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Highlights

- Cultural distance between borrowers and arrangers constitute information and effort costs.
- Culturally distant arrangers suffer from moral hazard, that is, shirking in monitoring.
- Culturally distant arrangers hold high lending shares to overcome moral hazard.
- Relationship between borrower and culturally distant arranger reduces moral hazard.

ACCEPTED MANUSCRIPT

Cultural Differences and the Structure of Loan Syndicates

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Abstract

Do cultural differences between lender and borrower affect the structure of the loan syndicate? Analyzing 8,031 syndicated loans to US borrowers signed between 1986 and 2007, we find that lending shares are higher for foreign arrangers than domestic arrangers. Among foreign arrangers, lending shares further increase with cultural distance. We interpret this as a result of an increased moral hazard problem driven by higher information and effort costs faced by foreign arrangers. However, previous interactions between borrowers and arrangers can reduce moral hazard, hence culturally distant arrangers are able to form diffused syndicates.

Keywords

Syndicated loans; Syndicate structure; Culture; Information asymmetry; Moral hazard

JEL codes

D82; F30; G15; G21

1. Introduction

This study investigates whether cultural differences between the arranger and the borrower affect the structure of the loan syndicate. In the syndicated loan market, the arranger negotiates the terms of the contract with the borrower, and then invites participants to fund part of the loan. In order to avoid the cost associated with multiple-creditor monitoring, participants delegate monitoring and administrative responsibilities to the arranger who bears the monitoring cost in return for additional fee income (Boot and Thakor, 2000; Hauswald and Marquez, 2006). This setting can however reduce the incentive of arrangers when there is no net advantage of acting as a delegated monitor (Diamond, 1984). This incentive problem for the delegated monitor can be severe if gathering private information requires substantial additional cost, as is the case when the distance – either geographically or culturally – between borrower and lender is large. Arrangers have to bear the monitoring cost, yet retain only a fraction of the loan. Therefore, arrangers could lack the incentive to provide the optimal level of efforts (Ivashina, 2009; Lin et al. 2012; Sufi, 2007). Because monitoring efforts are costly and unobservable, arrangers must retain a higher share of the loan in order to credibly commit to a sufficient level of monitoring *vis-à-vis* the syndicate's other participants (Diamond, 1984). Otherwise, a moral hazard problem would arise (Bharath et al., 2011; Holmstrom and Tirole, 1997; Sufi, 2007). In this study, we investigate whether this moral hazard problem is especially severe for foreign arrangers who are culturally distant, whether it affects the syndicate structure and how it can be overcome. We hypothesize that cultural distance between arrangers and borrowers increases monitoring cost and moral hazard. Consequently, we expect that distant arrangers need to retain higher lending shares in order to credibly commit to proper monitoring.

In this study, we perceive the existence of natural and cultural barriers in the communication between arrangers and borrowers. Geographical distance alone constitutes such a barrier (Mian, 2006). Furthermore, translations are required to effectively communicate in case of differing languages, which might create mis-understandings because words are interpreted differently across cultures. Furthermore, Adair et al. (2001), Brett and Okumura (1998) and Ting-Toomey (2007) argue that cognitive, behavioral and emotional constraints hinder effective communication among different cultures while sharing similar norms and codes facilitates communication. For example, senior

managers are given high status in Asian cultures and are selected as negotiators, but they might find it inappropriate to negotiate with younger, more subordinate people chosen in Anglo-Saxon cultures. Managers from individualistic and egalitarian cultures prefer direct and straightforward communication. Thus, they have a different idea of how to efficiently and effectively communicate than managers from hierarchical cultures who prefer to pass information through multiple managerial layers. Overall, these attributes are determining factors in the process of negotiation and financial contract design. More specifically in the context of syndicated lending, distance, as well as language and cultural differences make the arranger's monitoring task more difficult.

This study relates closely to two prominent studies and provides complementary evidence as far as distant lenders are concerned. First of all, Mian (2006) provides empirical evidence that greater cultural and geographical distance between a foreign bank's headquarters and its local branches leads to reduced lending to "informationally difficult" yet fundamentally sound firms that require relational contracting. On the other hand, Petersen and Rajan (2002) show that lender productivity and technology improvements increase access to credit for remote firms, enabling such firms to move beyond local loan markets and communicate with lenders in more impersonal ways. Contrary to Petersen and Rajan (2002), we argue that although communicating with lenders and getting hard information is relatively easy due to technology advancements, acquiring soft information is still an obstacle. Geographical distance, legal or cultural differences can also hinder the acquisition of information. As noted by Giannetti and Yafeh (2012), cultural differences increase contracting cost. The effect may be non-pecuniary, if interaction with culturally distant borrowers increases the lenders' disutility from writing the contract. We therefore look specifically at cultural differences in the syndicated loan market.

The existing evidence regarding borrower-lender distance focuses on loan pricing and gives evidence of spatial price discrimination, that is, a negative relationship between borrower-lender distance and loan cost.¹ In contrast, we study the impact of borrower-lender distance on syndicate structure. There are a number of studies investigating the asymmetric information problem by

¹ See Agarwal and Hauswald (2010), Degryse and Ongena (2005), Giannetti and Yafeh (2012) and Knyazeva and Knyazeva (2012).

analyzing syndicate structure. These studies differ, however, with respect to the proposed syndicate structure determinants; either it is the borrowers' opaqueness, lead arrangers' reputation or both.² One strand of literature confirms that informed lead arrangers do not exploit the opacity of the borrowers and participants require the lead arrangers to retain a higher share of the loan and form smaller, more concentrated syndicates (Jones et al., 2005; Lee and Mullineaux, 2004; Lee et al., 2010; Simons, 1993). Some studies focus only on the reputation of the lead arranger and conclude that reputed lead arrangers retain a higher share and form a more concentrated syndicate (Pichler and Wilhelm, 2001; Ross, 2010; Sufi, 2007). In contrast, Dennis and Mullineaux (2000) highlight that lead arrangers are more likely to syndicate out loans when the loan is large, the borrowing firm is public, and the lead arranger has a strong reputation. Overall, these studies focus on domestic lending and we contribute to this literature by focusing on the arranger-borrower distance as an additional determinant of the syndicate structure.³

In summary, the contributions of our study are in twofold: Firstly, to the best of our knowledge we are the first to directly study how foreign, culturally distant arrangers form syndicates. Thus we innovate by analyzing syndicate structure as determined by the cultural distance between lead bank and borrower. Secondly, we consider how this borrower-lender distance can be overcome. The remainder of the paper is structured as follows: Section 2 describes our sample and methodology. Section 3 presents our regression results. Section 4 concludes.

2. Data and methodology

Our sample originates from the Loan Pricing Corporation's DealScan database and consists of 8,031 syndicated loan deals advanced to 4,353 US firms between 1986 and 2007. As such, we apply three filters regarding sample period, borrower nationality and number of arrangers. Firstly, in accordance with Haselmann and Wachtel (2011) and Ivashina and Scharfstein (2010), we exclude loans signed

²See Schure et al. (2005) for a theory of loan syndication. Note that the decisions on whether to syndicate a loan and how to structure the syndicate are related to the decision of loan tranching. Here, lenders decide to split a loan deal into separate tranches with different lender groups forming separate, tranche-specific syndicates. For a discussion of the determinants and economic value of tranching see Cumming et al. (2010) and Maskara (2010).

³Giannetti and Yafeh (2012) study the cultural distance between lead banks and participant banks and show that participant banks hold smaller portions of loans syndicated by culturally remote banks.

during 2007-2008 financial crisis, as crisis-induced credit rationing will allow only the best borrowers to raise syndicated loans, and the nature and effects of information asymmetry may differ greatly for these borrowers. Secondly, we restrict our sample to loans granted to US borrowers as DealScan's coverage of non-US loans is limited, particularly, during the early part of our sample period and lending share information is often missing for non-US loans.⁴ Our US sample covers a substantial fraction of the global syndicated loan market and is in line with the empirical literature on syndicate structure (Jones et al. 2005, Sufi 2007, Panyagometh and Roberts 2010). Thirdly, by including only single arranger loans, we follow Panyagometh and Roberts (2010:279) who recognize the ambiguity involved in measuring lending shares of multiple lead arrangers: "Such ambiguity could arise over whether to count the shares of lead banks invited to participate in the original lead, as lead bank shares or shares syndicated out by the original lead." Coleman, Esho, and Sharpe (2006) analyze single arranger loans due to the small number of loans with multiple lead lenders. As Deal Scan reports a single arranger for 78% of loans to US borrowers, excluding multiple arranger loans will not substantially reduce our sample.⁵ Despite these three filters, our sample of 8,031 loans is substantially larger than samples used in related studies: Panyagometh and Roberts (2010) base their analysis on 6,304 loans to US borrowers, Sufi (2007) uses 4,414 loans to US borrowers, Dennis and Mullineaux (2000) rely on a sample of 3,410 loans and Bosch and Steffen (2011) analyze 367 loans to UK borrowers. In line with Sufi (2007), we conduct our analysis at the deal level and estimate an OLS model. Our dependent variable *arranger's lending share* measures syndicate structure as the fraction of the deal funded by the arranger.

Firstly, we identify the arranger's nationality by the location of its headquarter and create a *foreign arranger* dummy which is set to one for arrangers with headquarters outside the US. Here we follow Bloom et al.'s (2009) argument that the culture of the headquarter country affects a company's organizational culture and the degree of centralization of its subsidiaries. Our sample covers arrangers

⁴ For our sample period from 1986 to 2007, 53% of loans reported in DealScan are raised by US borrowers. During the early years, however, the coverage is dominated by US borrowers with 93% and 73% for 1986-1990 and 1991-1995, respectively. Overall, less than 25% of all loans to non-US borrowers have some but not necessarily complete information on arranger lending shares.

⁵ We nevertheless conduct robustness checks by adding loans with multiple arrangers from the same country to our sample. Our sample size increases by only 12%. Results are robust and available upon request. In-depth analyses, i.e. of the endogenous choices between single versus multiple arrangers or between domestic versus foreign versus mixed arranger groups, are beyond the scope of this paper but are avenues for future research.

from 20 countries including the US (6,745 of the 8,031 deals) followed by UK (452), Canada (305), France (148), Switzerland (123), The Netherlands (99), Japan (61) and Germany (53).⁶ Secondly, we specifically measure *cultural distance* following Inglehart and Welzel (2005), again based on the location of the arranger's headquarters. They analyze the World Values Surveys (WVS), which are designed to measure all major categories of human concern, from religion to politics to economic and social life and find that two dimensions dominate: (1) Traditional vs. Secular-rational values and (2) Survival vs. Self-expression values. These two dimensions explain more than 70 percent of the cross-cultural variance across the individual WVS categories. Their cultural distance measure is a combination of both dimensions. For our own proxy, we calculate the Euclidean distance of these values between the arranger's country and the US. By using Euclidean distances, we focus on the absolute degree of difference with respect to – for example – traditionalism, but we do not measure whether a country is more or less traditional than the US. Thus, an arranger from a country that is 50% more traditional than the US is culturally equally distant as an arranger from a country that is 50% less traditional than the US.

In addition, we use a number of control variables including borrower and loan characteristics, which have been shown to influence the syndicate structure (Champagne and Coggins, 2012; Dennis and Mullineaux, 2000; Esty and Megginson, 2003; Giannetti and Yafeh, 2012; Lee and Mullineaux, 2004; Sufi, 2007). We use both *borrower size* and *loan size* as well as other loan characteristics including *loan maturity*, the existence of *multiple tranches* in the deal, whether the deal is *senior* or *secured* or has *covenants* attached to it. We also use measures for the degree of information asymmetry between borrower and lender. Sufi (2007) shows that arrangers form concentrated syndicates for informational *opaque borrowers*, that is, borrowers without publicly traded securities or rating. Bosch and Steffen (2011) also show the importance of ratings in the information production and argue that this information production increases access to capital. However, information asymmetry can be overcome by *arranger reputation*, as the loss of reputation counter-balances an arranger's moral hazard problem. Similarly, information asymmetry is reduced if a borrower has

⁶The remaining arranger countries are: Austria, Australia, Bahrain, Bulgaria, China, Finland, Greece, Israel, Italy, Norway, Puerto Rico, Serbia. In total, there are 104 foreign and 239 US arrangers.

previously accessed the syndicated loan market in general (*previous borrower*) or with the aid of the same arranger (*former arranger*). Finally, we control for borrower industry, loan type, loan purpose, and year of loan signing in our regressions. Table A1 in the Appendix presents our variable definitions and sources in detail.

3. Results

Table 1 presents our sample of 8,031 syndicated loan deals advanced to 4,353 US firms between 1986 and 2007. US banks arrange 6,745 deals while foreign banks arrange 1,286 deals. Compared to US banks, foreign banks arrange on average smaller loans (\$ 262 million vs. \$ 369 million) to larger borrowers (\$ 1,290 million vs. \$ 2,179 million). However, there are no substantial differences in lending to opaque or previous borrowers. Not surprisingly, arranger reputation is on average lower (0.18% vs. 1.14%) and lending shares are higher (39% vs. 34%) for foreign than US arrangers. Next, we investigate whether these differences in lending shares can be explained by the cultural distance between borrower and arranger.

Table 1
Descriptive Statistics

	Units	Loans arranged by				t-test for differences in mean
		Foreign arranger		US arranger		
		Mean	Standard deviation	Mean	Standard deviation	
Loan characteristics						
Loan size	\$ million	261.88	455.84	368.86	875.65	6.45 ***
Loan maturity	days	1,395.47	760.47	1,415.42	8,834.13	0.18
Senior	dummy	0.93	0.26	0.96	0.20	3.81 ***
Secured	dummy	0.50	0.50	0.43	0.49	-4.72 ***
Covenants	dummy	0.49	0.50	0.61	0.49	7.43 ***
Multiple tranches	dummy	0.30	0.46	0.26	0.44	-3.17 ***
Borrower characteristics						
Borrower size	\$ million	1,289.96	5,180.86	2,178.86	9,352.63	4.83 ***
Opaque borrower	dummy	0.62	0.49	0.60	0.49	-1.32
Previous borrower	number of loans	2.28	1.92	2.15	1.78	-2.26 **
Arranger characteristics						
Arranger reputation	%	0.18	0.44	1.14	2.04	34.59 ***
Former arranger	dummy	0.46	0.50	0.47	0.50	0.60
Arranger's lending share	%	38.53	29.38	34.03	26.70	-5.11 ***

Descriptive statistics are based on our sample of 8,031 deals of which 1,286 are arranged by a foreign arrangers and 6,745 are arranged by a US arranger. The t-test tests for differences in the means for the sample of US versus foreign arrangers assuming unequal variances. The null hypothesis postulates a mean-difference of zero against the alternative hypothesis of non-zero mean differences. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

Panel A of Table 2 presents our regression analyses with respect to the determinants of syndicate structure. Regression 1 considers our simple *foreign arranger* dummy. Its coefficient is significantly positive, indicating that foreign arrangers hold larger lending shares than US arrangers. This result is consistent with our moral hazard view of syndicated lending: Foreign arrangers face higher moral hazard due to higher monitoring cost than their domestic counterparts. However, by selecting an appropriate (e.g. higher) lending share, foreign arrangers can credibly commit to monitoring. Regression 2 confirms that this effect holds, though at a lower significance level, after controlling for other factors influencing the degree of information asymmetry between borrower and lender. In line with Lee and Mullineaux (2004), Panyagometh and Roberts (2010) and Sufi (2007), we find that arranger characteristics are strongly related to syndicate structure: Arranger reputation mitigates against moral hazard. Arrangers who reduce information asymmetries vis-à-vis the borrower through prior loan arrangement can also hold lower lending shares. Regarding the latter, our results are in line with Sufi (2007) and suggest the presence of a moral hazard rather than adverse selection problem in syndicated lending.⁷ Next we investigate whether- in addition to the arranger's foreignness - its *degree* of foreignness matters. Regressions 3 and 4 indicate that this is indeed the case: The *cultural distance* coefficient is significantly positive indicating that lending shares increase with cultural distance. To illustrate the economic relevance of our results in regression 4, consider the 34.03% average lending share of US arrangers reported in Table 1 as a benchmark. In contrast, Austrian arrangers in the early 1990s, who represent the *average* foreign arranger with a cultural distance of 0.73, have to hold almost a 2% higher lending share ($=0.73*2.63$). Given the average loan size of almost \$ 352 million, this 2% higher lending share represents a substantial commitment of the arranger to the amount of \$ 7 million. One standard deviation below and above this average cultural distance, we find arrangers from Canada and the Netherlands, respectively. Their lending shares are 1% and 2.7% above those of US arrangers. Finally, arrangers with the largest cultural distance to the US, for instance, Chinese arrangers in 1990, need to fund 6.5% more of the loan – equivalent to almost \$ 23 million – than their US counterparts. Given our moral hazard view of the syndicate loan market, this result is consistent with the interpretation that monitoring cost and the arranger's moral hazard

⁷ The coefficients of our other control variables are consistent with the literature.

Table 2
Syndicate Structure Analysis

	Dependent variable: Arranger's lending share							
	Panel A: Cultural Distance				Panel B: Mitigating Moral Hazard			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Foreign arranger	1.90 *** (2.74)	1.32 * (1.88)						
Cultural distance			3.21 *** (3.77)	2.63 *** (3.06)	3.16 ** (2.55)	2.88 *** (2.98)	2.53 *** (3.17)	4.28 *** (4.28)
Opaque borrower		0.35 (0.64)		0.36 (0.66)	0.46 (0.79)	0.36 (0.65)	0.36 (0.65)	0.39 (0.70)
Previous borrower		-0.51 (-1.27)		-0.51 (-1.28)	-0.51 (-1.29)	-0.45 (-1.05)	-0.51 (-1.28)	-0.53 (-1.32)
Arranger reputation		-61.53 *** (-4.42)		-59.19 *** (-4.27)	-59.05 *** (-4.56)	-59.22 *** (-4.57)	-59.40 *** (-4.58)	-58.22 *** (-4.50)
Former arranger		-1.29 *** (-2.62)		-1.27 ** (-2.58)	-1.27 ** (-2.47)	-1.28 ** (-2.50)	-1.27 ** (-2.49)	-0.82 (-1.52)
Cultural distance * opaque borrower					-0.83 (-0.54)			
Cultural distance * previous borrower						-0.48 (-0.42)		
Cultural distance * arranger reputation							74.31 (0.37)	
Cultural distance * former arranger								-3.74 ** (-2.52)
Borrower size	-0.90 *** (-4.07)	-0.76 *** (-3.39)	-0.91 *** (-4.13)	-0.77 *** (-3.44)	-0.77 *** (-3.75)	-0.77 *** (-3.77)	-0.77 *** (-3.77)	-0.79 *** (-3.84)
Loan size	-12.20 *** (-38.94)	-12.02 *** (-37.63)	-12.17 *** (-38.86)	-12.00 *** (-37.58)	-12.00 *** (-45.99)	-12.00 *** (-46.01)	-12.00 *** (-46.00)	-11.99 *** (-45.97)
Loan maturity	-3.68 *** (-8.75)	-3.76 *** (-8.91)	-3.69 *** (-8.77)	-3.76 *** (-8.93)	-3.76 *** (-10.29)	-3.76 *** (-10.27)	-3.76 *** (-10.27)	-3.77 *** (-10.30)
Senior	-4.94 *** (-3.59)	-4.83 *** (-3.52)	-4.87 *** (-3.54)	-4.77 *** (-3.48)	-4.79 *** (-3.94)	-4.77 *** (-3.92)	-4.77 *** (-3.92)	-4.76 *** (-3.91)
Secured	1.41 *** (2.64)	1.38 *** (2.59)	1.40 *** (2.63)	1.37 ** (2.57)	1.37 *** (2.66)	1.37 *** (2.65)	1.37 *** (2.65)	1.37 *** (2.66)
Covenants	-0.37 (-0.60)	-0.15 (-0.23)	-0.34 (-0.54)	-0.12 (-0.19)	-0.12 (-0.16)	-0.11 (-0.16)	-0.12 (-0.16)	-0.12 (-0.17)
Multiple tranches	0.84 (1.43)	0.85 (1.44)	0.87 (1.47)	0.86 (1.47)	0.86 (1.50)	0.86 (1.50)	0.86 (1.50)	0.85 (1.48)
Dummies:								
Borrower industry	yes	yes	yes	yes	yes	yes	yes	yes
Loan type	yes	yes	yes	yes	yes	yes	yes	yes
Loan purpose	yes	yes	yes	yes	yes	yes	yes	yes
Year of loan signing	yes	yes	yes	yes	yes	yes	yes	yes
Adjusted R ²	0.435	0.438	0.436	0.438	0.438	0.438	0.438	0.438
Number of observations	8,031	8,031	8,031	8,031	8,031	8,031	8,031	8,031

This table presents OLS regression results. For each independent variable the top row reports the estimated coefficient and the bottom row reports the t-statistic. Standard errors are heteroskedasticity robust. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

problem increases with cultural distance, and foreign arrangers need an increasingly larger lending share to credibly commit to monitoring.

In Panel B of Table 2 we investigate whether culturally distant arrangers benefit differently from information asymmetry reducing circumstances than domestic arrangers. In particular, we consider whether borrower transparency, borrower reputation, arranger reputation or previous interactions of the lead arranger with the borrower can reduce the moral hazard problem for foreign arrangers. We therefore interact *cultural distance* with *opaque borrower*, *previous borrower*, *arranger reputation* and *former arranger*, respectively. The results in Panel B show that only the latter

interaction effect has a significantly negative coefficient. We interpret this as evidence that past interactions of the culturally distant arrangers with the borrower, can reduce the moral hazard problem for these arrangers. These arrangers do not need to incur high cost of monitoring because they have already exerted efforts to acquire such information in the past. Thus, the foreign arranger's lending share increases with cultural distance; it does so only for lead arrangers who have no prior lending relationship with the borrower. In this sense, familiarity eliminates the moral hazard problem.

In order to check whether our main results (regression 4 in Panel B of Table 2) are robust, we conduct two sets of robustness checks. Firstly, we consider different cultural proxies. At the most simple level, *geographical distance* or *no common border* can be indicative of cultural distance (Glick and Rose, 2002; Rose, 2004). Similarly, a *different language* or a *different legal origin* can be considered (Buch and Lipponer, 2007; Glick and Rose, 2002; Heuchemer et al., 2009). Regarding the latter, La Porta et al. (2008:326) focus on the differences between common versus civil law and argue that “legal origins—broadly interpreted as highly persistent systems of social control of economic life—have significant consequences for the legal and regulatory framework of the society, as well as for economic outcomes”. Finally, specific proxies of business culture or national culture exist. Here, two broader measures dominate the business and economic literature on culture: management science prefers Hofstede's (1980) cultural dimensions while the economic literature often concentrates on trust (Ekinci et al., 2007; Guiso et al., 2009; Heuchemer et al., 2009; Sapienza et al., 2013; Siegel et al., 2011; Stulz and Williamson, 2003). We thus create two proxies: *cultural distance_{Hofstede}* and *cultural distance_{trust}*. In our sample, these different cultural measures are highly correlated with correlation coefficients between 0.70 and 0.99 and a principal components analysis indicates the existence of a single factor.⁸ We take this as evidence that these different measures mostly reflect the *same* cultural aspects and we thus consider each proxy individually. With the exception of *cultural distance_{trust}*, the cultural distance coefficients are positive and significant in Panel A of Table 3 and the interaction effects are robust. This confirms our conclusion that familiarity reduces moral hazard problem. Secondly, we reconsider our assumption that cultural distance is determined by the country in which

⁸ Details are available upon request.

Table 3
Alternative Cultural Distance Proxies

Cultural distance proxy	Dependent variable: Arranger's lending share						
	Cultural distance _{JW}	Cultural distance _{Hofstede}	Cultural distance _{Trust}	Geographical distance	No common border	Different language	Different legal origin
	(1)	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Cultural distance based on the country of the arranger's headquarters							
Cultural distance	4.28 *** (4.28)	0.23 *** (3.30)	17.91 (1.53)	0.52 *** (2.97)	3.04 *** (2.61)	3.01 * (1.87)	3.10 * (1.91)
Cultural distance * former arranger	-3.74 ** (-2.52)	-0.22 ** (-2.30)	-20.85 (-1.32)	-0.43 * (-1.86)	-2.77 * (-1.83)	-4.56 ** (-2.17)	-4.77 ** (-2.27)
Panel B: Cultural distance based on the country of the arranger's office							
Cultural distance	4.13 *** (2.98)	0.22 *** (2.97)	16.94 (1.38)	0.52 ** (2.55)	3.20 ** (2.31)	4.37 ** (2.51)	4.14 ** (2.54)
Cultural distance * former arranger	-4.39 ** (-2.40)	-0.25 ** (-2.44)	-19.69 (-1.19)	-0.53 ** (-1.98)	-3.39 * (-1.89)	-5.74 ** (-2.56)	-5.21 *** (-2.66)

This table presents OLS regression results. Regression 1 in Panel replicates our benchmark regression, e.g. regression 4 in Panel B of Table 2. For each independent variable the top row reports the estimated coefficient and the bottom row reports the t-statistic. Standard errors are heteroskedasticity robust. ***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

the arranger's headquarters are located.⁹ As DealScan indicates which office arranges the loan, we use the office's country instead. This affects 351 of our 8,031 deals, most of which are now assigned to the US. Results are robust as Panel B in Table 3 indicates.¹⁰

4. Summary and conclusion

This study shows the impact cultural differences between arrangers and borrowers have on the structure of the loan syndicate. We discover that foreign arrangers tend to form more concentrated syndicates and that this concentration increases with cultural distance. As delegated monitors, they have to incur higher cost when gathering information about the borrower and consequently, there exists a moral hazard problem for distant arrangers whose monitoring efforts are not observable. This moral hazard problem increases with monitoring cost. In order to ensure due diligence towards the syndicate's other participants, arrangers use their higher lending share of the loan as a commitment device. However, a weaker commitment device in form of a lower lending share is sufficient for distant arrangers who have arranged loans for the borrower in the past – supporting the interpretation, that information gathering costs are the core drivers of our results. These results hold even after controlling different dimensions of information asymmetry such as opaqueness of the borrower, borrower reputation or arranger reputation. Overall, we conclude that despite all the technological advancements, the global syndicated loan market is still not integrated and that cultural proximity of lenders to borrowers continues to be of great importance.

⁹ We are thankful to the anonymous reviewer for drawing our attention to this highly relevant issue.

¹⁰ We conduct additional robustness checks regarding sample size (reduced sample excluding club deals, project finance loans and loans to financial institutions and REITS) and methodology (standard errors clustered by arranger or arranger country). Results are overall robust. We also consider sample selection, in particular the potentially non-random matching of culturally distant lead arrangers to borrowers. Specifically, we estimate a Heckman selection model. The coefficient of the Inverse Mills ratio is insignificant, the coefficient of our cultural distance proxy is positive and significant but the interaction effect with former arranger is insignificant. While we believe to have addressed the sample-selection issue as far as possible, these coefficient patterns are not strong enough for us to conclude the absence of selection biases. All results including the detailed results underlying Table 3 are available upon request.

Appendix

Table A1

Variable Definitions and Sources

Dependent variable

Arranger's lending share Percentage of the deal funded by the lead arranger (1 = 1%). Lead arrangers are identified by DealScan's "Lead Arranger" field and - if missing - by the banks listed in the lead role in the "All Lenders" field. Lending shares are obtained from the "All Lenders" field.

Independent variables

Foreign arranger	Dummy = 1 if the lead arranger is headquartered outside the US, 0 otherwise.
Cultural distance (cultural distance _{IW})	Euclidean distance of the average of Inglehart and Welzel's (2005) traditional vs. secular-rational values and survival vs. self-expression values of the lead arranger country vis à vis the US.
Culture distance _{Hofstede}	Euclidean distance of the average of Hofstede's individualism, masculinity, power distance and uncertainty avoidance of the country of the lead arranger vis à vis the US. Source: Hofstede (1980).
Cultural distance _{Trust}	Euclidean distance of the degree of trust of the country of the lead arranger vis à vis the US. Source: World Value Survey. Question regarding "most people can be trusted". We use the weighted average of the results of all 5 waves where the number of participants who answer the question is
Geographical distance	Physical distance between the headquarter of the country of the lead arranger and the US in thousands of kilometers. Source: Great Circle Distances Between Capital Cities, at http://www.chemical-ecology.net/java/capitals.htm .
No common border	Dummy = 1 if lead arranger is from a country that does not share a common land border with the US. Source: CIA World Factbook.
Different language	Dummy = 1 if the lead arranger is from a country that does not use the same language as the US (English). Source: CIA World Factbook.
Different legal origin	Dummy = 1 if the lead arranger is from a civil law country. Source: CIA World Factbook.
Opaque borrower	Dummy = 1 if the borrower does not have both, an S&P senior debt rating and a ticker at the time of loan signing, 0 otherwise.
Previous borrower	Natural logarithm of 1 plus the number of loans raised by the borrower in the 5 years prior to loan signing.
Arranger reputation	Market share of the arranger in the US syndicated loan market the year prior to loan signing (0.01=1%).
Former arranger	Dummy = 1 if lead arranger has been lead arranger to the same borrower in the 5 years prior to loan signing, 0 otherwise.
Borrower size	Natural logarithm of the borrower's sales volume in US dollars at the time of loan signing.
Loan size	Natural logarithm of the deal size in US dollars at the time of loan signing.
Loan maturity	Natural logarithm of average maturity across all tranches belonging to the same deal, measured in days.
Senior	Dummy = 1 if the deal is senior, 0 otherwise.
Secured	Dummy = 1 if the deal is secured, 0 otherwise.
Covenants	Dummy = 1 if the deal has one or more financial covenants, 0 otherwise.
Multiple tranches	Dummy = 1 if the deal consists of more than one tranche, 0 otherwise.
Borrower industry dummies	Dummies based on all categories in DealScan's "Major Industry Group" field.
Loan type dummies	Dummies based on DealScan's "Specific Tranche Type" field: revolver, term loan, other.
Loan purpose dummies	Dummies based on DealScan's "Primary Loan Purpose" field: working capital, acquisition, general corporate purpose, debt repayment, other.
Year of loan signing dummies	Dummies based on DealScan's "Year" field.

Unless otherwise indicated the variables are calculated based on data obtained from the Loan Pricing Corporation's DealScan database.

A

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