a 364-day facility.
$364FACa$: Dummy variable equal to 1 if the credit line is a 364-day facility or it has a maturity up to (and including) one year.
$CORPURPOSES$: Dummy variable equal to 1 if the loan is for corporate purposes.
$CPBCKUP$: Dummy variable equal to 1 if the credit line is to backup a CP program.
$DEBT\ REPAY$: Dummy variable equal to 1 if the loan is to repay existing debt.
$DIVIDEND$: Dummy variable equal to 1 if there are dividend restrictions.
$GUARANTOR$: Dummy variable equal to 1 if the borrower has a guarantor.
$LAMOUNT$: Log of loan amount in 100 million dollars.
$LMATURITY$: Log of loan maturity defined in years.
$LOAN\ SPREAD$: Loan spread over LIBOR at origination.
$LENDERS$: Number of lenders in the syndicate.
$M\&A$: Dummy variable equal to 1 if the loan is to fund M&A activity.
$RENEWAL$: Dummy variable equal to 1 if the loan is a renewal.
$SECURED$: Dummy variable equal to 1 if the loan is secured.
$SECUREDMIS$: Dummy variable equal to 1 if the information on SECURED is missing.
$SENIOR$: Dummy variable equal to 1 if the loan is senior.
$SPONSOR$: Dummy variable equal to one is the borrower has a sponsor.
ST : Dummy variable equal to 1 if the credit line has a maturity up to (including) one year.
STa : Dummy variable equal to 1 if the credit line has a maturity up to eleven months.
$ST2y$: Dummy variable equal to 1 if the credit line has a maturity between one and two years.
$WORK\ CAPITAL$: Dummy variable equal to 1 if the loan is for working capital.

BANK CONTROLS

$CAPITALbk$: Shareholders' equity capital over assets.
$CHARGE\ OFFSbk$: Net charge offs over assets.
$LASSETSbk$: Log of of bank assets in 100 million dollars.
$LIQUIDITYbk$: Cash plus securities over assets.

$ROAbk$: Net income over assets.
$ROAVOLbk$: Standard deviation of the quarterly ROA computed over the last three years.
$SUBDEBTbk$: Subdebt over assets.

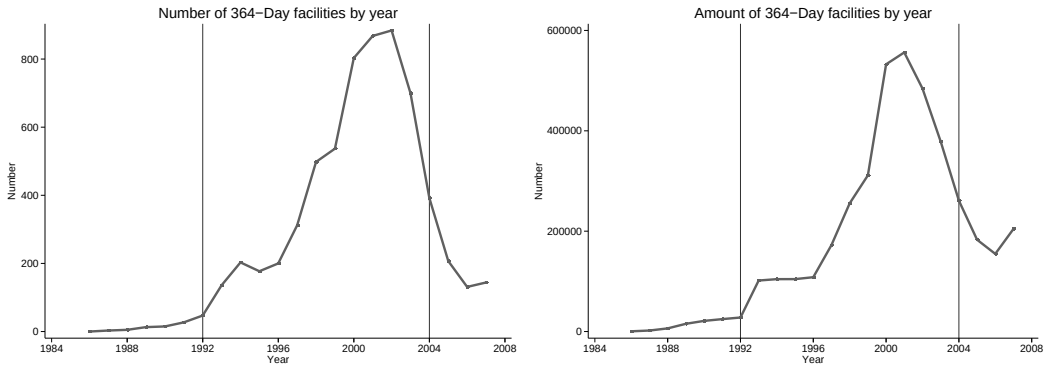
MACROECONOMIC CONTROLS

$BBBSPREAD$: Triple-B minus triple-A yield difference on new industrial rated bonds.

TIME CONTROLS

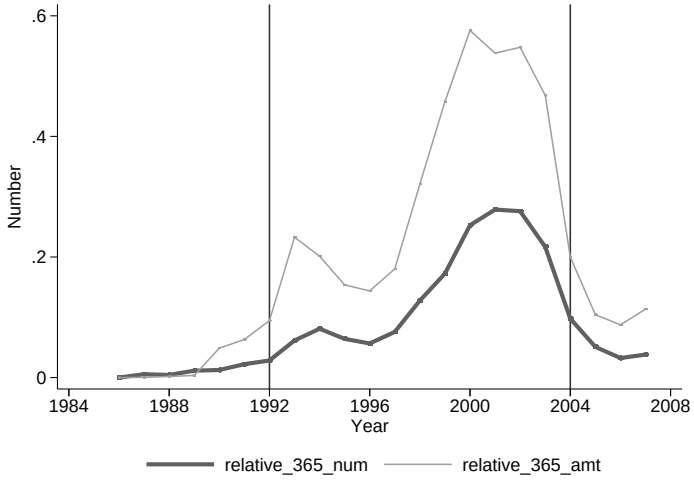
$BASEL1$: Dummy variable equal to 1 for the years after the Basel I Accord (1993-).
$BASEL2$: Dummy variable equal to 1 for the years after the Basel 2 Accord (2005-).

Figure 1: **Number and volume of 364-day facilities by year**



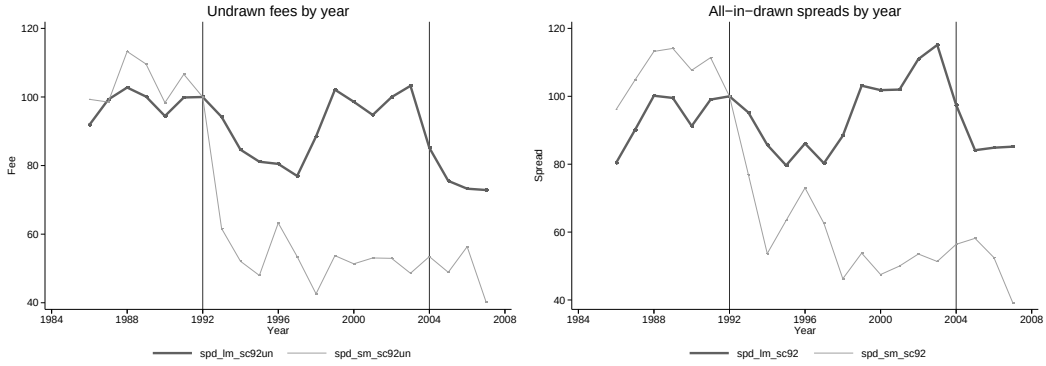
These figures plot the time series of the number and volume of 364-day failities.

Figure 2: **Relative number and volume of 364-day facilities by year**



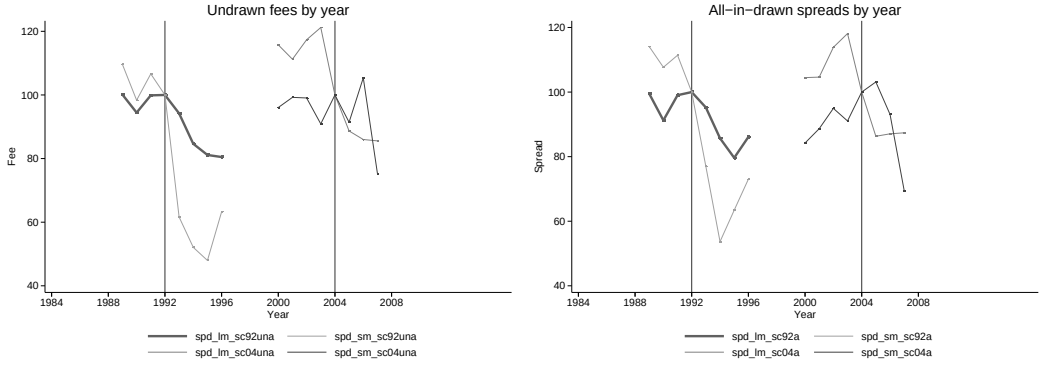
This figure plots the time series of the relative number and volume of 364-day failities.

Figure 3: **Undrawn fees & all-in-drawn spreads around Basel I**



This figure plots the time series of the average annual all-in-drawn spreads on credit lines of different maturities around Basel I. Spreads scalled to 100 in 1991.

Figure 4: **Undrawn fees & all-in-drawn spreads around Basel I and Basel II**



These figures plot the time series of the average annual all-in-drawn and all-in-undrawwn spreads on short term credit lines around Basel I and Basel II. Spreads scalled to 100 in 1991 and to 2003.

Table 1 Sample characterization[a]

	Basel I sample				Basel II sample			
Variables	Bef	Aft	Diff	T-Stat	Bef	Aft	Diff	T-Stat
Panel A: Undrawn fees								
364FAC	31.73	13.43	-13.30	9.39***	13.707	8.787	-4.920	5.56***
ST	38.54	16.94	-21.61	21.07***	16.336	11.747	-4.590	4.36***
STa	41.78	29.58	-12.20	5.80***	29.091	20.044	-9.047	2.36**
LT	37.91	31.93	-5.98	12.71***	32.934	22.325	-10.609	22.97***
ALL	37.99	27.90	-10.09	22.68***	27.184	21.542	-5.642	13.31***
Panel B: All-in-drawn spreads								
364FAC	178.83	69.72	-109.23	9.36***	75.226	49.256	-25.971	4.80***
ST	263.34	98.91	-164.53	23.31***	96.786	71.161	-25.625	3.51***
STa	302.09	194.60	-107.48	7.47***	186.007	134.056	-51.952	1.97**
LT	179.08	165.34	-13.74	4.65***	176.488	110.669	-65.818	25.92***
ALL	189.70	147.47	-42.23	15.17***	148.877	107.747	-41.130	17.14***
Panel C: Loan controls								
LAMOUNT	3.821	4.821	1.000	26.65***	5.241	5.763	0.521	16.40***
LMATURITY	1.123	0.914	-0.210	12.24***	0.809	1.403	0.594	40.25***
SECURED	0.430	0.434	0.003	0.27	0.388	0.413	0.025	2.26**
DIVIDEND	0.003	0.506	0.503	46.44***	0.534	0.617	0.082	7.38***
GUARANTOR	0.000	0.044	0.044	9.94***	0.107	0.128	0.021	2.98***
SPONSOR	0.027	0.040	0.013	2.91***	0.030	0.052	0.023	5.27***
CORPURPOSES	0.334	0.234	-0.100	9.81***	0.271	0.462	0.191	18.20***
0 DEBTREPAY	0.194	0.294	0.100	9.46***	0.126	0.021	-0.105	16.50***
WORKCAPITAL	0.241	0.148	-0.093	10.62***	0.252	0.325	0.073	7.25***
CPBCKUP	0.018	0.134	0.116	15.48***	0.226	0.040	-0.186	23.04***
M&A	0.132	0.114	-0.018	2.29**	0.059	0.087	0.028	4.94***
LENDERS	6.314	9.080	2.766	12.58***	10.460	10.994	0.535	2.90***
Panel D: Firm controls								
LSALES	5.695	6.710	1.015	22.09***	7.380	7.742	0.362	8.97***
LEVERAGE	0.330	0.302	-0.029	6.32***	0.306	0.270	-0.036	9.09***
MKTBOOK	1.452	1.772	0.320	13.83***	1.713	1.825	0.112	5.12***
PROFMARGIN	0.015	0.011	-0.004	1.02	0.012	0.057	0.045	11.50***
NWC	2.289	3.903	1.614	4.05***	3.858	5.446	1.588	3.31***
LINTCOV	1.720	2.090	0.370	14.01***	2.110	2.432	0.322	12.86***
TANGIBLES	0.795	0.743	-0.052	6.15***	0.737	0.710	-0.027	3.42***
R&D	0.015	0.018	0.003	2.54**	0.019	0.017	-0.002	1.69*
ADVERTISING	0.014	0.010	-0.004	6.83***	0.010	0.011	0.001	1.01
STOCKRET	0.001	0.00	-0.00	3.71***	0.001	0.000	-0.000	8.48***
STOCKVOL	0.033	0.033	-.000	0.75	0.032	0.019	-0.013	34.13***
AAA	0.001	0.007	0.006	3.16***	0.010	0.013	0.003	1.09
AA	0.009	0.034	0.025	6.17***	0.038	0.020	-0.018	4.54***
A	0.073	0.149	0.076	9.42***	0.199	0.151	-0.048	5.52***
BBB	0.111	0.165	0.054	6.31***	0.235	0.258	0.023	2.39**
BB	0.099	0.104	0.004	0.59	0.109	0.172	0.063	8.32***
B	0.091	0.057	-0.034	6.00***	0.055	0.071	0.016	2.97***
CCC	0.006	0.001	-0.005	4.14***	0.001	0.003	0.002	1.82*
CC	0.004	0.002	-0.002	2.54**	0.001	0.000	-0.000	0.42

[a] Continues on the next page.

Table 1 Continued[a]

	Basel I sample				Basel II sample			
Variables	Bef	Aft	Diff	T-Stat	Bef	Aft	Diff	T-Stat
Panel E: Bank controls								
LASSETSbk	3.468	5.215	1.747	50.22***	5.951	6.649	0.699	26.94***
SUBDEBTbk	0.010	0.023	0.013	66.40***	0.024	0.021	-0.003	13.55***
ROAbk	0.001	0.003	0.002	36.77***	0.003	0.003	0.000	10.01***
CHARGEOFFSbk	0.002	0.001	-0.001	47.80***	0.001	0.001	-0.000	30.37***
LIQUIDITYbk	0.230	0.198	-0.032	20.72***	0.191	0.161	-0.031	21.71***
CAPITALbk	0.058	0.073	0.015	43.29***	0.074	0.082	0.008	20.94***
ROAVOLbk	0.003	0.001	-0.002	69.45***	0.001	0.001	-0.001	32.20***
Panel F: Market controls								
BBBSPREAD	1.044	0.994	-0.050	4.09***	1.369	.752	-.617	68.09***
Observations	2,133	10,452			5,577	3,015		

[a] This table characterizes the samples we use in our investigation of credit lines' undrawn fees and all-in-drawn spreads around Basel I (left panel) and Basel II (right panel), respectively. The sample period used in the left panel is 1987-2004, with 1993 being the first year after Basel I. The sample period used in the right panel is 2000-2007, with 2005 being the first year after Basel II. See Appendix 1 for the definitions of all the variables reported in the table.

Table 2 Transition matrices of loan maturities[a]

Panel A: Transition matrix around Basel I										
Maturity	Maturity after Basel I									
before	1	2	3	4	5	6	7	8	9	10
1	25.7	16.3	21.6	8.9	13.9	4.6	1.5	0.4	0.2	6.8
2	17.4	17.6	25.7	8.9	13.4	5.7	2.1	0.9	0.0	8.5
3	19.1	11.4	24.0	10.2	19.6	5.2	3.1	0.4	0.0	7.0
4	15.7	10.3	19.0	13.0	24.1	5.7	3.3	0.5	0.3	8.1
5	16.0	10.0	17.3	7.9	24.6	8.9	5.2	1.4	0.4	8.5
6	15.4	7.0	18.7	12.1	22.4	8.2	5.7	2.4	0.0	8.2
7	17.0	7.7	16.2	8.8	21.9	8.0	9.8	2.3	0.5	7.7
8	11.2	5.9	14.4	6.4	22.5	15.5	4.8	5.9	3.7	9.6
9	17.7	3.2	11.3	9.7	21.0	6.5	6.5	6.5	11.3	6.5
10	21.6	4.2	13.5	8.4	17.7	6.7	9.2	4.2	6.7	7.6
All	18.0	11.2	20.3	9.6	19.7	6.9	4.3	1.5	0.7	7.8
Panel B: Transition matrix around Basel II										
Maturity	Maturity after Basel II									
before	1	2	3	4	5	6	7	8	9	10
1	25.8	7.8	11.6	4.5	45.6	3.6	0.7	0.0	0.0	0.5
2	9.8	12.1	20.9	12.1	38.1	4.2	0.5	0.5	0.0	1.9
3	6.3	6.3	19.1	10.1	50.8	5.7	0.6	0.0	0.0	1.2
4	3.7	6.2	11.6	15.1	51.7	8.7	0.7	0.0	0.0	2.2
5	4.2	1.9	5.9	9.6	60.4	14.2	1.8	0.1	0.0	1.8
6	2.4	0.6	4.7	10.1	39.1	33.7	5.9	1.2	0.0	2.4
7	2.1	2.1	6.4	2.1	27.7	27.7	27.7	2.1	0.0	2.1
8	0.0	0.0	4.2	8.3	37.5	20.8	20.8	4.2	0.0	4.2
9	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0
10	1.0	3.1	8.3	13.4	46.4	23.7	2.1	0.0	0.0	2.1
All	7.3	4.7	11.4	9.9	51.9	11.1	1.9	0.2	0.0	1.6

[a] This table reports the transition matrices for borrowers that took out credit lines before and after Basel I (top panel), and borrowers that took out credit lines before and after Basel II (bottom panel). The sample period used in the top panel is 1987-2004, with 1993 being the first year after Basel I. The sample period used in the bottom panel is 2000-2007, with 2005 being the first year after Basel II. In each panel we keep all of the credit lines taken out after the Basel Accord and compare their maturities with the borrower's last credit line before the Accord. Rows should add to 100, except for rounding errors.

Table 3 Undrawn fees and all-in-drawn spreads around Basel I[a]

Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	-2.42***	-3.75***	-3.20***	19.55***	12.38***	-0.55
	(-4.02)	(-4.91)	(-3.88)	(6.23)	(3.16)	(-0.12)
ST	-1.67	-2.85**	-1.98	36.27***	37.71***	37.07***
	(-1.51)	(-2.17)	(-1.52)	(6.62)	(5.65)	(5.26)
BASEL1×ST	-4.10***	-2.41*	-3.18**	-48.04***	-41.81***	-43.93***
	(-3.54)	(-1.77)	(-2.37)	(-8.37)	(-6.00)	(-6.01)
Panel A: Loan controls						
LAMOUNT	-1.91***	-1.15***	-1.25***	-28.28***	-18.09***	-17.11***
	(-13.08)	(-5.15)	(-5.58)	(-43.85)	(-17.25)	(-16.28)
RENEWAL	1.68	3.24**	2.61*	-8.56	2.93	5.81
	(1.50)	(2.29)	(1.85)	(-1.51)	(0.42)	(0.83)
SECURED	11.73***	8.83***	8.80***	85.59***	64.85***	61.66***
	(30.80)	(19.05)	(18.73)	(42.63)	(26.34)	(25.19)
SECUREDMIS	4.51***	2.55***	2.27***	26.50***	10.49***	9.91***
	(14.39)	(7.70)	(6.91)	(15.52)	(5.90)	(5.73)
DIVIDEND	1.10***	1.44***	1.56***	-5.52***	-0.36	-0.96
	(3.36)	(3.76)	(4.04)	(-3.32)	(-0.18)	(-0.48)
GUARANTOR	1.07	0.73	0.68	6.01	10.08**	8.85**
	(1.19)	(0.81)	(0.75)	(1.51)	(2.29)	(2.02)
SPONSOR	7.61***	5.85***	5.45***	41.35***	29.06***	25.75***
	(14.11)	(6.15)	(5.61)	(17.27)	(5.86)	(5.18)
CORPURPOSES	-5.18***	-3.02***	-2.94***	-19.60***	-9.40***	-10.83***
	(-10.10)	(-4.58)	(-4.47)	(-8.25)	(-2.75)	(-3.09)
DEBTREPAY	-4.47***	-3.52***	-3.38***	-19.15***	-12.95***	-14.78***
	(-9.16)	(-5.60)	(-5.39)	(-7.88)	(-3.86)	(-4.33)
WORKCAPITAL	-4.84***	-2.30***	-2.12***	-23.12***	-9.94***	-11.17***
	(-8.64)	(-3.25)	(-2.99)	(-8.49)	(-2.63)	(-2.88)
CPBCKUP	-9.60***	-6.02***	-5.94***	-45.14***	-27.37***	-30.74***
	(-15.86)	(-8.26)	(-8.08)	(-14.81)	(-7.43)	(-8.10)
M&A	-0.72	1.87***	1.77**	-1.05	13.33***	12.16***
	(-1.33)	(2.59)	(2.46)	(-0.39)	(3.48)	(3.15)
LENDERS	0.03*	0.04*	0.04*	0.39***	0.53***	0.48***
	(1.89)	(1.91)	(1.87)	(3.90)	(4.23)	(3.80)
Panel B: Firm controls						
LSALES		-0.08	-0.11		-4.46***	-4.47***
		(-0.40)	(-0.58)		(-4.51)	(-4.52)
LEVERAGE		4.23***	4.12***		40.14***	38.68***
		(3.55)	(3.50)		(6.12)	(5.92)
MKTBOOK		-0.66***	-0.71***		-5.93***	-6.38***
		(-3.10)	(-3.36)		(-6.15)	(-6.52)
PROFMARGIN		-5.45***	-5.76***		-0.32	2.24
		(-3.65)	(-3.81)		(-0.05)	(0.37)
NWC		0.02*	0.02		0.08*	0.06
		(1.71)	(1.57)		(1.75)	(1.34)
LINTCOV		-1.45***	-1.35***		-10.30***	-10.43***
		(-6.54)	(-6.22)		(-9.01)	(-9.12)
TANGIBLES		-0.57	-0.52		-8.55***	-8.20***
		(-1.03)	(-0.95)		(-2.87)	(-2.78)
R&D		-15.55***	-13.35***		-52.82**	-89.62***
		(-3.34)	(-2.81)		(-2.32)	(-3.83)
ADVERTISING		4.15	1.61		62.18*	56.14
		(0.60)	(0.23)		(1.80)	(1.63)
STOCKRET		-277.45***	-304.81***		-3782.65***	-3630.09***
		(-3.01)	(-3.35)		(-8.89)	(-8.51)

[a] Continues on the next page.

Table 3 Continued[a]

Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
STOCKVOL		168.12***	169.63***		1784.13***	1722.62***
		(11.59)	(11.63)		(25.46)	(24.32)
AAA	-14.74***	-7.53***	-7.93***	-55.81***	5.75	3.52
	(-13.26)	(-6.87)	(-7.09)	(-7.89)	(0.90)	(0.55)
AA	-13.51***	-10.53***	-10.46***	-57.45***	-20.19***	-21.72***
	(-20.48)	(-11.84)	(-11.59)	(-12.88)	(-4.11)	(-4.42)
A	-10.88***	-9.28***	-9.33***	-49.38***	-23.51***	-25.19***
	(-20.09)	(-13.31)	(-13.13)	(-16.22)	(-6.81)	(-7.21)
BBB	-4.83***	-4.52***	-4.66***	-24.05***	-9.70***	-11.68***
	(-9.05)	(-7.18)	(-7.36)	(-8.11)	(-2.90)	(-3.57)
BB	4.12***	3.74***	3.49***	7.31**	8.13**	7.22**
	(8.15)	(6.67)	(6.14)	(2.16)	(2.18)	(1.99)
B	7.62***	5.74***	5.53***	35.61***	16.63***	15.43***
	(10.65)	(6.45)	(6.23)	(9.61)	(3.67)	(3.42)
CCC	13.79***	4.21	4.31	84.07***	58.02**	44.57**
	(4.22)	(1.50)	(1.50)	(5.16)	(2.54)	(1.99)
CC	12.82***	5.61	4.95	93.94***	30.44	30.60
	(4.22)	(1.42)	(1.22)	(5.87)	(1.34)	(1.38)
Panel C: Bank controls						
LASSETSbk	0.43***	0.32**	0.42	-0.69	-0.45	4.89**
	(3.74)	(2.37)	(0.97)	(-1.21)	(-0.65)	(2.15)
SUBDEBTbk	-62.95***	-53.04***	-63.85**	-508.71***	-478.78***	-34.33
	(-3.59)	(-2.68)	(-2.30)	(-5.98)	(-4.84)	(-0.23)
ROAbk	-87.76	-148.20	-130.85	77.35	-262.20	-32.54
	(-0.93)	(-1.37)	(-1.13)	(0.18)	(-0.48)	(-0.05)
CHARGEOFFSbk	497.67***	383.01**	47.08	2344.83***	1988.28**	323.84
	(3.50)	(2.21)	(0.25)	(3.07)	(2.11)	(0.30)
LIQUIDITYbk	-5.99***	-3.66	10.91***	-20.43*	1.08	20.72
	(-2.72)	(-1.34)	(2.92)	(-1.93)	(0.08)	(1.07)
CAPITALbk	-43.18***	-34.42**	-5.19	-60.85	-86.48	-88.60
	(-4.13)	(-2.57)	(-0.29)	(-1.26)	(-1.27)	(-0.91)
ROAVOLbk	399.76***	241.09*	106.22	2045.43***	1966.65***	722.49
	(3.80)	(1.70)	(0.71)	(3.76)	(2.71)	(0.91)
Panel D: Market controls						
BBBSPREAD	4.29***	2.75***	3.36***	35.65***	24.68***	20.80***
	(13.67)	(7.36)	(7.65)	(23.76)	(12.83)	(9.20)
constant	39.35***	31.84***	26.71***	240.55***	188.49***	167.82***
	(32.13)	(11.91)	(7.99)	(39.57)	(12.45)	(8.83)
Observations	22048	12585	12585	29011	14889	14889
R-squared	0.401	0.491	0.516	0.487	0.608	0.630

[a] The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. See Appendix 1 for the definition of all the variables. All models also include a set of dummy variables to account for the borrower sector of activity. Models estimated on a sample of credit lines taken out between 1987 and 2003. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 4 Basel I: Tightening the Basel I test[a]

Panel A: Restricting to more homogeneous controlling group						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	-2.43***	-3.16***	-1.74	3.69	1.51	-2.92
	(-2.71)	(-2.84)	(-1.45)	(0.83)	(0.28)	(-0.48)
ST	-1.10	-2.05	-1.23	21.68***	23.76***	24.26***
	(-0.94)	(-1.44)	(-0.87)	(3.70)	(3.27)	(3.24)
BASEL1×ST	-4.86***	-4.39***	-5.16***	-32.36***	-29.39***	-33.28***
	(-3.84)	(-2.87)	(-3.40)	(-5.12)	(-3.69)	(-4.08)
constant	41.06***	30.13***	28.48***	264.44***	204.23***	204.96***
	(23.52)	(8.45)	(6.12)	(31.41)	(11.70)	(9.16)
Observations	12052	7250	7250	15623	8722	8722
R-squared	0.382	0.470	0.502	0.510	0.620	0.646
Panel B: Further restricting to shorter and balanced sample period around Basel I						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	0.62	1.72	2.25	-4.65	-2.57	-5.13
	(0.43)	(1.02)	(1.30)	(-0.65)	(-0.30)	(-0.52)
ST	-1.30	-1.61	-0.22	16.75***	19.27***	16.85**
	(-0.93)	(-0.94)	(-0.13)	(2.58)	(2.59)	(2.06)
BASEL1×ST	-4.80***	-4.71**	-6.16***	-18.67**	-18.15**	-17.59*
	(-2.96)	(-2.39)	(-3.14)	(-2.43)	(-2.04)	(-1.86)
constant	35.50***	33.63***	59.83***	306.19***	202.86***	228.72**
	(7.02)	(5.00)	(4.68)	(13.67)	(2.97)	(2.32)
Observations	2893	1739	1739	3838	2156	2156
R-squared	0.298	0.383	0.479	0.503	0.611	0.655

[a] Panel A reports the results when we restrict the sample to credit lines with maturities up to three years. Panel B reports the results when we restrict the sample to credit lines with maturies up to three years and limit the sample period to three years before Basel I (1990-92) and three years afterwards (1993-95). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. Models have the same set of controls as the corresponding models reported in Table 3. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 5 Undrawn fees and all-in-drawn spreads on 364-day facilities around Basel I[a]

Panel A: Restricting to loans with maturities up to eleven months						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	0.51	1.69	1.85	-5.65	-5.07	-6.36
	(0.33)	(0.93)	(0.99)	(-0.73)	(-0.54)	(-0.58)
ST	0.81	1.07	2.47	24.64***	39.16***	38.75***
	(0.39)	(0.43)	(0.97)	(2.98)	(4.14)	(3.63)
BASEL1×ST	-5.87**	-6.99**	-8.51***	-23.86**	-31.13**	-31.88**
	(-2.25)	(-2.20)	(-2.64)	(-2.33)	(-2.39)	(-2.21)
constant	34.58***	29.75***	52.88***	297.87***	246.11***	271.20***
	(6.04)	(3.95)	(3.89)	(11.83)	(4.13)	(2.94)
Observations	2401	1434	1434	3125	1750	1750
R-squared	0.211	0.292	0.403	0.444	0.565	0.617
Panel B: Combined sample before Basel I & 364-day facilities afterwards						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	0.32	1.45	1.78	-5.21	-0.94	-2.46
	(0.22)	(0.87)	(1.03)	(-0.70)	(-0.11)	(-0.25)
364FACa	-1.27	-1.61	-0.15	17.72***	20.44***	17.18**
	(-0.90)	(-0.94)	(-0.09)	(2.71)	(2.73)	(2.08)
BASEL1×364FACa	-6.88***	-6.71***	-8.34***	-31.15***	-27.30***	-26.23***
	(-4.15)	(-3.46)	(-4.31)	(-3.59)	(-2.87)	(-2.67)
constant	35.97***	34.02***	57.53***	294.15***	197.18***	224.73**
	(6.97)	(4.88)	(4.42)	(12.21)	(2.83)	(2.21)
Observations	2738	1652	1652	3438	1968	1968
R-squared	0.306	0.396	0.488	0.502	0.619	0.664
Panel C: 364-day facilities before and after Basel I						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	-0.52	0.60	2.03	-13.13*	-18.89**	-15.32
	(-0.39)	(0.37)	(1.14)	(-1.68)	(-2.01)	(-1.45)
364FAC	-3.75	-2.60	-3.02	-18.67	-4.03	-5.98
	(-1.35)	(-0.97)	(-1.36)	(-1.61)	(-0.34)	(-0.48)
BASEL1×364FAC	-4.71*	-5.85**	-5.56**	4.44	-0.13	-2.70
	(-1.68)	(-2.11)	(-2.30)	(0.35)	(-0.01)	(-0.20)
constant	40.21***	39.86***	61.17***	312.51***	258.13***	281.67***
	(8.78)	(6.34)	(5.00)	(12.41)	(5.46)	(3.73)
Observations	2710	1646	1646	3265	1883	1883
R-squared	0.305	0.397	0.492	0.476	0.586	0.650

[a] Panel A reports the results on models estimated on credit lines with maturities up to eleven months. Panel B reports the results on models estimated on credit lines with maturities up to (an including) one year Before Basel I and credit lines identified as 364-day facilities after Basel I. Panel C reports the results on models estimated on credit lines identified as 364-day facilities. All models estimated on the sample of credit lines taken out three years before Basel I (1990-92) and three years afterwards (1993-95). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. Models have the same set of controls as the corresponding models reported in Table 3. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 6 Basel I: Placebo tests[a]

Panel A: Using credit lines						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	-0.81	1.03	0.26	-4.43	-2.12	-3.22
	(-0.57)	(0.64)	(0.16)	(-0.56)	(-0.23)	(-0.32)
ST2y	0.81	1.19	0.54	30.67***	22.17***	25.51***
	(0.61)	(0.78)	(0.41)	(4.04)	(2.70)	(2.94)
BASEL1×ST2y	-0.01	0.01	2.08	-7.58	-3.44	-5.47
	(-0.00)	(0.01)	(0.97)	(-0.82)	(-0.32)	(-0.51)
constant	36.17***	31.17***	45.78***	266.14***	212.70***	220.04**
	(7.55)	(4.38)	(3.71)	(11.19)	(4.12)	(2.49)
Observations	2640	1568	1447	3158	1787	1787
R-squared	0.202	0.286	0.413	0.432	0.557	0.613
Panel B: Using term loans						
Variables				All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1				-38.22*	-60.41*	-76.80*
				(-1.84)	(-1.84)	(-1.88)
STtl				-6.45	-20.19	3.60
				(-0.44)	(-0.98)	(0.13)
BASEL1×STtl				12.16	16.73	6.21
				(0.53)	(0.50)	(0.16)
constant				453.73***	730.79***	22.60
				(6.68)	(4.15)	(0.07)
Observations				478	240	240
R-squared				0.420	0.555	0.751

[a] Panel A reports the results on the sample of credit lines with maturities above one year and up to (and including) four years. Panel B reports the results on the sample of term loans with maturities up (and including) three years. All models estimated on the sample of loans taken out three years before Basel I (1990-92) and three years afterwards (1993-95). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. Models have the same set of controls as the corresponding models reported in Table 3. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 7 Basel I: Interacting all controls with $BASEL1$[a]

Panel A: Base results with narrow sample period and control group						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
ST	-1.55	-1.90	-0.60	16.81**	18.06**	13.89
	(-1.12)	(-1.07)	(-0.36)	(2.55)	(2.25)	(1.64)
BASEL1×ST	-4.81***	-4.59**	-5.80***	-23.87***	-19.19**	-16.71*
	(-2.91)	(-2.19)	(-2.87)	(-2.95)	(-1.96)	(-1.67)
constant	41.17***	10.59	47.37***	353.41***	-116.05*	-180.72*
	(4.49)	(0.74)	(2.73)	(9.28)	(-1.80)	(-1.79)
Observations	2893	1739	1739	3838	2156	2156
R-squared	0.307	0.400	0.493	0.511	0.626	0.672
Panel B: Restricting to loans with maturities up to eleven months						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
ST	0.47	0.54	1.84	25.20***	35.84***	33.04***
	(0.23)	(0.22)	(0.76)	(3.08)	(3.57)	(3.03)
BASEL1×ST	-5.14**	-6.13*	-7.72**	-27.24**	-27.34*	-23.79
	(-2.00)	(-1.96)	(-2.46)	(-2.52)	(-1.92)	(-1.60)
constant	36.48***	35.52***	51.24***	338.23***	262.69***	284.42***
	(3.74)	(3.75)	(3.05)	(8.07)	(3.78)	(2.61)
Observations	2401	1434	1434	3125	1750	1750
R-squared	0.222	0.315	0.421	0.454	0.582	0.636
Panel C: Combined sample before Basel I & 365-day facilities afterwards						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
364FACa	-1.55	-1.90	-0.59	16.81**	18.06**	13.79
	(-1.11)	(-1.07)	(-0.35)	(2.54)	(2.25)	(1.61)
BASEL1×364FACa	-7.91***	-7.20***	-8.39***	-43.61***	-35.01***	-32.90***
	(-4.60)	(-3.47)	(-4.15)	(-4.88)	(-3.48)	(-3.19)
constant	41.17***	16.33	50.97***	353.41***	-116.04*	-197.75*
	(4.49)	(1.19)	(3.06)	(9.27)	(-1.80)	(-1.92)
Observations	2738	1652	1652	3438	1968	1968
R-squared	0.316	0.413	0.503	0.512	0.635	0.681
Panel D: 365-day facilities before and after Basel I						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
364FAC	-2.55	-1.27	-1.98	-14.06	1.11	-2.92
	(-0.86)	(-0.45)	(-0.84)	(-1.20)	(0.08)	(-0.21)
BASEL1×364FAC	-6.90**	-7.83***	-6.95***	-12.74	-18.06	-16.64
	(-2.24)	(-2.61)	(-2.66)	(-0.98)	(-1.25)	(-1.07)
constant	47.59***	32.98***	58.41***	376.58***	221.81***	214.46**
	(6.52)	(3.22)	(3.90)	(9.39)	(3.38)	(2.46)
Observations	2710	1646	1646	3265	1883	1883
R-squared	0.317	0.417	0.507	0.488	0.605	0.665

[a] Panel A repeats the analysis reported in Panel B of Table 4 after we interact all of the controls with $BASEL1$. Panels B, C and D repeat the analysis reported in Table 5 after we interact all of the controls with $BASEL1$. All models estimated on the sample of credit lines taken out three years before Basel I (1990-92) and three years afterwards (1993-95). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 8 Basel I: Controlling for bank-year fixed effects[a]

Panel A: Models without firm controls								
Variables	Undrawn fees				All-in-drawn spreads			
	1	2	3	4	5	6	7	8
ST	-0.54	2.39			12.58*	26.11**		
	(-0.35)	(1.06)			(1.65)	(2.54)		
BASEL1×ST	-5.92***	-7.47**			-18.58**	-28.20**		
	(-3.35)	(-2.55)			(-2.08)	(-2.21)		
364FACa			-0.56				12.98*	
			(-0.36)				(1.69)	
BASEL1×364FAC			-8.25***				-29.84***	
			(-4.46)				(-3.04)	
364FAC				-3.97				-31.74**
				(-1.31)				(-2.54)
BASEL1×364FAC				-5.06				13.00
				(-1.60)				(0.93)
constant	105.50***	75.31**	94.02***	83.06**	304.18**	25.11	259.40*	147.07
	(3.29)	(2.16)	(2.89)	(2.46)	(2.02)	(0.15)	(1.67)	(0.82)
Observations	2893	2401	2738	2710	3838	3125	3438	3265
R-squared	0.467	0.410	0.479	0.479	0.603	0.566	0.604	0.610
Panel B: Models with firm controls								
Variables	Undrawn fees				All-in-drawn spreads			
	1	2	3	4	5	6	7	8
ST	0.09	3.43			8.96	31.43**		
	(0.05)	(1.16)			(0.97)	(2.45)		
BASEL1×ST	-6.78***	-9.98***			-12.94	-28.27		
	(-3.21)	(-2.72)			(-1.18)	(-1.62)		
364FACa			-0.02				8.92	
			(-0.01)				(0.96)	
BASEL1×364FACa			-8.61***				-20.77*	
			(-3.95)				(-1.81)	
364FAC				-3.83				-18.82
				(-1.45)				(-1.31)
BASEL1×364FAC				-5.15*				6.70
				(-1.78)				(0.43)
constant	77.00**	44.63	68.41*	55.12	192.37	4.04	171.77	259.78
	(2.04)	(1.10)	(1.78)	(1.44)	(0.99)	(0.02)	(0.86)	(1.29)
Observations	1739	1434	1652	1646	2156	1750	1968	1883
R-squared	0.574	0.522	0.584	0.600	0.713	0.691	0.726	0.734

[a] Panel A estimated on models which include all loan- and bank-specific controls reported in Table 3 as well as dummy variables for the borrower's sector of activity. Panel B adds the firm-specific controls reported in Table 3. All models estimated on the sample of credit lines taken out three years before Basel I (1990-92) and three years afterwards (1993-95). The dependent variable in models 1 through 4 is the undrawn fee on the credit line. The dependent variable in models 5 through 8 is the all-in-drawn-spread on the credit line. Models 1 and 5 repeat the analysis in Panel B of Table 4. Models 2 and 6 repeat the analysis in Panel A of Table 5. Models 3 and 7 repeat the analysis in Panel B of Table 5. Models 4 and 8 repeat the analysis in Panel C of Table 5. All models estimated with bank-year effects. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 9 Undrawn fees and all-in-drawn of riskier borrowers after BASEL I[a]

Panel A: Base results with narrow sample period and control group						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	0.67	0.31	0.72	9.32	10.22	7.62
	(0.26)	(0.13)	(0.29)	(0.84)	(0.71)	(0.48)
ST	-4.67	-7.10***	-6.71**	-25.02*	-9.29	-10.68
	(-1.37)	(-3.01)	(-2.56)	(-1.67)	(-0.56)	(-0.70)
BASEL1×ST	-1.21	0.13	-0.53	28.48*	5.35	4.91
	(-0.34)	(0.05)	(-0.19)	(1.81)	(0.32)	(0.31)
BGRADE	9.09***	6.20***	6.45***	53.60***	17.13	19.22
	(4.00)	(2.84)	(2.84)	(5.27)	(1.28)	(1.40)
BGRADE×ST	3.78	6.03**	7.20**	44.77***	30.28*	29.86*
	(1.00)	(1.97)	(2.19)	(2.71)	(1.66)	(1.72)
BASEL1×BGRADE	-0.55	0.99	1.39	-15.20	-15.23	-14.05
	(-0.22)	(0.44)	(0.60)	(-1.39)	(-1.09)	(-0.99)
BASEL1×BGRADE×ST	-4.67	-5.55	-6.26*	-53.34***	-25.48	-24.82
	(-1.16)	(-1.58)	(-1.68)	(-3.00)	(-1.28)	(-1.26)
constant	26.81***	27.14***	56.63***	250.44***	174.88**	200.64**
	(4.79)	(3.85)	(4.28)	(10.08)	(2.51)	(2.03)
Observations	2893	1739	1739	3838	2156	2156
R-squared	0.266	0.373	0.470	0.493	0.610	0.653
Panel B: Restricting to loans with maturities up to eleven months						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	0.32	-0.13	-0.13	6.54	5.62	4.81
	(0.12)	(-0.05)	(-0.05)	(0.58)	(0.38)	(0.30)
STa	-3.37	-1.28	-1.61	-59.58***	-14.62	-17.98
	(-0.64)	(-0.45)	(-0.49)	(-2.70)	(-0.56)	(-0.64)
BGRADE	8.96***	6.78***	7.12***	49.81***	16.97	19.02
	(3.91)	(3.04)	(2.99)	(4.98)	(1.25)	(1.37)
BASEL1×STa	-1.35	-6.01*	-5.22	41.14*	-7.40	-1.35
	(-0.26)	(-1.74)	(-1.31)	(1.78)	(-0.28)	(-0.05)
BGRADE×STa	4.79	2.92	4.79	87.73***	54.78*	58.31*
	(0.83)	(0.75)	(1.13)	(3.71)	(1.95)	(1.93)
BASEL1×BGRADE	-0.20	1.59	2.11	-12.92	-12.01	-11.45
	(-0.08)	(0.70)	(0.90)	(-1.20)	(-0.87)	(-0.82)
BASEL1×BGRADE×STa	-4.68	-0.90	-3.54	-65.12**	-20.34	-28.32
	(-0.78)	(-0.18)	(-0.64)	(-2.56)	(-0.69)	(-0.86)
constant	25.87***	21.51***	49.15***	246.11***	220.62***	247.56***
	(4.13)	(2.77)	(3.50)	(8.98)	(3.62)	(2.67)
Observations	2401	1434	1434	3125	1750	1750
R-squared	0.175	0.282	0.394	0.433	0.563	0.615
Panel C: Combined sample before Basel I & 365-day facilities afterwards						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	1.48	1.20	1.36	7.38	9.82	6.66
	(0.61)	(0.50)	(0.55)	(0.66)	(0.67)	(0.42)
364FACa	-2.88	-6.12***	-5.50**	-23.70*	-12.88	-12.73
	(-0.95)	(-2.89)	(-2.33)	(-1.70)	(-0.81)	(-0.90)
BGRADE	14.22***	9.45***	3.97	52.99***	-2.33	14.01
	(5.31)	(3.71)	(1.59)	(3.27)	(-0.13)	(0.95)
BASEL1×364FACa	-3.34	-1.24	-2.20	23.61	6.37	4.16
	(-1.08)	(-0.54)	(-0.85)	(1.60)	(0.38)	(0.27)
BGRADE×364FACa	1.81	5.09*	6.15**	44.60***	35.87**	32.69**
	(0.53)	(1.77)	(2.00)	(2.89)	(2.04)	(1.98)
BASEL1×BGRADE	-1.29	0.28	0.60	-13.82	-12.76	-10.60
	(-0.56)	(0.12)	(0.26)	(-1.27)	(-0.90)	(-0.75)
BASEL1×BGRADE×364FACa	-6.17*	-8.32**	-8.84**	-77.91***	-50.18**	-45.51**
	(-1.64)	(-2.30)	(-2.34)	(-4.29)	(-2.35)	(-2.21)
constant	21.63***	24.13***	53.36***	238.81***	195.52***	203.45**
	(3.75)	(3.20)	(4.00)	(8.34)	(2.69)	(2.00)
Observations	2738	1652	1652	3438	1968	1968
R-squared	0.308	0.397	0.490	0.505	0.621	0.665

[a] Continues on the next page.

Table 9 Continued[a]

Panel D: 365-day facilities before and after Basel I						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL1	1.79	1.65	2.46	12.64	11.31	5.86
	(0.82)	(0.72)	(1.01)	(1.09)	(0.76)	(0.36)
364FAC	-2.70	-4.58*	-5.39**	-4.65	18.13	11.19
	(-1.01)	(-1.95)	(-1.99)	(-0.23)	(0.92)	(0.66)
BGRADE	15.59***	11.62***	5.16**	57.68***	-1.23	29.71**
	(6.23)	(4.60)	(2.21)	(4.13)	(-0.07)	(2.04)
BASEL1×364FAC	-3.92	-2.93	-2.39	3.63	-24.71	-20.19
	(-1.41)	(-1.14)	(-0.82)	(0.17)	(-1.21)	(-1.10)
BGRADE×364FAC	-0.91	3.05	3.53	-13.69	-25.78	-20.11
	(-0.20)	(0.72)	(0.92)	(-0.56)	(-1.07)	(-0.89)
BASEL1×BGRADE	-2.53	-1.19	-0.46	-28.04**	-34.50**	-25.24*
	(-1.21)	(-0.55)	(-0.21)	(-2.57)	(-2.49)	(-1.80)
BASEL1×BGRADE×364FAC	-3.50	-6.42	-6.16	-19.33	13.30	7.12
	(-0.75)	(-1.37)	(-1.41)	(-0.74)	(0.50)	(0.28)
constant	24.47***	27.94***	55.66***	253.69***	255.03***	235.05***
	(4.69)	(4.01)	(4.37)	(8.81)	(4.99)	(3.11)
Observations	2710	1646	1646	3265	1883	1883
R-squared	0.307	0.398	0.492	0.479	0.588	0.651

[a] Panel A repeats the analysis reported in Panel B of Table 4 after we add the interactions with ST and $BASEL1$. Panel B repeats the analysis reported in Panel A of Table 5 after we add the interactions with STa and $BASEL1$. Panel C repeats the analysis reported in Panel B of Table 5 after we add the interactions with $364FACa$ and $BASEL1$. Panel D repeats the analysis reported in Panel C of Table 5 after we add the interactions with $364FAC$ and $BASEL1$. All models estimated on the sample of credit lines taken out three years before Basel I (1990-92) and three years afterwards (1993-95). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 10 Undrawn fees and all-in-drawn spreads around Basel II[a]

Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-6.35***	-5.30***	-5.21***	-33.00***	-18.00***	-28.34***
	(-15.41)	(-10.08)	(-8.42)	(-17.07)	(-7.53)	(-9.44)
ST	-5.77***	-5.51***	-5.54***	-19.94***	-15.69***	-16.29***
	(-13.10)	(-12.24)	(-12.13)	(-8.09)	(-5.66)	(-5.92)
BASEL2×ST	4.63***	4.12***	4.10***	32.26***	24.26***	23.11***
	(4.76)	(4.61)	(4.60)	(6.00)	(3.94)	(3.77)
Panel A: Loan controls						
LAMOUNT	-2.59***	-1.23***	-1.36***	-26.33***	-14.49***	-13.54***
	(-12.81)	(-4.42)	(-4.85)	(-29.87)	(-11.34)	(-10.61)
SECURED	11.81***	9.22***	9.33***	71.43***	52.33***	49.60***
	(22.63)	(14.74)	(14.83)	(28.90)	(16.44)	(15.65)
SECUREDMIS	4.07***	2.23***	2.13***	22.38***	10.31***	10.36***
	(10.55)	(6.03)	(5.83)	(10.83)	(4.73)	(4.85)
DIVIDEND	0.94**	1.74***	1.67***	-2.95	4.56*	5.75**
	(2.46)	(3.83)	(3.78)	(-1.43)	(1.74)	(2.19)
GUARANTOR	-0.54	-0.02	0.03	-2.98	3.26	2.66
	(-1.02)	(-0.03)	(0.05)	(-1.06)	(1.12)	(0.93)
SPONSOR	7.76***	4.57***	4.49***	46.11***	37.57***	35.38***
	(11.29)	(3.70)	(3.60)	(16.19)	(6.88)	(6.44)
CORPURPOSES	-6.13***	-3.93***	-3.28***	-26.29***	-11.46***	-11.95***
	(-9.71)	(-4.71)	(-4.05)	(-9.26)	(-2.87)	(-3.02)
DEBTREPAY	-5.98***	-4.89***	-4.34***	-30.53***	-23.43***	-19.11***
	(-7.61)	(-5.19)	(-4.67)	(-8.32)	(-5.26)	(-4.32)
WORKCAPITAL	-7.06***	-4.33***	-3.78***	-33.85***	-16.24***	-16.47***
	(-11.05)	(-5.34)	(-4.83)	(-11.00)	(-4.04)	(-4.10)
CPBCKUP	-10.32***	-6.46***	-5.98***	-53.83***	-30.97***	-30.33***
	(-13.94)	(-7.34)	(-6.94)	(-14.69)	(-7.07)	(-7.04)
M&A	-1.67**	2.61**	2.86***	-10.93***	16.62***	18.20***
	(-2.19)	(2.53)	(2.86)	(-3.25)	(3.52)	(3.86)
LENDERS	0.05	-0.02	-0.02	0.11	-0.08	-0.13
	(1.53)	(-0.52)	(-0.53)	(0.76)	(-0.56)	(-0.86)
Panel B: Firm controls						
LSALES		-0.10	-0.19		-0.51	-0.67
		(-0.42)	(-0.80)		(-0.41)	(-0.55)
LEVERAGE		8.31***	7.68***		46.30***	48.54***
		(4.84)	(4.47)		(5.36)	(5.47)
MKTBOOK		-0.54**	-0.56**		-7.43***	-7.38***
		(-2.01)	(-2.12)		(-6.36)	(-6.24)
PROFMARGIN		-5.01**	-5.71***		1.44	4.35
		(-2.36)	(-2.61)		(0.18)	(0.51)
NWC		0.00	0.01		0.08**	0.07**
		(0.45)	(0.58)		(2.42)	(2.10)
LINTCOV		-1.21***	-1.26***		-12.48***	-12.13***
		(-4.22)	(-4.40)		(-8.82)	(-8.46)
TANGIBLES		-1.42**	-1.48**		-3.50	-4.61
		(-2.13)	(-2.23)		(-0.96)	(-1.27)
R&D		-9.75*	-6.37		34.11	-0.56
		(-1.87)	(-1.20)		(1.26)	(-0.02)
ADVERTISING		-6.65	-5.42		29.31	21.33
		(-0.80)	(-0.65)		(0.71)	(0.51)
STOCKRET		-437.85***	-414.50***		-3767.57***	-3780.07***
		(-3.64)	(-3.44)		(-6.95)	(-6.95)

[a] Continues on the next page.

Table 10 Continued[a]

Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
STOCKVOL		149.26***	153.89***		1570.77***	1649.03***
		(7.26)	(7.20)		(15.78)	(16.23)
AAA	-12.08***	-6.82***	-6.76***	-55.14***	-19.32***	-19.34***
	(-9.70)	(-5.93)	(-5.88)	(-7.52)	(-2.64)	(-2.64)
AA	-13.06***	-10.42***	-10.02***	-66.28***	-46.62***	-46.61***
	(-17.95)	(-10.07)	(-9.54)	(-14.31)	(-7.73)	(-7.90)
A	-10.31***	-9.22***	-8.82***	-50.45***	-42.25***	-42.21***
	(-17.76)	(-12.20)	(-11.69)	(-16.17)	(-10.84)	(-10.84)
BBB	-3.93***	-4.31***	-4.04***	-15.36***	-18.92***	-19.68***
	(-6.74)	(-5.91)	(-5.58)	(-5.23)	(-5.19)	(-5.41)
BB	5.32***	4.96***	4.90***	17.21***	10.60***	10.10**
	(7.84)	(6.47)	(6.43)	(4.27)	(2.68)	(2.54)
B	9.85***	8.91***	8.68***	46.47***	28.06***	27.20***
	(9.85)	(6.94)	(6.73)	(10.12)	(4.84)	(4.66)
CCC	14.30***	11.10*	10.67	82.35***	54.43**	45.80*
	(3.06)	(1.72)	(1.54)	(4.89)	(2.04)	(1.70)
CC	7.14**	5.95	6.79	76.61**	42.50	35.75
	(2.04)	(0.83)	(0.94)	(2.16)	(1.34)	(1.19)
Panel C: Bank controls						
LASSETSbk	0.39**	0.55***	0.39	-2.86***	-0.86	23.87***
	(2.42)	(2.72)	(0.34)	(-3.87)	(-0.89)	(4.86)
SUBDEBTbk	-82.43***	-23.00	91.40**	-432.23***	-317.98***	884.24***
	(-4.29)	(-1.00)	(2.05)	(-4.98)	(-3.09)	(3.80)
ROAbk	-82.17	-85.50	-174.99	-139.33	-1035.64*	-533.16
	(-0.67)	(-0.66)	(-1.09)	(-0.25)	(-1.68)	(-0.76)
CHARGEOFFSbk	307.02	247.11	497.52	4695.11***	4833.75***	8776.39***
	(1.29)	(0.90)	(1.36)	(3.87)	(3.31)	(4.20)
LIQUIDITYbk	-2.77	-0.87	8.56	-36.54***	-6.79	62.93**
	(-1.11)	(-0.29)	(1.60)	(-3.08)	(-0.48)	(2.34)
CAPITALbk	-41.53***	-33.00***	-15.48	-59.23	5.93	25.03
	(-4.54)	(-2.79)	(-0.86)	(-1.46)	(0.12)	(0.30)
ROAVOLbk	449.49**	110.80	-288.87	1030.19	-1001.36	-412.71
	(2.15)	(0.43)	(-0.92)	(1.04)	(-0.86)	(-0.29)
Panel D: Market controls						
BBBSPREAD	1.99***	1.24***	1.01**	11.14***	8.49***	6.98***
	(4.86)	(2.62)	(2.04)	(5.52)	(3.55)	(2.83)
constant	44.90***	27.54***	27.50***	323.35***	235.20***	27.93
	(23.89)	(6.91)	(3.24)	(37.82)	(12.77)	(0.74)
Observations	15481	8592	8592	20235	9684	9684
R-squared	0.483	0.595	0.609	0.538	0.672	0.686

[a] The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. See Appendix 1 for the definition of all the variables. All models also include a set of dummy variables to account for the borrower sector of activity. Models estimated on a sample of credit lines taken out between 2000 and 2007. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 11 Tightening Basel II tests[a]

Panel A: Restricting to more homogeneous controlling group						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-4.20***	-4.82***	-6.09***	-21.87***	-10.07	-27.87***
	(-4.66)	(-3.92)	(-4.33)	(-5.34)	(-1.61)	(-3.90)
ST	-5.90***	-6.01***	-6.03***	-19.66***	-16.00***	-16.69***
	(-9.73)	(-8.19)	(-8.05)	(-6.27)	(-3.74)	(-3.86)
BASEL2×ST	1.92	3.00**	2.75**	17.30***	15.50**	13.45*
	(1.60)	(2.32)	(2.08)	(2.82)	(2.07)	(1.78)
constant	43.52***	22.48***	-0.94	305.74***	206.37***	-94.36
	(13.44)	(4.34)	(-0.08)	(21.39)	(8.32)	(-1.62)
Observations	7239	4099	4099	9475	4690	4690
R-squared	0.438	0.578	0.599	0.496	0.664	0.683
Panel B: Further restricting to shorter and balanced sample period around Basel II						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-4.36***	-5.82***	-4.71***	-30.88***	-24.22***	-16.98**
	(-4.53)	(-4.55)	(-2.85)	(-6.91)	(-3.68)	(-2.06)
ST	-6.35***	-6.07***	-6.43***	-22.38***	-19.84***	-21.25***
	(-8.67)	(-6.45)	(-6.80)	(-5.67)	(-3.60)	(-3.81)
BASEL2×ST	2.38*	3.10**	3.70**	21.13***	21.26***	23.74***
	(1.87)	(2.20)	(2.56)	(3.24)	(2.59)	(2.89)
constant	48.58***	24.66***	36.08*	346.38***	245.05***	299.44***
	(11.51)	(4.14)	(1.81)	(19.37)	(7.65)	(2.98)
Observations	4711	2574	2574	6422	2964	2964
R-squared	0.442	0.579	0.609	0.477	0.656	0.674

[a] Panel A reports the results when we restrict the sample to credit lines with maturities up to three years. Panel B reports the results when we restrict the sample to credit lines with maturies up to three years and limit the sample period to three years before Basel II (2002-04) and three years afterwards (2005-07). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. Models have the same set of controls as the corresponding models reported in Table 10. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 12 Undrawn fees and all-in-drawn spreads on 365-day facilities around Basel II[a]

Panel A: Restricting to commitments with maturities up to eleven months						
BASEL2	-4.58***	-6.33***	-4.09**	-31.03***	-22.76***	-5.51
	(-4.25)	(-4.18)	(-1.98)	(-6.35)	(-3.05)	(-0.56)
STa	-0.87	-2.22	-3.89**	13.84	10.33	4.94
	(-0.56)	(-1.18)	(-2.38)	(1.57)	(0.78)	(0.37)
BASEL2×STa	1.90	1.09	2.62	14.63	0.12	8.65
	(0.70)	(0.32)	(0.74)	(0.98)	(0.01)	(0.45)
constant	49.93***	26.67***	55.11**	337.83***	261.77***	589.20***
	(9.49)	(3.21)	(2.03)	(14.51)	(6.37)	(4.71)
Observations	2953	1475	1475	4231	1730	1730
R-squared	0.288	0.403	0.453	0.346	0.539	0.575
Panel B: 365-day facilities before Basel II & combined sample afterwards						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-4.36***	-6.21***	-5.52***	-29.34***	-25.75***	-20.35**
	(-4.51)	(-4.78)	(-3.32)	(-6.60)	(-3.99)	(-2.46)
364FACa	-8.16***	-6.87***	-6.99***	-39.49***	-29.91***	-30.90***
	(-10.70)	(-7.05)	(-6.95)	(-10.08)	(-6.40)	(-6.69)
BASEL2×364FACa	3.73***	3.70***	4.22***	34.63***	26.46***	29.56***
	(2.93)	(2.65)	(2.94)	(5.35)	(3.36)	(3.73)
constant	45.62***	23.05***	34.98*	335.63***	234.70***	274.90***
	(10.59)	(3.88)	(1.71)	(18.20)	(7.25)	(2.69)
Observations	4464	2448	2448	5999	2773	2773
R-squared	0.452	0.594	0.612	0.484	0.678	0.693
Panel C: 365-day facilities before and after Basel II						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-4.38***	-6.13***	-5.47***	-28.52***	-24.88***	-21.25**
	(-4.56)	(-4.67)	(-3.21)	(-6.38)	(-3.81)	(-2.56)
364FAC	-8.49***	-7.04***	-7.14***	-41.95***	-31.39***	-31.98***
	(-11.00)	(-7.19)	(-7.01)	(-10.55)	(-6.73)	(-6.99)
BASEL2×364FAC	0.48	2.53*	2.97**	14.75**	20.64***	23.13***
	(0.43)	(1.83)	(2.12)	(2.33)	(2.64)	(3.00)
constant	44.12***	22.49***	32.05	334.51***	240.97***	217.43**
	(10.13)	(3.89)	(1.51)	(17.65)	(7.67)	(2.17)
Observations	4331	2400	2400	5747	2710	2710
R-squared	0.462	0.598	0.616	0.494	0.681	0.696

[a] Panel A reports the results on models estimated on credit lines with maturities up to eleven months. Panel B reports the results on models estimated on credit lines identified as 364-day facilities before Basel II and with maturities up to (an including) one year afterwards. Panel C reports the results on models estimated on credit lines identified as 364-day facilities. All models estimated on the sample of credit lines taken out three years before Basel II (2002-04) and three years afterwards (2005-07). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. Models have the same set of controls as the corresponding models reported in Table 10. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 13 Basel II: Placebo tests[a]

Table 13 Using credit lines						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-5.36***	-5.99***	-4.00**	-27.62***	-18.32***	-8.58
	(-5.76)	(-4.38)	(-2.23)	(-6.61)	(-3.13)	(-1.09)
ST2y	1.48	0.04	0.24	27.90***	22.29**	22.23**
	(1.20)	(0.02)	(0.13)	(4.72)	(2.55)	(2.35)
BASEL2×ST2y	1.33	-2.55	-1.85	-17.40**	-27.58**	-28.32*
	(0.62)	(-0.92)	(-0.63)	(-2.04)	(-2.01)	(-1.95)
constant	45.17***	31.69***	71.27***	325.91***	223.82***	403.51***
	(10.10)	(4.41)	(2.74)	(16.15)	(6.07)	(3.83)
Observations	3577	1790	1790	5045	2064	2064
R-squared	0.270	0.387	0.417	0.336	0.538	0.559
Table 13 Using term loans						
Variables				All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2				-67.66***	-104.99***	-97.94***
				(-5.98)	(-3.48)	(-2.90)
STtl				-23.48*	-60.02**	-74.95**
				(-1.93)	(-2.01)	(-2.58)
BASEL2×STtl				58.78***	120.43***	139.68***
				(3.50)	(3.30)	(3.84)
constant	80.20	2342.00*	768.96**	278.25***	127.90	697.36**
	(0.74)	(1.69)	(2.40)	(7.26)	(1.14)	(2.03)
Observations	470	470	470	2010	470	470
R-squared	0.534	0.982	0.602	0.339	0.560	0.627

[a] Panel A reports the results on the sample of credit lines with maturities above one year and up to (and including) four years. Panel B reports the results on the sample of term loans with maturities up (and including) three years. All models estimated on the sample of loans taken out three years before Basel II (2002-04) and three years afterwards (2005-07). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. Models have the same set of controls as the corresponding models reported in Table 10. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 14 Basel II: Interacting all controls with $BASEL2$[a]

Panel A: Base results with narrow sample period and control group						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
ST	-6.20***	-5.90***	-6.29***	-19.87***	-18.56***	-20.13***
	(-8.14)	(-5.98)	(-6.40)	(-4.92)	(-3.19)	(-3.41)
BASEL2×ST	3.42**	2.76	3.18	18.06**	20.07	23.42*
	(2.12)	(1.39)	(1.57)	(2.28)	(1.58)	(1.83)
constant	48.32***	26.77***	38.98*	329.49***	254.98***	301.01***
	(10.84)	(3.89)	(1.66)	(17.69)	(7.17)	(2.71)
Observations	4711	2574	2574	6422	2964	2964
R-squared	0.450	0.591	0.620	0.486	0.672	0.689
Panel B: Restricting to loans with maturities up to eleven months						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
STa	-0.83	-2.08	-3.81**	14.23	8.97	4.49
	(-0.53)	(-1.04)	(-2.22)	(1.61)	(0.65)	(0.32)
BASEL2×STa	2.86	-0.91	0.59	17.96	6.76	9.05
	(0.99)	(-0.22)	(0.15)	(1.13)	(0.31)	(0.41)
constant	52.50***	27.83***	55.60	359.02***	281.17***	602.69***
	(7.78)	(2.91)	(1.51)	(12.41)	(5.95)	(4.04)
Observations	2953	1475	1475	4231	1730	1730
R-squared	0.301	0.426	0.476	0.361	0.568	0.603
Panel C: Combined sample before Basel I & 364-day facilities afterwards						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
364FACa	-8.29***	-6.74***	-6.85***	-38.23***	-28.73***	-29.78***
	(-10.22)	(-6.47)	(-6.38)	(-9.32)	(-6.01)	(-6.37)
BASEL2×364FACa	5.55***	3.61*	3.86*	36.71***	30.37**	33.83***
	(3.39)	(1.80)	(1.88)	(4.58)	(2.48)	(2.73)
constant	45.05***	24.66***	35.38	317.81***	242.49***	247.92**
	(9.87)	(3.60)	(1.50)	(16.49)	(6.95)	(2.32)
Observations	4464	2448	2448	5999	2773	2773
R-squared	0.461	0.606	0.625	0.493	0.698	0.712
Panel D: 364-day facilities before and after Basel I						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
364FAC	-8.29***	-6.74***	-6.85***	-38.23***	-28.76***	-29.65***
	(-10.22)	(-6.47)	(-6.38)	(-9.32)	(-6.02)	(-6.36)
BASEL2×364FAC	0.77	1.30	1.38	4.55	10.81	15.07
	(0.49)	(0.68)	(0.70)	(0.54)	(0.97)	(1.33)
constant	43.59***	24.66***	33.54	318.98***	262.71***	229.30*
	(9.49)	(3.60)	(1.39)	(16.29)	(7.56)	(1.92)
Observations	4331	2400	2400	5747	2710	2710
R-squared	0.468	0.609	0.628	0.503	0.700	0.714

[a] Panel A repeats the analysis reported in Panel B of Table 11 after we interact all of the controls with $BASEL2$. Panels B, C and D repeat the analysis reported in Table 12 after we interact all of the controls with $BASEL2$. All models estimated on the sample of credit lines taken out three years before Basel II (2002-04) and three years afterwards (2004-07). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 15 Basel II: Controlling for bank-year fixed effects[a]

Panel A: Models without firm controls								
Variables	Undrawn fees				All-in-drawn spreads			
	1	2	3	4	5	6	7	8
ST	-6.31***	-1.07			-24.13***	13.07		
	(-8.06)	(-0.68)			(-5.79)	(1.37)		
Basel2×ST	4.09***	4.23			25.48***	15.03		
	(2.89)	(1.51)			(3.58)	(0.93)		
364FACa			-8.19***				-41.18***	
			(-10.00)				(-10.14)	
Basel2×364FACa			5.51***				39.42***	
			(3.86)				(5.60)	
364FAC				-8.48***				-43.40***
				(-10.21)				(-10.62)
Basel2×364FAC				2.33*				20.55***
				(1.70)				(2.87)
constant	84.06**	77.65*	80.67***	60.58**	525.57***	640.88***	497.79***	471.90***
	(2.57)	(1.75)	(2.61)	(1.98)	(3.76)	(3.71)	(3.40)	(3.15)
Observations	4711	2953	4464	4331	6422	4231	5999	5747
R-squared	0.495	0.373	0.505	0.516	0.516	0.401	0.521	0.531
Panel B: Models with firm controls								
Variables	Undrawn fees				All-in-drawn spreads			
	1	2	3	4	5	6	7	8
ST	-6.37***	-2.84*			-20.93***	6.32		
	(-6.42)	(-1.65)			(-3.58)	(0.43)		
Basel2×ST	4.75***	0.90			23.93***	10.77		
	(2.91)	(0.25)			(2.82)	(0.52)		
364FACa			-7.19***				-30.44***	
			(-6.90)				(-6.32)	
Basel2×364FACa			5.41***				29.35***	
			(3.32)				(3.61)	
364FAC				-7.22***				-32.09***
				(-6.86)				(-6.78)
Basel2×364FAC				4.64***				24.09***
				(2.84)				(2.90)
constant	11.13	53.11	10.44	6.93	254.64	763.97**	191.30	222.71
	(0.28)	(0.86)	(0.24)	(0.15)	(1.27)	(2.57)	(0.92)	(1.03)
Observations	2574	1475	2448	2400	2964	1730	2773	2710
R-squared	0.630	0.490	0.636	0.639	0.695	0.602	0.714	0.716

[a] Panel A estimated on models which include all loan- and bank-specific controls reported in Table 10 as well as dummy variables for the borrower's sector of activity. Panel B adds the firm-specific controls reported in Table 10. All models estimated on the sample of credit lines taken out three years before Basel II (2002-04) and three years afterwards (2005-07). The dependent variable in models 1 through 4 is the undrawn fee on the credit line. The dependent variable in models 5 through 8 is the all-in-drawn-spread on the credit line. Models 1 and 5 repeat the analysis in Panel B of Table 11. Models 2 and 6 repeat the analysis in Panel A of Table 12. Models 3 and 7 repeat the analysis in Panel B of Table 12. Models 4 and 8 repeat the analysis in Panel C of Table 12. All models estimated with bank-year effects. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.

Table 16 Undrawn fees and all-in-drawn of riskier borrowers after BASEL II[a]

Panel A: Base results with narrow sample period and control group						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-7.12***	-7.97***	-6.30***	-36.05***	-33.21***	-23.95**
	(-3.42)	(-3.70)	(-2.62)	(-3.19)	(-3.67)	(-2.30)
ST	-6.77***	-7.83***	-7.92***	-26.86***	-29.01***	-28.98***
	(-6.35)	(-6.72)	(-6.71)	(-4.39)	(-4.80)	(-4.75)
BASEL2×ST	2.24	3.95*	4.03*	7.94	23.38**	22.16**
	(1.06)	(1.85)	(1.88)	(0.65)	(2.40)	(2.22)
BGRADE	7.29***	7.85***	7.84***	36.48***	41.45***	43.60***
	(5.50)	(4.51)	(4.40)	(5.34)	(4.53)	(4.68)
BGRADE×ST	-0.08	2.63	2.06	3.63	11.97	9.33
	(-0.06)	(1.30)	(1.03)	(0.46)	(1.13)	(0.86)
BASEL2×BGRADE	2.73	2.68	2.19	4.38	12.27	9.64
	(1.25)	(1.11)	(0.88)	(0.37)	(1.11)	(0.84)
BASEL2×BGRADE×ST	2.22	1.39	2.11	21.02	12.54	19.35
	(0.77)	(0.33)	(0.49)	(1.36)	(0.56)	(0.84)
constant	41.25***	15.34***	28.16	311.55***	189.13***	228.98**
	(9.61)	(2.58)	(1.42)	(17.02)	(5.46)	(2.23)
Observations	4711	2574	2574	6422	2964	2964
R-squared	0.413	0.560	0.589	0.450	0.642	0.661
Panel B: Restricting to loans with maturities up to eleven months						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-7.33***	-8.88***	-6.10**	-37.89***	-32.21***	-10.11
	(-3.03)	(-3.51)	(-2.04)	(-3.05)	(-3.05)	(-0.79)
STa	-3.78*	-4.45*	-4.56*	-8.45	-0.92	-0.43
	(-1.66)	(-1.89)	(-1.88)	(-0.62)	(-0.06)	(-0.03)
BASEL2×ST	1.46	1.46	1.40	-3.85	-8.95	-14.39
	(0.41)	(0.42)	(0.38)	(-0.17)	(-0.46)	(-0.72)
BGRADE	9.61***	8.84***	9.10***	38.03***	41.58***	44.44***
	(6.04)	(4.51)	(4.55)	(4.61)	(4.03)	(4.20)
BGRADE×STa	4.33	3.05	0.05	32.52*	15.22	6.71
	(1.39)	(0.80)	(0.01)	(1.81)	(0.62)	(0.27)
BASEL2×BGRADE	2.88	3.08	2.42	6.68	11.92	5.52
	(1.19)	(1.22)	(0.92)	(0.53)	(1.05)	(0.45)
BASEL2×BGRADE×STa	1.39	2.43	5.08	24.81	27.79	48.95
	(0.26)	(0.32)	(0.64)	(0.83)	(0.75)	(1.31)
constant	38.84***	17.10**	45.07*	295.06***	206.24***	509.88***
	(7.29)	(2.08)	(1.67)	(12.46)	(4.77)	(4.03)
Observations	2953	1475	1475	4231	1730	1730
R-squared	0.255	0.379	0.427	0.315	0.520	0.558
Panel C: Combined sample before Basel I & 364-day facilities afterwards						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-7.14***	-5.51***	-7.21***	-33.80***	-29.40**	-28.17***
	(-3.40)	(-2.72)	(-3.03)	(-2.98)	(-2.37)	(-2.72)
364FACa	-7.57***	-3.88***	-8.65***	-32.75***	-18.76**	-35.12***
	(-7.11)	(-3.18)	(-7.40)	(-5.45)	(-2.39)	(-6.23)
BASEL2×364FACa	2.83	2.69	4.81**	11.82	16.61	26.70***
	(1.35)	(1.44)	(2.24)	(0.97)	(1.38)	(2.65)
BGRADE×364FACa	-2.70*	5.30	3.21	-18.68**	14.94	0.44
	(-1.76)	(1.17)	(1.28)	(-2.34)	(0.74)	(0.04)
BGRADE	8.12***	6.77	7.86***	42.88***	62.72	45.67***
	(6.04)	(1.02)	(4.33)	(6.26)	(1.10)	(4.84)
BASEL2×BGRADE	2.69	1.72	2.31	3.13	4.95	9.55
	(1.22)	(0.58)	(0.93)	(0.26)	(0.29)	(0.83)
BASEL2×BGRADE×364FACa	4.91*	-7.27	0.97	44.09***	-30.83	28.87
	(1.69)	(-0.99)	(0.22)	(2.81)	(-0.68)	(1.25)
constant	37.08***	32.89	26.30	291.01***	187.09	199.74*
	(8.50)	(1.28)	(1.31)	(15.41)	(1.54)	(1.93)
Observations	4464	2448	2448	5999	2773	2773
R-squared	0.424	0.936	0.593	0.459	0.941	0.682

[a] Continues on the next page.

Table 16 Continued[a]

Panel D: 364-day facilities before and after Basel I						
Variables	Undrawn fees			All-in-drawn spreads		
	1	2	3	4	5	6
BASEL2	-7.56***	-8.63***	-7.39***	-33.45***	-35.99***	-28.83***
	(-3.65)	(-3.98)	(-3.09)	(-2.93)	(-4.06)	(-2.81)
364FAC	-7.60***	-8.52***	-8.61***	-32.98***	-35.24***	-34.86***
	(-7.13)	(-7.43)	(-7.39)	(-5.51)	(-6.32)	(-6.19)
BASEL2×364	2.18	4.38**	4.46**	9.43	27.96***	25.83**
	(1.05)	(2.03)	(2.08)	(0.78)	(2.83)	(2.57)
BGRADE×364FAC	-2.73*	3.01	3.25	-19.03**	2.65	0.58
	(-1.79)	(1.22)	(1.29)	(-2.38)	(0.24)	(0.05)
BGRADE	8.05***	8.06***	8.07***	45.12***	42.58***	45.16***
	(6.13)	(4.56)	(4.44)	(6.63)	(4.61)	(4.83)
BASEL2×BGRADE	3.04	2.99	2.50	3.24	13.95	9.70
	(1.39)	(1.23)	(1.00)	(0.27)	(1.28)	(0.86)
BASEL2×BGRADE×364FAC	-0.90	-2.76	-3.13	14.24	3.63	13.04
	(-0.32)	(-0.70)	(-0.79)	(0.88)	(0.13)	(0.46)
constant	35.20***	13.33**	21.23	286.13***	184.50***	145.33
	(7.97)	(2.29)	(1.00)	(14.75)	(5.57)	(1.45)
Observations	4331	2400	2400	5747	2710	2710
R-squared	0.432	0.579	0.598	0.469	0.667	0.684

[a] Panel A repeats the analysis reported in Panel B of Table 11 after we add the interactions with ST and $BASEL2$. Panel B repeats the analysis reported in Panel A of Table 12 after we add the interactions with STa and $BASEL2$. Panel C repeats the analysis reported in Panel B of Table 12 after we add the interactions with $364FACa$ and $BASEL2$. Panel D repeats the analysis reported in Panel C of Table 12 after we add the interactions with $364FAC$ and $BASEL2$. All models estimated on the sample of credit lines taken out three years before Basel II (2002-04) and three years afterwards (2005-07). The dependent variable in models 1 through 3 is the undrawn fee on the credit line. The dependent variable in models 4 through 6 is the all-in-drawn-spread on the credit line. Models 1, 2, 4 and 5 report results of a pooled analysis. Models 3 and 6 are estimated with bank-fixed effects. See Appendix 1 for the definition of all the variables. Models estimated with standard errors clustered at the bank level. *** denotes 1% significant level, ** denotes 5% significant level, and * denotes 10% significant level.