The Use of Special Purpose Vehicles and Bank Loan Contracting

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Keyword: *special purpose vehicle; loan contracting; default risk.*

JEL Code: *M41; G14; G21*

Data Availability: *All data are available from sources identified in the paper.*

I. INTRODUCTION

Companies have been using special purpose vehicles (SPVs) since the 1970s. SPVs can serve many legitimate business purposes, such as lowering financing costs, isolating financial risk, and tax planning (Feng et al. 2009). However, investigations into Enron and other corporate scandals reveal that SPVs have been improperly used by sponsor firms to hide debt, manage earnings, and achieve other financial reporting objectives. Due to loopholes in SPV accounting, a sponsor company can easily avoid consolidating SPVs in its financial statements and can use SPVs to distort its true underlying performance by reporting less debt and higher earnings. For example, the Special Investigative Committee on Enron reported that Enron's transactions with its certain SPVs "allowed Enron to conceal from the market very large losses resulting from Enron's merchant investments" (Powers 2002, 4). Though the complex nature of SPVs has received great attention from accounting regulators and the investment community, little is known about whether and how investors and creditors take into consideration the economic consequences of SPVs when contracting with firms.

In this study we therefore aim to provide systematic evidence on the effect of SPVs on various terms of sponsor firms' bank loan contracting. Specifically, our analysis focuses on whether and how banks take into account a borrower's use of SPVs when evaluating credit quality and/or determining both the price and non-price terms of loan contracts. We are interested in examining the economic consequences of SPV use in the context of the bank loan market for several reasons. First, bank loans are a major source of external financing for companies around the world. In the United States, the amount of loan borrowing is much larger than the amount of equity and bond issuing (Graham et al. 2008). Given the significance of bank

loan financing, it is economically important to investigate the potential impact of SPV use on the loan contracting between sponsor firms and banks.

Second, the use of SPVs in certain transactions (e.g., leases and securitization) could bring debt-related benefits to sponsor firms, while at the same time it could increase the credit and/or information risks faced by banks and other private lenders and make it more difficult for banks to assess the credit quality of SPV sponsors (e.g., Beatty et al. 1995; Dechow and Shakespeare 2009; Feng et al. 2009). Thus, it is interesting to empirically examine the impact of SPV use from the perspective of creditors.

Finally, compared to equity and bond investors, banks are generally more sophisticated, have privileged access to private information about the borrower, and have stronger information processing abilities (e.g., Bharath et al. 2008; Kim et al. 2011a). In this sense, banks are better able to understand the complex structures and consequences of SPVs than other capital suppliers. However, the question of whether banks take into account the borrower's use of SPVs when contracting with the sponsor firms is not a priori obvious, because it depends on how banks perceive the borrower's use of SPVs. To the extent that banks view the use of SPVs as opportunistic or as a means for sponsor firms to hide their true underlying performance and/or financial obligations for rent seeking, one can expect SPV use to have unfavorable impacts on loan contracting terms. On the other hand, if banks perceive SPV use as necessary (even beneficial) for the borrower's normal business operations, they are unlikely to penalize the borrower's use of SPV. Given the two opposing effects of SPV use on loan contracting terms and the scarcity of empirical evidence on the issue, our study aims to provide large-sample, systematic evidence on this unresolved question.

Using a sample of 11,088 bank loan contracts of public firms from 1997 to 2008, we find that loans made to sponsor companies of SPVs are charged at higher loan rates and are more likely to be secured by collaterals and to be subject to restricted covenants. Such findings suggest that banks and other private lenders perceive SPVs as a tool used by firms to hide debt off balance sheet and window-dress financial statements. By not consolidating an SPV in its financial statements, a sponsor company can borrow through the SPV and make its leverage ratio still appear healthy. Furthermore, by engaging in related party transactions with the SPV under control, a sponsor company can manipulate its earnings and profitability as well. As a result, lenders of the SPV sponsor companies face higher information and credit risks and thus charge higher loan rates or impose less favorable terms in the loan contracts to protect themselves.

Furthermore, we find that the above associations between SPV use and bank loan contracting are more pronounced when the sponsor company has SPVs that are located in a foreign country, suggesting that foreign SPVs are perceived to be associated with even higher information risk. We also find that the negative effect of SPV usage on loan contract terms is stronger when the borrower has higher default risk. A plausible explanation for this finding is that borrowers with higher default risk are more likely to use SPVs for earnings management because of the urgency of making their financial statements look better. Finally, we show that the negative effect of SPV usage on loan contracting is greater for term loans than for non-term loans. This is because (transaction-based) term loans are more subject to information and credit risks than (relationship-based) non-term loans such as a line of credit or revolver facility.

We also perform additional tests to check the robustness of our results. First, we examine the impact of SPV use on the structure of a loan syndicate. We find that the use of SPV is associated with a smaller number of lenders, whether domestic or foreign lenders, in a loan

syndicate. This finding is consistent with the view that lenders participating in a loan syndicate perceive the borrower's use of SPVs as an information risk-increasing factor. As a result, fewer lenders are willing to participate in the loan syndicate. Second, we find that SPVs formed for earnings management purposes are unfavorably associated with loan contracting terms while SPVs that are formed for economic benefits reduce (rather than increase) loan rates and the likelihood of loans being secured by collateral or being subject to covenant restrictions. Third, to address the concern about potential endogeneity or self-selection bias with respect to a firm's use of SPVs, we employ the propensity score matching (PSM) method to match each firm that reports SPVs with a control firm that does not report SPVs based on the predicted likelihood of SPV use. Using this PSM sample we find, anew, significantly positive associations of the intensity of SPV use with loan rates, collateral requirements, and covenant restrictions, suggesting that our reported main results are unlikely to be driven by potential endogeneity. Fourth, we also perform an inter-temporal analysis by analyzing the loans issued within a four-year window (two years before and two years after) around the initiation of SPVs for the sample of SPV sponsor firms. This inter-temporal comparison reveals that SPV initiation increases loan rates and the likelihood of loans being subject to collateral requirements. Lastly, we use an instrumental variable (IV) approach to address the issue of jointly determined loan terms and the results consistently show that SPV use is associated with unfavorable loan terms with respect to loan rates, collateral requirements, and restrictive covenants.

Our study contributes to the literature in two ways. First, it adds to the growing literature examining the determinants and consequences of SPV use. To the best of our knowledge, this study is the first large-sample study to provide empirical evidence on the effect of SPV use on various bank loan contracting terms. Feng et al. (2009) find evidence of the prevalence of using

SPVs as off balance sheet financing from 1997 to 2004. They also find that SPVs that are arranged for financial reporting purposes are strongly associated with earnings management. However, little is known about how the use of SPVs affects investors' and creditors' view of a firms' credit risk, financial positions, and financial performance. Our study fills this gap in the literature by providing original evidence on the effect of SPV use on loan contracting terms.

More importantly, our findings provide regulators and accounting standard setters with useful insights into the disclosures and accounting treatments of SPVs. Currently FIN No. 46(R), issued by the Financial Accounting Standards Board (FASB), requires that a "variable interest entity" be consolidated in the financial statements of the "primary beneficiary" (FASB 2003).[1] However, determining whether an interest holder in a variable interest entity is a primary beneficiary depends on the entity's future expected losses and expected residual returns, the calculations of which are very much forward looking and subject to estimation (Soroosh and Ciesielski 2004). Our results show that banks and other private lenders largely perceive SPVs as a tool to hide debt and manipulate earnings and SPV activities unfavorably affect loan contracting terms. However, it is still questionable whether banks and other private lenders correctly assess the magnitude of the negative impact of SPVs, which calls for more transparent disclosures of SPV activities in financial statements. Furthermore, banks and other large private lenders are likely to have privileged access to additional information on firms' SPV activities upon their request. On the contrary, it is costly, if not impossible, for small ordinary creditors/investors to privately collect SPV-related information if it is not disclosed in firms' financial reports. Therefore, although our study shows that SPVs matter for evaluating firms' financial status and outcome from the perspective of banks, it is unclear whether small ordinary

[1] The final interpretations of FIN 46(R) apply to all entities with the existence of a variable interest, including SPVs.

creditor/investors can have a good understanding of the purpose and impact of SPV activities due to limited disclosures in financial statements.

Second, our study contributes to the bank loan literature. Given the increasing use of SPV in recent years, the findings of our study provide evidence that SPV use is an incrementally significant factor determining the credit quality and information risk of the borrowing firm above and beyond other borrower- and loan-specific factors that are known to affect the price and non-price terms of loan contracting.

The paper proceeds as follows. Section II develops our hypotheses. Section III describes our research design, including the measurement of SPV use and hypothesis testing procedures. Section IV first explains sample selection procedures and then presents descriptive statistics on the major research variables. Section V provides the results of our main regressions, while Section VI presents the results of additional tests. The final section concludes the paper.

II. HYPOTHESIS DEVELOPMENT

An SPV is a legally distinct entity with a limited life created by a sponsor company to carry out limited activities or transactions specified in the contracts (Hartgraves and Benston 2002; Soroosh and Ciesielski 2004; Feng et al., 2009). SPVs have been used in various transactions, mostly leasing and securitization. In a typical sale–leaseback transaction, an SPV obtains external financing from equity investors and creditors to purchase long-lived assets from the sponsor and then lease them back to the sponsor; in a typical receivable securitization transaction, the sponsor sells one or more preferred interests in a class of receivables to an SPV, which issues debt securities to investors and pays cash to the sponsor. In both transactions, the sponsor uses the SPV to raise off balance sheet capital that funds operations and debt repayments.

Since SPVs isolate and homogenize cash flows and business risks related to a specific class of assets, the sponsor can obtain external financing through SPVs at a lower cost (e.g., Soroosh and Ciesielski 2004; Dechow and Shakespeare 2009; Feng et al. 2009). Moreover, prior literature (e.g., Beatty et al. 1995; Gupta and Mills 2002; Soroosh and Ciesielski 2004; Feng et al. 2009) suggests that SPVs are usually created as flow–through entities (e.g., limited partnerships or limited liability companies), thus offering tax benefits to the sponsors.

In this study, we examine the impact of SPV use from the perspective of private lenders such as banks. Prior literature provides conflicting views on the potential effect of SPV use on sponsor firms' bank loan contracting. On one hand, transactions involving the formation of SPVs bring debt-related benefits to sponsor firms. For example, receivables securitization could help sponsor firms accelerate the receipt of cash, increase free cash flows that can be used for debt repayment and interest payment, and lower leverage ratio (e.g., Dechow and Shakespeare 2009; Dechow et al. 2010). In addition, SPVs can help the sponsor firms save their taxes and thus improve their earnings and cash flows. Given all these benefits from the use of SPVs, banks and other private lenders may perceive sponsors of SPVs as having lower default risk and could thus offer loans at lower interest rates.

On the other hand, although originated to serve the above legitimate business purposes, SPVs have been increasingly used as an accounting tool for firm management to window-dress financial statements and manipulate earnings. For example, in a sale–leaseback transaction, the sponsor creates an SPV to borrow money and then the SPV uses the borrowed money to purchase the sponsor's long-term fixed asset at a price set by the sponsor. Then the sponsor leases the asset back from the SPV under the operating lease. This series of transactions first helps the sponsor reduce leverage by not consolidating the SPV's borrowing in the balance sheet

and, second, facilitates the sponsor managing earnings. The sponsor has control over the price of the fixed asset sold to the SPV and thus can inflate its current-period reported earnings through the amount of gains recognized on the sale. In addition, the sponsor has control over the timing and amount of the operating lease payments for leasing back the fixed asset from the SPV, which further facilitates earnings management by the sponsor. In a typical receivable securitization transaction, the sponsor sells a portion of the interests in its receivables to an SPV and retains the residual interest in the remaining receivables. The SPV sells the acquired receivables to a third party in exchange for a loan and pays the sponsor using cash proceeds from the loan. By treating securitizations as sales rather than loans, the sponsor's balance sheet appears less risky. In addition, by inflating the value of the sold and retained interest in the receivables, the sponsor can recognize gains and manage earnings upward. The collapse of Enron and other SPV-related corporate scandals provide evidence that companies hide debt and manage earnings by not consolidating SPVs into their financial statements (U.S. Securities and Exchange Commission, hereafter SEC, 2005). [2] Dechow and Shakespeare (2009) document that sponsors time securitization transactions to achieve financial reporting goals, such as lowering leverage and beating earnings thresholds. Dechow et al. (2010) find that firm managers use the discretion within fair value accounting rules (e.g., choosing the discount rate) to report larger gains from securitization, thus obtaining higher compensation. Beatty et al. (1995) find that funding research and development through an SPV creates moral hazard and adverse selection problems.

An important implication from the above discussions is that the use of SPVs has a two-fold negative effect on the sponsor firm's credit and/or information risk. First, by not

[2] Before 2003, U.S. Generally Accepted Accounting Principles allowed a sponsor to exclude an SPV from its financial statements if third-party residual equity investment at risk equaled at least 3% of the SPV's total capitalization (FASB 1990). In response to the Enron scandal, in 2003 FASB issued FIN No. 46(R) to require that variable interest entities be consolidated in the financial statements of the "primary beneficiary" (FASB 2003).

consolidating the SPV on financial statements, the sponsor firm's leverage appears lower than it really is. In other words, the credit risk of a firm with SPV use should be higher than one without it, even if their leverage ratios are exactly the same. Second, SPVs provide firms with a tool for earnings management, which increases the information risk faced by creditors in estimating a sponsor's future cash flows and assessing its credit quality. Previous theoretical and empirical studies (e.g., Duffie and Lando 2001; Easley and O'Hara 2004; Francis et al. 2005; Lambert et al. 2007; Bharath et al. 2008; Graham et al. 2008; Kim et al. 2011a, 2011b) have documented that lenders require compensation for borrower information risk, which is incremental to default risk. Bharath et al. (2008) find that banks charge lower interest rates to loans made to firms with higher accrual quality. Graham et al. (2008) show that borrowers are charged high loan rates after their financial statements are restated. Kim et al. (2011a) find that banks charge higher interest rates to borrowers with internal control weaknesses (ICWs) than those without ICWs. Thus, in spite of the economic benefits of SPVs, banks may view SPV use as a factor increasing sponsor firms' credit/information risk and thus charge higher interest rates on loans granted to the sponsors of SPVs.

Drawing on the above discussions, we predict that SPV use is more likely to be associated with higher loan interest rates. To test this prediction, we formally hypothesize the following in alternative form:

> **H1**: *The use of SPVs is positively associated with a sponsor firm's loan interest rates, all else being equal.*

Bank loan contracts include not only price terms (i.e., interest rates) but also non-price terms, such as collateral requirements and restrictive covenants. Commercial banks and other private lenders use non-price terms (as well as the price term) in loan contracts to monitor post-

contract credit quality changes, mitigate information problems and agency conflicts, and control lender risk exposure. Previous studies show that lenders are more likely to require collateral and use restrictive covenants for loans to borrowers with higher default and information risk (e.g., Berger and Udell 1990; Rajan and Winston 1995; Jimenez et al. 2006; Bharath et al. 2008; Graham et al. 2008; Kim et al. 2011a, 2011b). To the extent that the use of SPVs positively influences the default and information risk of sponsor firms, we expect it to be positively associated with the likelihood of loans being secured by collateral and/or being subject to restrictive covenants. This leads to our second hypothesis in alternative form.

> **H2**: *Borrowers that use SPVs are more likely to have their loans secured by collateral and subject to restrictive covenants than those that do not use SPVs, all else being equal.*

Next, we further investigate whether and how the potential effect of SPV use on loan contracting terms is conditioned upon certain SPV-, firm-, and loan-specific characteristics. First, while SPVs are generally complicated, those established in foreign countries can further exacerbate financial statement users' difficulties in evaluating the financial outcome of these SPVs and their sponsor firms, which in turn provides sponsor firms with more flexibility and lower detection risk of earnings management. In this sense, the information opacity is even greater for the sponsor firms with foreign SPVs than for those with only domestic SPVs. As a result, it is relatively easier or less costly (due to lower detection risk) for managers to engage in earnings management through foreign SPVs. Therefore, we predict that the relation between SPV use and loan contracting terms should be stronger for firms with foreign SPVs. To provide empirical evidence on this unexplored issue, we test the following hypothesis in alternative form.

> **H3:** *The effect of SPV use on loan contracting terms, if any, is more pronounced for firms with foreign SPVs than for those with only domestic SPVs, all else being equal.*

Second, sponsor firms with higher default risk are likely to engage more aggressively in off balance sheet financing or earnings manipulation through SPVs in an attempt to make their financial statements or leverage ratios look better. In other words, those with higher default risk are more likely to use their SPVs for financial reporting/earnings management purposes than for normal business operation purposes. Therefore, we predict that the association between SPV use and loan contracting terms is more pronounced for such sponsor firms that have relatively higher default risk. To test this prediction, we hypothesize the following in alternative form.

H4: *The effect of SPV use on loan contracting terms, if any, is more pronounced for firms with higher default risk, all else being equal.*

Third, we examine whether the potential impact of SPV use on loan contracting terms is conditioned upon the type of bank loans. In general, bank loans can be categorized into term and non-term loans. Firms usually borrow term loans for a specific purpose, especially for funding long-term investment projects, and obtain the full amount of the loans from the lenders upfront. In contrast, non-term loans (e.g., revolvers and 364-day facilities) are typically used for funding short-term projects and/or working capital needs and lenders of non-term loans commit themselves to offering a certain amount of credit to borrowers upon demand. Prior literature (e.g., Kim et al. 2011b) suggests that term loans are more transaction based, while non-term loans are more relationship based. Since term loans normally have a longer maturity and are more transaction based, lenders of term loans are subject to higher credit and information risks. As a result, they are more likely to carefully scrutinize the borrowers' financial statements and closely evaluate the potential effect of SPVs on off balance sheet financing and earnings management. In addition, sponsor firms of SPVs may be able to alter the cash flow profile (timing and amount) of their long-term projects using SPVs, which specifically increases the credit and information risks for term loan lenders. We thus expect SPV use to play a more significant role in determining the

contracting terms of term loans than those of non-term loans. This leads to the following final hypothesis.

> **H5:** *The effect of SPV use on loan contracting terms, if any, is more pronounced for term loans than for non-term loans, all else being equal.*

III. RESEARCH DESIGN

Measurement of SPV Use

Following Feng et al. (2009), we measure a firm's use of SPVs by counting the limited partnerships, limited liability partnerships, limited liability companies, and trusts included in the list of subsidiaries and affiliates in Exhibit 21 of SEC Form 10-K on Edgar for each year. The acronyms *L.P.*, *LP*, *LLP*, *L.L.P.*, *LLC*, and *L.L.C.* are also included in the search. Our measure of SPV use is *NSPV*, which refers to the number of a borrowing firm's SPVs each year and is intended to capture the intensity of SPV use by a sponsor firm. In Exhibit 21, most of the firms also disclose the locations of their subsidiaries and affiliates. We also collect this information to test the effect of SPV locations (foreign versus domestic SPVs).

By employing *NSPV* instead of the SPV proxies related to particular transactions such as asset securitizations (Dechow et al. 2008), we can conduct large sample cross-sectional and intertemporal analyses in the bank loan market. Before Feng et al. (2009), prior studies used manually collected data for small samples to examine SPV use in particular transactions such as asset securitizations (Dechow et al., 2008) and research and development financing (Beatty et al., 1995). As argued by Feng et al. (2009), such small-sample or short-period analyses limit the ability to examine broader issues and to generalize results. By employing their proxy for the intensity of SPV use, we can investigate the broader issue of whether SPV use affects loan contracting terms, using a large sample. In addition, Feng et al. (2009) have conducted several

tests to validate their SPV activity measure and show the construct validity of their measure, that is, *NSPV*.

Tests of H1 and H2

To provide empirical evidence on the role of SPV use in loan pricing, we specify the following regression model:

$$\begin{aligned} \textit{Loan Feature}_{ikt} = {} & \alpha_0 + \alpha_1 \textit{Log NSPV}_{it-1} + \alpha_2 \textit{Loan-specific Control}_{ikt} \\ & + \alpha_3 \textit{Borrower-specific Control}_{it-1} + \alpha_4 \textit{Economy-wide Control}_{t} \\ & + \textit{(Loan Purpose Indicators}_{ikt}\textit{)} + \textit{(Year Indicators}_{it}\textit{)} \\ & + \textit{(Industry Indicators}_{it-1}\textit{)} + \textit{error}_{ikt}, \end{aligned} \quad (1)$$

The dependent variable, *Loan Feature*$_{ikt}$, refers to one of the following features of a loan contract for a borrower *i*'s facility *k* in year *t*: (i) *Log AIS*, (ii) *DSecu*, (iii) *DFinCov*, and (iv) *DGenCov*.

The variable *Log AIS* is used as a proxy for the interest cost of borrowing and is measured by the natural log of the drawn-all-in spread (plus the upfront fee and annual fee, if any) in basis points in excess of the benchmark rate, that is, the London Interbank Borrowing Rate (LIBOR). The variable *DSecu* is an indicator variable that equals one if the loan is secured with collateral and zero otherwise. The variable *DFinCov* is an indicator variable that equals one if the loan includes any financial covenant and zero otherwise. The variable *DGenCov* is an indicator variable that equals one if the loan includes any general (non-financial) restrictive covenant such as dividend restrictions and/or investment restrictions and zero otherwise. When *Log AIS* is the dependent variable, we estimate Eq. (1) using ordinary least squares (OLS) regression; when *DSecu*, *DFinCov*, or *DGenCov* is the dependent variable, we estimate Eq. (1) by applying probit regression procedures.

The test variable *Log NSPV* is the natural log of one plus the number of SPVs for each firm–year. We merge bank loan data with *Log NSPV* and financial statement data for the fiscal year before loans are initiated. The procedure ensures that our test variable, *Log NSPV*, reflects an observable result of SPV use. Our hypotheses H1 and H2 translate into a positive coefficient on *Log NSPV* (i.e., $\alpha_1 > 0$) when the dependent variable in Eq. (1) is the loan spread (*Log AIS*), the indicator of collateral requirement (*DSecu*), or the indicators of financial and general loan covenants (*DFinCov* and *DGenCov*, respectively). This is because SPVs are related to earnings management and other obfuscations in financial reporting and thus increase the borrower's information risk or deteriorate its credit quality.

Following other studies in the loan contracting literature (e.g., Bharath et al. 2008; Graham et al. 2008; Kim et al. 2011a, 2011b; Lin et al. 2011), we include in Eq. (1) a set of loan-level control variables: *Log Maturity, Log Loan Size*, *Log NLenders*, *Performance Pricing,* and *Term Loan*. The variable *Log Maturity* is the natural log of loan maturity in months and *Log Loan Size* is measured by the natural log of the dollar amount of each loan facility. Previous studies (e.g., Graham et al. 2008) show that lenders charge lower loan rates for shorter-maturity loans and larger loan facilities. The variable *Log NLenders* is the natural log of the number of lenders in a loan deal and *Performance Pricing* is an indicator variable that equals one for loans with performance pricing provisions and zero otherwise. We expect loan contracts involving larger numbers of lenders and performance pricing provisions to have lower interest rates. To control for potential differences in loan terms between transaction-based term loans and other types of non-term loans that are more relationship-based, we include in the model an indicator variable *Term Loan* that equals one if the loan facility is a term loan and zero otherwise. Since collateral requirements and covenant restrictions are imposed at the deal level rather than at the

facility level, we replace *Log Loan Size* with *Loan Concentration*, which is the dollar amount of the loan deal divided by the borrower's total liabilities (Bharath et al. 2011), when *DSecu*, *DFinCov*, or *DGenCov* is used as the dependent variable.

We also control for a set of borrower-specific (sponsor-specific) variables that are known to affect credit quality and thus loan contracting terms: *Size*, *Leverage*, *MB*, *Profitability*, *Funds*, *Tangibility*, *Log IntCov*, *O-Score*, *AbsAccr*, and *Prior*. The variables *Size* and *Leverage* are measured by the natural log of total assets and the ratio of total debt to total assets, respectively. We expect *Size* (*Leverage*) to be positively (negatively) related to credit quality. The variable *MB* is measured by the market value of equity plus the book value of debt divided by the book value of total assets. To the extent that it proxies for a borrower's growth potential, *MB* is likely to be positively associated with credit quality. However, growing firms are often faced with higher risk. In such a case, *MB* is likely to be inversely associated with credit quality. The variable *Profitability* refers to earnings before interest, taxes, depreciation, and amortization (EBITDA) divided by total assets, and *Tangibility* is the ratio of property, plant, and equipment (PP&E) to total assets. The variable *Funds* is a proxy for the supply of internal funds, which is measured by the sum of cash flow from operating activities and cash flow from investing activities divided by average total assets. The variable *Log IntCov* is the natural log of one plus coverage ratio, that is, the ratio of operating income after depreciation (before interest) to interest expenses. We expect *Profitability*, *Funds*, *Tangibility*, and *Log IntCov* to be positively associated with credit quality. The variable *O-Score* is Ohlson's (1980) O-score,[3] a proxy for the borrower's default risk. The term *AbsAccr* is the absolute value of abnormal accruals obtained from the

[3] Here *O-Score* = –1.32 – 0.407 × log(total assets) + 6.03 × (total liabilities/total assets) – 1.43 × (working capital/total assets + 0.076 × (current liabilities/current assets) – 1.72 × (1 if total liabilities > total assets, 0 otherwise) – 2.37 × (net income/total assets) – 1.83 × (operating income before depreciation/total liabilities) + 0.285 × (1 if net income is negative for the last two years, 0 otherwise) – 0.521 × [(net income$_t$ – net income$_{t–1}$)/(|net income$_t$| + |net income$_{t–1}$|)].

modified Jones model (Dechow et al. 1995), allowing for accounting conservatism (Ball and Shivakumar 2006). We predict that *AbsAccr*, which is an inverse measure of accounting quality (Bharath et al. 2008), is positively associated with the borrower's information risk. The term *Prior* is an indicator variable that equals one if the borrower has prior loan relationships with at least one of the lead banks of a loan syndicate for the current loan deal in the past five years and zero otherwise. We expect *Prior* to be negatively associated with the loan spread and the likelihood of loans being subject to collateral requirements and restrictive covenants (Bharath et al. 2011).

In addition, we include two economy-wide variables, *Term Spread* and *Credit Spread*, to control for the potential effects of macroeconomic conditions on loan contract terms. Here *Term Spread* is the difference in yield between 10- and two-year U.S. Treasury bonds, while *Credit Spread* is the difference in yield between BAA- and AAA-rated corporate bonds. Finally, we include *Loan Purpose Indicators* to control for potential differences in the price and non-price terms of loan contracts associated with different loan purposes.[4] We also include *Year Indicators* and *Industry Indicators* to control for potential differences in SPVs and loan features across years and industries.

Tests of H3, H4, and H5

To test whether the potential effect of SPV use on loan contracting is conditioned upon the location of the SPVs (foreign versus domestic SPVs), the default risk of the sponsor firm, and the type of loans, we include in Eq. (1) an interaction term for each test: *Log NSPV*×*ForSPV*, *Log NSPV*×*O-Score*, or *Log NSPV*×*Term Loan*, along with the respective level variable, *ForSPV*,

[4] The purposes of loan facilities in DealScan include corporate purposes, debt repayment, working capital, takeover, and acquisition lines. Accordingly, *Loan Purpose Indicators* are a series of indicator variables for loans with these different purposes.

O-Score, or *Term Loan*. *ForSPV* is an indicator variable that takes the value of one if the borrower has at least one SPV that is located in a foreign country and zero otherwise. As defined above, *O-Score* is Ohlson's (1980) O-score, a proxy for the borrower's default risk. The variable *Term Loan* is an indicator for term loan. To the extent that foreign SPVs represent higher information opacity, we expect to find that the existence of foreign SPVs increases the negative impact of SPVs on loan contracting terms. Since we argue that higher default risk is associated with more aggressive financial statement window dressing or earnings management through SPVs, we expect the negative impact of SPVs on loan contracting terms to be more pronounced if the sponsor firm has higher default risk. To the extent that term loans are more subject to the borrowers' credit and information risk, the use of SPVs should have a stronger negative impact on the contracting terms. Accordingly, H3, H4 and H5 translate into positive coefficients on *Log NSPV*×*ForSPV*, *Log NSPV*×*O-Score*, and *Log NSPV*×*Term Loan*, respectively.

IV. SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

Sample and Data

Our initial sample consists of all public companies that have bank loan data in the Loan Pricing Corporation (LPC) DealScan database for 1997–2008. The LPC DealScan database contains a variety of historical bank loan data and other financial arrangements collected from SEC filings and other information self-reported by banks. The DealScan loan data are compiled for each transaction or deal. Each deal, which is a loan contract between a borrower and bank(s) on a specific date, can have only one facility or a package of several facilities with different price and non-price terms. We consider each facility a separate observation for our sample, since many loan characteristics and loan spreads vary across facilities. We require that all loan facilities in

our sample be senior debts. With regard to the types of loans, our sample includes term loans, revolvers, and 364-day facilities but excludes bridge loans and non–fund-based facilities such as leases and standby letters of credit. We also exclude financial companies from our sample. We manually collect the SPV data by searching the annual 10-K reports in Edgar for our sample firms.[5] We obtain borrowers' financial statement data from Compustat. Our final sample consists of 11,088 facility–years. Table 1 presents the sample selection procedure.

[INSERT TABLE 1 HERE]

Descriptive Statistics and Correlations

Panel A of Table 2 presents descriptive statistics for all loan-specific variables at the facility level. The mean and median of the drawn-all-in spread over the LIBOR (i.e., *AIS*) are around 185 and 175 basis points (bps), respectively, with a standard deviation of about 139 bps, suggesting that *AIS* is reasonably distributed. The mean (median) maturity is about 47 (57) months, while the mean (median) facility size is $372 million ($150 million). On average, the amount of a loan deal accounts for 34% of a borrower's total liability. Panel A of Table 2 also shows that 54% of the loan facilities in our sample require loans to be secured by collateral, about 74% of them include at least one financial (general) covenant, and 57% have a performance pricing provision. Most of the loan facilities in our sample are syndicated loans that have, on average, nine participating lenders. About 29% of the loan facilities in our sample are term loans, while the others are revolvers or 364-day facilities.

[5] Since our SPV measure is lagged by one period, we manually collect SPV data from 10-K filings during 1996–2007. We choose this period to fully cover the sample period (1997–2004) of Feng et al. (2009) to compare the yearly distributions of SPV firms with those reported in their study. Untabulated results show that the yearly distributions of our SPV data are very similar to those of Feng et al. (2009) during the common period. The percentage of firm–years reporting at least one SPV in our test sample, 49.5%, is higher than that in the sample of Feng et al. (2009), 41.9%, and the SPV firm–years in our test sample report more SPVs (18.73 at the mean and 4.00 at the median) than those in their sample (11.63 at the mean and 3 at the median). That is because the public firms covered by LPC DealScan are generally larger than the average firms in Compustat.

[INSERT TABLE 2 HERE]

Panel B of Table 2 reports descriptive statistics for our measures of SPVs and all borrower-specific (lender-specific) variables used in this study. The mean and median numbers of SPV (*NSPV*) sponsored by the borrowers in our sample are about 10 and zero, respectively, with a large standard deviation of 57.88. This suggests that the distribution of *NSPV* is very right skewed. The natural log transformation of *NSPV* (*Log NSPV*) slightly mitigates the skewness. A total of 11.8% of our sample firms have at least one foreign SPV. The variable *Size* is reasonably distributed, with a mean and median of 6.87 and 6.79, respectively, and a standard deviation of 1.81. The mean (median) market-to-book ratio is 1.75 (1.46) and the mean (median) O-score is -6.88 (-6.93). On average, long-term debt, EBITDA, and tangible assets (i.e., PP&E) are about 27%, 15%, and 34% of total assets, respectively. The mean and median ratios of internal cash flows to average total assets (*Funds*) are -1% and 2%, respectively. The variable *Log IntCov* has a mean (median) of 1.82 (1.64) and *AbsAccr*, a proxy for accounting quality, has a mean (median) of 0.12 (0.05). About 46% of borrowers in our sample have prior lending relationships with the same lead banks for their current loans.

Table 3 reports Pearson correlation coefficients among selected loan- and borrower-specific variables. Inconsistent with our predictions, we find in Table 3 that *Log NSPV* is significantly and negatively correlated with *Log AIS* (-0.11), *DSecu* (-0.10), *DFinCov* (-0.05), and *DGenCov* (-0.03), suggesting that SPV use is associated with more favorable loan contracting terms. We also find that *Log NSPV* has a strong correlation with *Size* (0.43), while *Size* has significantly negative correlations with *Log AIS* (-0.54), *DSecu* (-0.42), *DFinCov* (-0.24), and *DGenCov* (-0.14). In addition, *Size* is highly correlated with *Log Loan Size* (0.81) and *Log NLenders* (0.60). Thus, our conjecture is that the correlations between SPV use and favorable

loan terms are driven by firm size effect. Table 3 shows that SPV use is positively correlated with leverage and asset tangibility, while it is negatively correlated with the market-to-book ratio, profitability, interest coverage, and O-score.

Among the loan contracting terms, *Log AIS* is positively correlated with *DSecu*, *DFinCov*, *DGenCov*, and *Log Maturity*, while it is negatively correlated with *Log Loan Size* and *Performance Pricing*. *DSecu* is positively correlated with both *DFinCov* and *DGenCov* and these two covenant indicators are highly and positively correlated with each other. These correlations are consistent with those reported in the prior loan literature.

[INSERT TABLE 3 HERE]

V. MAIN RESULTS

Tests of H1 and H2

Table 4 reports the results of estimating Eq. (1). All reported *t*-statistics (*z*-statistics) are based on standard errors corrected for heteroscedasticity and two-dimensional (firm and year) clustering. As shown in column (1), we find that the coefficient on *Log NSPV* is positive and statistically significant at less than the 1% level (coefficient = 0.039, *t*-value = 3.84). This finding is consistent with H1, suggesting that the number of SPVs reported in a company's 10-K is positively associated with loan rates. Stated another way, the above finding is consistent with the view that banks and other private lenders tend to charge higher interest rates for loans made to firms that use SPVs because they perceive such firms as having higher credit risk and/or information risk related to off balance sheet financing or earnings management.

The effect of SPV use on loan interest rate is economically significant as well. The magnitude of the coefficient on *Log NSPV* (0.039) suggests that a move from no SPVs (the first

quartile of *NSPV* in our sample) to four SPVs (the third quartile of *NSPV* in our sample) leads to a 6.5% increase in *AIS*, with all other *AIS* determinants unchanged.[6] Suppose that a firm without SPVs takes out a loan of $372 million for 47 months at the all-in spread of 185 bps (i.e., an average loan facility in our sample, as shown in the Panel A of Table 2). Our results imply that the all-in spread of a loan with the same features borrowed by a firm with four SPVs is 197 bps, that is, 12 bps higher than that of the loan to the borrower without SPVs. In other words, on average, a borrower with four SPVs has to pay annually $0.45 million ($372 million × 12 bps) more interest expense for about four years than a borrower without SPVs.

The results regarding our control variables are consistent with those of previous studies on loan pricing. Specifically, we find that *Log AIS* is negatively associated with the loan amount (*Log Loan Size*), the presence of a performance pricing provision (*Performance Pricing*), borrower size (*Size*), the market-to-book ratio (*MB*), earnings performance (*Profitability*), internal cash flows (*Funds*), asset tangibility (*Tangibility*), and interest coverage (*Log IntCov*), while it is positively associated with loan maturity (*Log Maturity*), the term loan indicator (*Term Loan*), financial leverage (*Leverage*), default risk captured by *O-Score*, abnormal accounting accruals (*AbsAccr*), and the yield difference between BAA- and AAA-rated corporate bonds (*Credit Spread*).

[INSERT TABLE 4 HERE]

In column (2), the coefficient on *Log NSPV* is also positive and statistically significant at less than the 1% level (coefficient = 0.062, *t*-value = 3.47), suggesting that SPV use increases the likelihood of loans being secured by collaterals. In columns (3) and (4), we find that the coefficients on *Log NSPV* are both positive and statistically significant at less than the 1% level

[6] The calculations are as follows: $Log\ AIS_{NSPV=4} - Log\ AIS_{NSPV=0} = 0.039 \times [\ln 5 - \ln 1] = 0.0628$. Thus, $AIS_{NSPV=4} \div AIS_{NSPV=0} = e^{0.0628} = 1.0648$. The ratio reflects a 6.5% increase in *AIS* when *NSPV* moves from zero to four.

(coefficient = 0.096, *t*-value = 4.74; coefficient = 0.063, *t*-value = 2.79). This finding suggests that SPV use is positively associated with the likelihood that lenders impose financial covenants and general covenants in the loan contracts to protect themselves from the SPV sponsor's default and information risks. In terms of economic significance, the results suggest that when *NSPV* increases from zero to four, the probability of its loans being secured by collaterals increases by 2.7% and the probabilities of its loans being subject to financial and general covenants increase by 2.9% and 1.8%, respectively. As predicted by H2, banks and other private lenders tend to require collateral and use restrictive covenants in loans made to sponsor firms of SPVs because those firms are likely to have hidden debt financing and more flexibility in earnings management and thus their borrowers are subject to higher credit and information risks.

With respect to control variables, we find that loans made to firms with larger size, higher profitability, higher interest coverage, higher asset tangibility, and prior relationships with lead banks are less likely to be secured by collateral and/or to be subject to various restrictive covenants, while loans made to firms with higher leverage, higher O-score, and higher abnormal accruals are more likely to include collateral requirements and/or covenant restrictions. In addition, we find that larger loans, term loans, and loans with performance pricing provisions are more likely to have collateral requirements and covenant restrictions.

Tests of H3, H4, and H5

We test H3 by including the interaction variable *Log NSPV×ForSPV* in Eq. (1). The estimated results are reported in Table 5. Consistent with the results in Table 4, we find that *Log NSPV* is significantly and positively associated with various loan contracting terms. More importantly, the coefficients on *Log NSPV×ForSPV* across columns (1) to (4) are positive and statistically significant at less than the 10% level (in a two-tailed test). Consistent with H3, the

results suggest that foreign SPVs represent greater information opacity to lenders and thus the use of foreign SPVs is associated with even higher loan interest rates and a higher likelihood of having collateral requirements and protective covenants compared with the use of domestic SPVs.

[INSERT TABLE 5 HERE]

Table 6 reports the estimated results of Eq. (1) after including the interaction term of *Log NSPV*×*O-Score* for testing H4. In columns (1) and (2), the coefficients on *Log NSPV*×*O-Score* are 0.023 and 0.032, respectively, both significant at less than the 1% level. Given that the borrower default risk increases with *O-Score*, the results suggest that SPV use has a greater impact on increasing loan spread and the likelihood of loans being secured by collateral when the sponsor firm has higher default risk. A possible reason is that those SPV sponsor firms may engage in more off balance sheet financing and earnings management through their SPVs to make their financial status appear better, which further increases the credit and information risks faced by lenders. However, although positive, as expected, the coefficients on *Log NSPV*×*O-Score* in columns (3) and (4) are not significant at the conventional level, suggesting that the effect of SPV use on loan covenants does not change with sponsor default risk.

[INSERT TABLE 6 HERE]

To test H5, we include the interaction term between *Log NSPV* and *Term Loan* in Eq. (1) and the estimated results are reported in Table 7. We find that the coefficients on *Log NSPV*×*Term Loan* are significantly positive in columns (1) and (2). This finding is consistent with H5, suggesting that SPV use can increase interest rates and the likelihood of collateral requirement more significantly for term loans than for non-term loans (revolvers and 364-day facilities). We interpret the above finding in such a way that a borrower's credit and information

risks are more crucial to lenders when evaluating term loans than when evaluating non-term loans and thus lenders are likely to consider the negative effect of SPVs on increasing credit and information risks more carefully when evaluating term loans than non-term loans. However, we do not find that *Log NSPV×Term Loan* is significantly associated with *DFinCov* and *DGenCov* in columns (3) and (4), respectively, suggesting that the effect of SPV use on loan covenants does not differ systematically between term loans and non-term loans.

[INSERT TABLE 7 HERE]

VI. ADDITIONAL TESTS

Effect of SPV Use on Loan Syndicate Structure

Most bank loans are syndicated, in the sense that each loan deal involves more than one lender. Generally, lenders in a loan syndicate can be classified into two groups: lead lenders (also called lead arrangers or lead banks) and participant lenders. Lead lenders screen potential borrowers, collect borrower-specific information, evaluate their credit quality, negotiate loan terms with the borrowers, and then sell or underwrite part of the loans to participant lenders. In the post-syndication process, participant lenders also rely on lead lenders exerting due diligence and monitoring the borrower. As such, the information asymmetry typically exists between lead lenders and participant lenders. Prior literature (e.g., Dennis and Mullineaux 2000; Lee et al. 2004; Jones et al. 2005; Qian and Strahan 2007; Sufi 2007) suggests that fewer lenders, especially participant lenders, are involved in loans to riskier borrowers because of the higher information asymmetry between borrowers and lenders and between (more informed) lead lenders and (less informed) participant lenders. Graham et al. (2008) and Kim et al. (2011a) provide further evidence that fewer lenders are attracted to loans to borrowers with financial

restatements and ICWs, respectively. Given that the use of SPVs is likely to engender the information asymmetry between borrowers and lenders and between lead lenders and participant lenders, one can expect SPV use to impact the number of lenders participating in a loan syndicate.

To further investigate this issue, we separate lenders into domestic and foreign lenders. Compared to domestic lenders, foreign lenders face even higher information asymmetry in a loan syndicate and prior studies show that the number of foreign lenders is positively related to the quality of financial reports (Kim et al. 2011b). To the extent that SPV use increases the opacity of financial reports, there should be even fewer foreign lenders in the loan syndicate for SPV sponsors.

To provide systematic evidence on the role of SPV use in structuring loan syndicates, we specify the following regression model:

$$\begin{aligned} \textit{Syndicate Feature}_{ikt} = {} & \alpha_0 + \alpha_1 \textit{Log NSPV}_{it-1} + \alpha_2 \textit{Loan-specific Control}_{ikt} \\ & + \alpha_3 \textit{Borrower-specific Control}_{it-1} + \alpha_4 \textit{Economy-wide Control}_{t} \\ & + (\textit{Loan Purpose Indicators}_{ikt}) + (\textit{Year Indicators}_{it}) \\ & + (\textit{Industry Indicators}_{it}) + \textit{error}_{ikt}, \end{aligned} \quad (2)$$

The dependent variable, *Syndicate Feature*$_{ikt}$, refers to one of the following three features of a loan syndicate for a borrower *i*'s facility *k* in year *t*: (i) the number of lenders (*NLenders*), (ii) the number of domestic lenders (*NDomLenders*), and (iii) the number of foreign lenders (*NForLenders*). Since *NLenders*, *NDomLenders* and *NForLenders* are count variables, we estimate Eq. (2) using the Poisson regression procedure. We expect to observe a negative coefficient on *Log NSPV*. We use the same set of control variables as in Eq. (1), except that *Log NLenders* is excluded from the model and *Log Loan Size* is replaced with *Log Deal Size* to

control for the amount of the entire loan deal. In addition, following the loan syndicate literature (e.g., Sufi 2007; Ball et al. 2008; Kim and Song 2011), we add into Eq. (2) another control variable, *Top Lead*, which is an indicator variable that equals one if at least one of the lead arrangers for the loan was among the top 25 U.S. lead arrangers (in terms of loan volume) in the year of loan initiation, based on loan data from DealScan, and zero otherwise. We expect *Top Lead* to be positively associated with *NLenders*, *NDomLenders*, and *NForLenders*.

The estimated results of Eq. (2), as reported in Table 8, show that *Log NSPV* is significantly and negatively associated with *NLenders*, *NDomLenders*, and *NForLenders*, indicating that SPV use decreases the number of total, domestic, and foreign lenders involved in a loan syndicate. Consistent with the findings in Table 4, the results suggest that banks view SPV use as a factor increasing the sponsor firm's credit and information risks.[7] In addition, the coefficients on *Log NSPV* for *NForLenders* and *NDomLenders* are not significantly different from each other at any conventional statistical level, suggesting that domestic lenders and foreign lenders face similar levels of information asymmetry when make loans to SPV sponsors.

[INSERT TABLE 8 HERE]

Economic Incentives versus Financial Reporting Incentives

As discussed in Section II, SPVs were originally designed for economic benefits, for example, reducing taxes, raising external funds, or attracting target investors with specific risk preferences by isolating assets at different risk levels. Therefore, SPVs that are used for economic benefits may have different effects on loan contracting terms, compared with SPVs that are used for managerial opportunism in financial reporting. Following Feng et al. (2009), we

[7] We do not incorporate the effect of SPV use on loan syndicate structure in our main analyses because the structure of a loan syndicate is more directly affected by the information asymmetry between the lead lenders and participative lenders. The borrowers' information opacity/SPV use indirectly affects the structure of the loan syndicate by increasing the information asymmetry among lenders, whereas it has a direct effect on loan contracting terms.

compute predicted SPVs for financial reporting versus economic reasons and include them in Eq. (1). In the study of Feng et al. (2009), the number of SPVs sponsored by a firm can be predicted using three sets of variables categorized as financial reporting variables, economic variables, and control variables, as follows:

$$NSPV_{it} = \alpha_0 + \alpha_1 LEV_{it-1} + \alpha_2 INTCOV_{it-1} + \alpha_3 BONUSP_{it-1} + \alpha_4 DEBTISS_{it-1} + \alpha_5 STOCKISS_{it-1} + \alpha_6 RISK_{it-1} + \alpha_7 FUNDS_{it-1} + \alpha_8 CLTD_{it-1} + \alpha_9 TDUM_{it-1} + \alpha_{10} SETR_{it-1} + \alpha_{11} INTANGIBLE_{it-1} + \alpha_{12} FOREIGN_{it-1} + \alpha_{13} LMKTCAP_{it-1} + \alpha_{14} INDPERC_{it-1} + (Year\ Indicators_{it}) + error_{it}, \quad (3)$$

where the financial reporting variables include leverage, defined as total debt divided by total assets (*LEV*); the interest coverage ratio, that is, operating income after depreciation (before interest) divided by interest expense (*INTCOV*); the bonus percentage, that is, the ratio of the CEO bonus to the sum of salary and bonus (*BONUSP*); the issue of debt, defined as the difference between long-term debt issuance deflated by average total assets (*DEBTISS*); and the issue of stock, defined as the difference between the common and preferred stock sale and purchase deflated by average total assets (*STOCKISS*). The economic variables include stock return volatility, measured by the decile rank score of the standard deviation of daily stock returns for the year (*RISK*); internal cash flows, defined as the sum of operating cash flow and investing cash flow deflated by average total assets (*FUNDS*); the costs of debt renegotiation, defined as long-term debt due within one year divided by total assets (*CLTD*); a tax rate dummy, which is an indicator that takes the value of one if the pretax income is positive and zero otherwise (*TDUM*); the state effective tax rate, defined as the sum of current and deferred state income tax expenses divided by total pretax income (*SETR*); intangible assets, which is measured by intangible assets deflated by total assets (*INTANGIBLE*); and foreign income, defined as the

ratio of foreign pretax income to total pretax income (*FOREIGN*). The control variables include the natural log of the sum of the market value of common shares and the book value of preferred stock and liabilities (*LMKTCAP*); the industry SPV percentage, defined as the percentage of firms reporting SPVs within each industry year, where industry is the Fama–French (1997) 48-industry classification (*INDPERC*); and year indicators.

Following Feng et al. (2009), we first use a Tobit model to estimate Eq. (3).[8] We then use the estimated coefficients of the Tobit model in Eq. (3) to separate the number of SPVs for each firm–year into those predicted by financial reporting variables, economic variables, control variables, and errors (*Pred_Fin*, *Pred_Eco*, *Pred_Ctr*, and *Pred_Err*, respectively). As in Feng et al. (2009), *Pred_Fin* is calculated as $X'\hat{\beta}\Phi(\frac{X'\hat{\beta}+Y'\hat{\gamma}+V'\hat{\kappa}+\hat{\sigma}\lambda}{\hat{\sigma}})$, *Pred_Eco* is calculated as $Y'\hat{\gamma}\Phi(\frac{X'\hat{\beta}+Y'\hat{\gamma}+V'\hat{\kappa}+\hat{\sigma}\lambda}{\hat{\sigma}})$, *Pred_Ctr* is calculated as $V'\hat{\kappa}\Phi(\frac{X'\hat{\beta}+Y'\hat{\gamma}+V'\hat{\kappa}+\hat{\sigma}\lambda}{\hat{\sigma}})$, and *Pred_Err* is calculated as $\hat{\sigma}\lambda\Phi(\frac{X'\hat{\beta}+Y'\hat{\gamma}+V'\hat{\kappa}+\hat{\sigma}\lambda}{\hat{\sigma}})$, where $\hat{\beta}$, $\hat{\gamma}$, and $\hat{\kappa}$ are the estimated coefficients for the financial reporting variables (X'), economic incentive variables (Y'), and control variables (V'), respectively. $\hat{\sigma}$ is the standard deviation of the error term and λ is the ratio of the standard normal probability density, $\phi(\frac{X'\hat{\beta}+Y'\hat{\gamma}+V'\hat{\kappa}+\hat{\sigma}\lambda}{\hat{\sigma}})$, divided by the cumulative density, $\Phi(\frac{X'\hat{\beta}+Y'\hat{\gamma}+V'\hat{\kappa}+\hat{\sigma}\lambda}{\hat{\sigma}})$.

In Eq. (1), we then replace *Log NSPV*$_{it-1}$, using *Pred_Fin*$_{it-1}$, *Pred_Eco*$_{it-1}$, *Pred_Ctr*$_{it-1}$, and *Pred_Err*$_{it-1}$. The estimated results are reported in Table 9. We find that the coefficient on *Pred_Fin* is significantly positive when loan spread, the indicator for collateral requirement, or

[8] The estimated results of Eq. (3) are similar to those reported by Feng et al. (2009). The results are untabulated for brevity.

the indicator for financial covenants is the dependent variable, while the coefficient on *Pred_Eco* is significantly negative when loan spread, the indicator for collateral requirement, or the indicator for general covenants is the dependent variable. These results suggest that as sophisticated players in the financial market, banks and other private lenders are able to differentiate between different purposes for forming SPVs and to assess the differing impacts of SPVs formed for different purposes on the sponsors' credit and information risks. Banks perceive SPVs formed for financial reporting purposes as an earnings management tool, which increases the credit and information risks of the sponsor firms. As a result, banks tend to impose unfavorable price and non-price loan terms to protect themselves from such risk.[9] In contrast, SPVs formed for proper economic reasons may have favorable effects on sponsor firms' cash flows and reduce their credit risk. Thus, banks charge lower interest rates and are less likely to require loans to be secured by collateral and to impose restrictive covenants on loans to sponsors that form SPVs for economic reasons.

[INSERT TABLE 9 HERE]

Selection Bias and Endogeneity

Our analyses thus far focus on how the use of SPVs impacts loan contracting terms. However, it is possible that some confounding factors that contribute to the formation of SPVs also affect the loan contracting terms in the predicted direction. For example, managerial incentives to boost reported earnings may motivate managers to establish SPVs, which in turn causes lenders to impose unfavorable contracting terms on loans to SPV sponsoring firms. To address this self-selectivity concern, we include the absolute value of abnormal accruals in Eq. (1) as a control variable.

[9] Feng et al. (2009) find that SPVs formed for financial reporting purposes are positively related to earnings management measures, but not SPVs formed for economic and other reasons.

In this section, we further control for potential self-selection bias and endogeneity associated therewith. Specifically, we re-estimate Eq. (1) using a reduced sample that includes only the loan facilities borrowed by firms with SPVs. This reduced sample consists of 5,495 loan facilities granted to 1,410 SPV sponsor firms. Table 10 presents the estimated results of using this reduced sample. We find that the coefficients on *Log NSPV* are positive and statistically significant at less than the 1% level across all columns, consistent with the main results in Table 4.

[INSERT TABLE 10 HERE]

To further check the robustness of our main results, we also use the PSM method to match each treatment firm that uses SPVs with each control firm that does not use SPVs.[10] For all firms in our sample, we first compute the predicted probability (i.e., propensity score) of SPV use, using the estimated coefficients of the probit regression model in Eq. (3).[11] For each treatment firm, we then choose a matched control firm that has the closest predicted probability of SPV use to that of the treatment firm. After applying the above PSM procedures, we obtain a matched sample of 4,318 loan facilities consisting of 2,159 facilities for borrowing firms with SPVs and 2,519 facilities for borrowing firms without SPVs. We re-estimate Eq. (1) using this PSM sample. Table 11 reports the estimated results.

As shown in Table 11, the coefficients on *Log NSPV* are all positive and statistically significant at less than the 5% level when *Log AIS*, *DSecu*, or *DFinCov* is the dependent variable. As shown in column (4), however, the coefficient on *Log NSPV* is not significant at the conventional level, albeit positive, when *DGenCov* is the dependent variable. Overall, the results

[10] The PSM method has been used as a way to alleviate potential endogeneity concerns and supported by a stream of recent accounting studies (e.g., Doyle et al. 2007; Armstrong et al. 2010; Larcker and Rusticus 2010; Lawrence et al. 2011; Francis et al. 2012).

[11] In the probit regression, the dependent variable *NSPV* is replaced by a dummy variable *DUM_SPV* that takes the value of one if the firm reports at least one SPV and zero otherwise.

reported in Tables 10 and 11, taken together, are consistent with those reported in Table 4 and suggest that our main results are unlikely to be driven by potential endogeneity concerns arising from the fact that a firm voluntarily decides to use SPVs for various purposes.

[INSERT TABLE 11 HERE]

Within-Firm Analysis

Our analyses thus far rely mainly on cross-sectional analysis to examine the relation between the intensity of SPV use and loan contracting terms. In this section, we focus on firms that ever had a least one SPV (SPV firms) during our sample period and perform additional tests to examine temporal changes in loan contracting terms before and after their launching of SPVs. To do so, we identify the first-time filing date of SPVs in 10-K by each SPV sponsor firm. We then require that the SPV firm have at least one loan facility within two years before and after its first-time SPV filing via 10-K. We choose the loan facilities initiated around the SPV firms' first-time filing of SPVs because it provides the most powerful setting to investigate the potential effect of SPV use on temporal changes in loan terms. After applying the above selection procedure, we construct a sample of 2,343 loan facilities borrowed by 541 SPV firms over the four-year period surrounding their first-time SPV filing dates. The test variable of this temporal analysis is *AfterSPV*, an indicator variable that equals one if the loan facility is initiated after the borrower starts using SPVs and zero if it is initiated before the borrower uses SPVs.

Using this reduced sample, we regress loan terms on *AfterSPV* and the control variables. If banks believe that the use of SPVs changes the risk profile of borrowers and adjust various loan terms accordingly, we expect to observe significant coefficients on *AfterSPV*. The estimated results are reported in Table 12. We find in columns (1) and (2) that the estimated coefficient on *AfterSPV* is significantly and positively associated with *Log AIS* and *DSecu*, suggesting that

loans issued after borrowers start using SPVs tend to have higher interest rates and are more likely to have collateral requirements, compared with loans issued before the use of SPVs. We find, however, that the coefficients on *AfterSPV* are insignificant when *DFinCov* or *DGenCov* is used as the dependent variable.

[INSERT TABLE 12 HERE]

Overall, our within-firm analysis shows that, consistent with the findings of our cross-sectional tests, banks view SPV use as a borrower-specific factor increasing the borrower's credit and information risks and thus adjust loan contract terms accordingly after a sponsor firm initiates SPV use for the first time.

Joint Determination of Loan Terms

To the extent that various loan contracting terms are jointly determined, the estimated effects of SPVs in the main analysis may be biased. To address this issue, we follow the prior bank loan literature (e.g., Dennis et al. 2000; Billett et al. 2007; Bharath et al. 2011) to re-estimate the effect of SPV use on interest rates, collateral requirements, and covenant restrictions, taking into consideration the joint determination of these loan terms. We describe our estimation approach in detail below.

The loan literature (e.g., Dennis et al. 2000; Ivashina 2009; Bharath et al. 2011) suggests that non-price terms are normally determined before setting the loan interest rate in the syndication process. Accordingly, we assume that loan spread is affected by the inclusion of collateral and covenants (not vice versa), and estimate the effect of SPV use on the loan rate using an instrumental variable (IV) approach. Our choice of IVs is guided by previous studies on bank loan contracting. Specifically, since the average all-in spread for loans initiated over the previous six months captures the recent evolution in loan pricing and is a significant factor in the

pricing of new loans, we use the natural log of the average loan spread (*Log AvgAIS*) as the instrument for the observed spread (e.g., Bharath et al. 2011; Costello and Wittenberg-Moerman 2011). Since industries that have more tangible assets are more likely to provide collateral, we use the industry median asset tangibility ratio (*IndTangibility*) as the instrument for loan collateralization (Bharath et al. 2011). Costello and Wittenberg-Moerman (2011) suggest that loan contracts are more likely to include covenants to enhance ex post borrower monitoring when the degree of information asymmetry between lead banks and participant banks is high. Thus, we measure the information asymmetry within a loan syndicate by the reputation of the lead banks (*Top Lead*) (e.g., Sufi 2007; Ball et al. 2008; Costello and Wittenberg-Moerman 2011) and use *Top Lead* as the instrument for the existence of financial covenants.

Following Wooldridge (2002) and Bharath et al. (2011), we first estimate reduced-form logit regressions for *DSecu* and *DFinCov,* using all exogenous variables including the chosen IVs in the model system. [12] Then we use the fitted values of *DSecu* and *DFinCov* estimated from the logit regressions as additional instruments in the IV estimation (2SLS regression) for *Log AIS*.

The results of the IV estimation are summarized in column (1) of Table 13. For brevity, only the coefficients on the test variable, endogenous variables and chosen IVs are reported. As shown in column (1), after controlling for *DSecu* and *DFinCov,* we still find a significantly positive association between *Log NSPV* and *Log AIS*, consistent with the results in Table 4. In addition, column (1) shows that *DSecu* and *Log AvgAIS* are significantly and positively

[12] Since the endogenous variables - *DSecu* and *DFinCov* for determining *Log* AIS are dummies, we cannot directly use a 2SLS regression to estimate *Log* AIS. Wooldridge (2002) shows that estimating a logit equation for the discrete choice variable at first and using the fitted value as an instrument for the discrete choice variable in the 2SLS regression leads to consistent estimates of the coefficients.

associated with *Log AIS*, while *DFinCov* is not significantly associated with *Log AIS* at the conventional level. [13]

[INSERT TABLE 13 HERE]

Since *DSecu* and *DFinCov* are two correlated binary variables and are considered to be simultaneously determined by borrower-specific characteristics,[14] we re-examine the effect of SPV use on collateral requirements and covenant restrictions by estimating a bivariate probit model. The estimation results are reported in columns (2) and (3) of Table 13. We find that, consistent with the main results in Table 4, *Log NSPV* is significantly and positively associated with *DSecu* and *DFinCov*.[15] We find consistent results when *DFinCov* is replaced with *DGenCov* in the IV model and bivariate probit model (untabulated). In sum, the results reported in Table 13 suggest that our inferences are robust to the joint determination of various loan contracting terms.

VII. CONCLUSIONS

In this study, we examine the effect of SPV use on loan contracting terms. Often SPVs are established to serve the economic purposes of isolating financial risk, reducing finance costs, and maximizing tax benefits. Since the collapse of Enron, the public has begun to pay close attention to the dark side of SPVs. The Enron investigation revealed that SPVs were one of the main tools used by Enron executives to hide losses and unfavorable performance. Nevertheless, there is a

[13] We perform a series of tests to validate our IVs and model specification. The test statistics are reported in the bottom part of Table 13. For our loan spread regression in column (1), the robust regression test ($F = 29.81$, $p = 0.00$) confirms that *DSecu* and *DFinCov* are endogenous and our IV approach is appropriate. Cragg and Donald's (1993) minimum eigenvalue statistic (182.48) is higher than the critical value (11.04) used by Stock and Yogo (2005), indicating that our IVs for *DSecu* and *DFinCov* are not weak. Further, Basmann's (1960) χ^2 test ($\chi^2 = 4.36$, $p = 0.11$) cannot reject that our IVs are uncorrelated with the error term and that our model is correctly specified.

[14] Previous studies (e.g., Bradley and Roberts 2004; Demiroglu and James 2010) consider collateral requirements a type of loan covenant.

[15] As reported in the last two rows of Table 13, a Wald test indicates that the residuals of the two probit models are correlated.

lack of general evidence on the broader issue of whether and how SPV use is perceived by market participants when contracting with sponsor firms that use SPVs. Our study therefore aims to provide systematic, large-sample evidence on the role of SPV use in bank loan contracting.

We empirically show that banks and other private lenders perceive SPVs as an earnings management tool and firms with SPVs tend to pay higher loan rates and are more likely to have their loans secured by collateral or subject to restrictive covenants. Furthermore, we find that the above associations between SPV use and loan contracting terms are conditional on certain SPV-, firm-, and loan-specific characteristics, including whether the sponsor company has SPVs located in foreign countries, the default risk of the sponsor firm, and whether the sponsor firm borrows a term or non-term loan.

The findings of our study provide security market regulators and standard setters with useful insights into the economic consequences of the disclosure and accounting treatments of SPVs. Although we show that banks and other private lenders perceive SPVs as a tool for hiding debt and manipulating earnings, it is still questionable whether they correctly assess the magnitude of the negative impact of SPVs because of the insufficient disclosures of SPV activities in financial reports. Should the FASB and/or the SEC push further for more effective and reliable guidance on SPV disclosures? We recommend further research on this unresolved question.

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Appendix. Variable Definitions

Test variable	
NSPV	The number of SPVs used by the borrower.
Log NSPV	The natural log of one plus *NSPV.*
ForSPV	An indicator variable that equals one if the borrower has any foreign SPVs.
AfterSPV	An indicator variable that equals one when the loan facility is initiated after the borrower starts using SPVs and zero otherwise.
Loan-specific variables	
AIS	The drawn-all-in spread charged by the bank over the LIBOR for the drawn portion of the loan facility, obtained from the DealScan database.
Log AIS	The natural log of *AIS.*
Maturity	The maturity of the loan in months.
Log Maturity	The natural log of *Maturity.*
Loan Size	The amount of the loan facility in millions of dollars.
Log Loan Size	The natural log of *Loan Size.*
Loan Concentration	*Deal Size* divided by the sum of *Deal Size* and the borrower's total liabilities.
Deal Size	The dollar amount of the loan deal in millions of dollars.
Log Deal Size	The natural log of *DealSize.*
NLenders	The number of banks in the loan deal.
NDomLenders	The number of domestic banks in a loan syndicate.
NForLenders	The number of foreign banks in a loan syndicate.
Log NLenders	The natural log of *NLenders.*
Performance Pricing	An indicator variable that equals one if the loan contract includes performance pricing provisions and zero otherwise.
Term Loan	An indicator variable that equals one if the loan facility is a term loan and zero otherwise
DSecu	An indicator variable that equals one if the loan is secured with collateral and zero otherwise.
DFinCov	An indicator variable that equals one if the loan contract includes any financial covenants and zero otherwise.
DGenCov	An indicator variable that equals one if the loan contract includes any general covenants and zero otherwise.
Top Lead	An indicator variable that equals one if at least one of the lead arrangers for the loan was a top 25 U.S. lead arranger (in terms of loan volume) in the year of loan initiation, based on loan data from DealScan, and zero otherwise.
Loan Purpose Indicators	A series of the indicator variables for the purposes of loan facilities in DealScan, including corporate purposes, debt repayment, working capital, CP backup, takeover, acquisition line, and leverage buyout offers.
Log AvgAIS	The natural log of the average *AIS* for loans initiated over the past six months.
Borrower-specific variables	
Size	Firm size, which is the natural log of total assets in millions of dollars.
Leverage	Leverage ratio, defined as long-term debt divided by total assets.

MB	Market-to-book ratio, measured as the market value of equity plus the book value of debt divided by total assets.
Profitability	EBITDA divided by average total assets.
Funds	Supply of internal funds, which is measured by the sum of cash flow from operating activities and cash flow from investing activities divided by average total assets.
Tangibility	Net PP&E divided by total assets.
IntCov	Interest coverage ratio, which is measured by the ratio of operating income after depreciation (before interest) to interest expenses.
Log IntCov	The natural log of one plus *IntCov.*
O-Score	Ohlson's (1980) O-score, where a larger *O-Score* implies higher default risk O-score = –1.32 – 0.407 × log(total assets) + 6.03 × (total liabilities/total assets) – 1.43 × (working capital/total assets) + 0.076 × (current liabilities/current assets) – 1.72 × (1 if total liabilities > total assets, 0 otherwise) – 2.37 × (net income/total assets) – 1.83 × (operating income before depreciation/total liabilities) + 0.285 × (1 if net income is negative for the last two years, 0 otherwise) – 0.521 × ((net income$_t$ – net income$_{t-1}$) / (|net income$_t$| + |net income$_{t-1}$|)).
Prior	An indicator variable that equals one if the borrower had a prior loan relationship with at least one of the lead banks for the current loan deal in the past five years and zero otherwise.
AbsAccr	The absolute value of abnormal accruals obtained from the modified Jones model (Dechow et al. 1995) considering accounting conservatism (Ball and Shivakumar 2006).
IndTangibility	The industry median *Tangibility* for each year.
Macroeconomic variables	
Term Spread	Difference in the yield between 10- and two-year U.S. Treasury bonds measured one month before the loan becomes active, obtained from the Federal Reserve Board of Governors.
Credit Spread	Difference in the yield between BAA- and AAA-rated corporate bonds measured one month before the loan becomes active, obtained from the Federal Reserve Board of Governors.

Table 1: Sample Selection

	Firms	Loan facilities
Loans to public companies available in DealScan from 1997 to 2008	6,292	32,108
Less:		
Loans borrowed by companies without an identifiable Exhibit 21 in their 10K filings	(1,593)	(10,687)
Loans borrowed by companies in the financial industry	(567)	(2,851)
Non-senior debts, bridge loans, bonds, letters of credit, and other non–fund-based facilities	(82)	(1,520)
Observations missing necessary data items for tests	(1,384)	(5,962)
Total observations	2,666	11,088

Notes: This table reports the sample selection procedure for our data during the period 1997–2008.

Table 2: Descriptive Statistics

Panel A: Loan Characteristics

Variables	Mean	1st quartile	Median	3rd quartile	Std. deviation
AIS (bps)	184.980	75.000	175.000	250.000	139.152
Maturity (months)	46.873	31.000	57.000	60.000	23.057
Loan Size (millions $)	371.965	50.000	150.000	390.000	840.927
DSecu	0.542	0.000	1.000	1.000	0.498
Loan Concentration	0.340	0.163	0.322	0.478	0.210
DFinCov	0.735	0.000	1.000	1.000	0.441
DGenCov	0.740	0.000	1.000	1.000	0.439
Performance Pricing	0.569	0.000	1.000	1.000	0.495
NLenders	9.506	3.000	7.000	13.000	10.117
NPart	8.331	2.000	5.000	11.000	9.996
Term Loan	0.285	0.000	0.000	1.000	0.451

Panel B: Borrowing Firm Characteristics

Variables	Mean	1st quartile	Median	3rd quartile	Std. deviation
NSPV	10.608	0.000	0.000	4.000	57.876
Log NSPV	0.976	0.000	0.000	1.609	1.300
ForSPV	0.118	0.000	0.000	0.000	0.322
Size	6.867	5.613	6.794	8.016	1.810
Leverage	0.270	0.109	0.240	0.382	0.220
MB	1.754	1.152	1.457	1.980	1.132
Profitability	0.153	0.099	0.139	0.191	0.082
Funds	-0.012	-0.053	0.017	0.070	0.164
Tangibility	0.335	0.144	0.277	0.493	0.235
Log IntCov	1.819	1.086	1.638	2.417	1.274
O-Score	-6.882	-8.070	-6.932	-5.850	2.134
AbsAccr	0.122	0.020	0.051	0.117	1.962
Prior	0.463	0.000	0.000	1.000	0.499

Notes: This table presents the descriptive statistics of the major variables. The sample period is from 1997 to 2008 and the sample consists of 11,088 observations of loan facilities. All variables are as defined in the Appendix.

Table 3: Pearson Correlation Matrix

		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Log NSPV	A	1.00																		
Log AIS	B	**-0.11**	1.00																	
DSecu	C	**-0.10**	**0.59**	1.00																
DFinCov	D	**-0.05**	**0.20**	**0.38**	1.00															
DGenCov	E	**-0.03**	**0.17**	**0.38**	**0.82**	1.00														
Log Maturity	F	**0.04**	**0.19**	**0.24**	**0.16**	**0.18**	1.00													
Log Loan Size	G	**0.37**	**-0.49**	**-0.33**	**-0.13**	**-0.03**	**0.06**	1.00												
Log NLenders	H	**0.26**	**-0.31**	**-0.20**	**0.05**	**0.13**	**0.14**	**0.66**	1.00											
Performance Pricing	I	**-0.02**	**-0.08**	**0.12**	**0.56**	**0.60**	**0.19**	**0.11**	**0.22**	1.00										
Size	J	**0.43**	**-0.54**	**-0.42**	**-0.24**	**-0.14**	**-0.10**	**0.81**	**0.60**	**-0.02**	1									
Leverage	K	**0.09**	**0.23**	**0.14**	0.00	**0.03**	**0.12**	**0.09**	**0.14**	**-0.04**	**0.09**	1								
MB	L	**-0.04**	**-0.22**	**-0.10**	**-0.02**	**-0.02**	**-0.03**	**0.05**	0.00	0.00	-0.01	**-0.11**	1							
Profitability	M	**-0.07**	**-0.23**	**-0.10**	**0.03**	**0.02**	**0.03**	**0.06**	**0.04**	**0.08**	**-0.07**	**-0.10**	**0.53**	1						
Funds	N	0.01	**-0.15**	**-0.12**	**-0.03**	**-0.03**	**-0.04**	**0.03**	0.00	**-0.03**	**0.08**	**-0.15**	**0.08**	0.14	1					
Tangibility	O	**0.06**	**-0.05**	**-0.07**	**-0.04**	**-0.03**	**-0.04**	**0.15**	**0.09**	-0.01	**0.18**	**0.23**	**-0.12**	**0.06**	**-0.06**	1				
Log IntCov	P	**-0.03**	**-0.35**	**-0.21**	0.01	-0.00	-0.01	**0.06**	0.01	**0.10**	**-0.02**	**-0.52**	**0.40**	**0.58**	**0.13**	**-0.19**	1			
O-Score	Q	**-0.05**	**0.38**	**0.22**	0.01	0.01	-0.01	**-0.17**	**-0.10**	**-0.12**	**-0.15**	**0.56**	**-0.23**	**-0.36**	**-0.09**	**0.11**	**-0.67**	1		
AbsAcrr	R	-0.01	**0.03**	**0.02**	0.01	0.01	0.01	-0.02	-0.00	**-0.02**	-0.01	-0.01	0.00	-0.01	**0.03**	**-0.02**	-0.02	0.02	1	
Prior	S	**0.11**	**-0.16**	**-0.13**	**-0.07**	**-0.05**	**-0.05**	**0.24**	**0.22**	**0.01**	**0.25**	**0.05**	0.00	0.00	**-0.04**	**0.05**	**-0.02**	**-0.02**	-0.01	1.00

Notes: This table reports the Pearson correlation matrix for the major variables used in our empirical tests. The sample period is from 1997 to 2008. All variables are as defined in the Appendix. The correlations in boldface indicate significance at less than the 10% level in a two-tailed test.

Table 4: Number of SPVs and Loan Contracting

VARIABLES	(1) *Log AIS*	(2) *DSecu*	(3) *DFinCov*	(4) *DGenCov*
Log NSPV	0.039***	0.062***	0.096***	0.063***
	(3.84)	(3.47)	(4.74)	(2.79)
Log Maturity	0.111***	0.185***	-0.100**	-0.094
	(5.88)	(4.80)	(-2.09)	(-1.59)
Log Loan Size	-0.054***			
	(-6.39)			
Loan Concentration		1.102***	-0.050	0.466***
		(4.76)	(-0.30)	(2.89)
Log NLenders	0.003	-0.106**	0.214***	0.226***
	(0.20)	(-2.55)	(5.52)	(5.04)
Performance Pricing	-0.056***	0.441***	1.863***	2.043***
	(-3.05)	(10.17)	(27.02)	(18.17)
Term Loan	0.368***	0.405***	0.449***	0.468***
	(15.08)	(6.84)	(9.59)	(9.00)
Size	-0.217***	-0.262***	-0.254***	-0.103***
	(-11.29)	(-5.53)	(-7.55)	(-2.95)
Leverage	0.348***	0.521***	-0.088	0.051
	(5.52)	(3.71)	(-0.68)	(0.28)
MB	-0.052***	-0.035	0.006	0.027
	(-2.64)	(-1.00)	(0.16)	(0.81)
Profitability	-0.688***	-0.792**	-0.118	-0.175
	(-3.31)	(-2.51)	(-0.27)	(-0.39)
Funds	-0.317***	-0.275**	0.231	0.309*
	(-5.86)	(-1.99)	(1.09)	(1.94)
Tangibility	-0.254***	-0.330**	0.106	0.023
	(-3.96)	(-2.23)	(0.65)	(0.14)
Log IntCov	-0.114***	-0.203***	-0.041	-0.079***
	(-7.17)	(-6.94)	(-1.50)	(-3.21)
O-Score	0.024***	0.048***	0.009	0.017
	(3.59)	(2.97)	(0.75)	(1.17)
AbsAccr	0.008***	0.618***	0.217	0.508***
	(7.68)	(3.65)	(1.61)	(3.31)
Prior	-0.034	-0.100***	-0.105*	-0.097**
	(-1.48)	(-2.99)	(-1.65)	(-2.27)
Term Spread	0.086	-0.010	-0.014	-0.025
	(1.54)	(-0.18)	(-0.18)	(-0.39)
Credit Spread	0.249**	0.081	0.119	-0.204
	(2.52)	(0.85)	(1.05)	(-1.44)
Intercept	6.275***	1.410***	0.845*	-0.029
	(43.71)	(2.86)	(1.95)	(-0.07)
Loan Purpose Indicators	Included	Included	Included	Included
Year Indicators	Included	Included	Included	Included
Industry Indicators	Included	Included	Included	Included
No. of observations	11,088	11,088	11,088	11,088
Adj./Pseudo R^2	0.60	0.31	0.42	0.44

Notes: This table presents the estimated results of the effect of SPV use on loan contracting terms. Column (1) is for an OLS regression and columns (2)–(4) are for probit regressions. All variables are as defined in the Appendix. The *t*-statistics (*z*-statistics), in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 5: Number of SPVs and Loan Contracting: Effect of Foreign SPVs

VARIABLES	(1) Log AIS	(2) DSecu	(3) DFinCov	(4) DGenCov
Log NSPV	0.037***	0.046**	0.089***	0.056**
	(3.64)	(2.37)	(4.59)	(2.33)
*Log NSPV*ForSPV*	0.042*	0.107**	0.129***	0.078*
	(1.67)	(1.98)	(3.15)	(1.93)
ForSPV	-0.135*	-0.247**	-0.431***	-0.242**
	(-1.95)	(-2.10)	(-3.31)	(-2.50)
Log Maturity	0.111***	0.185***	-0.101**	-0.094
	(5.92)	(4.82)	(-2.11)	(-1.60)
Log Loan Size	-0.054***			
	(-6.65)			
Loan Concentration		1.096***	-0.057	0.462***
		(4.77)	(-0.34)	(2.89)
Log NLenders	0.004	-0.102**	0.218***	0.227***
	(0.26)	(-2.50)	(5.47)	(5.08)
Performance Pricing	-0.056***	0.442***	1.867***	2.043***
	(-3.06)	(10.00)	(26.96)	(18.15)
Term Loan	0.367***	0.403***	0.451***	0.468***
	(14.91)	(6.82)	(9.68)	(8.95)
Size	-0.215***	-0.264***	-0.251***	-0.101***
	(-11.74)	(-5.63)	(-7.42)	(-2.88)
Leverage	0.342***	0.514***	-0.105	0.043
	(5.37)	(3.71)	(-0.81)	(0.24)
MB	-0.051***	-0.034	0.006	0.027
	(-2.65)	(-0.99)	(0.18)	(0.82)
Profitability	-0.675***	-0.768**	-0.070	-0.150
	(-3.19)	(-2.42)	(-0.16)	(-0.33)
Funds	-0.316***	-0.280**	0.240	0.309*
	(-5.91)	(-2.00)	(1.13)	(1.93)
Tangibility	-0.261***	-0.335**	0.081	0.012
	(-4.12)	(-2.24)	(0.50)	(0.08)
Log IntCov	-0.115***	-0.206***	-0.045	-0.080***
	(-7.20)	(-6.96)	(-1.63)	(-3.20)
O-Score	0.025***	0.047***	0.010	0.017
	(3.72)	(2.92)	(0.77)	(1.16)
AbsAccr	0.008***	0.624***	0.229*	0.513***
	(7.57)	(3.70)	(1.72)	(3.37)
Prior	-0.034	-0.099***	-0.106	-0.098**
	(-1.48)	(-2.97)	(-1.64)	(-2.28)
Term Spread	0.087	-0.006	-0.016	-0.026
	(1.54)	(-0.10)	(-0.21)	(-0.41)
Credit Spread	0.254***	0.088	0.135	-0.196
	(2.58)	(0.93)	(1.20)	(-1.40)
Intercept	6.268***	1.423***	0.825*	-0.039
	(44.95)	(2.92)	(1.93)	(-0.09)
Loan Purpose Indicators	Included	Included	Included	Included
Year Indicators	Included	Included	Included	Included
Industry Indicators	Included	Included	Included	Included
No. of observations	11,088	11,088	11,088	11,088
Adj./Pseudo-R^2	0.60	0.31	0.42	0.44

Notes: This table presents the estimated results of the effect of SPV use conditional on whether the borrower reports any SPVs in a foreign location. Column (1) is for an OLS regression, and columns (2)–(4) are for probit regressions. All variables are as defined in the Appendix. The *t*-statistics (*z*-statistics), in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 6: Number of SPVs and Loan Contracting: Effect of Borrower Default Risk

VARIABLES	(1) Log AIS	(2) DSecu	(3) DFinCov	(4) DGenCov
Log NSPV	0.200***	0.285***	0.203***	0.093**
	(8.54)	(4.58)	(2.58)	(2.02)
*Log NSPV*O-Score*	0.023***	0.032***	0.016	0.005
	(7.31)	(3.71)	(1.40)	(0.63)
Log Maturity	0.109***	0.183***	-0.100**	-0.094
	(6.01)	(4.90)	(-2.16)	(-1.60)
Log Loan Size	-0.055***			
	(-6.46)			
Loan Concentration		1.090***	-0.056	0.463***
		(4.63)	(-0.34)	(2.87)
Log NLenders	0.004	-0.102**	0.215***	0.226***
	(0.28)	(-2.46)	(5.53)	(5.05)
Performance Pricing	-0.055***	0.447***	1.865***	2.043***
	(-3.05)	(10.21)	(27.41)	(18.18)
Term Loan	0.366***	0.404***	0.447***	0.468***
	(15.30)	(6.86)	(9.53)	(9.05)
Size	-0.216***	-0.266***	-0.254***	-0.103***
	(-11.72)	(-5.66)	(-7.54)	(-2.95)
Leverage	0.330***	0.499***	-0.108	0.045
	(5.39)	(3.80)	(-0.79)	(0.24)
MB	-0.053***	-0.037	0.005	0.027
	(-2.70)	(-1.07)	(0.14)	(0.81)
Profitability	-0.643***	-0.726**	-0.077	-0.165
	(-3.16)	(-2.32)	(-0.18)	(-0.37)
Funds	-0.310***	-0.274**	0.234	0.309*
	(-5.71)	(-1.99)	(1.11)	(1.95)
Tangibility	-0.269***	-0.347**	0.097	0.020
	(-4.22)	(-2.37)	(0.59)	(0.13)
Log IntCov	-0.114***	-0.207***	-0.042	-0.079***
	(-7.43)	(-7.10)	(-1.55)	(-3.24)
O-Score	0.010	0.025*	0.000	0.014
	(1.59)	(1.79)	(0.02)	(1.01)
AbsAccr	0.008***	0.584***	0.208	0.505***
	(8.28)	(3.53)	(1.54)	(3.25)
Prior	-0.033	-0.098***	-0.104	-0.097**
	(-1.45)	(-2.99)	(-1.64)	(-2.27)
Term Spread	0.085	-0.011	-0.014	-0.026
	(1.51)	(-0.21)	(-0.18)	(-0.40)
Credit Spread	0.251***	0.082	0.122	-0.203
	(2.62)	(0.87)	(1.08)	(-1.43)
Intercept	6.204***	1.325***	0.802*	-0.041
	(43.73)	(2.66)	(1.80)	(-0.09)
Loan Purpose Indicators	Included	Included	Included	Included
Year Indicators	Included	Included	Included	Included
Industry Indicators	Included	Included	Included	Included
No. of observations	11,088	11,088	11,088	11,088
Adj./Pseudo-R^2	0.60	0.31	0.42	0.44

Notes: This table presents the estimated results of the effect of SPV use conditional on the borrower's default risk. Column (1) is for an OLS regression and columns (2)–(4) are for probit regressions. All variables are as defined in the Appendix. The *t*-statistics (*z*-statistics), in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 7: Number of SPVs and Loan Contracting: Term Loans versus Non-Term Loans

VARIABLES	(1) Log AIS	(2) DSecu	(3) DFinCov	(4) DGenCov
Log NSPV	0.019**	0.038**	0.090***	0.051**
	(2.18)	(2.49)	(4.19)	(2.06)
*Log NSPV*Term Loan*	0.067***	0.075**	0.018	0.036
	(4.33)	(2.47)	(0.68)	(1.13)
Log Maturity	0.113***	0.187***	-0.099**	-0.093
	(5.88)	(4.83)	(-2.09)	(-1.60)
Log Loan Size	-0.057***			
	(-7.40)			
Loan Concentration		1.086***	-0.052	0.461***
		(4.73)	(-0.32)	(2.82)
Log NLenders	0.006	-0.102**	0.214***	0.227***
	(0.41)	(-2.49)	(5.52)	(5.03)
Performance Pricing	-0.055***	0.442***	1.863***	2.043***
	(-2.93)	(10.35)	(27.05)	(18.22)
Term Loan	0.300***	0.326***	0.429***	0.432***
	(14.73)	(4.50)	(6.74)	(6.96)
Size	-0.216***	-0.266***	-0.254***	-0.104***
	(-11.41)	(-5.71)	(-7.51)	(-2.94)
Leverage	0.338***	0.513***	-0.091	0.045
	(5.33)	(3.71)	(-0.70)	(0.25)
MB	-0.052***	-0.036	0.006	0.027
	(-2.66)	(-1.02)	(0.16)	(0.80)
Profitability	-0.671***	-0.779**	-0.112	-0.164
	(-3.23)	(-2.47)	(-0.26)	(-0.37)
Funds	-0.321***	-0.281**	0.230	0.306*
	(-5.89)	(-2.03)	(1.08)	(1.91)
Tangibility	-0.262***	-0.340**	0.103	0.017
	(-4.07)	(-2.30)	(0.63)	(0.11)
Log IntCov	-0.113***	-0.204***	-0.041	-0.079***
	(-7.12)	(-7.00)	(-1.50)	(-3.21)
O-Score	0.026***	0.048***	0.010	0.017
	(3.74)	(2.99)	(0.77)	(1.20)
AbsAccr	0.008***	0.616***	0.217	0.507***
	(7.76)	(3.67)	(1.61)	(3.31)
Prior	-0.031	-0.097***	-0.104	-0.096**
	(-1.37)	(-2.92)	(-1.64)	(-2.25)
Term Spread	0.086	-0.010	-0.014	-0.026
	(1.52)	(-0.18)	(-0.18)	(-0.40)
Credit Spread	0.250**	0.082	0.119	-0.205
	(2.51)	(0.85)	(1.05)	(-1.45)
Intercept	6.305***	1.462***	0.856**	-0.008
	(44.78)	(3.02)	(2.00)	(-0.02)
Loan Purpose Indicators	Included	Included	Included	Included
Year Indicators	Included	Included	Included	Included
Industry Indicators	Included	Included	Included	Included
No. of observations	11,088	11,088	11,088	11,088
Adj./Pseudo-R^2	0.60	0.31	0.42	0.44

Notes: This table presents the estimated results of the effect of SPV use conditional on whether the borrower borrows a term loan or a non-term loan. Column (1) is for an OLS regression and columns (2)–(4) are for probit regressions. All variables are as defined in the Appendix. The *t*-statistics (*z*-statistics), in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 8: Number of SPVs and Loan Syndicates

VARIABLES	(1) NLenders	(2) NDomLenders	(3) NForLenders
Log NSPV	-0.036***	-0.033***	-0.041**
	(-3.78)	(-3.42)	(-2.47)
Log Maturity	0.101***	0.138***	0.035
	(3.23)	(4.17)	(0.77)
Log Deal Size	0.395***	0.378***	0.445***
	(10.54)	(10.19)	(11.70)
Performance Pricing	0.296***	0.284***	0.369***
	(7.83)	(8.25)	(5.64)
Term Loan	0.034	0.089**	-0.150***
	(1.23)	(2.50)	(-4.60)
Size	0.050**	-0.025	0.248***
	(2.35)	(-1.09)	(9.47)
Leverage	0.258***	0.293***	0.271**
	(3.09)	(3.28)	(2.22)
MB	-0.008	-0.016	0.030
	(-0.40)	(-0.72)	(1.30)
Profitability	-0.218	-0.341	0.037
	(-0.78)	(-1.16)	(0.08)
Funds	-0.342***	-0.322**	-0.489**
	(-3.17)	(-2.51)	(-2.41)
Tangibility	-0.138**	-0.053	-0.255**
	(-2.03)	(-0.62)	(-2.06)
Log IntCov	0.007	0.014	-0.018
	(0.52)	(1.06)	(-0.69)
O-Score	-0.016	-0.019	-0.010
	(-1.61)	(-1.53)	(-0.82)
AbsAccr	0.007***	0.008***	-0.001
	(10.36)	(11.44)	(-0.18)
Prior	0.133***	0.146***	0.105***
	(3.36)	(3.24)	(2.68)
Top Lead	0.147***	0.150***	0.170***
	(4.97)	(4.42)	(3.88)
Term Spread	0.095**	0.139***	0.003
	(2.00)	(2.61)	(0.07)
Credit Spread	0.022	-0.005	0.093
	(0.23)	(-0.05)	(1.16)
Intercept	-1.560***	-1.659***	-3.861***
	(-6.58)	(-6.17)	(-9.79)
Loan Purpose Indicators	Included	Included	Included
Year Indicators	Included	Included	Included
Industry Indicators	Included	Included	Included
No. of observations	11,088	11,084	11,084
Pseudo-R^2	0.37	0.28	0.40

Notes: This table presents the estimated results of the effect of SPV use on the loan syndicate structure. Columns (1) to (3) are for Poisson regressions. All variables are as defined in the Appendix. The *z*-statistics, in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering (Petersen 2009). The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 9: Number of SPVs and Loan Contracting: Financial Reporting Reasons vs. Economic Reasons

VARIABLES	(1) Log AIS	(2) DSecu	(3) DFinCov	(4) DGenCov
Pred_Fin	0.037***	0.093***	0.037**	0.021
	(4.64)	(5.32)	(2.45)	(0.98)
Pred_Eco	-0.054***	-0.121***	-0.009	-0.035**
	(-7.09)	(-10.44)	(-0.64)	(-1.99)
Pred_Ctr	-0.026***	-0.071***	-0.003	-0.008
	(-5.57)	(-4.19)	(-0.18)	(-0.50)
Pred_Err	-0.048***	-0.153***	-0.064	-0.071**
	(-4.20)	(-5.09)	(-1.61)	(-2.07)
Log Maturity	0.089***	0.200***	-0.077	-0.065
	(6.95)	(4.73)	(-1.26)	(-0.76)
Log Loan Size	-0.065***			
	(-5.73)			
Loan Concentration		1.252***	0.409	1.106***
		(4.17)	(1.14)	(3.75)
Log NLenders	0.025	-0.056	0.181***	0.243***
	(1.21)	(-1.16)	(3.94)	(4.24)
Performance Pricing	-0.028	0.390***	1.989***	2.248***
	(-1.42)	(8.35)	(20.76)	(13.58)
Term Loan	0.342***	0.388***	0.457***	0.552***
	(14.32)	(4.73)	(7.34)	(7.18)
Size	-0.145***	-0.103	-0.187**	-0.021
	(-6.91)	(-1.29)	(-2.02)	(-0.28)
Leverage	0.617***	0.755**	-0.069	0.105
	(7.04)	(2.28)	(-0.30)	(0.59)
MB	-0.021	-0.000	0.030	0.067
	(-1.05)	(-0.01)	(0.81)	(1.49)
Profitability	-1.005***	-1.253**	-0.397	-1.064
	(-3.52)	(-2.28)	(-0.58)	(-1.60)
Funds	-0.405***	-0.670**	0.105	0.587**
	(-5.94)	(-2.16)	(0.57)	(2.45)
Tangibility	-0.552***	-0.809***	0.210	-0.094
	(-8.79)	(-3.68)	(1.07)	(-0.36)
Log IntCov	-0.112***	-0.193***	-0.059	-0.090*
	(-6.50)	(-4.94)	(-1.11)	(-1.84)
O-Score	-0.011	-0.002	-0.000	0.005
	(-0.92)	(-0.05)	(-0.01)	(0.23)
AbsAccr	0.007***	0.014	0.014***	0.568**
	(12.07)	(1.15)	(3.23)	(2.06)
Prior	-0.003	-0.055**	-0.030	-0.060
	(-0.13)	(-2.07)	(-0.44)	(-1.01)
Term Spread	0.087**	-0.023	0.127	0.133
	(2.05)	(-0.22)	(1.22)	(1.42)
Credit Spread	0.263***	-0.201*	0.050	-0.271***
	(2.71)	(-1.76)	(0.46)	(-3.31)
Intercept	5.923***	0.285	-0.385	3.970***
	(39.75)	(0.41)	(-0.58)	(4.86)
Loan Purpose Indicators	Included	Included	Included	Included
Year Indicators	Included	Included	Included	Included
Industry Indicators	Included	Included	Included	Included
No of observations	6,078	6,078	6,078	6,078
Adj./Pseudo-R^2	0.66	0.36	0.47	0.51

Notes: This table presents the estimated results of the effect of SPVs formed for different purposes on loan contracting terms. Column (1) is for an OLS regression and columns (2)–(4) are for probit regressions. All variables are as defined in the Appendix. The *t*-statistics (*z*-statistics), in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 10: Number of SPVs and Loan Contracting: SPV Firms Only

VARIABLES	(1) Log AIS	(2) DSecu	(3) DFinCov	(4) DGenCov
Log NSPV	0.062***	0.077***	0.116***	0.087***
	(4.35)	(2.73)	(4.30)	(2.77)
Log Maturity	0.145***	0.262***	-0.094**	-0.105**
	(6.54)	(5.97)	(-1.99)	(-1.99)
Log Loan Size	-0.068***			
	(-5.68)			
Loan Concentration		1.693***	0.290	0.523*
		(7.98)	(0.98)	(1.78)
Log NLenders	-0.005	-0.107***	0.275***	0.285***
	(-0.27)	(-2.96)	(7.30)	(5.77)
Performance Pricing	-0.027	0.516***	1.989***	2.400***
	(-1.29)	(10.85)	(22.40)	(20.65)
Term Loan	0.404***	0.396***	0.457***	0.605***
	(12.28)	(5.89)	(9.79)	(8.51)
Size	-0.203***	-0.209***	-0.218***	-0.107**
	(-11.47)	(-5.94)	(-7.08)	(-2.31)
Leverage	0.278***	0.815***	-0.191	-0.080
	(3.44)	(4.19)	(-0.86)	(-0.29)
MB	-0.120***	-0.188***	-0.029	0.020
	(-6.72)	(-3.75)	(-0.62)	(0.47)
Profitability	-0.183	-0.537	0.535	0.337
	(-0.66)	(-1.11)	(0.73)	(0.44)
Funds	-0.307***	-0.410*	0.298	0.319
	(-4.45)	(-1.80)	(1.31)	(1.38)
Tangibility	-0.267***	-0.488**	-0.149	-0.205
	(-2.73)	(-2.05)	(-0.62)	(-1.08)
Log IntCov	-0.158***	-0.204***	-0.066**	-0.133**
	(-8.25)	(-4.06)	(-2.12)	(-2.32)
O-Score	0.028***	0.072***	0.040	0.015
	(3.06)	(4.09)	(1.55)	(0.43)
AbsAccr	0.160**	0.494**	0.395	0.278
	(2.03)	(2.06)	(1.56)	(1.31)
Prior	-0.044**	-0.135***	-0.117*	-0.120***
	(-2.04)	(-3.42)	(-1.76)	(-3.60)
Term Spread	0.133***	0.003	-0.155	-0.089
	(2.61)	(0.04)	(-1.54)	(-0.64)
Credit Spread	0.245***	0.065	0.327***	-0.004
	(3.65)	(0.83)	(3.10)	(-0.03)
Intercept	6.071***	1.109***	0.029	-0.666
	(36.98)	(2.82)	(0.04)	(-0.74)
Loan Purpose Indicators	Included	Included	Included	Included
Year Indicators	Included	Included	Included	Included
Industry Indicators	Included	Included	Included	Included
No. of observations	5,495	5,495	5,495	5,495
Adj./Pseudo-R^2	0.63	0.34	0.47	0.53

Notes: This table presents the estimated results of the effect of SPV use on loan contracting terms, using a reduced sample of firm–years that report at least one SPV. Column (1) is for an OLS regression and columns (2)–(4) are for probit regressions. All variables are as defined in the Appendix. The *t*-statistics (*z*-statistics), in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 11: Number of SPVs and Loan Contracting: PSM

VARIABLES	(1) Log AIS	(2) DSecu	(3) DFinCov	(4) DGenCov
Log NSPV	0.030***	0.062**	0.108**	0.061
	(3.34)	(2.46)	(2.44)	(1.21)
Log Maturity	0.066***	0.337***	-0.094	-0.134
	(2.64)	(6.24)	(-1.33)	(-1.35)
Log Loan Size	-0.064**			
	(-2.31)			
Loan Concentration		1.503***	0.627	1.486***
		(6.20)	(1.64)	(3.23)
Log NLenders	0.004	-0.207***	0.105	0.104
	(0.21)	(-4.05)	(1.57)	(1.49)
Performance Pricing	-0.009	0.394***	2.332***	2.818***
	(-0.24)	(5.05)	(20.36)	(21.05)
Term Loan	0.470***	0.523***	0.697***	0.879***
	(12.78)	(3.42)	(5.30)	(5.79)
Size	-0.224***	-0.239***	-0.174***	0.036
	(-8.34)	(-4.09)	(-3.10)	(0.55)
Leverage	0.624***	0.918***	-0.221	-0.295
	(5.64)	(2.88)	(-0.69)	(-1.26)
MB	-0.064**	-0.109	0.049	0.075**
	(-2.20)	(-1.55)	(1.53)	(2.12)
Profitability	-0.624	-1.070*	1.224	0.128
	(-1.61)	(-1.65)	(1.08)	(0.14)
Funds	-0.295***	-0.769*	-0.075	0.079
	(-3.84)	(-1.78)	(-0.26)	(0.36)
Tangibility	-0.309***	-0.632***	0.048	-0.134
	(-2.77)	(-2.80)	(0.20)	(-0.63)
Log IntCov	-0.136***	-0.210***	-0.143**	-0.131**
	(-10.94)	(-5.37)	(-2.03)	(-2.29)
O-Score	0.002	0.033	-0.001	0.024
	(0.22)	(1.17)	(-0.04)	(0.61)
AbsAccr	0.003***	0.313	0.206	0.478
	(4.05)	(1.28)	(0.60)	(1.55)
Prior	-0.029	0.007	0.045	-0.167***
	(-1.19)	(0.21)	(0.60)	(-2.77)
Term Spread	0.067	-0.223**	0.352***	0.230
	(0.98)	(-2.11)	(3.24)	(1.60)
Credit Spread	0.311**	-0.062	-0.079	-0.365***
	(2.19)	(-0.38)	(-0.46)	(-2.88)
Intercept	6.039***	3.833***	2.223***	0.477
	(32.92)	(5.83)	(2.96)	(0.51)
Loan Purpose Indicators	Included	Included	Included	Included
Year Indicators	Included	Included	Included	Included
Industry Indicators	Included	Included	Included	Included
No. of observations	4,318	4,318	4,318	4,318
Adj./Pseudo-R^2	0.68	0.37	0.53	0.61

Notes: This table presents the estimated results of the effect of SPV use on loan contracting terms, using the PSM sample of borrowers with SPVs and those without SPVs. Column (1) is for an OLS regression and columns (2)–(4) are for probit regressions. All variables are as defined in the Appendix. The *t*-statistics (*z*-statistics), in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 12: Within-Firm Analysis

VARIABLES	(1) Log AIS	(2) DSecu	(3) DFinCov	(4) DGenCov
AfterSPV	0.076***	0.204**	-0.181	-0.116
	(2.64)	(2.16)	(-1.29)	(-0.97)
Log Maturity	0.082***	0.206***	-0.150*	-0.194
	(3.29)	(2.74)	(-1.75)	(-1.51)
Log Loan Size	-0.066***			
	(-2.85)			
Loan Concentration		0.274	0.202	0.270
		(0.68)	(0.51)	(0.65)
Log NLenders	-0.006	0.020	0.447***	0.381***
	(-0.27)	(0.27)	(5.04)	(3.86)
Performance Pricing	-0.042	0.521***	2.041***	2.560***
	(-1.43)	(5.67)	(13.06)	(12.62)
Term Loan	0.374***	0.570***	0.437***	0.517***
	(8.94)	(9.59)	(4.08)	(4.18)
Size	-0.201***	-0.399***	-0.314***	-0.222***
	(-10.28)	(-6.58)	(-4.76)	(-3.33)
Leverage	0.250*	-0.433	-0.955***	-0.219
	(1.73)	(-0.83)	(-3.30)	(-0.50)
MB	-0.094***	-0.059	0.001	-0.029
	(-4.60)	(-1.10)	(0.02)	(-0.38)
Profitability	-0.190	0.210	1.187	0.454
	(-0.31)	(0.23)	(1.12)	(0.30)
Funds	-0.439***	-0.203	0.812***	0.762***
	(-3.86)	(-0.76)	(3.00)	(2.98)
Tangibility	-0.533***	-1.177***	0.094	-0.085
	(-4.84)	(-2.93)	(0.33)	(-0.24)
Log IntCov	-0.173***	-0.332***	-0.125	-0.034
	(-4.52)	(-3.89)	(-1.43)	(-0.34)
O-Score	0.037**	0.134***	0.084*	0.132***
	(2.51)	(2.59)	(1.85)	(3.35)
AbsAccr	0.285***	0.153	0.070	-0.141
	(2.98)	(0.44)	(0.18)	(-0.41)
Prior	-0.059*	-0.161*	0.033	-0.047
	(-1.88)	(-1.87)	(0.26)	(-0.61)
Term Spread	0.067	0.118	-0.113	-0.062
	(1.01)	(0.88)	(-0.82)	(-0.40)
Credit Spread	-0.057	-0.040	-0.184	-0.545
	(-0.56)	(-0.08)	(-0.48)	(-1.33)
Intercept	6.258***	3.527***	0.410	1.923**
	(21.28)	(4.90)	(0.51)	(1.98)
Loan Purpose Indicators	Included	Included	Included	Included
Year Indicators	Included	Included	Included	Included
Industry Indicators	Included	Included	Included	Included
No. of observations	2,343	2,343	2,343	2,343
Adj./Pseudo-R^2	0.67	0.43	0.52	0.60

Notes: This table presents the estimated results of within-firm analysis using a sample of loan facilities borrowed by SPV firms around their first-time filing of SPVs in a 10-K. The test variable *AfterSPV* is an indicator variable that equals one when the loan facility is initiated after the borrower starts using SPVs and zero otherwise. Column (1) is for an OLS regression and columns (2)–(4) are for probit regressions. All variables are as defined in the Appendix. The *t*-statistics (*z*-statistics), in parentheses, are based on standard errors corrected for heteroscedasticity and firm- and year-level (two-dimensional) clustering. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.

Table 13: Joint Determination of Loan Contracting Terms: IV Estimation

VARIABLES	(1) Log AIS	(2) DSecu	(3) DFinCov
Log NSPV	0.018**	0.059***	0.092***
	(2.16)	(2.94)	(4.38)
DSecu	1.020***		
	(10.91)		
DFinCov	0.121		
	(1.61)		
Log AvgAIS	0.562***		
	(3.32)		
IndTangibility		0.252	
		(0.75)	
Top Lead			-0.169***
			(-3.27)
Other controls	As in previous tables	As in previous tables	As in previous tables
Test of endogeneity:			
Robust regression F-statistic	29.81		
p-value	0.00		
Test of weak instruments:			
Minimum eigenvalue statistic	182.48		
Critical value (5% relative bias)	11.04		
Test of overidentifying restrictions:			
Basmann's (1960) χ^2	4.36		
p-value	0.11		
ρ		0.552	
Wald test of ρ=0:		χ^2=326.23, p=0.00	

Notes: This table presents the estimated results of a system of equations using the IV approach to jointly estimate the effect of SPV use on loan spreads (*Log AIS*), collateral requirements (*DSecu*), and maturity (*Log Maturity*). Column (1) is for a 2SLS regression and columns (2) and (3) are for bivariate probit regressions. The instrument for *Log AIS* is the average loan spread of loans initiated in the past six months (*Log AvgAIS*), the instrument for *DSecu* is the industry median asset tangibility (*IndTangibility*), and the instrument for *DFinCov* is the reputation of lead banks (*Top Lead*). The other control variables are the same as in the previous tables. The *t*-statistics (*z*-statistics) in columns (1) to (3) are based on standard errors corrected for heteroscedasticity and firm-level clustering (Petersen 2009). The null hypothesis of the test of endogeneity is that *DSecu* and *DFinCov* are exogenous. The rejection of the null hypothesis confirms that *DSecu* and *DFinCov* are endogenous. The robust regression *F*-statistic is used for the test of endogeneity. The null hypothesis of the test of weak instruments is that the instruments are only weakly correlated with the endogenous regressors, that is, *DSecu* and *DFinCov*. The minimum eigen-value statistic (Cragg and Donald 1993) is used for the test of weak instruments. The null hypothesis of weak instruments is rejected when the minimum eigenvalue statistic is larger than the critical value reported by Stock and Yogo (2005). The model in column (1) is overidentified, since the number of instruments exceeds the number of endogenous regressors. The null hypothesis of the tests of overidentifying restrictions is that the instruments are uncorrelated with the error term and that the model is correctly specified. The rejection of the null hypothesis implies that the instruments are not valid or the model is misspecified. Basmann's (1960) χ^2 test is used for the test of overidentification restrictions. ρ measures the correlation between the residuals of the two probit models. An insignificant ρ implies that the two models are independent from each other. All other variables are as defined in the Appendix. The superscripts *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively, in a two-tailed test.