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## **Europe vs. the U.S.: A New Look at the Syndicated Loan Pricing Puzzle**

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# Europe vs. the U.S.: A New Look at the Syndicated Loan Pricing Puzzle\*

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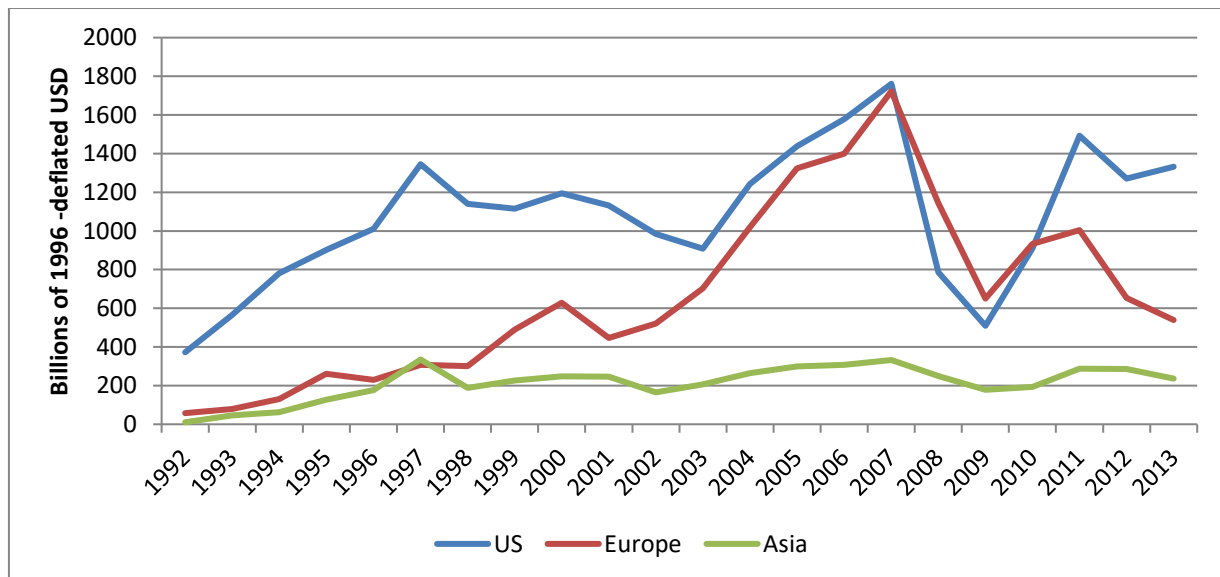
## **Abstract**

According to the syndicated loan pricing puzzle (Carey and Nini, *Journal of Finance*, 2007) interest rates charged to corporate borrowers are lower in Europe than in the U.S. Our investigation suggests that controlling for region-specific credit ratings makes the Europe-U.S. gap insignificant, and solves the puzzle. We speculate that the puzzle originates from the lack of uniformity of accounting standards.

## 1. The Puzzle

A syndicated loan (SL) is a credit granted by a group of lenders, mostly banks. With a SL, the issuer selects one or several lead arrangers to structure, arrange, underwrite, and administer the loan (Dennis and Mullineaux, 2000). The lead arrangers charge a fee for their services. It should be noted that the SL market is huge. Recent statistics from Thompson Reuters (<http://dmi.thomsonreuters.com>) and the Bank for International Settlements (<http://www.bis.org>) indicate that syndicated lending attracts around 50% of corporate debt issuance in the U.S., and some 20% in Europe. Fig. 1 shows the evolution of the market between 1992 and 2014.

**Figure 1: Syndicated Loan Market: Issuance Volume 1992-2014**



Source: Loan Pricing Corporation's DealScan database, authors' computations

The so-called SL pricing puzzle emerged from the work of Carey and Nini (2007), henceforth C&N, showing that, all else equal, credit in the European SL market is significantly cheaper than in its U.S. counterpart. Subsequent articles provided partial clues to the puzzle by emphasizing that ratings alone are insufficient to account for the riskiness of SL contracts. Gaul and Uysal (2013) blamed unobservable volatility differences between U.S. and European firms. That explanation solved the puzzle, but only for listed borrowers. Berg et al. (2016) underscored that loan category matters, and showed that the puzzle vanishes for syndicated credit lines, which account for 70% of their full sample.

Stressing that ratings are based on accounting ratios (Campbell and Taksler, 2003), which depend on standards that vary across jurisdictions, this paper shows that using region-specific ratings solves the SL puzzle, not only over the period covered by C&N, but also for a larger sample of SLs.

## **2. Data and Methods**

Analyzing the SL puzzle requires first comparing the all-in spreads—the spread to LIBOR, plus fees—of deals arranged in the U.S. with those observed on the European market. C&N capture the Europe-U.S. difference by introducing a dummy variable for European loans in the OLS regression explaining the all-in-spreads. They control for a number of variables, including the borrower’s credit rating. This econometric design relies on the assumption that, for lenders, the informational content of credit ratings is uniform across jurisdictions. We lift this assumption by introducing Europe-specific credit ratings through interaction terms into the regression.

Our data are retrieved from Loan Pricing Corporation’s DealScan database. They concern 25,078 SLs granted over the period from January 1992 to December 2014. Like C&N, we selected USD-

denominated SLs issued in Europe and in the U.S., for which the borrowing firms are located in OECD member countries, Hong Kong, Singapore, or Taiwan. When ratings from both Standard & Poor's and Moody's were available, C&N used the lower of the two. They furthermore discarded borrowers rated above A+ and below B-.<sup>1</sup>

### **3. Results**

Table 1 shows descriptive statistics for all-in spreads over the 1992-2014 sample. T-tests for equal means reject the null both for low ratings in the investment-grade category (A-, BBB+, BBB, BBB) and for half of the speculative ratings (BB, B, B-). The results are possibly due to the fact that loans in Europe and the U.S. have different characteristics. The regressions reported in Table 2 control for these characteristics. They explain the all-in spread over two sample periods: the full period (1992-2014) and the period studied by C&N (1992-2002). For the latter, we consider two specifications depending on whether the European dummy is single or split into two sub-periods (1992-1998 and 1999-2002), as in the original model. In each case, we replicate the global-rating approach used by C&N (2007) and compare it to our region-specific rating model, which includes interaction terms between the regional dummy variable and rating classes.<sup>2</sup>

Our findings suggest that the SL pricing puzzle can be solved by acknowledging the possibility that rating agencies' assessments are region-dependent. A rationale for this stems from the fact that accounting ratios depend on the standards used in different regions. Despite harmonization measures taken by the European Union since 2005, a significant gap still exists between the reporting conventions of U.S. and non-U.S. firms (Barth et al., 2012). Leuz (2010), who groups

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<sup>1</sup> The sample used by Gaul and Uysal (2013) is made of rated loans of listed firms only. Berg et al. (2016) use all the rated loans.

<sup>2</sup> For the sake of clarity, we show only the coefficients of rating-related explanatory variables. Full results are available upon request.

countries according both to regulatory frameworks and to reporting practices, puts continental Europe and the U.S. into separate groups for both criteria. Cascino and Gassen (2015) document differences in compliance with International Financial Reporting Standards (IFRS). Likewise, Nobes (2006) and Kvaal and Nobes (2012) argue that accounting rules are persistent, so that pre-IFRS local specificities continue to influence practices even after the standards have been adopted. In addition to firm's characteristics, tax motives and enforcement schemes contribute to the EU-U.S. gaps (Nobes, 2006; Leuz, 2010).<sup>3</sup> Arguably, the existing credit rating agencies are aware of these differences and take them into account when providing international ratings.

**Table 1: Descriptive Statistics: 1992-2014**

*The spreads are expressed in basis-points (1bp = 0.01%); the rating is either the Standard & Poor's or the Moody's rating (when only one of the two is available), or the lesser rating (when both are available); \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%*

All-in Spread	Europe		U.S.		T-test for equal means
	Mean	SD	Mean	SD	
Total	127	133	222	164	12.88***
Investment grade					
A+	39	28	43	39	0.98
A	56	63	47	50	0.99
A-	42	37	69	58	5.12***
BBB+	49	40	80	54	5.75***
BBB	73	46	102	62	5.43***
BBB-	90	62	136	79	5.24***
Speculative grade					
BB+	200	183	169	83	0.65
BB	245	106	208	94	1.99**
BB-	233	84	238	103	0.34
B+	315	181	293	127	0.82
B	255	178	371	175	2.98***
B-	303	67	376	184	3.24***

<sup>3</sup> The baseline model of C&N includes only the rating and the industry of the borrower. However, European and U.S. firms may also differ in size, age, risk, and other characteristics poorly captured by credit ratings. A further development of the model could control for these characteristics. We thank an anonymous referee for highlighting this point.

In all three regressions when region-specific ratings are included the Europe dummy (or dummies) become insignificant. Many coefficients of the interaction terms seem insignificant in themselves,<sup>4</sup> but, when combined, they provide sufficient explanatory power to make irrelevant the purely geographical factor underlined in the puzzle. Enlarging the sample of European rated loans would allow to deepen the analysis. Interestingly, the likelihood ratio test reported in Table 2 indicates that including region-specific ratings produces a better fit, but only for the full sample ( $p = 0.0014$ ), since the two p-values corresponding to the C&N period lie above 30%.

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<sup>4</sup> The small share of European loans with a credit rating recorded in the database might explain the lack of significance of most interaction terms.



**Table 2: Regression Results**

<i>All-in-spread</i>	Full period 1992-2014		Puzzle period 1992-2002			
	Global ratings	Region- specific ratings	Global ratings	Region- specific ratings	Global ratings	Region- specific ratings
<i>Europe</i>	-11.06**	1.863	-14.38***	23.24		
<i>Europe (1992-1998)</i>					-15.41*	23.47
<i>Europe (1999-2002)</i>					-13.70**	23.24
<i>Europe * A+</i>		-17.50		-31.96		-32.04
A	5.232	4.751	2.99	2.35	2.995	2.350
<i>Europe * A</i>		-7.386		-20.35		-20.46
A-	10.52**	10.54**	16.63***	17.29***	16.65***	17.29***
<i>Europe * A-</i>		-18.21		-43.96		-44.10
BBB+	17.11***	17.04***	20.09***	21.00***	20.10***	20.99***
<i>Europe * BBB+</i>		-16.66		-53.69		-53.81
BBB	32.07***	32.01***	36.51***	36.85***	36.50***	36.85***
<i>Europe * BBB</i>		-17.14		-38.96		-39.00
BBB-	53.06***	53.10***	62.09***	62.85***	62.09***	62.85***
<i>Europe * BBB-</i>		-22.54		-71.98*		-72.06*
BB+	83.65***	83.27***	96.89***	97.19***	96.89***	97.19***
<i>Europe * BB+</i>		-		-		-
BB	114.8***	113.7***	136.2***	136.1***	136.2***	136.1***
<i>Europe * BB</i>		34.40		-0.954		-0.994
BB-	139.2***	138.9***	161.0***	161.5***	161.0***	161.5***
<i>Europe * BB-</i>		-7.526		-57.79		-57.83
B+	187.4***	186.9***	193.4***	193.8***	193.4***	193.8***
<i>Europe * B+</i>		19.03		-43.33		-43.43
B	241.6***	241.8***	217.2***	217.7***	217.2***	217.7***
<i>Europe * B</i>		-94.53***		-57.20		-57.20
B-	264.2***	264.3***	250.6***	250.4***	250.6***	250.4***
<i>Europe * B-</i>		-61.52		-		-
Year	Yes	Yes	Yes	Yes	Yes	Yes
Loan characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Borrower's industry	Yes	Yes	Yes	Yes	Yes	Yes
Constant	109.6***	109.3***	75.47***	72.01***	75.51***	72.01***
Observations	24,914	24,914	8,429	8,429	8,429	8,429
R <sup>2</sup>	0.640	0.641	0.712	0.713	0.712	0.713
Global versus region-specific ratings						
LR test statistic	30.36		10.97		10.95	
p.value	0.0014		0.3596		0.3617	

#### **4. Conclusion**

Our estimations suggest that introducing region-specific credit ratings to explain the interest rates charged to borrowers makes the Europe-U.S. gap insignificant. Therefore, we speculate that the SL pricing puzzle originates from factors that compromise the uniformity of credit ratings across regions, notably local accounting standards. Other structural differences, such as the determinants of capital structure (Antoniou et al., 2008) and stock volatility (Bartram et al., 2012), could also be part of the explanation.

These findings are consistent with the presence of information asymmetry on the credit market. Following this line of reasoning, syndicated lenders, who are typically major players in the credit market, are well aware that credit ratings are region-specific. According to this view, the lenders—unlike regulators, market participants and econometricians—have learned the true meaning of credit ratings from (shared) experience. This would explain why the importance of the region varies with the credit rating of the borrower. Still, further analyses are required to assess the relevance of this explanation. The conversation on this pricing issue needs to be continued because of the size of the SL market and its importance for our economies.

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