

How Good are Bank Loan Ratings in India for Listed and Unlisted Firms?

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Research Questions

RQ1: Do firms with greater information asymmetry have more favorable (i.e., closer to AAA) bank loan ratings?

RQ2: Are bank loan ratings of high information asymmetry borrowers reliable predictors of borrower distress?

Motivation

- ▶ Prior research has often highlighted rating agencies' tendency to produce inflated corporate credit ratings.
 - ▶ While debt issuers may prefer more favorable ratings, bond investors prefer an unbiased, reliable signal of borrower distress
- ▶ However, the ultimate investor in the private loan market (commercial banks) may have reason to demand poorer quality ratings
 - ▶ Basel bank capital norms allow commercial banks to condition capital allocation on the bank loan ratings of their borrowers
 - ▶ Banks may prefer inflated ratings to reduce capital constraints

Motivation

- ▶ Our ideal experiment: Compare rating properties of publicly traded bonds and privately issued loans – with similar seniority and covenants – for the same firm at the same point in time.
 - ▶ Constraint: Large samples of bank loan ratings in the United States are not widely available.
- ▶ **Instead:** we exploit variation within subsamples of bank loans ratings by examining the role of borrower information asymmetry (i.e., firms with/without publicly available stock prices).

Motivation

- ▶ **Unlisted firms lack market scrutiny**
 - ▶ No secondary market prices for equity (and debt)
 - ▶ No analyst coverage and less media scrutiny
 - ▶ Have less institutional shareholding and their boards are also controlled by the insider
- ▶ **Lack of market scrutiny may worsen conflicts from the issuer pay rating model**
 - ▶ The market will not call out the rating agencies when the ratings appear inflated
 - ▶ Main consumers of the ratings (banks) may actually prefer inflated ratings

Goal: Compare the ratings of listed and unlisted firms to understand whether bank loan ratings serve as a reliable predictor of borrower health

Main results

1. Ceteris paribus, unlisted firms receive more favorable ratings
 - ▶ Unlisted firm ratings are roughly 0.42 notches higher than comparable listed firms
2. Unlisted firms' ratings are less sensitive to credit risk determinants
 - ▶ For example: a 34 bp increase in *Leverage* decreases listed (unlisted) firms' ratings by 1 (0.42) notch
3. Unlisted firms are downgraded less often as compared to listed firms. No difference in probability of upgrades
4. Ratings and rating changes of listed firms are more informative of subsequent defaults

External validity

We study India due to data availability

- ▶ We have data on credit ratings and the financial condition of both listed and unlisted firms
 - ▶ The Registrar of Companies in India requires unlisted and listed firms to submit audited annual financial statements
 - ▶ Firms with total assets + sales of at least 40 million Rupees (roughly \$600,000)

We believe our results are generalizable to other markets

- ▶ Two of the three rating agencies, CRISIL and ICRA, are affiliated with S&P and Moody's, respectively
- ▶ India's bank-dominated financial sector – typical of a number of markets outside the U.S. (Demirguc-Kunt and Levine, 2001)
- ▶ India's banking sector is dominated by Government owned banks – a common feature in many countries (La Porta, et al., 2002)

Data

- ▶ India provides a unique setting to study the role of market information
- ▶ Obtain data from Prowess
 - ▶ Maintained by the Center for Monitoring the Indian Economy
 - ▶ Covers between 2,000 to 6,000 listed and unlisted firms
 - ▶ Contains firm financials, credit ratings, stock prices, auditors, and industry classifications
 - ▶ Also has information on ownership structure
 - ▶ Similar to the CRSP-Compustat merged dataset
 - ▶ Has been used in a number of other studies on Indian firms (e.g., Bertrand, et al., 2002; Gormley, et al., 2012; Gopalan, et al., 2007).

Summary Statistics

Table: Descriptive Statistics

Variable	n	Mean	StD	Median
Rating	21,576	11.61	3.64	12.0
Leverage	21,576	0.38	0.19	0.37
Debt-to-Earnings	21,576	3.84	3.71	3.03
Cash	21,576	0.03	0.05	0.013
Interest Coverage	21,576	7.27	21.41	2.19
Profitability	21,576	0.18	0.19	0.12
PP&E	21,576	0.51	0.30	0.49
Size	21,576	7.78	1.50	7.65
CRA Coverage	21,576	1.03	0.17	1.00
Group Membership	21,576	0.30	0.46	0.00

- ▶ The average rating of (11.61) corresponds to BBB-. Similar to the U.S.
- ▶ Leverage (0.38) is slightly higher than the U.S. average of 0.30
- ▶ Interest Coverage (7.27) is lower than the U.S. average of 9.36
- ▶ On average, firms in our sample are rated by 1 credit rating agency

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Univariate Analysis

Listed and Unlisted firms are different across many observable dimensions

	Mean: Listed	Mean: Unlisted	Difference*
<i>Rating</i>	12.59	11.04	1.547
<i>Downgrade</i>	0.16	0.14	.02
<i>Upgrade</i>	0.14	0.17	-0.03
<i>Leverage</i>	0.33	0.40	-.067
<i>Debt-to-Earnings</i>	3.30	4.153	-.849
<i>Cash</i>	0.026	0.031	-0.005
<i>Interest Coverage</i>	9.15	6.20	2.95
<i>Profitability</i>	0.17	0.18	-0.01
<i>Size</i>	8.44	7.40	1.04
<i>CRA Coverage</i>	1.03	1.02	0.01
<i>Group Membership</i>	0.48	0.20	.28

- ▶ Unconditionally listed firms have slightly higher ratings as compared to unlisted firms
- ▶ Listed firms are more likely to get downgraded
- ▶ Unlisted firms have higher leverage than listed firms, measured using Leverage, Debt-to-earnings, and Interest Coverage
- ▶ Listed firms are larger and are more likely to belong to a group

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Ratings Levels

Explanatory Variables	Dependent Variable: $Rating_{i,m,y}$	
	(1)	(2)
<i>Unlisted</i>	0.418***	0.494***
	(3.50)	(1.89)
<i>Controls</i>	Yes	Yes
N	146,458	149,475
Fixed Effects	Industry-Yr	Industry-Yr, Auditor
Std Errors Clustered At	Firm,Yr	Firm,Yr

- ▶ Control variables from Baghai, et al. (2014): Leverage, Debt-to-earnings, Cash, Interest Coverage, Profitability, PPE, and Size, as well as number of CRAs and conglomerate membership
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Ratings Levels

Actual Ratings Based on:	Expected Ratings Based On:	
	Listed firm loadings	Unlisted firm loadings
	$RatingsGap_{i,m,y}$	$RatingsGap_{i,m,y}$
	(1)	(2)
<i>Unlisted Firm-Month-Years</i>	0.504*** (14.87)	0.00 (0.00)
<i>Listed Firm-Month-Years</i>	0.00 (0.00)	-0.322** (-7.33)
<i>Difference</i>	0.504*** (9.54)	0.322** (5.79)

- ▶ For firms that change their status in our sample, their rating gap grows when they are unlisted
- ▶ This measure is the difference between actual - predicted rating when using listed and unlisted coefficient betas
- ▶ This difference is statistically significant

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Sensitivity to Financial Ratios

	Dependent Variable: $Rating_{i,m,y}$		
	Unlisted	Listed	Difference
	(1)	(2)	(1)-(2): (3)
<i>Leverage</i>	-1.240*** (-4.47)	-2.927*** (-5.76)	1.687*** (3.21)
<i>Debt-to-Earnings</i>	-0.051*** (-5.87)	-0.222*** (-3.84)	.171*** (5.78)
<i>Cash</i>	0.952*** (2.52)	2.333*** (3.96)	-1.381** (-1.96)
Controls	Yes	Yes	Yes
N	141,555	85,733	227,288
Fixed Effects	Firm,Yr,Auditor	Firm,Yr,Auditor	Firm,Yr,Auditor
Std Errors Clustered At	Firm,Yr	Firm,Yr	Firm,Yr

- ▶ A 34 bp increase in listed firm *Leverage* decreases their ratings by 1 notch, on average. A similar increase in unlisted firm *Leverage* decreases ratings by only .42 notches
- ▶ Similar differences in sensitivity exist for *Debt-to-earnings* and *Cash*

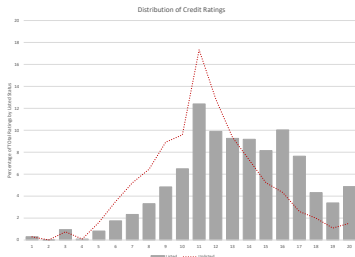
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▶ Similar differences in sensitivity exist for Debt-to-earnings and Cash

Distribution of Ratings



- ▶ Unlisted firm ratings are less dispersed, consistent with lower sensitivity to financial ratios.
- ▶ The number of unlisted (listed) firms with ratings just above the IG threshold is 7.2 (5.8) more than the number of unlisted (listed) firms with ratings just below.
 - ▶ This difference is statistically significant (t-statistic=6.92)

Frequency of Credit Rating Changes

Explanatory Variables	$\ln(1 + \sum \text{Ratings Changes}_{i,t})$	$\ln(1 + \sum \text{Upgrades}_{i,t})$	$\ln(1 + \sum \text{Downgrades}_{i,t})$
	(1)	(2)	(3)
<i>Unlisted</i>	-0.009 (-1.01)	0.007 (0.97)	-0.016*** (-2.93)
<i>Controls</i>	Yes	Yes	Yes
N	11,442	11,442	11,442
Fixed Effects	Industry-Yr	Industry-Yr	Industry-Yr
Std Errors Clustered At	Firm,Yr	Firm,Yr	Firm,Yr

- ▶ Unlisted firms are less likely to experience rating changes within a fiscal year
- ▶ This effect is driven by downgrades, rather than upgrades.

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Sensitivity Default to Rating Changes

Explanatory Variables	Dependent Variable: $Default_{j,i,m}$		
	Unlisted (1)	Listed (2)	Difference (1) - (2): (3)
<i>Ratings Change: m -11 to m-1</i>	-0.002*** (-3.73)	-0.004*** (-7.12)	0.002*** (3.08)
Controls	Yes	Yes	Yes
N	68,070	106,772	174,842
Fixed Effects	Industry,Yr	Industry,Yr	Industry,Yr
Std Errors Clustered At	Firm,Yr	Firm,Yr	Firm,Yr

- ▶ At the security-level, listed firms' "D" ratings exhibit greater sensitivity to ratings changes over the prior year than unlisted firms.

Alternative Hypotheses

- ▶ **Linear controls may not account for observable differences between unlisted and listed firms**
 - ▶ Matching on Debt-to-Earnings and Profitability within each Industry-Year using a Mahalanobis technique
 - ▶ Size percentile fixed effects instead of linear controls for size
 - ▶ Univariate tests with *RatingsGap* for firms that switch status
- ▶ **Since ratings are more important for unlisted firms' access to external finance, they may provide more information to rating agencies**
 - ▶ No evidence that CRAs have fewer disagreements for unlisted firms.
- ▶ **Auditor fixed effects may not control for audit quality if there are systematic differences in listed/unlisted firm coverage across auditors.**
 - ▶ Repeat the analysis restricting sample to auditors that cover roughly equal proportion of listed and unlisted firms
- ▶ **Unlisted firms may receive more favorable ratings because they receive financial support from large shareholders (insiders) and affiliated firms.**
 - ▶ Control for group membership and group financial strength
 - ▶ Our results are also robust to the inclusion of non-rating revenue control variables
- ▶ **Unlisted firms may have systematically lower sensitivity to future financial characteristics than listed firms**
 - ▶ No evidence than unlisted firms' financial statements are less predictive of future profitability or sales
- ▶ **Our differences between unlisted and listed firms may be driven by post-2008 credit ratings surge**
 - ▶ Our main results hold when partitioning our sample to pre- and post- 2008

Contribution

1. Listed status and firm characteristics

- ▶ Cost of debt: Badertscher, et al., (2015)
- ▶ Earnings quality: Givoly, et al., (2010)
 - ▶ *Limitation:* these studies use privately-held companies with publicly traded bonds for their sample of unlisted firms

2. Rating agency catering

- ▶ Ratings less sensitive to off-balance sheet debt for firms with ratings-based covenants (Kraft, 2015)
- ▶ Lax monitoring after securities issuances (Bonsall, et al., 2015)
- ▶ Increased competition among rating agencies (Becker and Milbourn, 2011; Bolton, et al., 2012)

3. Ratings accuracy

- ▶ Ratings become more timely after increased regulatory intervention and lapses in reputation (Cheng and Neamtiu, 2009)
- ▶ Rating agencies may allow their accuracy to vary with the business cycle (Bar-Isaac and Shapiro, 2013)

Conclusion

- ▶ Basel bank capital norms increase the role of credit ratings for bank lending
 - ▶ A majority of bank borrowers around the world are unlisted
- ▶ We examine the role of (the lack of) market information in the ratings process
 - ▶ Market information disciplines rating agencies to provide more accurate and timely ratings
 - ▶ The lack of market discipline gives rating agencies discretion to change their methodologies and stringency
- ▶ Regulators should reconsider the decision to allow banks to use credit ratings for capital allocation
- ▶ Rating agencies should make the ratings of listed and unlisted firms more comparable