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Taylor D. Nadauld
Michael S. Weisbach

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ABSTRACT

This paper investigates whether the securitization of corporate bank loans had an impact on the price of corporate debt. Our results suggest that loan facilities that are subsequently securitized are associated with a 15 basis point lower spread than that of loans that are not subsequently securitized. To identify the particular role of securitization in loan pricing, we employ a difference in differences approach and consider loan characteristics that are associated with the likelihood of securitization. We document that Term Loan B facilities, facilities originated by banks that originate CLOs, and loans of B-Rated firms are securitized more frequently than other loans. Spreads on facilities estimated to be more likely to be subsequently securitized have lower spreads than otherwise similar facilities. The results are consistent with the view that securitization caused a reduction in the cost of capital.

Taylor D. Nadauld
Department of Finance
Brigham Young University
Provo, Utah 84602
taylor.nadauld@byu.edu

Michael S. Weisbach
Department of Finance
Fisher College of Business
Ohio State University
2100 Neil Ave.
Columbus, OH 43210
and NBER
weisbach.2@osu.edu

1. Introduction.

While much attention has focused on the role of securitization in the mortgage market, relatively little has been paid to the securitization of corporate bank loans in the form of Collateralized Loan Obligations (CLOs).[1] This lack of attention is surprising given that both the volume of non-investment grade bank loans and the number of newly-originated CLOs spiked dramatically between the years 2002 and 2007, from over $125 billion of loans and 43 CLOs in 2002 to over $540 billion of loans and 213 CLOs in 2007.[2] One potential explanation for this pattern was that the popularity of CLOs created a demand for collateral that could be used to construct them (see for example Gennaioli, Shleifer and Vishny (2010)). Consequently, banks active in the securitization business had incentives to adjust their lending behavior to increase the quantity of loans that could be used for collateral, affecting the cost of capital for firms in the primary lending market.

In this paper we estimate the extent to which the practice of securitizing bank debt influenced the cost of such debt for borrowers in the primary corporate debt market. To do so, we rely on a sample of over 7,000 loan facilities from the Dealscan database. We match these loans to a database of CLOs provided by Moody's, which contains the identity of the underlying collateral in each CLO. We first address the question of whether a loan that was ultimately securitized had a lower spread than an otherwise similar loan that was not securitized. Our estimates indicate that the answer to this question is a clear "yes"; they suggest that of the most-commonly securitized facilities (a B-rated, Term Loan B), a facility that is ultimately securitized has about a 15 basis point lower yield than an otherwise identical loan that was not securitized.

There are a number of possible interpretations to this result. It is possible that CLOs, for some unidentified reason, were more likely to add relatively low-yielding loans in their portfolio, or that an omitted variable is driving both spreads and securitization demand in our specification. Alternatively,

[1] See for example Mian and Sufi (2009), Demyanyk and Van Hemert (2008), Dell'Ariccia, Igan, and Laeven (2008), Keys, Mukherjee, Seru, and Vig (2008), Loutskina and Strahan (2009), and Nadauld and Sherlund (2010).
[2] The estimates on the dollar volume of non-investment grade loans originated in 2002 and 2007 are likely understated in both years. The reported figures are calculated using our sample of U.S. originated syndicated bank loans made to non-financial borrowers with available sales data that is described below in Section 3.

there could have been a reduction in the demand for capital from the firms whose loans tend to be securitized. These interpretations imply that although CLOs have lower-yielding loans in their portfolio, there are no distortionary real effects from their existence, since their role is to reallocate the loans that would have been made in their absence. More consistent with the securitization-driven explanations of the Financial Crisis is a story in which banks have a high demand for securitizable loans when they put together CLOs and consequently lower the yields to attract more borrowers. This latter explanation implies that demand for loans from CLOs has a real effect, as it lowers the cost of capital for the firms obtaining the loans.

To distinguish between these explanations, we utilize a "Difference in Differences" approach based on factors that are correlated with the demand for bank loans from participants in the securitization market (and thus impacts credit supply in the primary market) but uncorrelated with the demand for credit from corporate borrowers in the origination market. First, we make use of features related to the structure of corporate loans. Corporate loans are typically made up of a number of tranches (also referred to as facilities), usually containing an amortizing "Term Loan A" portion, a bullet "Term Loan B" portion, and a "Revolver" that can be drawn down at the discretion of the borrower. These tranches usually have the same seniority, but because of the amortization of Term Loan A and the options implicit in the revolver, they have different effective maturities and yields. An important difference between the tranches, however, is that typically only the Term Loan B (bullet) portion is securitized, while the other tranches are typically held by the issuing bank.[3] Consequently, the difference in yields between the tranches potentially reflects differences in demands for securitizable loans, among other factors.

Second, we use the identity of the loan-arranging bank in our identification strategy. Over the six-year period between 2002 and 2007, 79% of all CLOs were underwritten by just ten banks. Leveraged loans arranged by banks that also underwrite CLOs are more likely to be securitized because CLO underwriters can more accurately evaluate the value of a particular loan to CLO structures. That is, CLO underwriting banks are more likely to arrange a given bank loan for the purpose of using it as collateral in

[3] In Section 2.2 we discuss at least two reasons why Term Loan B's are preferred as collateral by arrangers of CLOs.

a CLO.[4] We show empirically that loan facilities arranged by these securitization-active banks were securitized more frequently than loans issued by other banks.

Third, the credit rating of borrowers affects the likelihood of being securitized. In a sample of B and Ba-rated bank loans, holding other factors constant, the lower credit quality B-rated firms obtained loans that were more likely to be securitized. This pattern is consistent with Benmelech and Dlugosz (2009), who document that cash-flow arbitrage CLOs tend to employ B-rated bank loans as collateral. Demand from deal arrangers in the securitization market for B-rated collateral rather than Ba-rated collateral represents an increase in demand for corporate bank loans that is unrelated to factors affecting the demand for loans from borrowers in the primary loan market.

We exploit these three institutional features of the CLO market to identify the impact of securitization on the cost of corporate credit. Since increased demand for securitizable assets should occur in Term Loan B facilities originated by securitization-active banks, we estimate the difference between spreads on these loans relative to Term Loan B facilities issued by non-securitization active banks. We find that spreads on Term Loan B facilities originated by securitization-active banks are 11 basis points lower than spreads on facilities issued by other banks, holding other factors constant.

If this decline occurs because of demand for securitizable loans, then we expect this decline in spreads to be larger in B-rated debt than in Ba-rated debt because B-rated debt is securitized more frequently. For this reason, in a sample of Term Loan B facilities only, we estimate the difference in spreads between B-rated facilities originated by securitization-active banks and compare those estimates to spreads on Ba-rated facilities originated by securitization-active banks. Consistent with a securitization demand-driven hypothesis, our estimates indicate that the difference in the spread on loans issued by securitization-active banks to B-rated borrowers was almost 23 basis points lower than the spread on loans made by non-securitization active banks to B-rated borrowers. In contrast, there is virtually no difference in spreads between Ba-rated loans from securitization-active banks and non-securitization active banks.

[4] We discuss more specifically why this is the case in Section 2.

In addition, if the demand to securitize Term Loan B facilities issued to B-rated borrowers was highest among securitization-active banks, we would expect to find differences in the spreads of Term Loan B facilities with these securitization-friendly attributes relative to Term Loan A facilities or Revolving facilities. Our estimates indicate that the incremental effect of being a securitization-friendly Term Loan B facility is 32.9 basis points relative to Term Loan A's and is 19.5 basis points relative to revolvers. These equations imply that the drop in spreads for securitization-friendly facilities do not reflect a bank-specific characteristic, such as an increased risk tolerance, since this characteristic would likely be reflected in the spreads of securitization-friendly Term Loan A facilities and revolvers as well.

Another way to do the comparison is by estimating the factors that affect the differences across facilities within a particular loan. This approach has the advantage of having common underlying risks within the loan, although the data is limited to loans that contain multiple types of facilities. In this case, the differences in spreads between Term Loan B and either Term Loan A or revolvers decline with characteristics associated with securitization, again consistent with the view that demand for collateral for CLOs affects the pricing of the loans in the primary market.

Overall, the results are consistent with the view that CLOs' demand for collateral affected pricing in the corporate debt market. While the effect of the securitization-driven debt market on the housing market during the 2002-2007 period is well-known, and Shivdasani and Wang (2011) and Axelson et al. (2011) have documented that the debt market was an important driver of the LBO boom during that period, our results suggest that securitization had a pricing impact on the corporate debt market more broadly.

2. Institutional Background.

Collateralized loan obligations (CLOs) transform speculative-grade bank loans into highly-rated bonds through the process of pooling and tranching.[5] The incidence of securitizing corporate bank loans exploded between 2002 and 2007 and has been well documented in the literature and popular press. Over 80% of the CLOs originated between 1996 and 2008 were originated in the years 2002-2007, with nearly 50% occurring in 2006 and the first-half of 2007 alone (see Table 4). Also noteworthy is the fact that between 2002 and 2007, 79% of new CLOs were originated by just ten banks. In short, the creation of CLOs was very active over a relatively short period of time and concentrated in a relatively small number of originating banks.

Theoretically, securitization can occur for a number of reasons. First, DeMarzo (2005) suggests that securitization reduces asymmetric information problems about the quality of individual loans by providing the purchaser with a diversified pool of loans from different issuers, presumably having a lower information asymmetry problem than any individual loan would have. Second, Gaur, Seshadri and Subrahmanyam (2009) point out that securitization reduces market incompleteness, providing investors who value that particular cash flow distribution with the ability to purchase it. Finally, Coval, Jurek, and Stafford (2009), relying on the assumption that investors purchase bonds based solely on credit ratings, attribute the proliferation of securitization activity to the potential for deal arrangers to deliver the cheapest possible set of assets that can obtain a high quality credit rating, thereby engaging in ratings arbitrage. The observation that the bank loans of B-rated borrowers get securitized more frequently than Ba-rated loans is consistent with a "cheapest-to-deliver" view of collateral selection in securitization.

Yet, none of these theories of securitization provides a rationale for why securitization should affect the spreads on loans that subsequently are securitized. In other words, given two loans, why should their spreads differ depending on whether they are subsequently securitized if the risks associated with the loans' repayment are identical? For this to be the case, the very process of securitization likely influences

[5] The term "Tranche" is used to describe different bonds arising from a CLO deal and is also used to describe different loan facilities within a bank loan. The term tranche in this sentence refers to the tranches (bonds) that arise from the origination of a CLO.

the lender's decision about the loan at the time of origination. One way in which this influence could occur would be if the lender itself is heavily involved in putting together the collateral of the CLO, either through a close relationship with the collateral manager of the CLO or in warehousing the loans to be used as collateral in the CLO. If this lender has a high demand for securities that can subsequently become part of the CLO, it has an incentive to offer the borrower a lower interest rate than it otherwise would given current market rates and the risk on that particular investment.[6] Consequently, the securitized loans end up having interest rates that do not fully reflect the risks associated with the cash flow distributions generated by their collateral.[7]

2.1. The Structure of Loans. An important feature that we rely on to identify the demand for securitizable loans is the structure of the bank loans themselves.[8] Bank loans usually receive capital from a syndicate of lenders, made up of up to three types of investors: institutional investors, banks, and finance companies. To cater to the preferences of each type of investor, these loans contain multiple facilities or tranches. Commercial banks typically invest in the revolving portion of the loan. "Revolving" credit lines can be drawn down and repaid at the discretion of borrowers, but fees are paid based on the entire amount committed to the lending facility regardless of whether it has been drawn down. "Term Loan A" facilities are typically senior, amortizing loans that are generally kept by the issuing bank or purchased by other commercial banks. In contrast, "Term Loan B" facilities, which are also senior and usually pari passu to the Term Loan A, typically mature with bullet payments, and are usually sold to institutional investors.

[6] The underwriter of a CLO (securitization-active bank) frequently warehouses loans that are to be used as collateral in a CLO during the portfolio selection process. An underwriting bank is likely to feel more comfortable warehousing a loan that it originated rather than a loan on which it has less information.

[7] An obvious question is why this effect does not just lower interest rates for all firms, because all borrowers will flock to the securitizing banks, so that to attract borrowers, non-securitizing banks will lower their rates to match the securitizing banks. Presumably, to some extent, non-securitizing banks did lower their interest rates (conditional on credit quality), but because of the relationship-specificity in banking and CLO creation, were able to keep some customers despite charging a higher interest rate than their securitizing competitors.

[8] We rely on the institutional details provided in a primer on Bank Loans published annually by Standard and Poor's (2009).

Term Loan B facilities are appealing to CLOs for a number of reasons.[9] The main difference between Term Loan A and Term Loan B concerns the payout structure, which is amortizing for Term Loan A facilities and bullet for Term Loan B. The amortizing payout structure leads to a shorter duration for Term Loan A than Term Loan B facilities. This shorter duration creates reinvestment risk, and even if there are good places to reinvest the money, the CLO managers are more frequently required to search for places to reinvest the steady stream of amortized principal as it is paid back. Collateral managers find it easier to reinvest the bullet payments of Term Loan B's when they mature or prepay.[10] In addition, the purchasers of AAA bonds (insurance companies, pension funds) produced by CLOs tend to prefer to purchase bonds with longer maturity. It is easier for CLO arrangers to create bonds with a longer expected maturity with collateral of longer duration.

CLOs are far more likely to invest in institutional tranches (Term Loan B specifically) than in the revolving facilities or Term Loan A facilities (see Table 2, Panel B). When demand for loans from CLOs increased dramatically in the 2002-2007 period, this demand likely affected the Term Loan B portion of corporate loans substantially more than either the Term Loan A portion or the revolver portion.

To illustrate the nature and complexity of a multiple-facility bank loan, we provide a detailed example of a typical loan. Table 1 documents the details of the financing involved in the 2005 leveraged buyout of the British tire firm Kwik-Fit.[11] The total transaction value of £773.5M included £582.5M of term-loan debt, £40M in a revolving credit facility, and £50M in a Capex facility. This type of multiple-facility financing structure is not specific to LBO transactions, but also characterizes many corporate loans. The Term Loan A facility of £140M, featuring a 7-year amortizing term and spread of 225 basis points over LIBOR, is typically purchased by commercial banks. In contrast, the Term Loan B facility is often securitized; in the Kwik-Fit Example it is of £135M, and has an 8-year bullet payment and pays a

[9] This paragraph is based on conversations with practitioners who originate CLOs and summarizes the typical arguments for why CLOs usually prefer to purchase the Term Loan B tranche of a loan rather than the Term Loan A tranche.

[10] Because of these differences in duration, we control econometrically for differences in term structure when estimating differences in spreads between Term Loan B's, revolvers and Term Loan A's below.

[11] The Kwik-Fit example documented in Table 1 is taken from Axelson et al. (2011).

spread of 250 basis points over LIBOR. This particular transaction also contains a Term Loan C, which is similar in features to the Term Loan B.

2.2. The Ratings Structure of CLOs. The predominant form of corporate loan securitization is what is known as a cash-flow arbitrage CLO.[12] The idea underlying this structure is to combine a group of low-rated loans into a structure that has a higher rating. Covenants in CLO deals require that each deal maintain a minimum weighted-average credit rating (WAR), which is calculated as the average credit rating of the collateral, weighted by the size of each piece of collateral. Not surprisingly, CLOs are almost always structured to use the minimum quality collateral so as to satisfy this constraint and yield a high, usually AAA, rating for the CLO. Benmelech and Dlugosz (2009), analyzing a comprehensive sample of cash-flow arbitrage CLOs, document that the weighted-average credit rating in 85% of the deals in their sample was B+ (B1 in Moody's rating classification). Furthermore, they document that the average B1 rating of the collateral was almost uniformly met with uniformly B-rated collateral (with collateral concentrated specifically in the B1 rating).[13]

Consequently, when demand for CLO collateral increased in the securitization-active period, we expect that this demand will be reflected in demand for B-rated collateral more than for higher-rated debt. This increase should be in the institutional (Term Loan B) tranche of the loan and not for the Term Loan A or revolver tranches of the loans. In addition, it should be higher for loans issued by banks active in securitization, that presumably package these loans immediately into the CLOs that they arrange themselves. These differences in attractiveness to originators of CLOs lead to clear identification of the effect of demand for collateral on the relative pricing of different kinds of bank loans.

[12] Other forms of CLOs include balance sheet CLOs, whose primary purpose is to remove loans from bank's balance sheets. According to Moody's data on CLO originations, balance-sheet CLOs represent about 1% of all CLOs.
[13] The average CLO deal in their sample transformed the B-rated collateral into securities in which 70% of the principle balance of the originated bonds were rated AAA, while 90% of the principle was rated BBB or higher. The pattern is very similar in the Moody's sample of CLOs we analyze below.

3. Data

To study the way in which securitization affects the pricing of loans, we utilize data from two publicly available databases: Reuter's Dealscan and Moody's EMS data services. We restrict our sample to Dealscan loan facilities originated between 2002 and September of 2007, which represents the beginning of disruptions in the CLO market. Our sample requires that facilities have Moody's credit ratings on the borrowing firm's senior debt at the time of loan origination.[14] Our analysis focuses specifically on firms with Moody's senior-debt credit ratings of B (B1, B2, or B3) or Ba (Ba1, Ba2, Ba3). We further restrict the sample to include only syndicated loans originated in the United States and remove financial firms with SIC codes between 6000 and 6500. We also identify and remove any second-lien or mezzanine loans from the sample.

The Moody's EMS sample provides data on the characteristics and identity of all the securities serving as collateral in any Moody's-rated CLO as of the first quarter 2009. The strength of the Moody's data is that it allows us to identify exactly which loan facilities serve as collateral in CLOs as of the first quarter 2009. Unfortunately, it provides only a one-time snapshot of securitized loans, and does not contain unique identifiers that map to Dealscan.

To illustrate how our matching of the two databases occurs consider the following examples from the Dealscan and Moody's EMS databases. In October 2006, Armstrong World Industries raised $1,100M through a bank loan; $300M in the form of a revolving line, $300M in a Term Loan A facility, and the remaining $500M in a Term Loan B facility. The Moody's EMS database reports a security with the name "Armstrong World Ind. – Term Loan B" in the amount of $500M with expected maturity in October 2013. It is important to note that no other facility associated with the Armstrong World Industries bank loan appears in the Moody's database. Consequently, we classify the Term Loan B portion of the Armstrong debt issuance as being securitized while the Revolving and Term Loan A facilities are not.

[14] We require the rating on the senior debt and not on the specific loan because it is available for a much larger number of loans: there are 7,331 loans on Dealscan that meet our sample criteria for which there is a rating on the senior debt and only 3,335 for which there is a rating on the specific loan. For the loans in our sample that have both loan-specific credit ratings and senior-debt credit ratings, the ratings are either the same or within one ratings class (i.e. B1 senior debt and Ba3, B1, or B2 loan-specific rating) over 72% of the time.

We emphasize, however, that there are limitations inherent in constructing the database in this manner. Because the Moody's data represent a snapshot of CLOs in 2009, we cannot tell whether a loan was initially securitized and subsequently paid off prior to 2009 or if it was included and then dropped from the CLO prior to 2009.[15] In addition, the imperfect nature of matching suggests that some matches were likely missed due to human error or uncertainty in the naming of the facilities. Consequently, it is likely that the matching process employed here understates the number of loans in our sample that are securitized. For these reasons, our primary empirical strategy does not rely on an exact determination of whether a loan was securitized. Rather, we rely on the EMS database to identify attributes of loans that are simply correlated with securitization activity.

Table 2 presents summary statistics on our sample of facility-level loan data. Panel A provides statistics on the number and spread over LIBOR for securitized and un-securitized loan facilities of different credit qualities. As expected, loan spreads increase monotonically as credit quality declines. Panel B breaks down these statistics by facility type. It indicates that revolving facilities are the most common facility, followed by Term Loan B's and Term Loan A's. Panel C reports the same statistics broken down by the reported purpose of the facility. The somewhat vague description of "corporate purposes" appears most frequently in the data, followed by debt repayments and corporate takeovers. Facilities supporting leveraged buyouts represent 12% of the loan facilities we study, and these loans are securitized at a higher rate than other loan facilities.

Table 3 documents the differences in the attributes of loan facilities identified as having been securitized, compared to their non-securitized counterparts. This table indicates that securitized loans have lower spreads, with differences in spreads increasing as credit quality declines. In addition securitized loans have larger facility sizes, slightly longer maturities, and were arranged by smaller syndicates. The differences between securitized and non-securitized loans highlight the importance of

[15] Collateral managers of CLOs actively manage the portfolio through time selling one loan and replacing it with another. They would do so because their compensation is in part tied to the adequacy of the collateral pool. CLOs do contain covenants that constrain the frequency of trading within the collateral. Benmelech and Dlugosz (2009) report that "typically 10-15% of the par value of assets may be traded per year in addition to defaulted securities or credit-risk securities."

controlling for differences in facility size, sales size, tranche maturity, and covenants, in drawing inferences on the incremental effect of securitization.

The time-series pattern of CLO origination in our sample is illustrated in Table 4. The sample is predominately made up of CLOs originated between 2002-2007. In addition, the CLOs are highly concentrated among a relatively small number of originating banks, with the top 10 banks underwriting 692 of the 884 CLOs (78%) over the entire sample and 569 of the 719 deals (79%) during the 2002-2007 time period. Although Table 4 focuses on the CLO underwriting activity of 18 unique banks, at least 38 different banks were involved in the underwriting of at least one CLO between the years 1996 and 2008.

Figure 1 plots the quantity of originations of Term Loan B facilities over time. Panel A plots the three-month moving average of the number of Term Loan B facilities originated by securitization-active and non-securitization active banks, where a securitization-active bank is defined as one of the top ten banks ranked by the number of securitization deals underwritten during our sample period.[16] The plot indicates that origination patterns were very similar until 2002, when securitization active banks began to increase their origination of Term Loan B facilities aggressively. Panel B plots the origination activity of securitization-active banks by credit rating. The plot indicates that much of the boom in Term Loan B originations was concentrated in loans of a lower credit-quality. Finally, Panel C plots the origination activity of non-securitization active banks by credit quality. While non-securitization active banks also increased their origination of lower credit quality loans, the plots suggest that the difference was not as dramatic as the difference observed in the origination activity of securitization-active banks. Overall, these plots suggest that there was a dramatic increase in securitization activity after 2002, and that this increase was concentrated in the securitization-active banks, and in lower credit quality issues.

[16] Determining the appropriate cutoff for classifying whether a bank is "securitization active" requires some discretion. Given that ten banks are responsible for the vast majority of CLO creation, we feel it an appropriate cutoff. In separate analysis we check the robustness of our primary results to different securitization active cutoffs and find similar results.

4. Results

4.1. Do Securitized Loans Have Lower Spreads?

4.1.1. Univariate Tests. The question we consider in this paper is whether increased demand for CLOs shifted the demand for bank loans serving as collateral in CLOs, thus lowering the cost of corporate credit. A clear prediction of this argument is that loans that were subsequently securitized should have had lower spreads than loans that were not securitized. Panel A of Table 3 performs this comparison, presenting the average difference in spreads between loans that were securitized and those that were not securitized according to the Moody's data. As a rough control for loan attributes, we present the comparison by rating class for the most commonly issued rating levels: Ba1, Ba2, Ba3, B1, B2 and B3.

This Panel indicates that in each rating class except for Ba1, spreads are lower for the securitized sample than for the non-securitized sample, with the difference ranging from 2.4 basis points for the Ba2 rating category to 32.9 basis points for the B2 category. These differences are consistent with the notion that the ability to securitize a loan leads to a lower spread and consequently a lower cost of capital for the firm borrowing the money. However, it is not a conclusive estimate of the incremental effect of securitization on spreads for at least three reasons. First, we have an imperfect matching of loans to CLOs that likely understates the fraction of loans that are securitized. Second, these differences do not control for other factors that are known to affect loan pricing. Finally, it is possible that some other factor could affect both spreads and securitization decisions simultaneously, leading the observed relation between the two to occur but not to be causal.

The first issue, involving the imperfect matching of loans to CLOs results from both the fact that we have only a snapshot of CLOs as of 2009, and also from the "by hand" nature of the matching process. As a result, it is likely that most or all of the loans classified as securitized really were securitized, but that a number of loans that we classified as non-securitized actually were securitized. Such a misclassification would imply that the differences documented in Table 3 would understate the true differences in spreads between securitized and non-securitized loans.

4.1.2. Multivariate Tests. The second issue, that factors in addition to whether a particular loan is securitized are likely to affect spreads, is addressed using a multivariate regression framework. We create a dummy variable set equal to one if the loan was part of a CLO in the Moody's database, and estimate a regression of the following form:

$$Spread_{i,t} = \alpha_0 + \beta \cdot Securitized_{i,t} + \gamma \cdot Borrower\ Factors_{i,t} + \varphi \cdot Macro\ Factors_t + \varepsilon_{i,t}$$

where the subscript i refers to loan facility *i* at time *t.* The list of borrower controls includes facility-specific credit ratings along with dummy variables for secured loans, loans with covenants, and the existence of a pricing grid. We also control for facility amount, facility type, borrowers sales, size of the lending syndicate, and tranche maturity.

We control for macroeconomic factors such as the term structure of interest rates and changes in the market price of risk. Our term structure control is calculated as the difference between the five-year and 3-month treasury-bill rate in the month of deal origination. To control for changes in the price of credit risk, within each month, we calculate the spread of a ten-year Ba and B-rated bond index over the ten-year Treasury-bill rate. Loan facilities whose borrowers have B-rated (Ba-rated) senior debt are assigned the value of the B-spread (Ba-spread) in the month of origination.

Table 5 reports estimates of this equation. Column (1) estimates the regression with all facility types over the 2002 to September 2007 sample period. The results indicate that when all facility types are pooled, the incremental effect of securitization is not statistically meaningful. Columns (2), (3), and (4) consider Term Loan B facilities only. Column (2) suggest that the impact of securitization on spreads is negative and significant for all Term Loan B facilities. The estimates in Column (4) document that the impact of securitization on yield is concentrated in the lower-rated B loans, which are associated with a statistically significant 15.7 basis point drop in spread. These results are consistent with the notion that banks lower the spreads on loans that will be securitized.

4.2. A Difference in Differences Approach

The results in Table 5 suggest that securitized loans are associated with lower spreads, holding other factors constant, at least to the extent that a loan's risk is measured by Moody's ratings. But what is the appropriate interpretation of this finding? The pattern is certainly consistent with the story in which high demand for securitizable assets from CLOs provided banks with incentives to be overly aggressive in lending, leading to a lower cost of capital. However, the negative association between securitization and spreads does not by itself rule out an alternative story in which lending went up not because of anything to do with the supply of capital, but instead because of increased demand for funds. If this demand-based story were the explanation for the increase in loans over the 2002-2007 period, and also the explanation underlying the fact that CLOs that for some reason end up with loans in their portfolios that have lower spreads than average for a given credit rating, then changing demand for capital could imply that securitized loans have lower spreads than non-securitized loans.[17]

The usual way to address this type of endogeneity is through an instrumental variables approach. Unfortunately, to be a valid instrument for whether a loan is securitized would require a variable to be related to the securitization decision but unrelated to the spread charged in the loan. Since in practice, virtually all publicly-available variables relating to the loan potentially are at least arguably related to its spread, the use of instrumental variables is not likely to be a practical solution.

To distinguish between alternative explanations, we instead rely on the fact that the securitization process by its very nature leads to a preference for certain types of loans over others. For example, it is commonly believed that it is easier to construct CLOs from Term Loan B's, which have bullet payments that are set in advance, than Term Loan A's, which have amortizing payments, or revolvers, whose payments depend on the extent to which the borrower chooses to draw them down. In addition, Table 4 suggests that CLOs are highly concentrated in a small number of issuing banks, so loans initiated by those banks are more likely to be securitized than loans by other non-issuing banks. Finally, Benmelech and

[17] Of course, it is not clear *why* CLOs would choose to purchase loans with lower spreads than average. One possibility would be if spreads were not priced completely by the market for some reason, leading banks to sell the lower spread loans and keep the higher spread ones for any particular quality level.

Dlugosz (2009) suggest that B-rated loans are the most commonly-used type of loan facility in CLOs, a finding confirmed in the summary statistics of our sample of securitized loans.

Our approach is to compare the relative yields on loans with securitization-friendly characteristics to those with securitization-unfriendly characteristics during the 2002-2007 Securitization Boom. The "securitization affecting supply of capital argument" predicts that the demand from CLOs for loans having these attributes increased relative to other types of loans, leading to lower yields. However, there is no particular reason why demand for capital should be reflected *differentially* between these types of loan offerings. Therefore, we interpret the difference in yields for loans originated by securitization-active banks relative to non-securitization active banks and differences between B-rated loans and Ba-rated loans as reflecting the effect of securitization on the cost of capital.

4.3. Which Factors Affect the Likelihood that a Loan is Securitized?

A key assumption in our analysis is that the factors we posit as being related to the securitization decision actually do affect the likelihood a particular loan is securitized. To ensure that these assumptions hold in our sample, we estimate equations predicting whether a particular loan from the Dealscan sample is securitized according to the Moody's classification. We estimate the following econometric specification:

$$\Pr\left(Securitized_{i,t}\right) = \alpha_0 + \beta \cdot Facility\ Type_{\ i,t} + \gamma \cdot Borrower\ Factors_{i,t} + \varphi \cdot Macro\ Factors_t + \varepsilon_{\ i,t}$$

The *Facility Type* variables are dummy variables indicating the type of facility. The equation also includes the borrower controls used in Table 5, with the exception of tranche maturity, which is essentially deterministic in tranche type.[18] Because the dependent variable is dichotomous, we estimate the equation by probit. We constrain the sample to include years 2002-2009, since loan facilities

[18] Revolvers have a very short maturity while Term B and Term A facilities have longer maturities. Including tranche maturity in the probit specification is essentially redundant to controlling for facility type when revolvers are included in the sample.

originated prior to 2002 likely would have matured prior to 2009, making it impossible for such loans to serve as collateral in CLOs as of 2009.[19]

Table 6 reports estimates of this equation. The results in Column (1) suggest that Term Loan B loans are significantly more likely to be securitized than Term Loan A loans (the omitted category). Revolvers are securitized at a significantly lower rate than either type of Term Loan. In Column (2) we classify loans as being associated with securitization active underwriters or not. The results indicate that loan facilities initiated by the banks designated as "Securitization Active" are more likely to be securitized than other loans. In Column (3) we estimate whether B-rated loans are securitized at a different rate than Ba-rated loans through the inclusion of a B-rated dummy variable. The results of this estimation confirm those of Benmelech and Dlugosz (2009) and are consistent with the unconditional results presented in Table 2.

In Column (4) we include tranche purpose fixed-effects and year fixed-effects, and re-estimate the model. These controls do not materially change the inference on securitization likelihood for Term Loan B or securitization-active facilities. However, in this specification we cannot reject the hypothesis that Ba and B loans are securitized at the same rate at conventional significance levels since the t-statistic drops to 1.28. The t-statistic is sensitive to the choice of clustering standard errors by borrower; when they are clustered instead by credit rating, the t-statistic on the B-rated dummy variable rises to 2.78, which is statistically significant at conventional levels. Overall, the results in Table 6 together with the evidence in Benmelech and Dlugosz (2009) suggest that B-rated loans are more likely to be securitized than Ba-rated ones, and that loans from banks designated as "Securitization Active" are more likely to be securitized than loans from other banks.

4.4. The Impact of CLO Demand on Loan Pricing: Differences in Spreads by Type of Loan

The hypothesis that demand from CLOs affected pricing on loans predicts that when CLO demand is high, then loans that are most attractive to CLOs should be favored by banks issuing loans. Consequently, these loans should be priced more aggressively than loans that are less attractive to CLOs.

[19] Over 90% of the loan facilities in our sample have an expected tranche maturity of less than seven years.

Since loan facilities originated by securitization-active banks appear to be more likely to be securitized than facilities originated by non-securitization active banks and because CLO demand appears to be more concentrated in B-rated debt, we hypothesize that spreads will reflect differences in this demand.

We test whether increased demand by CLOs lowered spreads by estimating the following specification:

$$Spread_{i,t} = \alpha_0 + \beta_1 \cdot Sec.Active_{i,t} * Brated_{it} + \beta_2 \cdot Sec.Active_{i,t} * \beta_3 Brated_{it} + \delta \cdot X_{it} + \varepsilon_{i,t}$$

where the sample is constrained to Term Loan B's only. The estimate on the interaction of the securitization-active and B-rated dummy variables represents the difference in the spread relative to non-securitization active B-rated loans or securitization-active Ba-rated loans, holding other factors constant. The other variables in the equation, represented by $X_{i,t}$, are the term structure and credit spread variables discussed above, along with the remaining set of the controls described in our discussion of Table 5. We include tranche purpose fixed effects, year fixed effects, and credit-rating fixed effects where appropriate. As in Table 5, we cluster standard errors by year and borrower.

Table 7 reports estimates of this equation over the 2002- September 2007 sample period. Column (1) reports results controlling only for the impact of securitization-active banks on spreads, Column (2) adds the B-rated dummy, and Column (3) includes both of those dummy variables plus the interaction term. The estimate of the coefficient on the interaction term is -22.7, which implies Term Loan B facilities from securitization-active banks had 22.7 basis point lower spreads than Term Loan B facilities from other banks, holding other attributes of the loan constant. When the interaction term is included in Table 7, the coefficient on the securitization active bank dummy, which measures the impact on Ba-Rated debt (since there is a dummy interacting the B-rated dummy with the securitization active bank dummy), is actually positive, albeit not significantly different from zero. These estimates suggest that the pricing impact of being active in securitization is concentrated in the B-rated debt, which is the most commonly securitized type of loan.

This 22.7 basis point spread for B-rated debt from securitization-active banks is a substantial magnitude; a 22.7 basis point discount on an average-sized Term Loan B facility ($400 million U.S. dollars) represents *annual* savings of close to US$ 1 Million over the life of the loan. This estimate implies that the impact of the issuing bank's identity is approximately the same as the impact of covenants on spreads. To the extent that the bank's belonging to the "Securitization Active" group reflects the likelihood of securitization, it implies that banks are willing to discount loans substantially to be able to have them as collateral for CLOs.

4.5. Comparisons of Term Loan B Facilities to Term Loan A Facilities and Revolvers

The results from Table 7 suggest that loans that are sold into CLOs are issued at a lower spread than loans that are not sold into a CLO. In addition, the difference in spreads between loan facilities originated by securitization-active banks and non-securitization banks is most pronounced in facilities of lower credit quality, which are the loans most commonly securitized. While we have interpreted this finding as a consequence of heightened demand for collateral from CLOs, an alternative explanation is that the results occur because of some unmeasurable bank-specific factor, such as an increase in banks' risk tolerance over this period for the banks we classify as securitization-active. Such an increase in risk tolerance for the securitzation-active banks could lead to both an increase in securitization activity as well as an increase in lending to lower credit-quality borrowers, consistent with the empirical evidence presented thus far.

To distinguish between the demand for collateral and increased risk tolerance explanations for the lower spreads on Term Loan B facilities from securitization-active banks, we consider how other facilities issued by these same banks are priced. We do so because the other facilities are not as attractive as collateral for CLOs as Term Loan B facilities but have similar seniority as Term Loan B facilities and consequently similar risk. In particular, we estimate whether the pricing of Term Loan B facilities originated by securitization-active banks, especially for lower-rated loans, is different from the pricing of Term Loan A facilities with similar securitization-friendly attributes. To perform this test, we use a sample made up of both Term Loan A facilities and Term Loan B facilities, and estimate whether the

relation between securitization activity, ratings, and pricing documented above for Term Loan B facilities also holds for Term Loan A facilities.

In doing so, it is important to control for other differences between Term Loan A and Term Loan B facilities. Both are typically senior bank debt with equal priority, but have a different payoff structure because Term Loan A facilities are normally amortizing and Term Loan B bullet. Given that these loans have no prepayment penalties, Term Loan B facilities will always be issued at a higher spread than Term Loan A. However, if the demand for collateral is largest at securitization-active banks and for B-rated loans, we expect the differences to be largest for these types of loans. To evaluate this hypothesis, we include interaction terms into the equation that allow for separate effects based on type of loan (Term Loan A or Term Loan B), the securitization activity of the bank, and the rating of the borrowing firm's senior debt. In addition, our estimates include the same controls as in earlier tests, as well as year and tranche-purpose fixed effects.

Column (1) of Table 8 reports estimates of this equation. The effect of demand for collateral can be seen in the coefficient on the "Term Loan B * Securitization Active Bank * B-Rated Senior Debt", which picks up the incremental effect on pricing of a loan having these attributes, which are those most associated with being desirable as collateral for a CLO. The results in this column indicate that securitization-friendly Term Loan B spreads are 32.9 basis points lower than spreads on Term Loan A facilities with securitization-friendly attributes. This substantial coefficient suggests that the incremental effect of having characteristics that make a loan particularly attractive as collateral for CLOs imply that these loans are sold at a substantial discount to otherwise similar loans.

In addition to Term Loan A facilities, most loans also contain revolvers, which are lines of credit that can be drawn down at the borrower's discretion. These facilities also have the same seniority as Term Loan B facilities but also have a shorter expected maturity. Because the options implicit in these revolvers make them less attractive as collateral for CLOs, we expect to observe the spread between revolvers and Term Loan B's to decline for those facilities for which the Term Loan B's are most attractive as collateral for CLOs.

Column (2) of Table 8 presents estimates of an equation comparing the spreads of Term Loan B's and revolvers, again using interaction terms to allow for separate effects of type of loan, the rating of the loan and the securitization activity of the issuing bank. The results from this equation are similar to the results for Term Loan A's in the first column. In particular, the incremental effect of having a securitization-active originating bank and a B rating is to lower the loan's spread by about 20 basis points, and this drop is statistically significantly different from zero. This finding is consistent with the view that demand for collateral for CLOs leads to a lower spread on facilities most attractive to CLO issuers. Overall, the results in Table 8 favor the demand for collateral explanation rather than the increased-risk tolerance explanation for the decline in spreads, since the latter explanation should apply equally for Term Loan A facilities and revolvers, while the results suggest that they are specific to Term Loan B facilities.

4.6. Within-Loan Comparisons of Facility Spreads

Thus far our analysis has been conducted at the loan-facility level. In doing so, our goal was to measure the incremental effect that demand for collateral from CLOs has on the pricing of deals, so we have controlled for factors that affect spreads but are unrelated to demand for collateral. The results suggest that, holding these other factors constant, the effect of characteristics associated with the likelihood of securitization, in particular being issued by a securitization-active bank and having a B rating, lowers the spread difference for a Term Loan B facility relative to an otherwise similar Term Loan A or revolving facility. We interpret this finding as consistent with the demand for collateral explanation. However, the econometric controls we use are imperfect and it is possible that unobservable differences across types of loans and not demand for collateral from CLOs could explain this result.

Because of this issue, we use an approach introduced by Ivashina and Sun (2011) and compare the spreads across facilities in the same loan. Since the facilities are from the same loan, they necessarily have the same risk. Using this specification, the number of loans in the sample declines, since not all loans containing Term Loan B facilities also contain a Term Loan A or Revolver. To perform this comparison, we estimate equations that predict the difference in spreads between Term Loan B facilities and either Term Loan A facilities or revolvers within the same loan as a function of factors likely to affect

the demand for collateral from CLOs.[20] In doing so, we also include into the equation other factors that potentially affect the differences in spreads.

We present estimates of the within-loan spread differences in Table 9 for differences between Term Loan B and Term Loan A facilities, and in Table 10 for differences between Term Loan B and revolvers. In each case, the coefficient on the securitization-active bank dummy variable interacted with the B-rated dummy variable is negative and significant (albeit at the 10% level for the revolver comparison in Table 10). This finding suggests that even comparing within loans, facilities that are most likely to be securitized are priced at a discount relative to other facilities. It does not appear that the measured pricing discount of facilities likely to be securitized occurs because of unobserved heterogeneity; rather the evidence is consistent with the view that issuing banks price these loans more aggressively because they can be easily sold to CLOs.

5. Discussion and Relation to the Literature

Perhaps the most closely related work to ours is Ivashina and Sun (2011), whose study provides evidence that demand for loans from institutional investors in the secondary market, measured by the time a loan remains in syndication, is negatively related to spreads on these loans. The authors present evidence that some but not all of their effect is due to demand from CLOs. Our analysis extends their work in a number of directions. First, we focus exclusively on the role of securitization in loan pricing. Second, we provide direct evidence on the types of loans most associated with securitization, in particular, Term Loan B facilities, loans issued by banks that also issue CLOs, and loans that are made to B-rated borrowers. Third, we use these characteristics as a way to identify the causal nature of the relation between pricing and securitization. To the extent that Ivashina and Sun (2011)'s and our identification strategies are different from one another and our results are nonetheless similar, each

[20] In the event where a bank loan includes multiple facilities of the same type, we use the facility with the lowest spread, so as to be conservative in our estimate of differences in spread. Of the 4,658 deals in our sample, 70 deals have multiple Term Loan A or Term Loan B facilities.

paper's analysis complements the other's and strengthens the conclusion that securitization affects the demand for collateralizable loans, and ultimately the cost of capital in the primary market.

In addition, this work is closely related to work on buyouts by Shivdisani and Wang (2011), who provide evidence suggesting that structured finance fueled the 2004-2007 LBO boom by increasing the availability and pricing of leverage. Shivdasani and Wang (2011) present some evidence of a pricing effect in aggregate (pricing is aggregated to the quarterly level) and in a smaller loan-level sample of Term Loan B facilities supporting public targets of LBO transactions. To the extent that some of the loans in our sample are used to finance LBOs, these findings are also consistent with those of Shivdasani and Wang (2011).

However, only 12% of the facilities in our sample are used to provide financing to LBOs; the vast majority of them are used for general corporate purposes. To evaluate whether our results are driven by the LBO loans in our sample, or whether the demand for collateral affected the cost of capital more generally in this period, we exclude from our sample of loans those used to finance LBOs and reestimate the equations reported above.[21] The results are similar to those for the full sample. Term Loan B facilities with securitization-friendly attributes exhibit lower spreads than Term Loan B's without securitization-friendly attributes, and Term Loan B's exhibit lower spreads than Term Loan A's and Revolvers with securitization-friendly attributes. Within deal results are also quantitatively similar, although differences between Term Loan B's and revolvers within the same deal are not statistically significant at the conventional levels when LBO's are excluded. Overall, it appears that the pattern of securitization affecting the cost of debt finance affected corporate borrowing more generally than just for buyouts during the 2002-2007 period.

Other related work includes Benmelech, Dlugosz, and Ivashina (2010), who test whether the CLO market is a lemons market by investigating whether loans originated by the bank that acts as the CLO underwriter underperform the rest of the CLO portfolio. Nini (2008) examines the investment behavior of firms more likely to benefit from securitization-driven increases in credit supply. Finally, there is a

[21] Estimates of the main specifications from Tables 7-10 on the non-LBO subsample are reported in the Appendix.

literature discussing numerous other factors outside of securitization which influence the spread charged to corporate borrowers in the bank loan market (See Guner (2006), Sufi (2007), and Ivashina (2009)).

6. Conclusion

Understanding the debt buildup from 2002 through 2007 followed by the Financial Crisis of 2008 is an important area of research for financial economists. A key element of both the debt buildup and the Crisis is often thought to be the increase in securitization of loans over this period. By packaging loans together in CLOs the market created a highly-rated security as a combination of low-rated (usually B-rated) ones. While the volumes of both loans and CLOs both increased substantially during the securitization-active period, the link between these phenomena is unclear. It is possible that this high volume of debt issuances could reflect a high demand for capital by firms. Alternatively, as has been alleged by theories of the Financial Crisis (see Gennaioli, Shleifer and Vishny (2010)), the demand from CLOs for securitizable loans could have led banks to lend too much. This paper evaluates the pricing implications of this hypothesis, and finds support for the view that demand for securitizable loans lowers the cost of capital for firms.

Controlling for other factors, including the risk of the loan, loans that are securitized are issued at about a 15 basis point lower spread than an otherwise identical loan that was not securitized. This finding is consistent with the notion that the demand for securitizable loans led banks wishing to securitize their loans to discount them to attract more borrowers. However, there are other interpretations to this finding; it is possible that firms' demand for capital is such that firms' borrowing patterns lead loans that get securitized to have lower spreads.

As a way of evaluating explanations based on demand for capital, we consider how the relative spreads between loans with characteristics that are considered to be "securitization-friendly" and loans with characteristics considered to be "securitization-unfriendly" are different during the "Securitization Boom". In particular, we consider the payoff structure of the debt, with "Term Loan B" loans whose bullet payoff structures are considered more securitization-friendly than amortizing "Term Loan A" loans

or revolvers, whose payoff and amount borrowed is at the discretion of the borrower. Second, we consider the issuer of the loan, with banks who are top arrangers of CLOs to be more likely to securitize their own loans than loans from other banks. Finally, we consider the rating of the loan, with evidence that loans made to B-rated borrowers are more likely to be securitized than loans with other ratings.

Our findings suggest that spreads on loans with characteristics making the loan desirable to a CLO decline relative to other loans with less securitization-friendly characteristics during the Securitization Boom. The spread on Term Loan B facilities issued by securitization active banks to borrowers with B-rated senior debt dropped 22 basis points relative to Term Loan B facilities with less securitization-friendly attributes from 2002 through the fall of 2007. Consistent with the CLO demand hypothesis, we provide evidence that the decline in spreads is concentrated in Term Loan B facilities with securitization-friendly characteristics rather than Term Loan A or revolving facilities with otherwise similar securitization-friendly characteristics. This result suggests that the decline in spreads cannot be attributed to a factor associated with the particular banks originating the CLOs, such as an increase in their risk tolerance. This general pattern of a decline in securitization-friendly facilities relative to non-securitization-friendly facilities over the 2002-2007 period is true even for facilities that are part of the same loan package, and is true for a sample excluding LBO loans.

Taken together, we interpret the evidence as being consistent with the hypothesis that securitization had a causal impact on the cost of corporate capital. Were an omitted variable to be driving our results, it would have to be uniquely correlated with Term Loan B's originated only by securitization active banks to borrowers with B-rated senior debt but uncorrelated with Term Loan A's and revolving facilities with the same characteristics. Such a variable, other than securitization, is difficult to identify.

These results raise a number of questions as well. For example, what was the cause of increased demand for securitized debt? In this paper, we take increased CLO activity as given, yet we know little about the ultimate drivers of final demand for bonds collateralized by corporate debt. Second, does the securitization process, with its complicated cash flow rules and multiple market participants, lead to information destruction resulting in lenders not charging spreads commensurate with risks?

Fundamentally, the question posed by the theoretical literature on securitization remains, namely, how does the restructuring of cash flows from a pool of assets into a securitization structure create real value?

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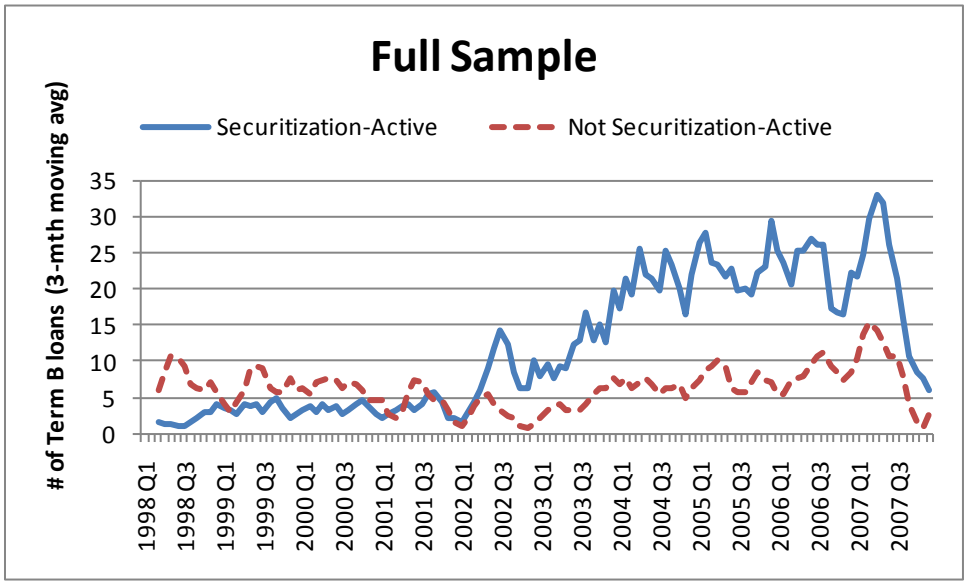
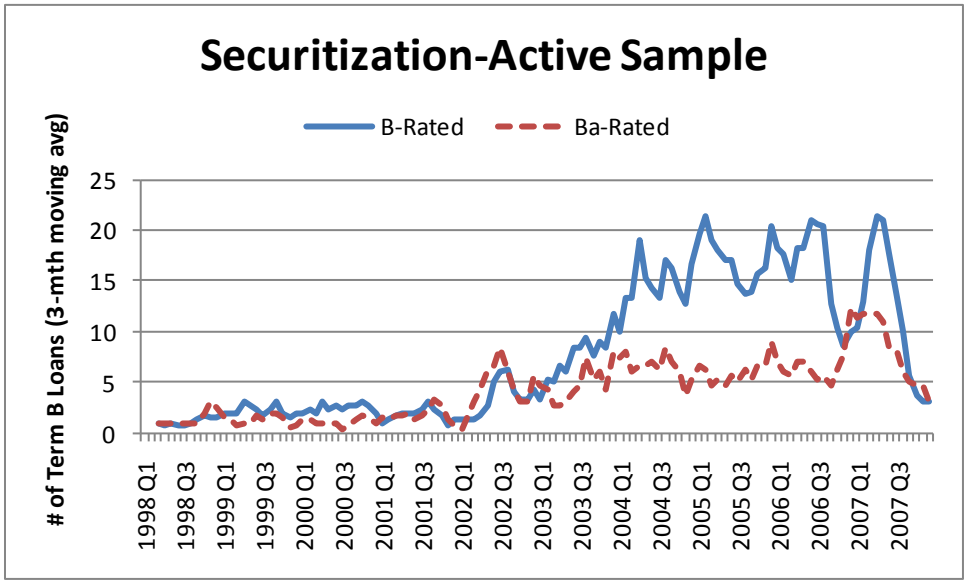
Figure 1. Plots of Term Loan B Origination Volume.

Figure 1 plots the quantity of originations of Term Loan B facilities over time. Panel A plots the three-month moving average of the number of Term Loan B facilities originated by securitization-active and non-securitization active banks, where a securitization-active bank is defined as one of the top-ten banks ranked by the number of securitization deals underwritten during our sample period. Panel B splits the sample into loans with B-rated senior debt and Ba-rated senior debt and plots the origination activity of each ratings class by securitization-active banks. Panel C plots differences in securitization activity by ratings class for non-securitization active banks. Section 3 of the paper describes the data screens employed in arriving at our final sample.

Panel A.



Panel B.



Panel C.

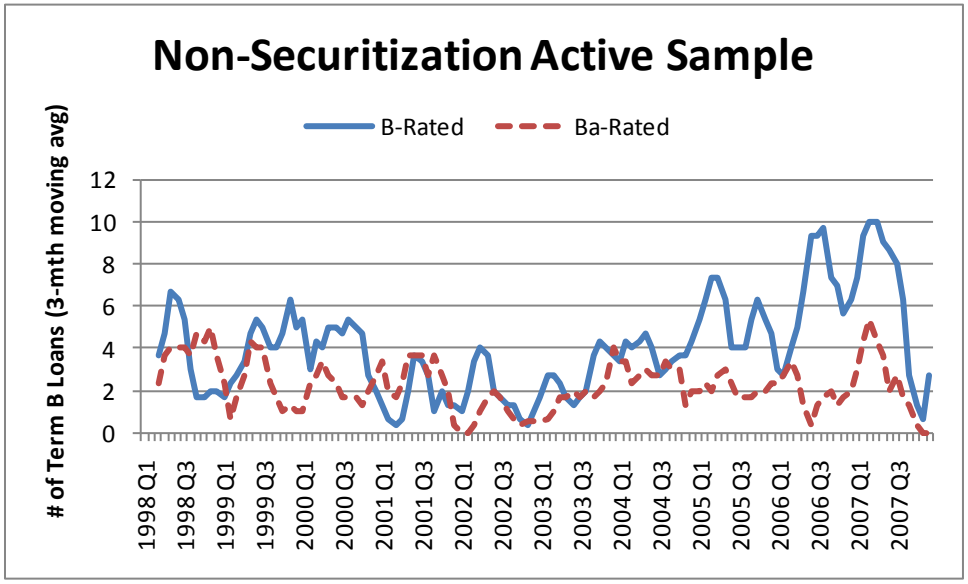

Non-Securitization Active Sample
B-Rated
Ba-Rated
# of Term B Loans (3-mth moving avg)
12
10
8
6
4
2
0
1998 Q1
1998 Q3
1999 Q1
1999 Q3
2000 Q1
2000 Q3
2001 Q1
2001 Q3
2002 Q1
2002 Q3
2003 Q1
2003 Q3
2004 Q1
2004 Q3
2005 Q1
2005 Q3
2006 Q1
2006 Q3
2007 Q1
2007 Q3

Table 1. The Structure of a Typical Bank Loan.

Kwik-Fit is a leading tyre and exhaust fitting company, operating in the UK, Netherlands, France and Germany. Private equity funds were both the buyer and the seller: PAI bought KwiK-Fit from CVC. In private equity transactions the purchase price and level of debt are typically expressed in terms of multiples of earnings before interest, tax, depreciation and amortization (EBITDA), as shown in the last column. In this example, the estimated EBITDA for 2005 of £95.9m is the reference point. Pricing of the debt is expressed relative to the London Inter-bank Offered Rate (LIBOR). For the mezzanine debt, the return is split between cash interest payments and "payments in kind" (PIK). This table is taken from Axelson et al. (2011).

	Amount (£m)	**Terms**	**Pricing (spread over LIBOR)**
Enterprise Value	**773.5**		
Equity	**191.0 (25%)**		
Debt			
Term Loan A	140	7 year amortizing	2.25%
Term Loan B	135	8 year bullet	2.50%
Term Loan C	135	9 year bullet	3.00%
Total Senior Debt	*410.0*		
2nd Lien	75	9.5 year	5.00%
Mezzanine	97.5	10 year	4.5% + 5% PIK
Total Debt	**582.5 (75%)**		
Revolving credit facility	40	7 year	2.25%
Capex facility	50	7 year	2.25%

Table 2. Facility Summary Statistics by Credit Rating, Facility Purpose and Facility Type.

In this table we report summary statistics on the number of loan facilities and spreads by credit rating, tranche type, and facility purpose. Our Dealscan sample consists of senior secured and unsecured loan facilities originated between 2002- September 2007 which have Moody's credit ratings on the senior debt of the issuing firm available at the time of loan origination. We restrict our sample to include syndicated loans originated in the United States, and exclude firms with SIC codes between 6000 and 6500. We also identify and remove any second-lien or mezzanine loans from the sample.

Panel A.

	Full Sample					Securitized Sample				
Moody Sr. Debt Credit Rating	Count	25th %tile	Median	Mean	75th %tile	Count	25th %tile	Median	Mean	75th %tile
Ba1	642	95.0	150.0	168.6	225.0	15	150.0	175.0	180.8	225.0
Ba2	1010	125.0	200.0	209.7	250.0	37	150.0	200.0	207.4	250.0
Ba3	1676	175.0	225.0	242.2	300.0	71	200.0	225.0	226.2	250.0
B1	2135	200.0	250.0	269.5	325.0	124	200.0	250.0	247.8	287.5
B2	1591	225.0	275.0	293.8	350.0	85	225.0	250.0	262.6	275.0
B3	894	225.0	275.0	298.6	350.0	38	225.0	250.0	275.0	300.0

Panel B.

Facility Type	Count	25th %tile	Median	Mean	75th %tile	Count	25th %tile	Median	Mean	75th %tile
Revolver/Line >=	4310	162.5	225.0	234.4	300.0	35	200	250	237.1429	250
Term Loan A	674	200.0	250.0	249.1	300.0	29	150	200	203.0172	250
Term Loan B	2347	225.0	275.0	288.8	325.0	300	200	225	248.125	275

Panel C.

Facility Purpose	Count	25th %tile	Median	Mean	75th %tile	Count	25th %tile	Median	Mean	75th %tile
Corp. purposes	2017	175.0	225.0	248.3	300.0	110	200.0	225.0	241.6	250.0
Debt Repay.	1022	175.0	227.6	238.7	300.0	35	175.0	200.0	215.7	250.0
Takeover	1096	200.0	250.0	251.4	300.0	53	200.0	225.0	242.7	275.0
Work. cap.	1120	150.0	225.0	230.1	300.0	28	175.0	225.0	225.9	275.0
LBO	906	225.0	275.0	285.3	325.0	81	225.0	250.0	263.0	300.0
Acquis. line	453	200.0	250.0	260.4	325.0	17	175.0	250.0	258.8	325.0
Other	717	202.8	250.0	272.7	314.2	40	217.2	237.5	246.5	253.1

Table 3. Differences in Attributes of Non-Securitized Facilities and Securitized Facilities.

In this table we report summary statistics on loan facilities identified as having been securitized and compare them against the attributes of un-securitized loans. The Moody's EMS data provide a "snapshot" of the characteristics and identity of all the securities serving as collateral in any Moody's-rated CLO as of the first quarter of 2009. We rely on the Moody's EMS data services data to identify loan facilities from Dealscan that are serving as collateral in CLOs specifically. We outline the matching process in the text. The Dealscan sample runs from 2002- September 2007. Our Dealscan sample consists of senior secured and unsecured loan facilities originated between 2002- September 2007 which have Moody's credit ratings on the senior debt of the issuing firm available at the time of loan origination. We restrict our sample to include syndicated loans originated in the United States, and exclude firms with SIC codes between 6000 and 6500. We also identify and remove any second-lien or mezzanine loans from the sample. T-statistics test the significance in difference between the means.

Panel A.

Moody's Sr. Debt Rating	Non-Securitized Sample			Securitized			Diff.	t-stat
	Count	Mean	Std. Dev.	Count	Mean	Std. Dev.		
Ba1	627	168.3	95.8	15	180.8	49.1	12.5	0.95
Ba2	973	209.8	110.6	37	207.4	64.8	-2.4	-0.21
Ba3	1605	242.9	96.4	71	226.2	51.2	-16.6	-2.54
B1	2011	270.8	93.8	124	247.8	63.6	-23.0	-3.78
B2	1506	295.5	121.4	85	262.6	85.2	-32.9	-3.37
B3	856	299.6	131.3	38	275.0	91.2	-24.6	-1.59

Panel B.

Loan Attribute	Non-Securitized Sample			Securitized			Diff.	t-stat
	Count	Mean	Std. Dev.	Count	Mean	Std. Dev.		
Facility Amount	7833	287.2	483.7	373	525.2	725.0	238.0	6.27
Sales Size	7833	2090.6	5686.3	373	3117.5	11962.9	1026.9	1.65
Tranche Maturity*	1971	72.8	16.9	300	76.0	13.0	3.2	3.81
Syndicate Size	7811	9.0	10.1	372	7.8	8.0	-1.2	-2.78
% with Covenants	7833	63.96%	-	373	66.22%	-		

*Term Loan B's only

Table 4. The Creation of CLOs through Time and by Originator.

This table reports the frequency and timing of CLO originations by CLO underwriter. Data is taken from Moody's EMS database. Of the 884 reported CLOs, less than 1% are reported as balance sheet CLOs. The remaining are primarily "cash-flow arbitrage" CLOs. Over 80% of all deals were created between the 2002-2007 period, with almost 50% of the deals being created in 2006 and 2007. Over 78% of the deals were originated by the top-10 originating banks. The top-10 underwriting banks over our 2002-September 2007 sample period are classified as "securitization-active."

CLO Originating Bank	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
JPMorgan	0	1	0	3	2	6	6	7	7	13	26	18	5	94
Citigroup	1	0	0	1	0	0	0	2	1	17	28	24	11	85
Bear, Stearns & Co. Inc.	0	0	0	4	2	3	2	3	12	13	21	17	1	78
Credit Suisse	0	0	1	2	2	2	7	10	5	12	13	14	1	69
Lehman Brothers	1	0	2	2	1	1	3	3	6	11	10	19	5	64
Deutsche Bank	0	0	1	1	0	4	3	8	5	2	16	18	5	63
Goldman Sachs & Co.	0	0	1	2	5	5	4	5	3	6	12	17	3	63
Morgan Stanley	0	1	2	3	3	3	3	2	3	7	16	18	2	63
Wachovia Securities Inc.	0	0	1	2	2	0	3	3	5	9	18	18	2	63
Merrill Lynch & Co.	1	2	4	1	3	1	2	2	4	10	7	10	3	50
Bank of America Securities LLC	0	0	0	1	1	1	1	2	2	5	14	7	3	37
UBS Securities LLC	0	0	0	0	0	1	0	1	3	5	5	5	1	21
IXIS Securities North America Inc.	0	0	0	0	0	0	0	2	3	2	9	1	0	17
Barclays Capital	0	0	0	0	0	0	1	1	0	0	2	4	4	12
CIBC World Markets Inc.	0	2	2	3	1	0	2	0	0	0	0	0	0	10
Royal Bank of Scotland plc	0	0	0	0	0	0	0	0	0	0	1	7	0	8
Salomon Smith Barney	0	0	0	0	2	1	3	2	0	0	0	0	0	8
BNP Paribas	0	0	0	0	0	0	0	1	0	1	2	3	0	7
Others (28 Other Banks)	0	0	2	4	7	1	3	2	5	10	20	13	5	72
Total	3	6	16	29	31	29	43	56	64	123	220	213	51	884

Table 5. Do Securitized Loans Have Lower Spreads?

In this table we estimate differences in spreads between securitized and non-securitized loans in a simple regression framework. We create an indicator variable for loans identified as having been securitized and estimate a regression of the following form:

$$Spread_{i,t} = \alpha_0 + \beta \cdot Securitized_{i,t} + \gamma \cdot Borrower\ Factors_{i,t} + \varphi \cdot Macro\ Factors_t + \varepsilon_{i,t},$$

where the subscript *i* refers to loan facility *i* at time *t*. The variables term structure, credit spread, and tranche maturity are discussed in the text. The covenants and pricing grid indicators take the value one for loan facilities with covenants and the existence of a pricing grid. The list of borrower controls includes facility-specific credit ratings, a dummy variable for secured loans, log facility amount, and the log of borrowers' sales. Where appropriate, relevant controls include year fixed-effects, tranche purpose fixed-effects, tranche-type fixed effects, credit rating fixed-effects and fixed effects for the bank working as the lead arranger in organizing the syndicate of lenders. We cluster standard errors by year and borrower.

Dependent Var.: All in Drawn Spread	All Loan Types, Ba and B-rated Sr. Debt	Term B Only, Ba and B-Rated Sr. Debt	Term B Only, Ba-Rated Senior Debt	Term B Only, B-Rated Senior Debt
	(1)	(2)	(3)	(4)
Securitized Indicator	-3.902	-6.864**	10.464	-15.752**
	(0.74)	(2.05)	(1.11)	(2.41)
Term Structure	6.462	3.410	-1.191	6.680
	(0.79)	(0.25)	(0.07)	(0.77)
Credit Spread	25.145***	32.520***	40.792***	19.973*
	(3.94)	(2.81)	(2.91)	(1.87)
Covenants Indicator	-9.338	-14.734*	-24.487***	-13.204
	(1.16)	(1.82)	(2.99)	(1.51)
Pricing Grid Indicator	-16.053***	-6.121	-2.462	-9.182
	(2.76)	(0.87)	(0.34)	(1.18)
Size of Syndicate	-0.329***	-0.376**	-0.223	-0.670***
	(3.61)	(2.21)	(1.11)	(3.92)
Tranche Maturity	-0.852***	-1.085**	-1.063***	-1.140*
	(4.47)	(2.56)	(5.66)	(1.86)
Log Facility Amount	-17.864***	-7.248***	0.490	-12.560***
	(8.28)	(3.00)	(0.20)	(3.70)
Log Sales Size	-0.573	-2.763	-6.397***	-0.549
	(0.29)	(1.41)	(2.84)	(0.18)
Secured Indicator	11.985***	5.168	-4.656	13.054
	(3.53)	(0.85)	(0.50)	(1.03)
Constant	616.152***	415.755***	343.976***	589.509***
	(14.57)	(8.51)	(5.81)	(5.70)
Tranche Type Fixed Effects	Yes	No	No	No
Moody Sr. Debt Fixed Effects	Yes	Yes	No	No
Tranche Purpose Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Lead Arranger Fixed Effects	Yes	Yes	Yes	Yes
Standard Errors Clustered by:				
Borrower	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Adjusted R^2	0.475	0.365	0.438	0.288
Observations	4449	1624	541	1083

Table 6. Probit Analysis: What Type of Loans Get Securitized?

The probit specification employs a sample of loan facilities originated between 2002-2009. Our sample includes loan facilities of three types: Revolving, Term Loan B, and Term Loan A, which serves as the omitted group in the estimation. The sample is also constrained to include facilities with senior debt rated Ba1, Ba2, Ba3, B1, B2, and B3 at the time of loan origination. The primary specification is as follows:

$\Pr(Securitized_{i,t}) = \alpha_0 + \beta \cdot Facility\ Type_{i,t} + \gamma \cdot Borrower\ Factors_{i,t} + \varphi \cdot Macro\ Factors_t + \varepsilon_{i,t}$,

Depending on the specification, the list of borrower controls includes credit ratings, log facility amount, log of borrowers' sales, and syndicate size. We include dummy variables for secured facilities and facilities with covenants and pricing grids. Results in the fourth column include year and tranche-purpose fixed effects. Standard errors are clustered by year.

Dependent Var. = 1 if Loan is Identified as Having Been Securitized	Term B, Term A, and Revolvers	Term B, Term A, and Revolvers	Term B, Term A, and Revolvers	Term B, Term A, and Revolvers
	(1)	(2)	(3)	(4)
Term Loan B	0.359***	0.369***	0.341***	0.436***
	(3.283)	(3.396)	(3.128)	(3.672)
Securitization Active Arranger		0.219***	0.218***	0.237***
		(2.689)	(2.691)	(2.794)
Senior Debt B-rated			0.156**	0.107
			(1.987)	(1.288)
Revolver	-0.871***	-0.853***	-0.874***	-0.888***
	(-7.301)	(-7.149)	(-7.327)	(-6.941)
Covenants Indicator	0.065	0.055	0.069	0.311***
	(0.744)	(0.630)	(0.796)	(3.361)
Log Facility Amount	0.170***	0.151***	0.158***	0.058
	(4.420)	(3.919)	(4.096)	(1.515)
Log Sales Size	0.007	0.002	0.008	0.015
	(0.249)	(0.0560)	(0.256)	(0.453)
Secured Indicator	0.539***	0.534***	0.522***	0.477***
	(5.341)	(5.292)	(5.139)	(4.634)
Pricing Grid Indicator	0.083	0.077	0.076	0.074
	(0.980)	(0.910)	(0.910)	(0.849)
Syndicate Size	-0.013***	-0.012***	-0.011***	-0.006
	(-2.789)	(-2.732)	(-2.636)	(-1.545)
Constant	-5.188***	-4.883***	-5.222***	-4.653***
	(-7.341)	(-6.855)	(-7.229)	(-5.299)
Tranche Purpose Fixed Effects	No	No	No	Yes
Year Fixed Effects	No	No	No	Yes
Standard Errors Clustered by:				
Borrower	Yes	Yes	Yes	Yes
Psuedo R^2	0.197	0.200	0.201	0.268
Observations	5101	5101	5101	5021

Table 7. Do "Securitization-Friendly" Term Loan B Facilities Have Lower Spreads?

This table estimates the relationship between facility-level spreads and facility characteristics, specified as,

$$Spread_{i,t} = \alpha_0 + \beta_1 \cdot Sec.Active_{i,t} * Brated_{it} + \beta_2 \cdot Sec.Active_{i,t} * \beta_3 Brated_{it} + \delta \cdot X_{it} + \varepsilon_{i,t}.$$

The estimation sample includes only Term Loan B facilities and runs from 2002-September 2007. The sample is also constrained to include facilities with senior debt rated Ba1, Ba2, Ba3, B1, B2, and B3 at the time of loan origination. Securitization-active banks are defined as the top-10 most active CLO-underwriting banks over the sample period (see Table 4). B-rated senior debt is an indicator variable for facilities whose borrower has B-rated senior debt. The variables term structure, credit spread, and tranche maturity are discussed in the text. The covenants and pricing grid indicators take the value one for loan facilities with covenants and the existence of a pricing grid. Other borrower controls include log facility amount, log borrower's sales, syndicate size, and an indicator variable for secured loans. Relevant macroeconomic controls include year fixed-effects and tranche-purpose fixed effects. Results presented in Column (1) control for credit-rating fixed effects. Standard errors are clustered by year and by borrower.

Dependent Var.: All in Drawn Spread	Term Loan B Sample	Term Loan B Sample	Term Loan B Sample
	(1)	(2)	(3)
Securitization Active Bank*B-Rated Senior Debt			-22.688***
			(2.72)
Securitization Active Bank	-11.387**	-11.195*	4.255
	(2.14)	(1.88)	(0.48)
B-rated Sr. Debt		23.317***	40.035***
		(2.58)	(5.05)
Term Structure	3.861	4.284	4.298
	(0.28)	(0.34)	(0.35)
Credit Spread	32.361***	31.799***	32.079***
	(2.75)	(2.81)	(2.86)
Covenants Indicator	-15.838*	-20.126**	-20.041**
	(1.84)	(2.24)	(2.26)
Pricing Grid Indicator	-7.161	-7.122	-7.020
	(0.94)	(0.82)	(0.80)
Size of Syndicate	-0.411**	-0.474***	-0.474***
	(2.33)	(2.76)	(2.84)
Tranche Maturity	-1.124***	-1.219***	-1.203***
	(2.69)	(2.80)	(2.77)
Log Facility Amount	-8.370***	-9.408***	-9.446***
	(3.47)	(3.28)	(3.31)
Log Sales Size	-3.886*	-2.736	-2.790
	(1.68)	(1.01)	(1.04)
Secured Indicator	4.641	7.251	7.166
	(0.67)	(0.86)	(0.85)
Constant	549.2***	535.1***	525.1***
	(7.71)	(6.21)	(5.89)
Moody Sr. Debt Fixed Effects	Yes	No	No
Tranche Purpose Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Lead Arranger Fixed Effects	No	No	No
Standard Errors Clustered by:			
Borrower	Yes	Yes	Yes
Year	Yes	Yes	Yes
Adjusted R^2	0.352	0.322	0.324
Observations	1624	1624	1624

Table 8. Is the "Securitization-Friendly" Decline in Spreads Specific to Term B's Only?

This table estimates the relationship between facility-level spreads and facility characteristics. The estimation sample in Column (1) includes Term Loan B and Term Loan A facilities and runs from 2002-September 2007, which represents a period of heightened securitization activity. The sample is also constrained to include facilities with senior debt rated Ba1, Ba2, Ba3, B1, B2, and B3 at the time of loan origination. The estimation sample in Column (2) includes Term Loan B facilities and Revolving facilities. Securitization-active banks are defined as the top-10 most active CLO-underwriting banks over the sample period (see Table 4). B-rated senior debt is an indicator variable for facilities whose borrower has B-rated senior debt. The variables term structure, credit spread, and tranche maturity are discussed in the text. The covenants and pricing grid indicators take the value one for loan facilities with covenants and the existence of a pricing grid. Other borrower controls include log facility amount, log borrower's sales, syndicate size, and an indicator variable for secured loans. Relevant macroeconomic controls include year fixed-effects and tranche-purpose fixed effects. Standard errors are clustered by year and by borrower.

Dependent Var.: All in Drawn Spread	Term Loan B and Term Loan A Sample	Term Loan B and Revolver Sample
	(1)	(2)
Term Loan B*Sec. Active Bank*B-Rated Senior Debt	-32.886**	-19.536**
	(2.41)	(2.07)
Term Loan B*Sec. Active Bank	21.855**	-9.175
	(2.04)	(1.33)
Term Loan B*B-Rated Senior Debt	13.064	8.581
	(0.92)	(0.93)
Sec. Active Bank*B-Rated Senior Debt	10.149	-8.047*
	(0.55)	(1.81)
Term Loan B	38.229***	54.549***
	(2.93)	(9.30)
Securitization Active Bank	-17.416	17.218***
	(1.16)	(2.87)
B-rated Sr. Debt	27.036	34.064***
	(1.63)	(4.16)
Term Structure	2.960	7.822
	(0.23)	(1.12)
Credit Spread	31.899**	27.900***
	(2.46)	(4.43)
Covenants Indicator	-19.169**	-12.546
	(2.16)	(1.63)
Pricing Grid Indicator	-8.557	-19.110***
	(1.16)	(2.89)
Size of Syndicate	-0.478***	-0.564***
	(3.08)	(3.95)
Tranche Maturity	-1.233***	
	(2.97)	
Log Facility Amount	-9.020***	-20.568***
	(3.34)	(7.88)
Log Sales Size	-3.345	0.409
	(1.33)	(0.20)
Secured Indicator	7.089	16.546***
	(0.96)	(3.56)
Constant	562.187***	538.217***
	(4.67)	(12.37)
Tranche Purpose Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Standard Errors Clustered by:		
Borrower	Yes	Yes
Year	Yes	Yes
Adjusted R^2	0.387	0.416
Observations	1915	4262

Table 9. Within-Deal Differences in Loan Spreads: Term B's vs. Term A's.

This table estimates the relationship between facility-level spreads within the same deal. For each deal in the sample with adequate data, we compute the within-deal difference in spreads on Term Loan B facilities compared to Term Loan A facilities. The estimation sample runs from 2002-September 2007, which represents a period of heightened securitization activity. The sample is also constrained to include facilities with senior debt rated Ba1, Ba2, Ba3, B1, B2, and B3 at the time of loan origination. Securitization-active banks are defined as the top-10 most active CLO-underwriting banks over the sample period (see Table 4). B-rated senior debt is an indicator variable for facilities whose borrower has B-rated senior debt. The variables term structure, credit spread, and tranche maturity are discussed in the text. The covenants and pricing grid indicators take the value one for loan facilities with covenants and the existence of a pricing grid. Other borrower controls include senior-debt credit ratings, log facility amount, log borrower's sales, and an indicator variable for secured loans. Relevant macroeconomic controls include year fixed-effects and tranche-purpose fixed effects. Standard errors are clustered by year and by borrower.

Dependent Var.: Within Deal Spread	Term Loan B Spread vs. Term Loan A Spread in the Same Deal	Term Loan B Spread vs. Term Loan A Spread in the Same Deal	Term Loan B Spread vs. Term Loan A Spread in the Same Deal
	(1)	(2)	(3)
Securitization Active Bank*B-Rated Senior Debt			-44.804***
			(3.73)
Securitization Active Bank	-22.651	-16.832	10.188
	(1.58)	(0.94)	(0.42)
B-rated Sr. Debt		5.004	41.883
		(0.25)	(1.40)
Term Structure	9.259	12.254	11.495
	(1.50)	(1.48)	(1.17)
Credit Spread	8.532	6.319	2.855
	(0.98)	(0.44)	(0.18)
Covenants Indicator	25.356	23.231	20.236
	(1.27)	(1.04)	(0.95)
Pricing Grid Indicator	-4.666	-3.564	-3.636
	(0.52)	(0.48)	(0.47)
Term A Pricing Grid Indicator	-29.657**	-31.442***	-29.441**
	(2.30)	(2.79)	(2.56)
Size of Syndicate	0.052	-0.021	-0.021
	(0.34)	(0.16)	(0.12)
Tranche Maturity	-0.816*	-1.187***	-1.098***
	(1.77)	(2.97)	(2.71)
Term A Maturity	0.877*	0.996**	0.914**
	(1.79)	(2.53)	(2.45)
Log Facility Amount	0.562	-5.717	-4.527
	(0.09)	(0.94)	(0.71)
Term A Facility Amount	-9.556	-8.444*	-8.799*
	(1.62)	(1.90)	(1.89)
Log Sales Size	4.975	8.189*	7.645*
	(1.05)	(1.76)	(1.82)
Secured Indicator	13.888	10.949	15.018
	(0.85)	(0.62)	(0.82)
Constant	54.339	223.597*	189.847
	(0.49)	(1.83)	(1.55)
Moody Sr. Debt Fixed Effects	Yes	No	No
Tranche Purpose Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Standard Errors Clustered by:			
Borrower	Yes	Yes	Yes
Year	Yes	Yes	Yes
Adjusted R^2	0.296	0.220	0.232
Observations	186	186	186

Table 10. Within-Deal Differences in Loan Spreads: Term B's vs. Revolver's.

This table estimates the relationship between facility-level spreads within the same deal. For each deal in the sample, we compute the within-deal difference in spreads on Term Loan B facilities compared to Revolving facilities. The estimation sample runs from 2002-September 2007, which represents a period of heightened securitization activity. The sample is also constrained to include facilities with senior debt rated Ba1, Ba2, Ba3, B1, B2, and B3 at the time of loan origination. Securitization-active banks are defined as the top-10 most active CLO-underwriting banks over the sample period (see Table 4). B-rated senior debt is an indicator variable for facilities whose borrower has B-rated senior debt. The variables term structure, credit spread, and tranche maturity are discussed in the text. The covenants and pricing grid indicators take the value one for loan facilities with covenants and the existence of a pricing grid. Other borrower controls include senior-debt credit ratings, log facility amount, log borrower's sales, and an indicator variable for secured loans. Relevant macroeconomic controls include year fixed-effects and tranche-purpose fixed-effects. Standard errors are clustered by year and by borrower.

Dependent Var.: Within Deal Spread	Term Loan B Spread vs. Revolver Spread in the Same Deal	Term Loan B Spread vs. Revolver Spread in the Same Deal	Term Loan B Spread vs. Revolver Spread in the Same Deal
	(1)	(2)	(3)
Securitization Active Bank*B-Rated Senior Debt			-12.357*
			(1.63)
Securitization Active Bank	-9.017**	-8.979**	-0.435
	(2.47)	(2.47)	(0.07)
B-rated Sr. Debt		-4.455	4.558
		(0.60)	(0.59)
Term Structure	-0.437	0.721	0.744
	(0.07)	(0.13)	(0.14)
Credit Spread	3.572	7.134	7.157
	(0.71)	(0.92)	(0.91)
Covenants Indicator	1.082	1.156	0.719
	(0.17)	(0.18)	(0.12)
Pricing Grid Indicator	-4.393**	-4.214**	-4.144**
	(2.33)	(2.08)	(2.03)
Revolver Pricing Grid Indicator	-2.481	-2.628	-2.102
	(0.42)	(0.46)	(0.38)
Size of Syndicate	-0.041	-0.048	-0.053
	(0.17)	(0.20)	(0.21)
Tranche Maturity	-0.094	-0.091	-0.075
	(0.86)	(0.83)	(0.74)
Revolver Maturity	0.157	0.159	0.152
	(1.06)	(1.09)	(1.06)
Log Facility Amount	-11.361**	-11.427**	-11.435**
	(2.42)	(2.39)	(2.42)
Revolver Facility Amount	7.689**	7.608**	7.570**
	(2.31)	(2.36)	(2.35)
Log Sales Size	0.339	0.319	0.290
	(0.26)	(0.24)	(0.22)
Secured Indicator	1.774	1.744	1.936
	(0.23)	(0.23)	(0.25)
Constant	110.503**	80.339*	93.098**
	(2.33)	(1.72)	(1.99)
Moody Sr. Debt Fixed Effects	Yes	No	No
Tranche Purpose Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Standard Errors Clustered by:			
Borrower	Yes	Yes	Yes
Year	Yes	Yes	Yes
Adjusted R2	0.073	0.072	0.073
Observations	1160	1160	1160

Appendix Table 1: Differences in Securitization-Friendly Spreads: Excluding LBO Loans.

This table estimates the relationship between facility-level spreads and facility characteristics. Each estimation sample in this table excludes any bank loan affiliated with LBO transactions. The estimation sample runs from 2002-September 2007, which represents a period of heightened securitization activity. The sample is also constrained to include facilities with senior debt rated Ba1, Ba2, Ba3, B1, B2, and B3 at the time of loan origination. Column (1) includes Term Loan B facilities only. Column (2) includes Term Loan B and Term Loan A facilities and Column (3) includes Term Loan B facilities and Revolving facilities. Securitization-active banks are defined as the top-10 most active CLO-underwriting banks over the sample period (see Table 4). B-rated senior debt is an indicator variable for facilities whose borrower has B-rated senior debt. The variables term structure, credit spread, and tranche maturity are discussed in the text. The covenants and pricing grid indicators take the value one for loan facilities with covenants and the existence of a pricing grid. Other borrower controls include senior-debt credit ratings, log facility amount, log borrower's sales, and an indicator variable for secured loans. Relevant macroeconomic controls include year fixed-effects and tranche-purpose fixed-effects. Standard errors are clustered by year and by borrower.

Dependent Var.: All in Drawn Spread	Term Loan B Sample, Excluding LBO's	Term Loan B and Term Loan A Sample, Excluding LBO's	Term Loan B and Revolving Sample, Excluding LBO's
	(1)	(2)	(3)
Term Loan B*Sec. Active Bank*B-Rated Senior Debt		-40.025***	-19.769**
		(2.84)	(2.01)
Term Loan B*Sec. Active Bank		22.430**	-9.613
		(2.15)	(1.46)
Term Loan B*B-Rated Senior Debt		24.371*	12.611
		(1.77)	(1.21)
Sec. Active Bank*B-Rated Senior Debt	-21.780**	18.345	-6.208
	(2.48)	(0.96)	(1.30)
Term Loan B		33.805***	51.477***
		(2.63)	(8.89)
Securitization Active Bank	3.224	-18.970	17.603***
	(0.34)	(1.35)	(2.87)
B-rated Sr. Debt	45.922***	21.789	36.451***
	(6.17)	(1.33)	(4.12)
Term Structure	-0.453	-1.265	5.575
	(0.04)	(0.10)	(0.83)
Credit Spread	30.044**	29.893**	25.699***
	(2.56)	(2.16)	(3.83)
Covenants Indicator	-23.478**	-21.991**	-12.081
	(2.24)	(2.19)	(1.28)
Pricing Grid Indicator	-8.457	-10.480	-21.389***
	(0.94)	(1.37)	(3.09)
Size of Syndicate	-0.498***	-0.509***	-0.588***
	(2.80)	(2.92)	(4.65)
Tranche Maturity	-1.138***	-1.182***	
	(2.66)	(2.92)	
Log Facility Amount	-10.399***	-10.019***	-21.288***
	(3.21)	(3.61)	(7.22)
Log Sales Size	-3.571	-4.125	0.065
	(1.12)	(1.42)	(0.03)
Secured Indicator	11.218	10.829	18.887***
	(1.21)	(1.47)	(3.98)
Constant	439.602***	410.796***	599.422***
	(6.39)	(4.41)	(13.09)
Moody Sr. Debt Fixed Effects	No	No	No
Tranche Purpose Fixed Effects	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Lead Arranger Fixed Effects	No	No	No
Standard Errors Clustered by:			
Borrower	Yes	Yes	Yes
Year	Yes	Yes	Yes
Adjusted R^2	0.334	0.399	0.422
Observations	1353	1626	3699

Appendix Table 2: Within-Deal Differences in Loan Spreads: Excluding LBO Loans.

This table estimates the relationship between facility-level spreads within the same deal. Each estimation sample in this table excludes any bank loan affiliated with LBO transactions. For each deal in the sample, we compute the within-deal difference in spreads on Term Loan B facilities compared to Term Loan A or Revolving facilities. Column (1) estimates differences in within deal spreads between Term Loan B facilities and Term Loan A facilities. Column (2) compares Term Loan B's against Revolvers. The estimation sample runs from 2002-September 2007, which represents a period of heightened securitization activity. The sample is also constrained to include facilities with senior debt rated Ba1, Ba2, Ba3, B1, B2, and B3 at the time of loan origination. Securitization-active banks are defined as the top-10 most active CLO-underwriting banks over the sample period (see Table 4). B-rated senior debt is an indicator variable for facilities whose borrower has B-rated senior debt. The variables term structure, credit spread, and tranche maturity are discussed in the text. The covenants and pricing grid indicators take the value one for loan facilities with covenants and the existence of a pricing grid. Other borrower controls include senior-debt credit ratings, log facility amount, log borrower's sales, and an indicator variable for secured loans. Relevant macroeconomic controls include year fixed-effects and tranche-purpose fixed-effects. Standard errors are clustered by year and by borrower.

Dependent Var.: Within Deal Spread	Term Loan B Spread vs. Term Loan A Spread in the Same Deal, Excluding LBO's	Term Loan B Spread vs. Revolving Spread in the Same Deal, Excluding LBO's
	(1)	(2)
Securitization Active Bank*B-Rated Senior Debt	-38.616***	-13.028
	(3.31)	(1.35)
Securitization Active Bank	9.532	0.828
	(0.44)	(0.11)
B-rated Sr. Debt	26.543	1.494
	(1.53)	(0.24)
Term Structure	21.297***	2.990
	(2.82)	(0.53)
Credit Spread	13.068	11.027*
	(1.61)	(1.68)
Covenants Indicator	19.705	3.117
	(1.03)	(0.40)
Pricing Grid Indicator	-6.706	-7.308***
	(0.93)	(4.17)
Term A Pricing Grid Indicator (Revolver in Column 3)	-31.070**	-1.408
	(2.13)	(0.22)
Size of Syndicate	0.022	-0.140
	(0.13)	(0.42)
Tranche Maturity	-1.157***	-0.109
	(2.64)	(1.14)
Term A Maturity (Revolver in Column 3)	1.032**	0.181
	(2.19)	(1.32)
Log Facility Amount	-0.867	-13.266**
	(0.25)	(2.53)
Term A Facility Amount (Revolver in Column 3)	-13.076***	8.943***
	(2.62)	(2.67)
Log Sales Size	7.910**	-0.759
	(2.02)	(0.49)
Secured Indicator	19.776	6.054
	(1.17)	(0.76)
Constant	103.646	107.834**
	(0.95)	(2.16)
Moody Sr. Debt Fixed Effects	No	No
Tranche Purpose Fixed Effects	Yes	Yes
Year Fixed Effects	Yes	Yes
Standard Errors Clustered by:		
Borrower	Yes	Yes
Year	Yes	Yes
Adjusted R2	0.294	0.083
Observations	171	939