

Online Appendix

The Total Costs of Corporate Borrowing in the Loan Market:

Don't Ignore the Fees

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Online Appendix A: Lender fixed effects

Online Appendix Table A.1 reports five panels corresponding to Appendix Tables 1 to 5 that further include lender fixed effects. The overall results are not sensitive to the inclusion of lender fixed effects. For example, in Panel 1, we report the results from Appendix Table 1 (Usage of credit lines and economic performance) and add lender fixed effects. Adding lender fixed effects does not significantly change the coefficient on the equity return and change in profitability variable. Furthermore, the increase in the Adjusted R^2 is small, suggesting that lender effects are of little importance in explaining cross sectional variation in credit line usage rates.

[Online Appendix Table A.I]

Similarly, including lender fixed effects in our analysis for the option to draw (Panel 2, relating to Appendix Table 2), performance pricing (Panel 3, relating to Appendix Table 3), and the competitive bid option (Panel 4, relating to Appendix Table 4) does not affect our results either. Adding lender fixed effects to the analysis on credit line usage rates and pricing structure decreases statistical significance on the AISU/AISD-ratio, while results on the utilization fee are unchanged (Panel 5, relating to Appendix Table 5).

Online Appendix Table A.I: Lender Fixed Effects

This table provides a robustness test for Appendix Table 1 – Appendix Table 5 using lender fixed effects. We report results for the two key columns of each Appendix Table (for example, column (2) and (4) of Appendix Table 1), both as reported in the Appendix Tables, with Lender fixed effects. Lender refers to the lead arranger, if there are several lead arrangers we use the lead arranger with the largest share in the syndicated loan. Sample, variables definitions, and clustering is done exactly as in the respective Appendix Table. ***, **, * denote significance at the 1, 5 and 10 % level, respectively.

Panel 1: Robustness test for Appendix Table 1

Column in Appendix Table 1	(2)	(2)	(4)	(4)
	Usage	Lender FEs Usage	Usage	Lender FEs Usage
Equity Return	-0.066*** (-6.67)	-0.062*** (-5.89)		
Change in Profitability			-0.168*** (-2.69)	-0.171*** (-2.80)
Fixed effects as in paper	Yes	Yes	Yes	Yes
Lender fixed effects	No	Yes	No	Yes
Adj. R2	19.38%	22.14%	18.34%	21.31%
Obs	4,988	4,988	6,178	6,178

Panel 2: Robustness test for Appendix Table 2

Column in Appendix Table 2	(2)	(2)	(5)	(5)
	Upfront Fee	Lender FEs Upfront Fee	AISU	Lender FEs AISU
Equity Volatility	0.359*** (6.15)	0.306*** (4.83)	0.132*** (11.92)	0.130*** (11.28)
Fixed effects as in paper	Yes	Yes	Yes	Yes
Lender fixed effects	No	Yes	No	Yes
Adj. R2	35.87%	42.06%	58.55%	61.17%
Obs	2,274	2,274	12,063	12,063

Panel 3: Robustness test for Appendix Table 3

Column in Appendix Table 3	(3)	(3)	(6)	(6)
	Upfront Fee	Lender FEs Upfront Fee	AISU	Lender FEs AISU
Equity Volatility	0.340*** (4.49)	0.289*** (3.40)	0.096*** (7.87)	0.096*** (7.50)
PP - continuous measure	-0.064*** (-3.79)	-0.081*** (-3.91)	-0.086*** (-22.70)	-0.086*** (-22.11)
Fixed effects as in paper	Yes	Yes	Yes	Yes
Lender fixed effects	No	Yes	No	Yes
Adj. R2	42.63%	49.24%	64.53%	66.62%
Obs	1,319	1,319	6,846	6,846

Panel 4: Robustness test for Appendix Table 4

Column in Appendix Table 4	(2)	(2)	(5)	(5)
		Lender FEs		Lender FEs
	Facility fee	Facility fee	Facility fee	Facility fee
CBO (0/1)	0.250*** (20.49)	0.242*** (19.76)	-0.212*** (-17.81)	-0.206*** (-17.32)
Fixed effects as in paper	Yes	Yes	Yes	Yes
Lender fixed effects	No	Yes	No	Yes
Adj. R2	46.35%	48.53%	50.00%	51.30%
Obs	16,329	16,329	16,329	16,329

Panel 5: Robustness test for Appendix Table 5

Column in Appendix Table 5	(2)	(2)	(5)	(5)
		Lender FEs		Lender FEs
	Usage	Usage	Usage	Usage
AISU/AISD-ratio	0.128* (1.68)	0.083 (1.05)		
UTF==0 x AISU/AISD-ratio			0.144* (1.83)	0.100 (1.22)
UTF==1 x AISU/AISD-ratio			0.033 (0.18)	0.014 (0.07)
UTF (0/1)			0.050 (1.12)	0.038 (0.82)
UTF			-0.002*** (-2.79)	-0.002*** (-2.72)
Fixed effects as in paper	Yes	Yes	Yes	Yes
Lender fixed effects	No	Yes	No	Yes
Adj. R2	17.58%	20.39%	17.67%	20.48%
Obs	6,099	6,099	6,099	6,099

Online Appendix B: Cancellation fees for term loans and the option to terminate

Most corporate loan contracts allow the borrower to terminate the loan contract before maturity. The option to terminate is particularly relevant for term loans. For credit lines, borrowers do not have to terminate the loan contract to avoid having to pay the full spread. Instead, borrowers can simply choose not to draw down the credit line.¹ Firms should be more likely to terminate a term loan contract when spot market spreads fall. Terminations or renegotiations of term loan contracts before maturity is widespread. For example, Roberts and Sufi (2009) report an unconditional likelihood of renegotiation of 9.1% per quarter, of which 4.2% are early terminations.

The cancellation fee is akin to a strike price (and not to the price of the cancellation option) as it only needs to be paid if the borrower exercises the cancellation option. As an example, let us assume that a borrower has a term loan with 1 year maturity remaining, a contractual spread of 100 bps and a cancellation fee of 30 bps. The option to cancel is in-the-money if the borrower's spot market spread decreases below 70 bps. If, however, the cancellation fee would be 60 bps, the borrower's spot market spread would need to decline below 40 bps to be in-the-money. Thus, there is a trade-off between the strike price and the price of the option: A borrower with a large creditworthiness-volatility will either have to pay a higher upfront fee as a compensation for the cancellation option or will have to accept a higher strike price (i.e., cancellation fee). We thus formulate the following hypothesis:

Appendix Hypothesis 1 (term loans): Upfront fees or cancellation fees are an increasing function of the volatility of the borrowers' credit worthiness volatility.

¹ Consistent with this economic rationale, we find that cancellation fees are more frequently used for term loans (11%) than for credit lines (4%), see also Figure 2 in the main paper.

As for Hypothesis 2 in the main paper, we use the realized volatility of the borrower's equity return over the year prior to the loan origination date as a proxy for the volatility of the borrower's loan spot market spread. We split the sample of term loans into subsamples of investment grade (IG), non-investment-grade (non IG) and unrated firms. For each of these subsamples we sort all term loans into quintiles based on the firm's equity volatility. We then analyze the existence and magnitude of upfront and cancellation fees across these quintiles in Online Appendix Table B.1.

[Online Appendix Table B.I]

Panel A reports results for the upfront fee. There is some evidence that the upfront fee increases with equity volatility, but the results are only significant for the non-investment grade sample. Panel B reports results for the cancellation fee. We set the cancellation fee equal to zero for contracts without a cancellation fee. We find that cancellation fees are higher for borrowers with a higher equity volatility and the results are economically and statistically significant at the 1% level for non-investment grade borrowers (31 bps, $p < 0.01$), non-rated borrowers (22 bps, $p < 0.01$) and for the total sample (24 bps, $p < 0.01$). In Panel C, we replicate Panel B and restrict the sample to observations with non-missing upfront fees to make sure that differences between Panel A (upfront fee) and Panel B (cancellation fee) are not driven by differences in the samples. Results from Panel B are confirmed. Panel D and E show that the results are driven both by high-volatility borrowers being more likely to have a cancellation fee in the contract (extensive margin) as well as high-volatility borrowers having higher cancellation fees conditional on the existence of a cancellation fee (intensive margin). Finally, we estimate multivariate regressions

with loan and borrower characteristics as well as rating notch, year, loan purpose, loan type and one-digit SIC code fixed effects. The results are presented in Panel F and confirm the univariate results.

Overall, we conclude that high-volatility borrowers have term loans with higher cancellation fees (strike price). There is also some evidence, in particular for non-investment grade borrowers, that high-volatility borrowers have to pay higher upfront fees (price of the option). We leave a more detailed analysis as to the rationale of this design choice to further research.

**Online Appendix Table B.I: Upfront and cancellation fee
as a compensation for the option to terminate (term loans)**

This table shows the upfront fee and the cancellation fee by quintile of the borrower's equity volatility as well as multivariate results regressing upfront and cancellation fees on the borrower's equity volatility and control variables. Panel A provides results for the upfront fee. Panel B provides results for the cancellation fee, with the cancellation fee being set to zero for contracts without cancellation fee. Panel C provides the same analysis as in Panel B, but restricted to loans with non-missing data on the upfront fee (i.e., same sample as in Panel A). Panel D provides results for a dummy that is equal to one if the cancellation fee exists (extensive margin), while Panel E provides results for the magnitude of the cancellation fee for the sample with existing cancellation fee (intensive margin). Panel F provides multivariate results. The sample is based on term loans in the U.S. syndicated loan market from 1986 to 2011. Variables are defined in Appendix A in the main paper.

Panel A: Upfront fee

Quintile	IG	Non-IG	Not rated	Total
1 (Lowest volatility)	87.54	61.75	73.85	71.30
2	89.86	71.73	60.36	67.36
3	56.67	67.92	78.36	72.49
4	49.73	76.39	74.02	72.22
5 (Highest volatility)	87.58	81.90	79.40	81.13
Q5 – Q1	0.04	20.14*	5.55	9.84
t-stat	(0.00)	(1.74)	(0.60)	(1.42)

Panel B: Cancellation fee

Quintile	IG	Non-IG	Not rated	Total
1 (Lowest volatility)	6.19	8.13	8.52	8.13
2	5.31	13.02	12.35	11.82
3	3.54	19.83	9.80	12.63
4	9.38	22.94	22.61	21.30
5 (Highest volatility)	15.32	39.23	30.38	31.86
Q5 – Q1	9.12	31.10***	21.87***	23.72***
t-stat	(1.54)	(5.96)	(5.55)	(8.21)

Panel C: Cancellation fee – Observations with non-missing upfront fee

Quintile	IG	Non-IG	Not rated	Total
1 (Lowest volatility)	15.63	15.65	11.36	13.30
2	10.34	31.96	21.27	23.84
3	20.00	26.32	19.51	21.87
4	6.67	32.42	25.86	26.05
5 (Highest volatility)	28.33	47.92	43.18	43.21
Q5 – Q1	12.71	32.27***	31.82***	29.92***
t-stat	(0.75)	(2.75)	(3.78)	(4.69)

Panel D: Cancellation fee – Existence (0/1)

Quintile	IG	Non-IG	Not rated	Total
1 (Lowest volatility)	4.42%	7.99%	6.04%	6.54%
2	3.54%	9.92%	7.79%	8.07%
3	2.65%	15.43%	6.43%	9.17%
4	5.36%	14.84%	11.19%	11.84%
5 (Highest volatility)	9.01%	20.50%	14.77%	16.15%
Q5 – Q1	4.58%	12.51%***	8.73%***	9.61%***
t-stat	(1.37)	(4.89)	(4.84)	(6.98)

Panel E: Cancellation fee – Magnitude if cancellation fee exists

Quintile	IG	Non-IG	Not rated	Total
1 (Lowest volatility)	133.33	121.04	148.96	135.17
2	150.00	128.50	156.49	143.17
3	190.00	141.18	182.17	163.35
4	191.67	165.56	216.38	191.49
5 (Highest volatility)	130.00	195.92	201.73	195.66
Q5 – Q1	-3.33	74.88***	52.77***	60.49***
t-stat	(-0.07)	(3.76)	(2.70)	(4.49)

Panel F: Cancellation fee – Multivariate results

	Panel D.1: Upfront fee		Panel D.2: Cancellation fee	
	(1) Term loans	(2) Term loans	(3) Term loans	(4) Term loans
	Upfront fee	Upfront fee	AISU	AISU
Equity Volatility	0.343** (2.55)	0.330*** (2.64)	0.399*** (6.45)	0.366*** (5.14)
Rating fixed effects	Yes	Yes	Yes	Yes
Loan characteristics	No	Yes	No	Yes
Borrower characteristics	No	Yes	No	Yes
Year fixed effects	No	Yes	No	Yes
Loan purpose fixed effects	No	Yes	No	Yes
Loan type fixed effects	No	Yes	No	Yes
One digit SIC code fixed effects	No	Yes	No	Yes
Adj. R ²	25.30%	33.72%	4.21%	8.12%
Observations	1,402	1,216	5,189	4,495

Online Appendix C: Structure and quality of fee information in Dealscan

In this section, we provide information about the quality and structure of fee information in Dealscan. Online Appendix C.1 provides information about the structure of fee information in Dealscan. Online Appendix C.2 provides information about the quality of fee information in Dealscan.

C.1. The structure of fee information in Dealscan

When working with fee information in Dealscan, it is crucial to understand the hierarchy of fees in Dealscan, what we label the "Dealscan Fee Equations". We provide a description of these fee equations that shows how AISD, AISU, and fees in Dealscan are calculated. Looking at Online Appendix Table C.1, we observe the following:

- Dealscan reports the All-In-Spread-Drawn (AISD) as the sum of the spread and the annual regular facility fee. The upfront fee is not included in the AISD.
- Dealscan reports the All-In-Spread-Undrawn (AISU) as the sum of the commitment fee and the annual regular facility fee. The upfront fee is not included in the AISU either.
- Fees in Dealscan cannot simply be added up because some of the fee types reported in Dealscan are subpositions of other fee types.
- Dealscan does not include so-called "special facility fees" but only "regular facility fees" in its own aggregate measures (AISD, AISU) and we will follow this procedure for our TCB measure as well.²

[Online Appendix Table C.I]

² Special facility fees are additional fees that, for example, are charged if a draw-down occurs in a different currency or extra fees that are charged by the lead arranger. While Dealscan includes these fees when, for example, calculating the total annual or facility fee, it does not include them when determining AISD.

C.2. The quality of fee information in Dealscan

In this subsection, we compare Dealscan fee information with fee information from a randomly chosen hand-collected SEC sample of 1,000 loan facilities. Results are presented in Online Appendix Table C.2.

[Online Appendix Table C.II]

Panel A reports, for each fee type, whether the SEC reported loan contract allowed us to compare fee information in the contract with fee information in Dealscan. Some contracts filed with the SEC refer the reader to a separate, non-public, appendix for all or some of the fee information. In these cases, a comparison with Dealscan is not possible. For those contracts where a comparison of fee information from SEC reported loan contracts with Dealscan is possible, we report the number and percentage of contracts where Dealscan is correct. For the commitment fee, the facility fee, the utilization fee, and the cancellation fee, information is usually available in the SEC reported loan contracts and Dealscan correctly reports the fee information in more than 90% of all cases. Thus, we conclude that Dealscan is generally a reliable source for these fee types.

For the upfront fee, contracts refer to a separate non-public document such as a fee letter in 774 out of 1,000 cases (77.4%). In the remaining 226 cases (128 without upfront fee, 98 with upfront fee), Dealscan correctly reports the upfront fee in 186 (82.3%) of the cases. The 40 (17.7%) cases where Dealscan fails to correctly report the upfront fee are mainly due to Dealscan not reporting an upfront fee even though the contract contains an upfront fee (33 out of the 40 "wrong" cases).

Panel B reports results of a linear regression of an error dummy for various fee types on deal characteristics, borrower characteristics and other control variables. The error dummy is equal to one for a syndicated loan facility if Dealscan incorrectly reports the respective fee type (existence or magnitude), it is equal to zero if Dealscan correctly reports the respective fee type and it is missing if a comparison was not possible based on publicly available data in the syndicated loan contracts filed with the SEC. None of the coefficients are significant at the 1% level, however, in some of the regressions, up to a third of the coefficients are significant at the 10% level (e.g., for the utilization fee). However, two features support the use of Dealscan for fee information: First, none of the right-hand side variables is consistently correlated with the error dummy across all fee types. For example, for highly rated firms, there are fewer errors for the facility fee, but more errors for the cancellation fee (both relative to the reference category of unrated firms). Second, apart from the upfront fee, any systematic error only refers to the few cases where Dealscan does not correctly report fees. We will thus discuss upfront fees in more detail in the following paragraphs:

1. First, we compare firms in the SEC sample that pay upfront fees according to the SEC loan contracts (872 firms) and those that don't (128 firms), see Panel C.
2. Second, for the 872 firms that pay upfront fees, we compare those where the SEC filings provide the magnitude of the upfront fee (98 firms) to those firms where the SEC filings only refer to a separate non-public document such as a fee letter (774 firms), see Panel D.1.
3. Third, for the 872 firms that pay upfront fees, we compare the firms where Dealscan reports upfront fees (226 firms) versus those where Dealscan does not report upfront fees (646 firms), see Panel D.2.

4. Fourth, we replicate No. 2 and No. 3 separately for term loans and credit lines, see Panel E and F.
5. Fifth, we replicate the descriptive statistics for the sample with Dealscan upfront fee information (Panel G).

As to No. 1, we observe that firms that do not pay an upfront fee according to the SEC loan contracts are low-risk firms (higher proportion of investment-grade borrowers, lower spreads, higher coverage ratios). One possible explanation for this fact is that when a firm is riskier lenders want to get paid more upfront. As a consequence, in the paper, we have split all our hypothesis tests by rating category (investment grade, non-investment grade, non rated) to make sure that our results are not driven by this differential treatment of upfront fees.

As to No. 2 and No. 3, we first find that borrower characteristics for upfront fee payers according to the Dealscan database do not differ significantly (at the 1% level) from non-payers in the Dealscan database. However, we do observe differences in spreads and fees (in particular, upfront fee payers according to Dealscan have slightly lower spreads) and loan characteristics (in particular, upfront fee payers according to Dealscan have slightly lower maturities), see Panel D.2. Second, we find that the selection bias is significantly larger in the SEC filings: Borrowers reporting the specific magnitude of upfront fees in the SEC filings (as opposed to firms referring to a non-public document such as a fee letter) are significantly biased towards small, single-lender loans, see Panel D.1. As to No. 4, we do not observe any major differences in the reliability of Dealscan upfront fee information for credit lines and term loans.

Finally, as to No. 5, the replication of Table I from the main paper provides results in line with the observations from No. 1-4: Descriptive statistics for the sample with Dealscan upfront

fee information are similar to the descriptive statistics for the overall sample, with any differences reflecting the differences discussed in No. 1-4.

Overall, missing data on fees in Dealscan could be for one or more of the following reasons: First, the term is not present in the contract. Second, the firm is privately held³ or the fee is part of a side-agreement not available in the loan contract filed with the SEC, and so the data is gathered from contacts on loan desks. Third, the observation is a renegotiation and the fee is unchanged from the original contract. Our results suggest that for public firms that need to file contracts with the SEC, and for fees other than the upfront fee, missing fees almost always indicate that this fee is not present in the loan contract. For upfront fees, however, and possibly also for privately held firms, the second reason seems to be of major importance. This in turn gives rise to possibly non-idiosyncratic variation in the availability of fee information both in Dealscan as well as in the SEC reported loan contracts.

To sum up our analyses regarding upfront fees: Any researcher who looks at pricing information in the syndicated loan market has to make one out of three choices as to the use of upfront fee information: Either ignore upfront fee information (which carries the implicit assumption that upfront fees are all equal to zero), use upfront fee information directly from the syndicated loan contracts (which seem to be biased towards smaller, single-lender loans) or rely on the Dealscan database (which means relying in part on the non-public sources from which Dealscan receives upfront fee information).

³ Most privately held firms do not need to report to the SEC.

**Online Appendix Table C.I: The structure of fee information in Dealscan
("Dealscan fee equations")**

This table depicts the relation between different fee types in the Dealscan database. Column *Eqn* shows the number of the equation. Column *Variable* and *Subpositions* show the variables and the respective subpositions. The columns *N*, *Mean*, *Median* and *Stddev* provide descriptive statistics for the non-winsorized variables and the subpositions. The column *Equation holds* shows the number and percentage where, based on Dealscan data, the variable is equal to the sum of its subpositions. The column *Excess* provides the number and percentage of observations where the variable is missing although at least one of the subpositions is available. Equations (1), (4), and (5) are based on the sample of credit lines and term loans in the U.S. syndicated loan market from 1986 to 2011. Equations (2) and (3) are based on the sample of credit lines in the U.S. syndicated loan market from 1986 to 2011. Variables are defined in Appendix A in the main paper.

Eqn	Variable	Subposition	N	Mean	Media n	Std. Dev.	Equation holds	Excess
(1)	AISD =		32,343	194.98	175.00	136.06	32,274	72
		Spread	32,343	191.14	175.00	137.74	(99.79%)	(0.22%)
	+ Annual regular fee		7,338	17.01	12.50	15.99		
(2)	AISU =		21,908	31.64	25.00	20.60	21,893	99
	Commitment regular fee		15,620	37.21	37.50	19.22	(99.93%)	(0.45%)
	+ Annual regular fee		7,025	16.36	12.50	13.94		
(3)	Commitment fee =		15,582	37.21	37.50	19.13	15,568	47
	Commitment regular fee		15,620	37.21	37.50	19.22	(99.91%)	(0.30%)
	+ Commitment special fee		6	24.99	6.88	37.51		
	+ Commitment advisory fee		2	21.88	21.88	22.10		
(4)	Annual fee ¹ =		8,122	16.35	12.50	17.19	8,094	51
	Annual regular fee		7,338	17.02	12.50	15.99	(99.66%)	(0.63%)
	+ Annual special A fee		905	9.23	5.88	23.32		
	+ Annual special B fee		21	5.70	3.85	4.60		
	+ Annual Advisory fee		3	16.44	8.51	18.43		
(5)	Upfront fee		7,661	65.52	40.00	85.15	7,635	154
	Upfront regular fee		7,721	63.57	37.50	83.70	(99.66%)	(2.01%)
	+ Upfront special A fee		280	33.62	14.06	51.17		
	+ Upfront special B fee		32	16.45	5.51	22.10		
	+ Upfront advisory fee		19	128.63	100.00	152.19		

¹ In Dealscan, the facility fee is usually labeled "Annual fee". In this table, we use the exact wording from Dealscan. In the remaining part of the paper, we use the wording "facility fee" as it is usually referred to in the credit agreements.

Online Appendix Table C.II: The quality of fee information in Dealscan

This table compares fee data from syndicated loan contracts obtained from SEC filings with fee data in the Dealscan database. Panel A provides an overview of the reliability of Dealscan for all fee types. Panel B provides a multivariate regression of an error dummy (equal to 1 if Dealscan incorrectly reports a specific fee type) on deal characteristics, borrower characteristics and other control variables. Panel C compares firms in the SEC sample that pay upfront fees according to the contracts filed with the SEC (872 firms) and those that don't (128 firms). Columns (1)-(3) in Panel D compare – for the 872 firms that pay upfront fees – the firms where the SEC filings provide the magnitude of the upfront fee to those firms where the SEC filings only refer to a separate non-public document such as a fee letter. Column (4)-(6) in Panel C compare – for the 872 firms that pay upfront fees – the firms where Dealscan reports upfront fees versus those firm where Dealscan does not report upfront fees. Panel E and Panel F replicate Panel D separately for credit lines (Panel E) and term loans (Panel F). Panel G provides descriptive statistics for the sample with Dealscan upfront fee information.

Panel A: Reliability of Dealscan – All fee types

	N	Comparison not possible ^{a)}	Comparison possible	Dealscan correct	Dealscan wrong ^{b)}
Commitment Fee	1,000	10	990	934 (94.34%)	56 (5.66%)
Facility Fee	1,000	16	984	967 (98.27%)	17 (1.73%)
Utilization Fee	1,000	9	991	977 (98.59%)	14 (1.41%)
Cancellation Fee	1,000	1	999	984 (98.50%)	15 (1.50%)
Upfront fee	1,000	774	226 ^{c)}	185 (82.00%)	41 (18.00%)

a) Contracts where a comparison between Dealscan and the hand-collected sample was not possible. These contracts usually refer to a separate non-public appendix for (part of) the fee information. The reference to a separate non-public appendix is in particular common for upfront fees that are frequently specified in a separate fee letter.

b) We classify Dealscan as being wrong if i) Dealscan does not report a fee even though the contract contains a fee, ii) Dealscan reports a fee even though the contract does not contain a fee (very few cases), iii) Dealscan reports the wrong magnitude.

c) 128 contracts without any indication for an upfront fee, 98 contracts where the magnitude of the upfront fee is available in the contract.

Panel B: Errors in the Dealscan database: Are there systematic effects?

This Panel provides results of a linear regression of error dummird on deal characteristics, borrower characteristics and other control variables. The error dummy is equal to one for a syndicated loan facility if Dealscan incorrectly reports the respective fee type (existence or magnitude), it is equal to zero if Dealscan correctly reports the respective fee type and it is missing if a comparison was not possible based on publicly available data in the syndicated loan contracts. We report *t*-values based on standard errors clustered at the borrowing firm in parentheses. ***, **, * denote significance at the 1, 5 and 10 % level, respectively.

Variable	(1) Error dummy Commit- ment Fee	(2) Error dummy Facility Fee	(3) Error dummy Utilization Fee	(4) Error dummy Cancellati on Fee	(5) Error dummy Upfront Fee
Deal characteristics					
Log(Facility Amount)	-0.019 (-1.55)	0.005 (0.68)	0.004 (1.04)	-0.019** (-2.35)	-0.072** (-2.27)
Log(Maturity)	-0.022 (-1.03)	-0.008 (-0.72)	-0.010 (-0.65)	0.009 (0.65)	-0.152** (-2.37)
Secured (0/1)	-0.003 (-0.12)	-0.017 (-0.96)	-0.021* (-1.96)	0.014 (1.04)	-0.068 (-0.61)
Sole Lender (0/1)	-0.023 (-1.13)	0.018 (1.09)	0.005 (0.41)	-0.014 (-0.56)	-0.141 (-1.53)
Syndicate size	0.000 (0.27)	-0.000 (-0.25)	-0.001** (-2.05)	0.001 (1.26)	0.015** (2.32)
Lead size	0.012 (0.94)	0.003 (0.40)	0.021 (0.91)	0.001 (0.18)	-0.040 (-0.82)
Borrower characteristics					
Log(Total assets)	0.018 (1.47)	0.002 (0.21)	-0.002 (-0.21)	-0.000 (-0.01)	-0.077* (-1.78)
Log(1+Coverage)	0.025 (1.59)	-0.003 (-0.33)	-0.010** (-2.01)	0.006 (0.95)	-0.090** (-2.19)
Leverage	0.063 (1.53)	-0.040 (-1.26)	-0.053** (-2.19)	0.012 (0.44)	-0.367* (-1.83)
Profitability	-0.167** (-2.27)	-0.050 (-1.42)	0.085 (1.46)	-0.045 (-1.02)	0.618* (1.67)
Tangibility	0.063 (1.53)	-0.020 (-0.88)	0.052 (1.61)	0.020 (0.59)	-0.072 (-0.41)
Current ratio	-0.003 (-0.28)	-0.009* (-1.71)	-0.005 (-1.44)	-0.001 (-0.18)	-0.006 (-0.19)
Market-to-book	0.011 (0.81)	0.004 (0.49)	0.005 (0.72)	-0.010 (-1.17)	-0.036 (-1.13)
High rating (AAA/AA)	-0.072 (-1.32)	-0.115** (-2.51)	-0.021 (-0.78)	0.051* (1.81)	0.388 (1.28)
Medium rating (A/BBB)	-0.053 (-1.56)	-0.052** (-2.12)	0.056** (2.55)	0.024 (1.34)	-0.089 (-0.88)
Low rating (BB/B/C)	0.054** (2.09)	-0.007 (-0.42)	0.004 (0.28)	-0.001 (-0.08)	0.145 (1.04)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Loan purpose fixed effects	Yes	Yes	Yes	Yes	Yes
Loan type fixed effects	Yes	Yes	Yes	Yes	Yes
One-digit SIC code fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	823	816	825	830	194
Adj. R-squared	0.14	0.09	0.09	0.08	0.40

Panel C: Comparison of samples that contain/do not contain upfront fee information
— Results based on hand-collected SEC loan contract data

This Panel compares firms in the SEC sample that pay upfront fees (872 firms) and those that don't (128 firms).

	(1)	(2)	(3)	(4)
	Sample 1: Entire hand- collected sample	Thereof: with indication for upfront fee	Thereof: without indication for upfront fee	Difference (2) versus (3)
Number of facilities	1000	872	128	
Spreads and fees				
Spread	207.57	214.13	162.87	51.26*** (4.42)
Commitment fee – Existence (0/1)	0.41	0.41	0.41	0.01 (0.12)
Commitment fee	41.52	41.63	40.72	0.91 (0.30)
Facility fee – Existence (0/1)	0.19	0.17	0.30	-0.13*** (-3.68)
Facility fee	17.19	18.45	12.44	6.01*** (2.79)
Utilization fee – Existence (0/1)	0.11	0.10	0.22	-0.12*** (-4.13)
Utilization fee	13.26	13.99	11.07	2.92 (1.52)
Cancellation fee – Existence (0/1)	0.09	0.09	0.05	0.04 (1.35)
Cancellation fee	189.75	195.17	128.57	66.60 (0.75)
Loan characteristics				
Facility amount	358.42	355.31	379.64	-24.34 (0.44)
Maturity	53.23	53.76	49.60	4.16** (1.98)
Secured	0.68	0.69	0.55	0.14*** (3.15)
Sole lender (0/1)	0.14	0.14	0.17	-0.03 (-1.04)
Syndicate size	9.61	9.59	9.73	-0.14 (-0.16)
Lead size	1.54	1.55	1.48	0.07 (0.74)
Borrower characteristics				
Total assets	3442.55	3339.86	4149.01	-809.15 (-1.23)
Coverage	13.36	11.98	22.67	-10.69*** (-3.89)
Leverage	0.34	0.35	0.29	0.06** (2.45)
Profitability	0.17	0.17	0.16	0.01 (0.89)
Tangibility	0.33	0.33	0.32	0.01 (0.61)
Current ratio	1.83	1.83	1.86	-0.03 (-0.29)
Market-to-book	1.70	1.67	1.89	-0.22** (-2.52)
Investment grade	0.45	0.42	0.68	-0.26*** (-3.83)
Not rated	0.51	0.51	0.51	-0.00 (-0.06)

Panel D: Comparison of samples with and without information on the magnitude of the upfront fee

Panel C.1 (columns (1)-(3)) of this Panel compare – for the 872 firms that pay upfront fees – the firms where the SEC filings provide the magnitude of the upfront fee to those firms where the SEC filings only refer to a separate non-public document such as a fee letter. Panel C.2 (columns (4)-(6)) of this Panel compare – for the 872 firms that pay upfront fees – the firms where Dealscan reports upfront fees versus those firm where Dealscan does not report upfront fees.

	Panel D.1: SEC contracts			Panel D.2: Dealscan		
	(1)	(2)	(3)	(4)	(5)	(6)
	Without magnitude of upfront fee in contract	With magnitude of upfront fee in contract	Difference (1) versus (2)	Without upfront fee in Dealscan	With upfront fee in Dealscan	Difference (4) versus (5)
Number of facilities	774	98		646	226	
Spreads and fees						
Spread	269.85	207.07	62.77*** (4.85)	240.95	204.74	36.20*** (3.86)
Commitment fee – Existence (0/1)	0.46	0.41	0.05 (1.01)	0.38	0.42	-0.04 (-0.95)
Commitment fee	37.61	42.21	-4.60 (-1.50)	47.18	39.86	7.33*** (3.13)
Facility fee – Existence (0/1)	0.07	0.18	-0.11*** (-2.76)	0.13	0.18	-0.06* (-1.93)
Facility fee	43.57	17.20	26.37*** (6.02)	19.66	18.15	1.50 (0.57)
Utilization fee – Existence (0/1)	0.02	0.11	-0.09*** (-2.71)	0.09	0.10	-0.00 (-0.20)
Utilization fee	32.50	13.54	18.96*** (3.17)	13.10	14.29	-1.19 (-0.53)
Cancellation fee – Existence (0/1)	0.22	0.07	0.15*** (4.96)	0.14	0.07	0.07*** (3.12)
Cancellation fee	230.94	181.36	-49.58 (0.85)	204.73	188.65	16.08 (0.30)
Loan characteristics						
Facility amount	59.36	392.91	-334.55*** (5.41)	416.51	333.90	82.61* (1.83)
Maturity	41.62	55.29	-13.67*** (-5.87)	58.36	52.15	6.21*** (3.66)
Secured	0.83	0.68	0.15*** (3.04)	0.82	0.65	0.17*** (4.78)
Sole lender (0/1)	0.59	0.08	0.51*** (15.67)	0.20	0.12	0.08*** (3.13)
Syndicate size	2.71	10.46	-7.75*** (-8.17)	10.80	9.17	1.63** (2.30)
Lead size	1.22	1.59	-0.36*** (-3.29)	1.62	1.52	0.09 (1.12)
Borrower characteristics						
Total assets	392.79	3709.21	-3316.43*** (-4.54)	3774.00	3191.73	582.28 (1.09)
Coverage	10.47	12.16	-1.69 (-0.61)	8.36	13.24	-4.88** (-2.49)
Leverage	0.26	0.36	-0.09*** (-3.26)	0.35	0.34	0.01 (0.56)
Profitability	0.09	0.18	-0.09*** (-6.56)	0.17	0.18	-0.00 (-0.29)
Tangibility	0.26	0.34	-0.08*** (-3.03)	0.33	0.33	0.01 (0.25)
Current ratio	2.10	1.79	0.30** (2.49)	1.89	1.80	0.09 (0.98)
Market-to-book	1.54	1.69	-0.15 (-1.56)	1.67	1.68	-0.01 (-0.12)
Investment grade	0.22	0.43	-0.20 (-1.22)	0.40	0.43	-0.03 (-0.49)
Not rated	0.91	0.46	0.45*** (8.69)	0.49	0.52	-0.03 (-0.69)

**Panel E: Comparison of samples with and without information on the magnitude of the upfront fee
– CREDIT LINES ONLY**

This Panel replicates Panel D for the sample of credit lines only.

	Panel E.1: SEC contracts			Panel E.2: Dealscan		
	(1)	(2)	(3)	(4)	(5)	(6)
	Without upfront fee in contract	With upfront fee in contract	Difference (1) versus (2)	Without upfront fee in Dealscan	With upfront fee in Dealscan	Difference (4) versus (5)
Number of facilities	462	56		399	119	
Spreads and fees						
Spread	237.68	168.10	69.58*** (4.61)	194.89	169.88	25.01** (2.21)
Commitment fee – Existence (0/1)	0.80	0.65	0.16** (2.35)	0.69	0.66	0.03 (0.66)
Commitment fee	37.61	41.23	-3.62 (-1.25)	44.88	39.47	5.41** (2.38)
Facility fee – Existence (0/1)	0.11	0.30	-0.19*** (-3.07)	0.24	0.29	-0.05 (-1.00)
Facility fee	39.38	17.09	22.29*** (4.80)	19.66	17.60	2.06 (0.82)
Utilization fee – Existence (0/1)	0.04	0.18	-0.14*** (-2.70)	0.17	0.16	0.01 (0.27)
Utilization fee	32.50	13.55	18.95*** (3.15)	13.13	14.29	-1.16 (-0.51)
Cancellation fee – Existence (0/1)	0.20	0.05	0.15*** (4.51)	0.08	0.06	0.02 (0.71)
Cancellation fee	154.42	165.48	-11.05 (-0.26)	128.56	174.64	-46.08 (-1.05)
Loan characteristics						
Facility amount	45.44	347.92	-302.48*** (-4.77)	339.03	308.12	30.91 (0.65)
Maturity	34.98	48.50	-13.52*** (-4.92)	48.62	46.59	2.03 (0.98)
Secured	0.80	0.57	0.23*** (3.40)	0.71	0.56	0.16*** (3.05)
Sole lender (0/1)	0.61	0.08	0.53*** (12.45)	0.21	0.11	0.10*** (2.74)
Syndicate size	2.66	10.35	-7.69*** (-6.73)	10.84	9.12	1.72* (1.96)
Lead size	1.14	1.50	-0.36*** (-2.79)	1.40	1.48	-0.08 (-0.83)
Borrower characteristics						
Total assets	381.02	3451.49	-3070.47*** (-3.50)	3268.12	3074.47	193.64 (0.29)
Coverage	15.21	14.41	0.80 (0.18)	10.30	15.74	-5.54 (-1.74)
Leverage	0.23	0.32	-0.08** (-2.48)	0.33	0.30	0.03 (1.16)
Profitability	0.10	0.17	-0.07*** (-4.09)	0.16	0.17	-0.01 (-0.79)
Tangibility	0.25	0.35	-0.10*** (-2.78)	0.33	0.34	-0.01 (-0.40)
Current ratio	2.19	1.82	0.37** (2.22)	1.88	1.85	0.03 (0.23)
Market-to-book	1.67	1.69	-0.03 (-0.19)	1.74	1.68	0.06 (0.62)
Investment grade	0.20	0.53	-0.33 (-1.47)	0.46	0.55	-0.09 (-1.18)
Not rated	0.91	0.47	0.44*** (6.45)	0.51	0.52	-0.01 (-0.27)

**Panel F: Comparison of samples with and without information on the magnitude of the upfront fee
– TERM LOANS ONLY**

This Panel replicates Panel D for the sample of term loans only.

	Panel F.1: SEC contracts			Panel F.2: Dealscan		
	(1)	(2)	(3)	(4)	(5)	(6)
	Without upfront fee in contract	With upfront fee in contract	Difference (1) versus (2)	Without upfront fee in Dealscan	With upfront fee in Dealscan	Difference (4) versus (5)
Number of facilities	312	42		247	107	
Spreads and fees						
Spread	312.74	264.78	47.96** (2.46)	292.17	261.07	31.11** (2.26)
Commitment fee – Existence (0/1)	0.00	0.05	-0.05 (-1.45)	0.05	0.04	0.01 (0.27)
Commitment fee	n.a.	61.67	n.a.	85.00	50.00	35.00** (2.36)
Facility fee – Existence (0/1)	0.02	0.01	0.02 (1.15)	0.00	0.01	-0.01 (-1.14)
Facility fee	68.75	25.00	-43.75 (n.a.)	n.a.	39.58	n.a.
Utilization fee – Existence (0/1)	0.00	0.00	0.00 (n.a.)	0.01	0.00	0.01 (1.52)
Utilization fee	n.a.	n.a.	n.a.	12.50	n.a.	n.a.
Cancellation fee – Existence (0/1)	0.26	0.12	0.15*** (2.65)	0.21	0.10	0.12*** (3.03)
Cancellation fee	307.45	190.63	116.83 (1.19)	234.54	202.08	32.46 (0.39)
Loan characteristics						
Facility amount	75.58	459.52	-383.93*** (-3.24)	502.67	375.54	127.14 (1.51)
Maturity	50.31	65.40	-15.09*** (-4.35)	69.09	61.18	7.91*** (3.20)
Secured	0.86	0.84	0.02 (0.34)	0.93	0.80	0.14*** (-3.26)
Sole lender (0/1)	0.57	0.08	0.49*** (9.54)	0.19	0.12	0.07 (1.63)
Syndicate size	2.79	10.63	-7.84*** (-4.83)	10.75	9.24	1.50 (1.28)
Lead size	1.33	1.71	-0.38** (1.97)	1.85	1.59	0.26 (1.90)
Borrower characteristics						
Total assets	408.97	4089.90	-3680.93*** (-2.93)	4344.36	3380.10	964.26 (1.08)
Coverage	4.67	8.95	-4.27 (-1.54)	6.26	9.37	-3.12 (-1.59)
Leverage	0.31	0.42	-0.11** (-2.27)	0.38	0.41	-0.03 (-0.84)
Profitability	0.08	0.20	-0.12*** (-5.39)	0.19	0.19	0.00 (0.18)
Tangibility	0.27	0.32	-0.05 (-1.34)	0.33	0.31	0.03 (1.09)
Current ratio	1.97	1.75	0.22 (1.25)	1.91	1.73	0.18 (1.41)
Market-to-book	1.38	1.69	-0.31** (-2.48)	1.58	1.67	-0.09 (-1.00)
Investment grade	0.25	0.28	-0.03 (-0.13)	0.35	0.25	0.10 (1.34)
Not rated	0.90	0.44	0.46*** (5.84)	0.47	0.50	-0.04 (-0.65)

Panel G: Comparing Credit Lines and Term Loans – SAMPLE WITH DEALSCAN UPFRONT FEE INFORMATION ONLY

This Panel replicates Table I from the main paper for the sample where Dealscan reports upfront fees. The table provides summary statistics for key price terms, loan characteristics and borrower characteristics. Column (I) reports summary statistics for the sample of credit lines, column (II) reports summary statistics for term loans. The sample is based on credit lines and term loans in the U.S. syndicated loan market from 1986 to 2011 WITH NON-MISSING UPFRONT FEE INFORMATION IN DEALSCAN. Variables are defined in Appendix A in the main paper.

Variable	Unit	(I) Credit Lines				(II) Term Loans			
		N	Mean	Median	Std.Dev.	N	Mean	Median	Std.Dev.
Panel A: Price terms									
AISD	Basis points	4,758	185.24	175.00	100.90	2,954	284.26	275.00	135.94
AISU	Basis points	4,758	36.41	37.50	18.47	92	66.71	50.00	28.26
Spread	Basis points	4,758	180.62	175.00	102.08	2,954	283.07	275.00	136.21
Commitment fee	Basis points	3,922	39.09	37.50	18.11	258	57.71	50.00	30.24
Facility fee	Basis points	1,055	20.35	15.00	14.76	119	22.15	15.00	18.88
Utilization fee	Basis points	356	13.64	12.50	8.04	0	na	na	na
Cancellation fee	Basis points	391	157.50	150.00	100.39	501	164.97	100.00	100.59
Upfront fee	Basis points	4,758	49.83	27.50	52.92	2,954	79.88	50.00	80.24
Panel B: Loan characteristics									
Facility amount	USD mn	4,758	317.85	107.65	544.52	2,954	304.69	141.92	474.43
Maturity	Months	4,758	45.54	38.00	23.31	2,954	65.39	70.00	23.07
Secured	0/1	4,758	0.61	1.00	0.49	2,954	0.77	1.00	0.42
Sole lender (0/1)	0/1	4,758	0.25	0.00	0.43	2,954	0.23	0.00	0.42
Syndicate size	Number	4,758	8.69	5.00	9.51	2,954	8.51	5.00	9.61
Lead size	Number	4,758	1.33	1.00	0.80	2,954	1.56	1.00	0.95
Panel C: Borrower characteristics									
Total assets	USD mn	4,432	3185.26	497.84	7890.57	2,590	2539.70	708.22	5734.56
Coverage	Percent	4,224	14.42	4.50	41.08	2,497	13.50	3.54	43.93
Leverage	Number	4,430	0.31	0.28	0.25	2,589	0.38	0.34	0.28
Profitability	Number	4,394	0.15	0.12	0.13	2,575	0.16	0.13	0.12
Tangibility	Number	4,416	0.35	0.29	0.24	2,584	0.34	0.30	0.23
Current ratio	Number	4,199	1.94	1.63	1.28	2,493	1.91	1.59	1.33
Market-to-book	Number	3,710	1.67	1.36	0.96	2,055	1.60	1.34	0.87
Investment grade	0/1	1,405	0.48	0.00	0.50	973	0.21	0.00	0.41
Not rated	0/1	4,758	0.70	1.00	0.46	2,954	0.67	1.00	0.47

Online Appendix D: How to calculate the Total-Cost-of-Borrowing (TCB) measure

This section expands upon the discussion on the Total-Cost-of-Borrowing measure in Section III of the paper. Subsection D.1 provides and discusses the formula for calculating TCB. Section D.2 provides details on how to predict usage rates. Section D.3 provides details on how to predict upfront fees.

D.1. Formula to calculate TCB

One of the key takeaways from our analysis is that the pricing *structure* of syndicated loans matters. Fees serve particular purposes, such as pricing the options embedded in corporate loan contracts and/or screen borrowers as to the likelihood of their exercising these options.

Once the menu of spread and fees has been negotiated, we can use this pricing structure to estimate the likelihood of exercising the embedded options and thus can calculate a total cost for the borrower – a term we will label the "total cost of borrowing (TCB)".⁴ In general, we can define the total cost of borrowing as:

$$TCB = \text{Upfront Fee} / \text{Expected Loan Maturity in Years} \quad (1)$$

$$+ (1-PDD) \times (\text{Facility Fee} + \text{Commitment Fee}) \quad (2)$$

$$+ PDD \times (\text{Facility Fee} + \text{Spread}) \quad (3)$$

$$+ PDD \times \text{Prob}(\text{Utilization} > \text{UtilizationThreshold} \mid \text{Usage} > 0) \times \text{Utilization Fee} \quad (4)$$

$$+ \text{Prob}(\text{Cancellation}) \times \text{Cancellation Fee} \quad (5)$$

⁴ Aggregating spreads and fees into one single measure, the TCB, does not imply that a contract that only specifies the TCB is equivalent to the contract with the full menu of spreads and fees. To the contrary, the mix of spreads and fees is essential to price options and to screen borrowers. However, once spreads and fees are set, any researcher who is interested in the total (expected) costs to the borrower can use the pricing structure to estimate the likelihood of exercising certain options embedded in loan contracts and thus determine a total cost of borrowing measure.

Specifically, the TCB is an annual cost measure. The PDD, the Probability of Draw-Down, is the ex-ante probability that the credit facility is going to be drawn down. The spread, the facility fee, the commitment fee and the utilization fee are annual cost measures as well, the upfront and the cancellation fees are one-time fees and need to be annualized as we describe below.

The first term annualizes the one-time upfront fee. In absence of a better estimate, we use the contractual maturity of the loan as a proxy for the expected loan maturity. Using the contractual maturity provides a conservative estimate of the annualized impact of the upfront fee on the total cost of borrowing, given that a large fraction of loans are refinanced prior to the contractual maturity. For cases where upfront fees are not available in Dealscan, we provide a simple model for predicting upfront fees in OnlineAppendix D.3.

The second and third term is a weighted average of the AISU (annual facility fee plus annual commitment fee) and the AISD (annual facility fee plus annual spread). For term loans, we set PPD=100% as these are fully funded at origination. For lines of credit, our evidence from the main paper suggests that PDD depends on the pricing structure (e.g., lower PDD for contracts with low unused fees and high spreads) as well as on other borrower and loan characteristics. We provide a simple model for predicting usage rates in Online Appendix D.2.

The fourth term adds the annual utilization fee a borrower has to pay if usage exceeds a certain threshold, usually between 30% and 50% of the credit limit. The utilization fee has to be paid on the whole used amount of the credit line and not just on the utilization part above the threshold. We provide a simple model for predicting usage rates being above 30% Online Appendix D.2.

Finally, the last term reflects the cost of cancellation weighted by the annual probability that a cancellation occurs. We would like to calibrate the cancellation probability to the specific

pricing structure and borrower and loan characteristics, but we do not have sufficient data on early terminations. We thus set the probability equal to 0.5%.⁵ Future research might be able to improve upon this calibration.

As an example, we consider the credit line by Meredith Corp that we discussed in the introduction to our paper. The key contract terms are as follows: The maturity is equal to 3 years, the spread is 250bps, the upfront fee is 50bps, and the commitment fee is 37.5bps. We thus determine an AISU/AISD-ratio of $37.5/250=15\%$ and, using the coefficient estimates from Panel A.2 of Online Appendix Table D.2, we determine a PDD of 26.19%. The resulting TCB is equal to 110bps, calculated as the sum of the annualized upfront fee ($50/3 = 16.7$), the expected spread payments ($26.19\% \cdot 250=65.5$), and the expected commitment fee payments ($(1-26.19\%) \cdot 37.5=27.7$ bps). Thus, the expected spread payments contribute 60% to the total cost of borrowing, while the upfront fee and the commitment fee contribute 40% to the total cost of borrowing (15% for the upfront fee plus 25% for the commitment fee).

For the overall sample of credit lines, we find that the AISD (spread and facility fee on the used portion) contributes 54% to the TCB, the AISU (commitment fee and facility fee on the unused portion) contributes 25% to the TCB, the upfront fee contributes 20% to the TCB, the utilization fee contributes 1% to the TCB⁶ and the cancellation fee contributes less than 1% to the TCB. For the overall sample of term loans, we find that the AISD contributes 92% to the TCB,

⁵ Roberts and Sufi (2009) report an unconditional likelihood of renegotiation of 9.1% per quarter, of which 4.2% are early terminations, resulting in a $9.1\% \cdot 4.2\%=0.4\%$ per quarter or 1.5% per annum probability of early termination. This number is likely to be an upper limit for the applicability of the cancellation fee, because cancellation fees themselves will change the economics of early termination and cancellation fees only apply for a certain period from origination, usually 1-3 years. We therefore set this probability to 0.5%. Using either 0% or 1.5% instead of using 0.5% does not materially affect our results on the total cost of borrowing measure.

⁶ The utilization fee is a primary example why looking at individual fees as opposed to the TCB is important: Contracts with a utilization fee have significantly lower usage rates (see Hypothesis 6 in the main paper), so the utilization fee acts as a screening device and/or deterrent of credit line usage. Thus, exactly *because* firms that choose a credit line with a utilization fee rarely use their credit lines, the utilization fee rarely applies and thus only forms a very small part of the overall cost of borrowing.

the upfront fee contributes 8% to the TCB, and the cancellation fee contributes less than 1% to the TCB.

It is beyond the scope of this paper to provide an in-depth analysis of the cross-sectional and time-series properties of the TCB-measure. We do, however, want to emphasize that these results suggest that fees are an important part of the total cost of borrowing in the syndicated loan market and should therefore not be ignored.

D.2. Predicting usage rates

We estimate a regression for the PDD (Probability of draw-down) and use the results to determine the TCB. We obtain credit line usage data from CapitalIQ and use the mean usage rate over the first three years of the contract as our dependent variable. We estimate the regression without year fixed effects to avoid any look-ahead bias.⁷ Results are presented in Panel A of Appendix Table D.1.

Panel A.1 regresses the mean usage rate over the first three years on our full set of covariates with a resulting adjusted R^2 of 13.70%. Panel A.2 reports a reduced model that uses approximately half of the covariates from Panel A.1 with an adjusted R^2 of 12.80%, that is, the reduced model is able to explain more than 90% of the variation explained by the full model. The reduced model uses the interaction terms of the utilization fee and the AISU-AISD-ratio (+ if no utilization fee exists), the existence of the utilization fee (+), the magnitude of the utilization fee (-), the continuous performance pricing measure (-), the Syndicate Size (+), total assets of the borrower (-), leverage of the borrower (+), profitability of the borrower (+), and the borrowers' coverage (-) as well as borrower rating fixed effects (higher usage rates for non-investment grade

⁷ Coefficients are, however, very similar when adding year fixed effects.

borrowers and unrated companies compared to the baseline category of investment-grade rated borrowers) and loan purpose fixed effects (baseline category is corporate purposes, higher usage rates for debt repayment, takeovers, and debtor-in-possession).

We also estimate a regression for a dummy variable that is equal to 1 if mean usage over the first three years after loan origination is larger than 30% and use the results to determine the probability that usage exceeds the utilization fee threshold.⁸ Results for the full model and the reduced model are presented in Panel B of Online Appendix Table D.1. Variables that turn out to be significant are very similar to those from the mean usage regression in Panel A. Therefore, we use the same variables in the reduced form model as in Panel A for the prediction of usage rates larger than 30%.

[Appendix Table D.I]

⁸ We use the mean usage for simplicity reasons, but apply the lower limit of 30% (contracts usually specify a utilization fee threshold of either 30% or 50%). The utilization fee applies for each day where usage exceeds the utilization fee threshold.

D.3. Predicting upfront fees

We provide a model for predicting upfront fees in Online Appendix Table D.2.

Panel A.1 regresses the upfront fee on our full set of covariates with a resulting adjusted R^2 of 20.98%. Panel A.2 reports a reduced model that uses approximately half of the covariates from Panel A.1 with an adjusted R^2 of 19.86%, that is, the reduced model is able to explain 95% of the variation explained by the full model. The reduced model uses a Secured-dummy (+), the Syndicate Size (-), the Lead Size, that is, the number of lead arrangers (+), total assets of the borrower (+) and the borrowers' coverage ratio (-) as well as loan type fixed effects (baseline category is credit lines > 1yr, higher upfront fees for all term loans), borrower rating fixed effects (higher upfront fees for unrated companies compared to the baseline category of investment-grade rated borrowers) and loan purpose fixed effects (baseline category is corporate purposes, higher upfront fees for takeovers, LBOs/MBOs, recapitalizations and debtor-in-possession, lower upfront fees for CP backup lines).

In Panel B, we report the out-of-sample forecasting power. We estimate the upfront fee with a 10-year rolling window using the reduced model from Panel A.2 of Online Appendix Table D.2 and then report the R^2 for the subsequent 10 years. The average in-sample R^2 is 18.72%, the average out-of-sample R^2 is 17.86%. Thus, the model predicts quite well out-of-sample using a rolling 10-year window. Researchers who wish to estimate upfront fees for the full sample of Dealscan syndicated loans could thus use the coefficients from Panel A.2 of Online Appendix D.2 to estimate upfront fees.

[Appendix Table D.II]

Online Appendix Table D.I: Determinants of the draw-down behavior of lines of credit

This table provides results of a linear regression of usage variables over the first three years after loan origination on a set of control variables. Panel A reports results for the mean usage over the first three years after loan origination. Panel B reports results for a dummy variable equal to one if mean usage is larger than 30% (a standard threshold for the utilization fee). Panel A.1/B.1 provide results for the full model, including all loan and borrower characteristics as well as fixed effects (excluding year fixed effects). Panel A.2/B.2 provide a reduced model which uses only approximately half of all independent variables but achieves almost the same adjusted R². The sample is based on credit lines in the U.S. syndicated loan market from 1986 to 2011 with existing credit line usage data from CapitalIQ. Variables are defined in Appendix A in the main paper. We report t-values based on standard errors clustered at the borrowing firm in parentheses. ***, **, * denote significance at the 1, 5 and 10 % level, respectively.

Panel A: Mean Usage

Variable	Panel A.1: Full model		Panel A.2: Reduced model	
	Dependent variable = Mean usage		Dependent variable = Mean usage	
	Coefficient	(t-stat)	Coefficient	(t-stat)
Variables from hypotheses				
AISU/AISD-ratio * UtilFee==0	0.328***	(4.49)	0.322***	(4.55)
AISU/AISD-ratio * UtilFee > 0	0.129	(0.68)	-0.007	(-0.04)
Utilization fee (0/1)	0.089*	(1.94)	0.122**	(2.73)
Utilization fee (continuous)	-0.004***	(-3.02)	-0.004***	(-2.82)
Profitability volatility	0.011	(0.13)		
PP (continuous)	-0.0003***	(-3.10)	-0.0003***	(-2.94)
Loan characteristics				
Log(Facility amount)	0.014**	(2.02)		
Log(Maturity)	-0.015	(-1.06)		
Secured (0/1)	-0.021*	(-1.82)		
SoleLender (0/1)	0.017	(0.94)		
Syndicate size	0.003***	(2.98)	0.003***	(3.43)
Lead size	-0.003	(-0.57)		
Borrower characteristics				
Log(Total assets)	-0.047***	(-7.15)	-0.037***	(-6.89)
Log(Coverage)	-0.020***	(-3.40)	-0.025***	(-4.61)
Leverage	0.139***	(3.41)	0.148***	(3.74)
Profitability	0.104*	(1.94)	0.157***	(3.98)
Tangibility	0.016	(0.52)		
Current ratio	-0.008	(-1.46)		
Market-to-Book	-0.007	(-1.03)		
Rating grade				
Investment grade		omitted		omitted
Non-investment grade	0.031*	(1.69)	0.016	(0.89)
Not rated	0.074***	(3.97)	0.071***	(3.89)

Loan purpose (sorted by number of observations)

Corporate purposes	omitted		omitted	
Working capital	-0.017*	(-1.66)	-0.016	(-1.64)
Debt repayment	0.076***	(4.48)	0.080***	(4.66)
Takeover	0.038**	(2.36)	0.036**	(2.27)
CP backup	0.006	(0.34)	0.018	(1.02)
Acquisition line	0.034	(1.58)	0.034	(1.59)
Other	0.024	(0.99)	0.027	(1.12)
LBO/MBO	0.068	(1.45)	0.046	(0.98)
Recapitalization	0.009	(0.15)	-0.001	(-0.02)
Debtor-in-Possession	0.263***	(4.19)	0.285***	(4.55)

Loan type

Credit line < 1 yr	0.002	(0.08)
Credit line ≥ 1 yr	omitted	

One digit SIC code fixed effects

SIC1 = 0	omitted	
SIC1 = 1	0.046	(0.50)
SIC1 = 2	0.031	(0.35)
SIC1 = 3	0.184	(0.21)
SIC1 = 4	0.074	(0.83)
SIC1 = 5	0.044	(0.49)
SIC1 = 7	0.059	(0.66)
SIC1 = 8	0.073	(0.78)
SIC1 = 9	0.152	(1.46)

Constant	0.449***	(3.83)	0.404***	(8.46)
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Observations	6,099	6,099
Adj. R-squared	13.70%	12.80%

Panel B: (Usage>30%)-dummy

Variable	Panel B.1: Full model		Panel B.2: Reduced model	
	Dependent variable = (Usage>30%)-dummy		Dependent variable = (Usage>30%)-dummy	
	Coefficient	(t-stat)	Coefficient	(t-stat)
Variables from hypotheses				
AISU/AISD-ratio * UtilFee==0	0.356***	(3.15)	0.352***	(3.26)
AISU/AISD-ratio * UtilFee > 0	0.004	(0.01)	-0.204	(-0.67)
Utilization fee (0/1)	0.147*	(1.88)	0.200**	(2.58)
Utilization fee	-0.006***	(-3.05)	-0.006***	(-2.98)
Profitability volatility	-0.033	(-0.25)		
PP (continuous)	-0.0003*	(-1.67)	-0.0002	(-1.58)
Loan characteristics				
Log(Facility amount)	0.025**	(2.23)		
Log(Maturity)	-0.015	(-0.66)		
Secured (0/1)	-0.028	(-1.38)		
SoleLender (0/1)	0.026	(0.91)		
Syndicate size	0.005***	(3.36)	0.005***	(3.91)
Lead size	-0.000	(-0.02)		
Borrower characteristics				
Log(Total assets)	-0.086***	(-8.14)	-0.066***	(-7.50)
Log(Coverage)	-0.031***	(-3.05)	-0.044***	(-4.64)
Leverage	0.153**	(2.39)	0.196***	(3.12)
Profitability	0.199**	(2.10)	0.338***	(4.52)
Tangibility	0.095*	(1.90)		
Current ratio	-0.018**	(-2.10)		
Market-to-Book	-0.013	(-1.18)		
Rating grade				
Investment grade		omitted		omitted
Non-investment grade	0.080**	(2.64)	0.052*	(1.79)
Not rated	0.128***	(3.95)	0.121***	(3.79)
Loan purpose (sorted by number of observations)				
Corporate purposes		omitted		omitted
Working capital	-0.016	(-0.85)	-0.014	(-0.77)
Debt repayment	0.107***	(3.84)	0.110***	(3.97)
Takeover	0.081***	(2.77)	0.080***	(2.76)
CP backup	0.001	(0.05)	0.017	(0.60)
Acquisition line	0.070*	(1.95)	0.071*	(1.96)
Other	0.079*	(1.83)	0.089**	(1.99)
LBO/MBO	0.056	(0.77)	0.020	(0.29)
Recapitalization	0.186	(0.97)	0.159	(0.82)
Debtor-in-Possession	0.332***	(3.67)	0.367***	(4.09)

Loan type				
Credit line < 1 yr	0.011	(0.30)		
Credit line ≥ 1 yr		omitted		
One digit SIC code fixed effects				
SIC1 = 0		omitted		
SIC1 = 1	-0.019	(-0.13)		
SIC1 = 2	-0.020	(-0.15)		
SIC1 = 3	-0.056	(-0.41)		
SIC1 = 4	0.054	(0.40)		
SIC1 = 5	-0.016	(-0.11)		
SIC1 = 7	0.022	(0.16)		
SIC1 = 8	0.027	(0.19)		
SIC1 = 9	0.145	(0.90)		
Constant	0.775***	(4.26)	0.659***	(8.06)
Observations		6,099		6,099
Adj. R-squared		12.48%		11.32%

Online Appendix Table D.II: A simple model for the prediction of the upfront fee

This table provides a simple model for the prediction of upfront fees for lines of credit and term loans. Panel A.1 provides results for the full model, including all loan and borrower characteristics as well as fixed effects (excluding year fixed effects). Panel A.2 provides a reduced model which uses only approximately half of all independent variables but achieves almost the same adjusted R^2 . The sample is based on term loans and credit lines in the U.S. syndicated loan market from 1986 to 2011 with non-missing upfront fee information in Dealscan. Panel B provides information on the out-of-sample performance of the reduced model for the prediction of the upfront fee. The column "In-sample" provides in-sample R^2 for the model using the covariates from Panel A.2 and a rolling 10-year window. The column "Out-of-sample" provides out-of-sample R^2 for the subsequent 10 years using the parameters estimated from the prior 10 year window. The sample is based on credit lines and term loans in the U.S. syndicated loan market from 1986 to 2011 with non-missing upfront fee information in Dealscan. Variables are defined in Appendix A in the main paper.

Panel A: Parameter estimates

Variable	Panel A.1: Full model		Panel A.2: Reduced model	
	Dependent variable = Upfront fee		Dependent variable = Upfront fee	
	Coefficient	(t-stat)	Coefficient	(t-stat)
Loan characteristics				
Log(Facility amount)	0.303	(0.25)		
Log(Maturity)	-3.145	(-1.37)		
Secured (0/1)	20.567***	(8.37)	21.430***	(8.71)
SoleLender (0/1)	12.924***	(4.13)		
Syndicate size	-0.512***	(-3.25)	-0.667***	(-4.43)
Lead size	10.191***	(6.55)	10.188***	(6.45)
Borrower characteristics				
Log(Total assets)	4.951***	(4.15)	3.864***	(3.78)
Log(Coverage)	-5.431***	(-3.90)	-5.250***	(-4.73)
Leverage	-12.553*	(-1.75)		
Profitability	-10.319	(-0.82)		
Tangibility	-5.355	(-0.92)		
Current ratio	-0.973	(-1.07)		
Market-to-Book	-0.164	(-0.15)		
Rating grade				
Investment grade		omitted		omitted
Non-investment grade	8.588**	(2.05)	4.751	(1.16)
Not rated	17.203***	(4.62)	15.916***	(4.27)
Loan purpose (sorted by number of observations)				
Corporate purposes		omitted		omitted
Working capital	-2.411	(-0.91)	-2.319	(-0.87)
Debt repayment	-2.786	(-1.09)	-4.080	(-1.64)
Takeover	14.230***	(4.10)	12.382***	(3.65)
CP backup	-11.680***	(-3.54)	-12.676***	(-4.03)

Acquisition line	0.212	(0.05)	-0.957	(-0.22)
Other	13.899**	(1.98)	13.702*	(1.92)
LBO/MBO	66.726***	(8.24)	63.806***	(7.81)
Recapitalization	45.653***	(3.90)	43.294***	(3.59)
Debtor-in-Possession	65.889***	(4.20)	65.074***	(4.20)
Loan type				
Credit line < 1yr	-7.662*	(-1.85)	-2.371	(-0.88)
Credit line ≥ 1 yr	omitted		omitted	
Term loan (non-institutional)	17.807***	(8.45)	17.832***	(9.10)
Institutional term loan	11.322***	(2.57)	9.763**	(2.24)
Delay draw term loan	29.347***	(2.73)	30.361***	(2.78)
One digit SIC code fixed effects				
SIC1 = 0	omitted			
SIC1 = 1	22.428	(1.08)		
SIC1 = 2	13.846	(0.68)		
SIC1 = 3	8.964	(0.44)		
SIC1 = 4	16.623	(0.81)		
SIC1 = 5	10.012	(0.49)		
SIC1 = 7	17.366	(0.85)		
SIC1 = 8	25.598	(1.24)		
SIC1 = 9	9.470	(0.44)		
Constant	-10.277	(-0.42)	-3.325	(-0.38)
Observations	5,258		5,258	
Adj. R-squared	20.98%		19.86%	

Panel B: In-sample and Out-of-sample performance

In-sample		Out-of-sample	
Estimation window	R²	Time period	R²
1986-1995	29.14%	1996-2005	18.84%
1987-1996	28.41%	1997-2006	18.05%
1988-1997	23.88%	1998-2007	21.54%
1989-1998	17.36%	1999-2008	25.83%
1990-1999	15.69%	2000-2009	24.01%
1991-2000	16.04%	2001-2010	21.49%
1992-2001	16.47%	2002-2010	19.62%
1992-2002	15.85%	2003-2011	15.11%
1993-2003	16.04%	2004-2011	12.80%
1994-2004	16.31%	2005-2011	12.11%
1995-2005	16.59%	2006-2011	13.49%
1996-2006	16.74%	2007-2011	11.78%
1997-2007	16.15%	2008-2011	15.05%
1998-2008	16.89%	2009-2011	19.11%
1999-2009	18.08%	2010-2011	15.29%
2000-2010	19.94%	2011-2011	21.69%
Average	18.72%		17.86%

Online Appendix E: List of supplementary materials available online

File	Type	Description
Variable Definitions.xls	Excel	Excel spreadsheet with a description and source information for each variable used in the paper.
FeePaper – ExtractFeeInformationFrom Dealscan_FINAL.do	Do-file	Do-file that extracts fee information from Dealscan using the offline/CD-version of Dealscan. As input, the do-file requires that the table "CurrFacPricing" has been converted to dta-format and is available in the "path"-folder. As output, this do-file produces a dta-file with the FacilityID in the first column and various fee types in the following columns.
FeePaper - TCBcalculation_FINAL.do	Do-file	Do-file that calculates the total cost of borrowing (TCB) measure using the reduced model provided in Online Appendix D.
TCB.dta	Stata data set	Dta-file that provides the TCB-measure for all facilities where the TCB can be calculated using the reduced form model provided in Online Appendix D.
FeeData HandCollectedSEC.xls	Excel	Hand-collected fee data from loan contracts files with the SEC (used to check the reliability of Dealscan fee information).