Unveiling the Impact of Foreign Competition on the Bond Market: Insights from S&P Debt Ratings

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Highlights

- This study documents a negative effect of foreign competition on debt ratings of the U.S. market.
- This negative effect is stronger for firms with prospector strategies and low organizational capital.
- This effect is weaker for firms with less information asymmetry and strong governance.
- This evidence remains robust across various estimation methods and measures.

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Abstract

This study investigates the influence of foreign competition on U.S. firms' debt ratings. The findings reveal a significant three-step downgrade in ratings with increased foreign competition, in particular affecting firms with prospector strategies, low organizational

capital, high information asymmetry, weak governance, and reshaping creditworthiness assessment.

Keywords: Foreign competition; Debt ratings; Governance; Creditworthiness

JEL classification: E44, F65, G14, G15

1. Introduction

The increasing recognition of debt ratings in the bond market reduces transaction costs for firms with higher ratings, making them more attractive to investors (Flynn & Ghent, 2018). Regulatory bodies in the U.S. and Europe have implemented measures to raise standards for ratings and oversee rating agencies, which affects competition and market dynamics. However, research has yet to fully explore the impact of foreign competition on credit ratings in the bond market – a gap this paper aims to address.

To develop a theoretical link between foreign competition and credit ratings, we propose two contrasting views. First, firms engaged in foreign competition experience declining profit margins due to intensified competition. This decreased profitability affects a firm's performance and ability to meet debt obligations, thus reducing its credit score. To protect the firm's image or personal interests, management resorts to earnings manipulation in response to intense competition (Lin et al., 2015). Moreover, foreign competition prompts myopic decision-making that hinders innovation (Xia & Lu, 2018) and diverts expenditures to shorter-term investments (Fromenteau et al., 2019), leading to unstable long-term growth and lower credit ratings.

On the contrary, foreign competition simplifies performance assessment by enabling comparison with industry peers and aiding investors in monitoring managerial behaviour (Lin et al., 2015). Firms facing such competition enhance governance practices (Schmidt, 1997) and provide rating agencies with more data for cross-country evaluations. This also fosters opportunities for domestic firms to improve business activities, bring new insights, and develop new strategies (Fu, 2012), which ultimately leads to improved performance and higher debt ratings. Moreover, foreign competition facilitates the replication of innovations, offering economic advantages and risk reduction by avoiding costly research and

development investments. These benefits collectively contribute to firm growth, survival, and enhanced credit ratings.

We test these contrasting perspectives based on U.S. firms and document a significantly negative relation between foreign competition and credit ratings, which suggests that foreign competition intensity is a significant factor in a firm's creditworthiness. This finding remains robust across various estimations and measures, and further analysis suggests that this relation is pronounced in firms with prospector-type strategies, lower organisational capital, higher information asymmetry, and weaker governance monitoring.[1]

Our study contributes in two ways. First, we enrich the existing literature by delving into the consequences of foreign competition. While prior research examines its effects on various facets of corporate behaviour, such as cost of debt (Valta, 2012), earnings management (Lin et al., 2015), investment (Frésard & Valta, 2016), stock liquidity (Atawnah et al., 2018), firm innovation (Autor et al., 2020), and debt maturity structure (Atawnah et al., 2023), we take a broader perspective by investigating its impact on the bond market, specifically focusing on S&P credit ratings. In line with the adverse effects of foreign competition (e.g., Atawnah et al., 2018), our research reveals a detrimental impact on firms' debt ratings.

Second, we extend the literature evaluating the predictive power of ratings in assessing credit risk. Previous studies scrutinize debt ratings from agencies like S&P and Moody's to measure default probability. However, our research advances this field by examining the effect of foreign competition on debt ratings, which serves as a significant indicator of default risk. Going beyond, we show that this detrimental impact of foreign competition is stronger in firms adopting prospectors-type strategies, possessing lower

[1] Table A.2 in appendix presents the results and arguments for additional analyses.

organisational capital, experiencing higher information asymmetry, and facing weaker governance monitoring. These insights deepen our understanding and offer valuable perspectives on the factors exacerbating the impact of foreign competition on debt ratings.

2. Data and Methodology

To build our sample, we gather data from diverse sources, including industry-level imports from Schott's International Economics Resource Page, domestic production from the Manufacturing Industry Database of the National Bureau of Economic Research-U.S. Census Bureau, S&P debt ratings from Compustat, stock-related data from the Centre for Research in Security Prices, and institutional holdings from Thomson-Reuters Institutional Holdings. We winsorize all continuous measures at the 1st and 99th percentiles, resulting in a final sample of 5,291 firm-year observations between 1993 and 2012.

For foreign competition (*FOREIGN*), we consider import penetration, dividing total imports by imports plus domestic production per industry. Following prior research (e.g., Ma et al., 2021), we estimate S&P debt ratings on a scale from AAA to D or SD, where "22" indicates the highest and "1" the lowest rating (*RATINGS22*), showing a positive association with debt ratings.

To examine foreign competition's impact on S&P debt ratings, we use the following panel specification:

$$RATINGS22_{it} = \beta_0 + \beta_1 FOREIGN_{it-1} + \gamma' CONTROLS_{it-1} + \psi_j + \omega_t + \varepsilon_{it}, \quad (1)$$

where our dependent variable is *RATINGS22* of a firm in year *t*, the key explanatory variable is *FOREIGN* of a firm in year *t-1*. Panel estimation employs ordinary least squares (OLS) by clustering standard errors at the firm-level. To minimize any estimation bias due to omitted variables, we control several variables with a lag of one period, including firm size (*LNTA*), leverage (*LEV*), profitability (*ROA*), market-to-book ratio (*MTB*), loss of income (*LOSS*),

tangibility (*TANG*), interest coverage (*INTCOV*), return volatility of stocks (*RETVOL*), and institutional ownership (*INSOWN*).

The descriptive statistics for our base sample are presented in Table 1. The mean debt rating *RATINGS22* is 12.9, indicating a credit rating above BB+ on a scale of 22 points, with the top-25 firms rated BBB+ or higher, in line with Hasan and Taylor (2023). The average *FOREIGN* is around 21.2%, which is consistent with the extant literature (e.g., Atawnah et al., 2018), and the mean of controls exhibits standard values comparable to prior studies.

[Table 1]

3. Results

3.1 Baseline, alternative estimation, and measure

The findings on the impact of foreign competition on ratings are presented in Table 2. The coefficient for *FOREIGN* is -1.9187, which is significant at the 1% level, showing that firms experiencing significant foreign competition tend to receive lower debt ratings, which harms their creditworthiness. This evidence is also economically significant, i.e., one standard deviation in *FOREIGN* corresponds to a three-notch debt rating downgrade moving from BBB+/BBB to BBB-).[2]

Next, we substitute the OLS estimation with an ordered logit approach (OLOGIT). The negative effect of foreign competition on ratings is confirmed, as listed in Column 2 of Table 2. Moreover, we use an alternative ordinal range of ratings (*RATINGS7*) from "7" (AAA) to "1" (D or SD), as listed in Column 3 of Table 2, and validate the detrimental effect of foreign competition on ratings. This study underscores the importance of considering foreign competition in rating agencies' assessments, and highlights its significant influence on firms' creditworthiness.

[2] 0.1198 (SD-Table 1) ×-1.9187 (coefficient -Column 1 of Table 2) ×12.8753 (Mean-Table1) = 2.96 ≈ 3.

3.2 Endogeneity tests

Our analysis is subject to potential endogeneity bias. To reduce the risk of omitted-variable bias caused by unobservable firm characteristics, we use firm-fixed effects (FFE) in Column 4 of Table 2 and to reduce any self-selection bias induced by firm-specific features and the risk of reverse causality, we consider propensity score matching (PSM). The coefficient for *FOREIGN* is significantly negative at the 1% level, as noted in Columns 4–5 of Table 2, due to better debt ratings of firms enabling them to suppress competitors through lobbying, which confirms our baseline evidence.

[Table 2]

4. Conclusion

This study reveals a significantly negative relationship between foreign competition and debt ratings, indicating weakened creditworthiness. Results remain robust across several tests. Foreign competition's impact becomes stronger for firms with prospector strategies, lower organisational capital, higher information asymmetry, and weaker governance. Implications extend to investors, managers, and regulators for assessment of default risk, resilient strategies, and strong governance and reporting, respectively. However, our findings are limited to U.S. firms within the timeframe, considering potential impacts from exogenous shocks or changes.

Declaration of interest

None.

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Data availability

The authors do not have permission to share data.

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Table 1
Descriptive Statistics

Variable	Obs.	Mean	Median	Min	P25	P75	Max	SD
RATING22	5,291	12.8753	13.0000	3.0000	10.0000	15.0000	21.0000	3.4500
FOREIGN	5,291	0.2117	0.1985	0.0371	0.1098	0.2793	0.5144	0.1198
LNTA	5,291	7.8585	7.8027	4.1078	6.9348	8.6820	10.6435	1.2825
LEV	5,291	0.3170	0.2883	0.0000	0.2001	0.4092	1.1100	0.1729
ROA	5,291	0.0359	0.0479	-1.2169	0.0098	0.0821	0.2909	0.0970
MTB	5,291	1.2056	0.9917	0.1898	0.2284	1.0044	3.0463	0.3505
LOSS	5,291	0.2020	0.0000	0.0000	0.0000	0.0000	1.0000	0.4016
TANG	5,291	0.5713	0.5035	0.0265	0.3089	0.7835	2.0171	0.3348
INTCOV	5,291	9.4610	7.0161	0.9375	3.4952	12.9932	18.4500	4.0078
RETVOL	5,291	0.3929	0.3370	0.1129	0.2363	0.4811	0.5324	0.2304
INSOWN	5,291	0.6847	0.7159	0.0101	0.5737	0.8347	1.0000	0.2058

Note. This table reports the descriptive statistics of the sample. Variable definitions are in Appendix; Table A.1

Table 2
Foreign Competition and Credit Ratings

	OLS	OLOGIT	OLS	FFE	PSM
Dependent Variable:	*RATING22*	*RATING22*	*RATING7*	*RATING22*	*RATING22*
	(1)	(2)	(3)	(4)	(5)
FOREIGN	-1.9187	-2.103	-0.4382	-6.8317	-1.5733
	(-3.42)***	(-3.94)***	(-2.22)**	(-7.69)***	(-2.84)***
LNTA	1.2500	1.1635	0.4137	1.1928	1.2997
	(44.51)***	(38.85)***	(43.40)***	(18.87)***	(45.07)***
LEV	-3.9237	-3.9843	-1.3325	-3.0914	-4.013
	(-17.50)***	(-18.18)***	(-18.00)***	(-10.94)***	(-16.88)***
ROA	4.9156	5.4011	1.5307	1.8322	3.3302
	(7.52)***	(8.09)***	(7.05)***	(5.82)***	(5.17)***
MTB	0.0182	0.0159	0.0057	0.0005	0.0124
	(4.77)***	(4.48)***	(4.29)***	(0.20)	(3.24)***
LOSS	-0.6057	-0.2721	-0.1917	-0.1813	-0.5946
	(-5.29)***	(-2.52)**	(-4.86)***	(-2.82)***	(-5.04)***
TANG	0.6042	0.5436	0.187	1.1074	0.3735
	(6.35)***	(6.15)***	(5.59)***	(6.59)***	(3.65)***
INTCOV	0.0012	0.0003	0.0003	0.0006	0.0011
	(1.65)*	(0.56)	(1.48)	(2.13)**	(1.51)
RETVOL	-4.4552	-1.0333	-1.4938	-1.543	-1.6002
	(-23.34)***	(-22.13)***	(-22.74)***	(-12.43)***	(-20.24)***
INSOWN	0.8344	0.3635	0.1784	0.0354	0.837
	(4.57)***	(2.06)**	(2.84)***	(0.14)	(4.20)***
Constant	5.6176	-	1.3742	4.7462	4.6064
	(13.00)***	-	(8.74)***	(8.14)***	(12.34)***
Industry fixed effects	Yes	Yes	Yes	No	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	No	No	No	Yes	No
Adj. R-squared	0.6799	-	0.6532	0.9263	0.6245
Pseudo R-squared	-	0.3573	-	-	-
Obs.	5,291	5,291	5,291	5,291	788

Note. This table reports the OLS (Columns 1 and 3), OLOGIT (Column 2), FFE (Column 4), and PSM (Column 5) estimates of debt ratings on foreign competition. Standard errors are robust to heteroscedasticity and clustered by firms. Statistical significance is denoted by significance levels of ***1%, **5%, and *10% levels, respectively.