Duration of loan arrangement and syndicate organization

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Abstract

What is the influence of syndicate organization on the duration of loan arrangement? I answer this question using the survival analysis methodology on a sample of loans from 59 countries over the 1992-2006 period. I find that syndicate size, concentration, reputation, and national diversity clearly matters for the duration of loan arrangement and therefore for borrower satisfaction regarding the speed of obtaining the necessary funding. A syndicate organization adapted to specific agency problems of syndication, with numerous, reputable, and experienced arrangers retaining a larger portion of the loan reduces the duration. The latter is also shorter when the lenders diversity in terms of nationality is weaker.

Keywords : Syndicated loan, syndication process, duration of loan arrangement, agency costs, reputation, experience, nationality, survival analysis.

JEL Classification : F30, G15, G21, G32, C41.

1 Introduction

This articles investigates the influence of the organizational characteristics of a bank syndicate on the duration of loan arrangement. The latter is an important criteria of choice for the borrowers to apply for a syndicated loan[1], as the speed of obtaining the necessary funding is considered to be a significant advantage of syndicated lending compared to bonds or a series of bilateral loans.

Indeed, the impressive development of syndicated lending can be attributed to its advantages, both for borrowers and lenders, such as portfolio and sources of income diversification and more competitive pricing and more flexible funding structure. Currently, syndicated lending became the major corporate finance choice of companies, representing more than 50 percent of external financing for US firms (Weidner, 2000) and more than one third of the funds raised on the worldwide financial markets (Altunbas et al., 2005).

However, syndicated lending has also its drawbacks as it implies specific agency problems due to informational frictions between the senior (arrangers) and the junior (participants) members of the syndicate. Following the theoretical work of Pichler and Wilhelm (2001), recent empirical evidence supports the argument that an adapted organizational structure of the syndicate (size, concentration, and composition) is a crucial feature to mitigate syndication agency costs (Lee and Mullineaux, 2004; Jones et al., 2005; Sufi, 2007). Syndicate organization has also an important influence on the pricing of syndicated loans (Harjoto et al., 2006; Ivashina, 2007; Focarelli et al.,

[1] A syndicated loan is a loan defined by a single agreement in which several banks participate.

2008), on borrower's wealth (Preece and Mullineaux, 1996), and on liquidity risk management (Gatev and Strahan, 2008). Furthermore, the presence of established and reputable lenders acting as information certifiers provides substantial advantages to the borrowers (Goplan et al., 2007; Ross, 2007; Panyagometh and Roberts, 2008). Overall, the organization of a syndicate matters for the borrower, as it influences loan terms and his wealth.

However, the influence of syndicate organization on the length of the syndication process (or loan arrangement duration), i.e. the time between the launching of the syndication until the completion date, when the deal becomes active, seems neglected in existing academic literature. This is surprising because empirical evidence shows that the organizational structure of teams have a significant impact on the speed of decision making (Eisenhardt, 1989; Talaulicar et al., 2005). The duration of loan arrangement is of particular interest for the borrower for evident reasons related to the speed of obtaining the funds. Indeed, this speed is one of the main advantages of syndicated loans compared to other ways of funding such as bonds. During the 1992-2006 period, the median of the duration of loan arrangement was 35 days, while the 5-th and 95-th percentiles were equal to 18 and 115 days respectively[2]. For that reason, one of the main arguments driving the choice of a bank that will arrange the syndication is its speed of action. The arranger is the key figure of a syndication because he is the privileged agent in the relationship between the borrower and the syndicate. Thus, he is responsible for a crucial feature of an efficient and successful loan syndication: the syndicate organization. The latter exhibited strong heterogeneity in the

[2]Author's calculations on the Dealscan database (LPC, Reuters).

last 15 years, as such characteristics as as size or concentration of arrangers recorded average values from 3 to 6 and 15 percent to 25 percent respectively[3]. Syndication-related agency problems can interfere with the duration of loan arrangement, thus reducing one of the main advantages of syndicated lending for borrowers. Hence, what is the influence of syndicate organization on the duration of loan arrangement? And what are the characteristics of syndicate organization that drive the duration of loan arrangement?

The aim of this article is to answer these questions. In particular, I am interested in the influence of syndicate size, concentration, reputation, experience, and composition in terms of nationality on the duration of a syndicated loan arrangement. Indeed, it is of utmost interest to empirically document if syndicate organization influences the duration of loan arrangement, and which characteristics are the most important to guarantee the shortest loan arrangement. Such evidence is valuable for borrowers, because their satisfaction is increasing with fast and efficient syndication, as well as lenders, because their reputation is contingent on the duration of loan arrangement. Finally, empirical evidence on the relationship between syndicate organization and duration of loan arrangement adds to the growing literature on syndicated lending.

To test the influence of syndicate organization on the duration of loan arrangement, I employ accelerated failure time models on a sample of more than $4,800$ syndicated loans from 59 countries during the period of $1992-2006$. I use various measures of syndicate organization, such as size, measured with the number of lenders and arrangers, concentration, measured with the

[3]Author's calculations on the Dealscan database (LPC, Reuters).

Herfindhal-Hirschman Index, reputation and experience, measured with the presence and market share of the lead lenders, and composition in terms of nationality.

The rest of the article is organized as follows. Section 2 presents the loan syndication process and discusses various measures of syndicate organization. Section 3 presents the accelerated failure time model methodology and the data. Results are displayed and discussed in section 4. Finally, I conclude in section 5.

2 Loan syndication process and syndicate organization

This section is devoted to the description of a typical loan syndication process where duration is the central issue of this article. I also discuss syndicate organization measures I take in my empirical design into account.

2.1 Loan syndication process

Bank loan syndication can be considered as a sequential process, which can be separated into three main stages[4]. During the *pre-mandated stage*, after soliciting competitive offers to arrange and manage the syndication with one or more banks (usually its main banks), the borrower chooses one or more arrangers that are mandated to form a syndicate and negotiates a preliminary loan agreement. The syndication can be sole or joint mandated, the latter

[4]See Esty (2001) for a detailed presentation of the syndicated lending process.

involving the participation of more than one lead bank[5]. The arranger is responsible for the negotiation of key loan terms with the borrower, the appointment of participants[6] and the structuring of the syndicate. At this stage, the arranger is responsible for placing the syndicated loan with other banks and ensuring that it is fully subscribed. His compensation is mainly composed of various fees (agency, arrangement, commitment, ...).

The *post-mandated stage* involves the placement of the loan. In that aim, the arranger prepares a documentation package for the potential syndicate members, called an *information memorandum*. It usually contains information about borrower creditworthiness and loan terms. The initial set of targeted participants is strongly determined by the arranger. Their previous experience with the borrower, the industry sector or the geographic area are strong drivers for being chosen by the arranger to join the syndicate. A *roadshow* is then organized to present and discuss the content of the information memorandum, as well as to announce closing fees and establish a timetable for commitments and closing. The participants can make comments and suggestions in order to influence the structure and the pricing of the loan. After the roadshow, the arranger makes formal invitations to potential participants and determines the allocation given to each participant.

The third and last phase takes place after the *completion date* when the deal becomes active and the loan is operational, binding the borrower and the syndicate members by the debt contract. The latter sets out the terms

[5]Such syndications are usually chosen by the borrower in order to maximize the likelihood of a successful syndication, in terms of loan characteristics, subscription and duration of the syndication process.

[6]Participants lend a portion of the loan and receive a compensation essentially composed of a spread.

and conditions of the loan: the amount, the purpose, the period, the rate of interest plus any fees, the periodicity and the design of repayments and the presence of any security.

2.2 Agency problems and syndicate organization

Loan syndication involves several actors - the arrangers, the participants and the borrower - and is a complex process involving specific agency costs and recontracting risks.

Syndication-specific agency problems are of two types. First, the arranger possesses more information about the borrower either because of the private information collected through a previous lending relationship or through due diligence. This private information creates an adverse selection problem as the arranger may be inclined to syndicate loans from bad borrowers. Second, the participant banks may delegate some monitoring tasks to the arranger in charge of the loan documentation and notably of the enforcement of covenants and collateral. As the efforts of the lead bank are unobservable for participant banks, this results in a moral hazard problem that is exacerbated with the opacity of the borrower. Another important issue is related to borrower's financial distress which handling is more complicated in a syndicate setting because lenders must reach a collective decision (Bolton and Scharfstein, 1996). All of these problems affect the syndicate organization (Esty and Megginson, 2003; Lee and Mullineaux, 2004; Sufi, 2007; Panyagometh and Roberts, 2008).

The main explanatory variables of interest are those related to the syn-

dicate organization, which can be measured in various ways. The key figure of a syndicate is the number and concentration of arrangers. The latter is measured by computing the Herfindhal-Hirschman Index of the shares of the loan retained by the arranger[7] while the former corresponds to the number of lenders bearing the "Arranger" title.

I expect the number and concentration of arrangers to have a negative influence on deal arrangement duration. A larger syndicate "core" implies better handling of agency problems related to monitoring of the borrower as several delegated monitors are present. It also reduces adverse selection problems related to private information that is now spread among several arrangers (Lee and Mullineaux, 2004; Jones et al., 2005; Sufi, 2007). Greater arrangers' concentration is more suited to cope with free-riding and moral hazard problems, as well as with hold-up problems in case of borrower's distress and subsequent reorganization and renegotiation (Esty and Megginson, 2003). Arrangers' retained share of the loan provides a signal of their commitment to efficiently monitor the borrower and can also be considered as a device to align lenders' incentives within the syndicate (Lee and Mullineaux, 2004; Sufi, 2007).

I also consider alternative measures of leadership in the syndicate with a special focus on reputation, which brings a certification device regarding the quality of the borrower and of the deal. Indeed, Goplan et al. (2007), Ross (2007), Panyagometh and Roberts (2008) and Gatti et al. (2008) show that certification by experienced, reputable, and prestigious arrangers creates

[7]When the syndicate has more than one arranger, I use the mean of the shares retained by the arrangers.

economic value by reducing overall costs of syndicated loans, and highlight the importance of lender reputation in the loan syndication market. *Top 10 lenders (presence)* and *Top 10 lenders (market)* are variables based on the percentage of the lenders in the syndicate who are in the top 10-th percentile distribution of the most frequent lenders and of the lenders having the greatest market shares of the syndicated lending market respectively[8].

These variables allow to focus on the experience and reputation acquired in previous syndications. The distinction between presence and market share provides a more detailed insight into the importance of being on the market versus having greater shares of the market (the "dominant bank effect", Ross, 2007). Experience, skills and reputation can be acquired through more intense participation in deals but also through less participation but greater stakes of syndicated loans. I expect a negative impact of both of these measures on the deal arrangement duration. Reputable and experienced leaders can enhance monitoring and ability to attract participants, signal borrower and deal quality, and reduce agency costs (Goplan et al., 2007). Indeed, as the arrangers are responsible for due diligence, allocation of the loan to other syndicate members, and *ex post* monitoring, banks in the syndicate will often rely on the leaders reputation in making lending decisions (Ross, 2007).

I also use several measures of the composition of the syndicate with a particular focus on the nationality of the lenders. Recent evidence by Carey

[8]Details regarding the computation of these measures can be found in table 1. The median value of lenders participation in loan syndications equals 4, while the top 10-th percentile equals 55. The median value of lenders market share in the syndicated lending market equals 0.00016, while the top 10-th percentile equals 0.00107. There are 78 top 10 lenders who are the most present and 61 top 10 lenders who have the greatest market share.

et al. (1998); Coleman et al. (2002); Hao (2004) also shows that lenders identity matters for loan terms. Furthermore, Tykvova and Schertler (2008) find that physical distance between borrowers and lenders impacts information-related transaction costs, which are important drivers of successful syndication. Moreover, previous experience in the geographic area is an important driver for choosing syndicate members by the arranger, in order to mitigate informational frictions regarding the borrower as well as between the lenders of the syndicate (Champagne and Kryzanowski, 2007; Sufi, 2007). I compute the percentage of lenders in the syndicate that are from the same country as the borrower, differentiating lenders regarding their titles (and thus their ranks), and classifying them into three broad categories[9]: top (i.e. leaders of the syndicate), mid (i.e. managers of the syndicate), and low (i.e. participants of the syndicate) lenders. I also measure the percentage of lenders classified as low and top, as well as low and mid, who are from the same country. Here, I focus on the titles of the lenders and I consider them as signals of their importance in the hierarchy of the syndicate[10].

This leads to four additional variables labeled *Same country top-lender*, *Same country-mid lender*, *Same country mid-low lenders*, and *Same country top-low lenders*[11]. The most evident argument behind these measures is related to informational asymmetries and therefore their impact on agency costs. Being from the same country as the borrower gives the lender a better

[9]Classification of lenders is described in table 1.

[10]The aggregation of the titles into three categories is based on Taylor and Sansone (2007).

[11]I do not use other measures such as the percentage of low lenders in the syndicate who are from the same country as the borrower because such percentage is usually very close to 100 percent. For the same reasons, I do not use the percentage of low and mid lenders who are from the same country within the syndicate.

insight into various features (the economic, legal and political environment, the borrower profile, the industry sector, the daily business and the growth opportunities) that should reduce informational frictions in the syndicate and essentially allow for a shorter deal arrangement.

However, the sign and magnitude of these measures are relatively unclear. On the one hand, greater percentage of lenders from the same country as the borrower, whatever their position in the syndicate hierarchy, should reduce the duration. Indeed, information sharing can be more efficient if the lenders come from the same country. This helps to overcome important informational frictions within the syndicate, regarding both the members and the borrower. Furthermore, comparative advantages in terms of financing and information sharing are expected to grow with such syndicate composition, i.e. where lenders are from the same country.

On the other hand, a greater proximity between the top lenders and the borrower may exacerbate adverse selection problems, if the informational gain of the top lenders is not shared with other lenders. It is plausible that a greater percentage of top and low lenders from the same country might exacerbate potential informational problems from the managers perspective and thus increase agency costs of syndication, and in consequence slow down deal arrangement duration. It might also signal potential collusive behavior of these type of lenders and enhance the expropriation risk of other lenders. In case of borrower's distress, such composition of the syndicate can leave the other lenders with unsatisfactory solutions. In that case, we can observe a positive influence of these variables on the deal arrangement duration.

2.3 Loan and country control variables

I also take several loan and country control variables into account, following previous literature (Dennis and Mullineaux, 2000; Esty and Megginson, 2003; Lee and Mullineaux, 2004; Ackert et al., 2007; Sufi, 2007; Godlewski and Weill, 2008).

I take main loan characteristics such as the logarithm of loan size (*Loan size*), lenders' compensation (*Spread* and *Fee*), loan maturity (*Maturity*), presence of a guarantor (*Guarantors*), covenants (*Covenants*), and debt seniority (*Senior debt*) into account. To control for the impact of publicly available information I include a dummy variable *S&P Rating* equal to one if a Standard and Poor's senior debt rating is available. I also control for the type and purpose of the loan, benchmark rate, facility issue year, geographical area, and industry. In order to take legal risk into account, I include the protection of creditor rights (*Creditor Rights*) and law enforcement (*Rule of Law*) indexes provided by Djankov et al. (2007) and LaPorta et al. (1997).

3 Methodology and data

The econometric methodology employed to investigate the determinants of the loan arrangement duration as well as the data are presented in this section. I begin by introducing terminology common to survival analysis and describe hazard function estimators. Then I present the sample and descriptive statistics.

3.1 Econometric specification

Since the dependent variable is the duration of a syndicated loan arrangement, the appropriate methodology is *survival analysis* which is used to analyze data in which the time until the event is of interest, called an *event time*.

Survival data are generally described and modeled in terms of two related functions[12], namely the *survival* and *hazard* functions respectively. Let T represent the duration of time that passes before the occurrence of a certain random event. Here T is the loan arrangement duration and $S(t)$ the survival probability that the syndication process lasts from the time origin (launching date) to a future time t, and is defined as

$$S(t) = Prob(T \geq t) = 1 - F(t), \tag{1}$$

where $F(t)$ is the cumulative distribution function for T.

The hazard is usually denoted by $h(t)$ (also called *instantaneous event rate*) and is the rate of transition of the syndicated loan arrangement to completion, given it has not been completed before. The hazard function is defined formally by

$$h(t) = lim_{\Delta t \to 0} \frac{Prob(t \leq T < t + \Delta t | T \geq t)}{\Delta t} = \frac{f(t)}{S(t)}, \tag{2}$$

where $f(t)$ is the probability density function of T evaluated at t. Since $\frac{\delta S(t)}{\delta t} = -\frac{f(t)}{S(t)}$, the hazard function can be expressed as

[12]See Kiefer (1988) and Harrell (2001) for a detailed description of survival analysis.

$$h(t) = -\frac{\delta \log S(t)}{\delta t}, \tag{3}$$

the negative of the slope of the log of the survival function.

When estimating hazard functions, we need to assume a hazard function specification. The latter can use parametric survival models known as *accelerated failure time* (AFT) models[13]. An AFT model specifies that the predictors act multiplicatively on the event time or additively on the log of event time. The effect of a predictor is to alter the rate at which the loan arrangement proceeds along time axis.

In this framework, the natural logarithm of the survival time $\ln(t)$ is expressed as a linear function of the covariates X :

$$\ln(t) = a + X'\beta + \epsilon, \tag{4}$$

where a is the intercept and ϵ is the error term with density $f(t)$. The distributional form of the error term determines the regression model[14]. The hazard function in an AFT model can be written as

$$h(t) = h_0 \exp(a + X'\beta)(1 + \exp(a + X'\beta)t), \tag{5}$$

where h_0 is the baseline hazard rate. The hazard function is estimated

[13]Another possibility is to use the *proportional hazards* (PH) model, where $h(t) = h_0(t)\exp(X'\beta)$, given the predictors X and the baseline hazard rate $h_0(t)$. The latter can be left unspecified and estimated using the Cox's semiparametric partial likelihood (Cox, 1972, 1975) or take a specific parametric form such as Weibull or exponential distributions. Within this approach, the hazards are supposed to be proportional over time. This assumption is strongly rejected in our case.

[14]With normal, logistic, extreme-value and three-parameter gamma density functions, we obtain respectively log-normal, log-logistic, Weibull and generalized gamma regressions.

using maximum likelihood methods.

3.2 Data and descriptive statistics

Information on the duration of loan arrangement, syndicate organization, and loan characteristics come from the Dealscan database, provided by the Loan Pricing Corporation, Reuters. Data concerning country characteristics come from LaPorta et al. (1998), and Djankov et al. (2007).

The sample size is determined by information availability on the endogenous and exogenous variables used in the regressions. The endogenous variable is the loan arrangement duration, measured in days since the launching date until the completion date, when the deal becomes active. I use only completed syndicated loans and I eliminate the outliers for the endogenous variable : deals with duration greater than the 99-percentile, equal to 243 days (above 8 months). Therefore, I have a sample of $4,807$ syndicated loans from 59 countries for the period between 1992 and 2006. Mean loan arrangement duration equals 55.14 days (almost 8 weeks) with a standard deviation of 37.02 days.

Definitions of variables and descriptive statistics can be found in table 1, while the distribution of the number of loans and lenders-tranches and mean loan arrangement duration by country are displayed in table 7.

4 Results and discussion

In this section, I present and discuss the estimations results and provide some robustness checks. First, I provide estimate results for specifications

with syndicate size and concentration measures. Second, I discuss the results obtained with syndicate composition measures only. Third, to check the robustness of the previous results and to get a deeper insight into the main syndicate organization characteristics that drive loan arrangement duration, I provide results including both type of syndicate organization measures in the regressions, i.e. syndicate size and concentration along with syndicate composition in terms of nationality. Finally, I present additional robustness checks.

4.1 Estimations results with syndicate size and concentration measures only

As the proportional hazard assumption is strongly rejected with Schoenfled residuals tests, I estimate an AFT model assuming a generalized gamma distribution, as the latter provides the lowest log likelihood, as well as Akaike and Schwarz information criterions. Results for specifications with syndicate size and concentration measures only are displayed in table 2.

First of all, most of the variables of interest exhibit statistically significant coefficients, suggesting that syndicate organization has an economic impact on loan arrangement duration.

As expected, a greater number of arrangers and their concentration significantly reduces the loan arrangement duration (specifications (1.1) and (1.2)). As larger syndicate "cores" allow for a more efficient handling of agency problems related to syndication, the duration of loan arrangement is significantly reduced. Furthermore, a greater percentage of reputable and experienced

lenders also significantly reduces the syndication process (specification (1.3 and (1.4)). Greater percentage of experienced and reputable lenders having important market shares matters more for quick deal arrangement as the coefficient of the *Top 10 lenders (market)* variable is the greatest. What seems to really matter for a quick and thus efficient loan syndication arrangement is the presence of established lenders on the syndicated lending market and the concentration of arrangers rather than the presence of frequent players on the syndicated lending market. When arrangers retain significant shares of the loan (whatever their reputation and experience), it provides an important signal regarding the quality of the borrower and of the deal, and thus allows to provide funds more quickly to the borrower.

4.2 Estimations results with syndicate composition measures only

I now turn to the discussion of the results obtained with syndicate composition measures only, displayed in table 3.

[Insert Table 3 about here]

Most of the variables exhibit statistically significant coefficients, suggesting that syndicate composition, along with loan and country characteristics, have an economic impact on loan arrangement duration[15].

The arguments on potential collusion problems seem to be validated as *Same country top-lender* exhibit positive coefficients in specifications (2.1)

[15]Due to the correlation structure, *Same country mid-low* lenders and *Same country top-low lenders* cannot be included in the same regression.

and (2.2), while *Same country mid-lender* has a negative influence on the duration. Within syndicate composition also has a significant impact on duration, as *Same country mid-low lenders* bears a negative coefficient sign.

As top lenders are usually borrower relationship banks or established institutions on the syndicated lending market, they usually have access to privileged information, that might be used against other members of the syndicate. This can exacerbate agency costs and thus make the deal arrangement longer. This adverse effect of *Same country top-lender* is somehow mitigated in specification (2.2) when taking *Same country mid-lender* into account, but still remains. A greater percentage of syndicate "managers" from the same country has a benefic impact on duration as the coefficient exhibit a significantly negative sign, as expected. Finally, a greater percentage of close mid and low lenders in terms of nationality significantly reduces the duration due to better information sharing between "managers" and participants. The greatest coefficient and thus the most important economic magnitude is for the *Same country top-lender* variable.

Following these first results, syndicate organization matters for deal arrangement duration, especially presence of important players of the syndicated lending market and arrangers concentration which allows to significantly speed up the syndication process and thus provide the borrower with necessary funds in a short amount of time. Borrowing from a syndicate that is composed of a large number of top lenders from the same country as the borrower does not guarantee fast deal arrangement, while an important presence of "'managers" from the same country as the borrower, as well as a large percentage of participants and "managers" from the same country, provides

benefits in terms of timing to the borrower who obtains funds more quickly.

4.3 Estimations results with syndicate size, concentration, and composition measures

Now I include both types of syndicate organization measures in the regressions, i.e. syndicate size and concentration along with syndicate composition in terms of nationality, to check the robustness of the previous results as well as to get a deeper insight into the main syndicate design features that drives deal arrangement duration. Results are displayed in tables 4, 5, and 6[16].

Results remain robust, as all coefficients for the syndicate organization variables remain significant and with the same signs as in tables 2 and 3. *Number of arrangers* and both measures of *Top 10 lenders* are always significantly negative, while syndicate composition variables exhibit same coefficients as in table 3. However, the magnitude of the coefficients is affected. For instance, if we compare specification (1.1b) to specifications (1.1) and (2.2), the coefficients of *Same country top-lender* and *Same country mid-lender* change from 0.1075 and −0.1055 to 0.1757 and −0.1955 respectively. This effect is more prominent when comparing the *Same country mid-low lenders* coefficients in specifications (1.1c) and (2.3), as it changes from −0.0505 to −0.2875. This suggests that the syndicate composition effect on loan arrangement duration is reinforced when taking syndicate concentration into account. This effect is far less pronounced when looking at the results in

[16]I do not display any results with the *Concentration of arrangers* variable because of convergence problems when estimating the model with this variable and syndicate composition measures.

tables 5 and 6 where coefficients signs for *Top 10 lenders* and syndication composition variables have similar magnitude when compared to those in tables 2 and 3.

Overall, conclusions drawn from the results obtained in tables 2 and 3 remain. Syndicate organization matters for deal arrangement duration, which can be significantly reduced provided a larger number of arrangers, who retain larger shares of the loan, and are more reputable and experienced lenders on the syndicated lending market. These are the most important features to be taken by the borrower into account if his main interest is for short deal arrangement duration in order to access the necessary funds quickly.

4.4 Robustness checks

I have performed several robustness checks regarding the use of alternative variables, bounding the endogenous variable, and applying other estimation methods and procedures.

I obtain very similar results when considering the top 5-th percentile of the most frequent lenders and most important lenders in terms of market share[17] for the syndicate reputation measure or using the percentage of all lenders in the syndicate from the same country as the borrower. Furthermore, when performing all the regressions on a reduced sample with elimination of deal arrangement durations over 100 and 200 days respectively does not alter my results. Coefficients remain significant with the same signs, although their magnitude is slightly reduced. Also, for all the estimations obtained with a

[17]There are 58 top 5 lenders (presence) and 34 top 5 lenders (market). The values of the top 5-th percentile for these two variables are equal to 118 and 0.0011 respectively.

gamma model, the magnitude and the significance of the covariates are very similar to those obtained with Weibull, log-logistic and log-normal models. Estimation results on a sub sample excluding borrowers from Asia Pacific countries, which are the most present in the full sample, lead to very similar results.

I have also performed a two-step procedure in order to address the potential endogeneity issue between the duration and the syndicate organization[18]. The two steps consist of:

Step 1: regressing the various syndicate organization measures, in particular *Number of arrangers*, *Concentration of arrangers*, *Top 10 lenders (presence)*, and *Top 10 lenders (market)* on a set of explanatory variables which are mainly the loan characteristics already used in the estimations, following empirical evidence by Lee and Mullineaux (2004); François and Missionier-Piera (2007); Sufi (2007);

Step 2: regressing the deal arrangement duration on the estimated syndicate organization measure from step 1, compensation terms, and country characteristics.

I use OLS regressions with heteroscedastic standard errors clustered at the borrower level in step 1 and the same AFT model with gamma distribution in step 2 as before. Results from step 1 are consistent with existing empirical evidence by Lee and Mullineaux (2004); Sufi (2007), i.e. syndicate are larger and more diffuse when the loan size is greater, the maturity is longer, and

[18] In order to not overload the paper I do not provide these results but they are available upon request.

when the lenders are better protected (presence of guarantors, covenants, and debt seniority). Results from step 2 are very similar to those obtained with a simple AFT regression regarding the coefficients significance and sign for syndicate organization measures, although their magnitude is modified. For instance, *Number of arrangers* bears a coefficient of -0.0185 in specification (1.1) of table 2, while it changes to -0.093 when using a two step procedure. Therefore, results regarding the influence of syndicate organization on deal arrangement duration hold.

5 Conclusion

Using a sample of more than $4,800$ syndicated loans from 59 countries in the period $1992-2006$, I have employed accelerated failure time models to test the influence of the syndicate organization on the loan arrangement duration, measured in days since the syndication launching date until the completion date when the loan contract is signed. I measure syndicate organization with various characteristics related to syndicate size, concentration, and composition, as well as lenders nationality.

Empirical results show that syndicate organization clearly matters for deal arrangement duration. In particular, arranger's market share and concentration are crucial inputs allowing to significantly speed up the syndication process and thus provide the borrower with necessary funds in a shorter amount of time. Indeed, concentration of experienced and reputable arrangers provide an efficient signal regarding handling the syndication process and the agency problems steaming from it. Furthermore, the duration is shorter

when an important share of "managers" in the syndicate are from the same country as the borrower, as well as when a large percentage of participants and "managers" are the same country. This result receives an interpretation related to the reduction of informational frictions with the syndicate when such composition is at work. On the contrary, borrowing from a syndicate that is composed of a large number of top lenders from the same country as the borrower does not guarantee fast deal arrangement, because of potential expropriation and collusion issues, as well as exacerbated agency problems with such organization.

Overall, deal arrangement duration can be significantly reduced provided a larger number of arrangers, who retain larger shares of the loan, and are more reputable and experienced lenders on the syndicated lending market. These are the most important features to be taken into account by the borrower if his main interest is for short deal arrangement duration in order to access the necessary funds quickly. Thus, the syndicate organization is an important input for corporate finance decisions and should be carefully analyzed by the borrower but also by the lenders. Finally, these results contribute to the existing literature on the importance of syndicate organization for successful and value enhancing loan syndication.

References

Ackert, L., Huang, R., Ramirez, G., 2007. Information opacity, credit risk, and the design of loan contracts for private firms. Financial Markets, Institutions and Instruments 16, 221–242.

Altunbas, Y., Gadanecz, B., Kara, A., 2005. Key factors affecting interna-

tionally active banks' decisions to participate in loan syndications. Applied Economic Letters 12, 249–253.

Bolton, P., Scharfstein, D., 1996. Optimal debt structure and the number of creditors. Journal of Political Economy 104, 1–25.

Carey, M., Post, M., Sharpe, S., 1998. Does corporate lending by banks and finance companies differ? evidence on specialization in private debt contracting. Journal of Finance 53, 845–878.

Champagne, C., Kryzanowski, L., 2007. Are current syndicated loan alliances related to past alliances? Journal of Banking and Finance 31, 3145–3161.

Coleman, A., Esho, N., Sharpe, I., 2002. Do bank characteristics influence loan contract terms ? Working paper.

Cox, D., 1972. Regression models and life tables. Journal of the Royal Statistical Society 24, 187–201.

Cox, D., 1975. Partial likelihood. Biometrika 62, 269–276.

Dennis, S., Mullineaux, D., 2000. Syndicated loans. Journal of Financial Intermediation 9, 404–426.

Djankov, S., McLiesh, C., Shleifer, A., 2007. Private credit in 129 countries. Journal of Financial Economics 84, 299–329.

Eisenhardt, K. M., 1989. Making fast strategic decisions in high-velocity environments. The Academy of Management Journal 32, 543–576.

Esty, B., 2001. Structuring loan syndicates: A case study of the hong kong disneyland project loan. Journal of Applied Corporate Finance 14, 80–95.

Esty, B., Megginson, W., 2003. Creditor rights, enforcement, and debt ownership structure: Evidence from the global syndicated loan market. Journal of Financial and Quantitative Analysis 38, 37–59.

Focarelli, D., Pozzolo, A., Casolaro, L., 2008. The pricing effect of certification on syndicated loans. Journal of Monetary Economics 55, 335–349.

François, P., Missionier-Piera, F., 2007. The agency structure of loan syndicates. The Financial Review 42, 227–245.

Gatev, E., Strahan, P., 2008. Liquidity risk and syndicate structure. Working Paper 13802, National Bureau of Economic Research.

Gatti, S., Kleimeier, S., Megginson, W., Steffanoni, A., 2008. Arranger certification in project finance. Working paper.

Godlewski, C., Weill, L., 2008. Syndicated loans in emerging markets. Emerging Markets Review 9, 206–219.

Goplan, R., Nanda, V., Yerramilli, V., 2007. Lead arranger reputation and the loan syndication market. Working paper.

Hao, L., 2004. Bank effects and the determinants of loan yield spreads. Working paper.

Harjoto, M., Mullineaux, D., Yi, H.-C., 2006. A comparison of syndicated loan pricing at investment and commercial banks. Financial Management 35, 49–70.

Harrell, F., 2001. Regression Modeling Strategies With Applications to Linear Models, Logistic Regression, and Survival Analysis. Springer Series in Statistics.

Ivashina, V., 2007. Asymmetric information effects on syndicated loan rates. Working paper, Harvard Business School.

Jones, J., Lang, W. W., Nigro, P. J., 2005. Agent behavior in bank loan syndications. Journal of Financial Research 28, 385–402.

Kiefer, N., 1988. Econometric duration data and hazard functions. Journal of Economic Literature 25, 646–679.

LaPorta, R., de Silanes, F. L., Shleifer, A., 1998. Law and finance. Journal of Political Economy 106, 1113–1155.

LaPorta, R., de Silanes, F. L., Shleifer, A., Vishny, R., 1997. Legal determinants of external finance. Journal of Finance 52, 1130–1150.

Lee, S., Mullineaux, D., 2004. Monitoring, financial distress, and the structure of commercial lending syndicates. Financial Management 33, 107–130.

Panyagometh, K., Roberts, G., 2008. Loan syndicate structure: Evidence from ex post risk. Working paper.

Pichler, P., Wilhelm, W., 2001. A theory of the syndicate: Form follows function. Journal of Finance 56, 2237–2264.

Preece, D., Mullineaux, D., 1996. Monitoring, loan renegotiability, and firm value: The role of lending syndicates. Journal of Banking and Finance 20, 577–593.

Ross, D., 2007. The "dominant bank effect": How high lender reputation affects the information content and terms of bank loans'. Working paper.

Sufi, A., 2007. Information asymmetry and financing arrangements: Evidence from syndicated loans. Journal of Finance 62, 629–668.

Talaulicar, T., Grundei, J., v.Werder, A., 2005. Strategic decision making in start-ups: the effect of top management team organization and processes on speed and comprehensiveness. Journal of Business Venturing 20, 519–541.

Taylor, A., Sansone, A., 2007. The Handbook of Loan Syndications and Trading. McGraw-Hill.

Tykvova, T., Schertler, A., 2008. Syndication to overcome transaction costs of cross-border investments? evidence from a worldwide private equity deals' dataset. Working paper, ZEW Mannheim.

Weidner, D., January 2000. Syndicated lending closes out 90s on a tear. The American Banker.

Table 1: Variables definition and descriptive statistics

The table provides a brief description and descriptive statistics for variables used in the regressions, with a distinction of loan, syndicate organization, and country characteristics, as well as control variables. Loan, syndicate organization and control variables come from Dealscan (LPC, Reuters). Country characteristics come from LaPorta et al. (1998); Djankov et al. (2007).

Variable	Description	N	Mean	Std. dev.
	Loan characteristics			
Loan arrangement duration	Duration of the syndicated loan arrangement since the launching date until the completion date, measured in days.	4807	55.1367	37.0186
Loan size	Logarithm of the size of the loan (in million USD).	4807	18.5816	1.3801
Spread	Spread over the benchmark rate, measured in bps.	4807	110.6984	79.8330
Fee	Up front fee measured in bps.	4807	52.6986	43.6978
Maturity	Maturity of the loan in months.	4807	53.8417	36.0990
Guarantors	= 1 if there is at least one guarantor.	4807	0.0957	0.2942
Covenants	= 1 if the loan agreement includes financial covenants.	4807	0.1157	0.3199
Senior debt	= 1 if debt is senior.	4807	0.2528	0.4346
S&P rating	= 1 if the borrower has a senior debt rating by Standard & Poor's.	4807	0.0616	0.2404
Term loan	= 1 if the loan is a term loan.	4807	0.5891	0.4920
Corporate purposes	= 1 if the loan purpose is general corporate purposes funding.	4807	0.1059	0.3077
Debt repayment	= 1 if the loan purpose is debt repayment funding.	4807	0.1949	0.3962
Working capital	= 1 if the loan purpose is working capital funding.	4807	0.0786	0.2692
Project finance	= 1 if the loan purpose is project finance funding.	4807	0.1009	0.3012
Libor	= 1 if the benchmark rate is the Libor.	4807	0.2592	0.4382
Euribor	= 1 if the benchmark rate is the Euribor.	4807	0.0811	0.2731
	Syndicate organization characteristics			
Number of arrangers	Number of arrangers in the syndicate.	4807	3.6004	3.6992
Concentration of arrangers	Herfindhal index of the loan shares retained by arrangers.	4530	0.2443	0.2409

Table 1: (continued)

Variable	Description	N	Mean	Std. dev.
Top 10 lenders (presence)[1]	Percentage of the syndicate lenders in the top 10-th centile of the most frequent lenders in the sample.	4530	0.6925	0.2085
Top 10 lenders (market)[2]	Percentage of the syndicate lenders in the top 10-th centile regarding market share of syndicated loans in the sample.	4530	0.0684	0.1391
Same country top lenders	Percentage of the syndicate 'top lenders'[3] from the same country as the borrower.	4530	0.3078	0.2295
Same country mid lenders	Percentage of the syndicate 'mid lenders'[4] the same country as the borrower.	4530	0.9199	0.1288
Same country mid-low lenders	Percentage of the syndicate 'mid' and 'low'[5] lenders from the same country.	4530	0.8554	0.1748
Same country top-low lenders	Percentage of the syndicate 'top' and 'low' lenders from the same country.	4530	0.0917	0.1365
	Country characteristics			
Creditor rights	An index aggregating four aspects of creditor rights. The index ranges from zero (weak creditor rights) to four (strong creditor rights)	3782	2.7343	0.9635
Rule of law	An index indicating the law enforcement. The index ranges from zero (weak enforcement) to ten (strong enforcement)	4245	6.9136	2.0854

[1]: I count the number of times a particular lender participates in a syndicated loan in the sample and I use the 90-th percentile of its distribution to distinguish top lenders for participation intensity. Then I compute the percentage of such top lenders in a syndicate for every deal.

[2]: I compute for each lender the sum of all syndicated loans shares funded per year and I divide this number by the sum of syndicated loans per year in the sample. I use the 90-th percentile of the distribution of this variable to distinguish top lenders for market shares. Then I compute the percentage of these lenders in a syndicate for every deal.

[3]: Lenders are classified as 'top' if they bear the following titles in the syndicate: administrative agent, agent, arranger, bookrunner, lead arranger, mandated arranger, senior arranger, underwriter, lead bank, joint arranger, managing agent, senior managing agent, syndication agent, co-agent, co-arranger, senior co-arranger, sub-underwriter, co-lead arranger, co-syndication agent, co-underwriter.

[4]: Lenders are classified as 'mid' if they bear the following titles in the syndicate: lead manager, senior lead manager, co-lead manager, expanded lead manager, senior co-lead manager, manager, co-manager, senior manager.

[5]: Lenders are classified as 'low' if they bear the following titles in the syndicate: participant, lender, senior lender.

Table 2: Estimation results with syndicate size and concentration measures only

The table provides estimation results of the accelerated failure time model with a gamma distribution for different specifications (1.1 to 1.4) in terms of syndicate organization measures. The dependent variable is *Loan arrangement duration*. Definition of variables appear in table 1. Robust standard errors in parentheses. ***, **, * correspond to coefficients significantly different from 0 at 1%, 5% and 10% level. Loan type, loan purpose, benchmark rate, facility active year, industry and geographical areas dummies included but not reported.

Specifications	(1.1)	(1.2)	(1.3)	(1.4)
Number of arrangers	-0.0185***			
	(0.0022)			
Concentration of arrangers		-0.2899***		
		(0.0768)		
Top 90 lenders (presence)			-0.1556***	
			(0.026)	
Top 90 lenders (market)				-0.3731**
				(0.1502)
Loan size	0.0193**	-0.0291***	-0.0246***	-0.0265***
	(0.0098)	(0.009)	(0.007)	(0.0067)
Spread	0.0006**	0.0005	-0.0004**	-0.0005***
	(0.0003)	(0.0003)	(0.0002)	(0.0002)
Fee	-0.0007	-0.0024***	0.0012***	0.0014***
	(0.0005)	(0.0006)	(0.0003)	(0.0004)
Maturity	0.0022***	0.0014***	0.0004**	0.0002
	(0.0006)	(0.0003)	(0.0002)	(0.0002)
Guarantors	0.0911***	0.0088	0.0291*	0.0421**
	(0.0221)	(0.0287)	(0.0167)	(0.0191)
Covenants	0.1126***	0.077***	0.0677***	0.0656***
	(0.0213)	(0.0205)	(0.0127)	(0.013)
Senior debt	0.1199	1.0468***	-0.1251	-0.2349***
	(0.0821)	(0.0796)	(0.0794)	(0.0657)
S&P rating	0.2562	-0.5874***	0.0176	0.016
	(0.471)	(0.0442)	(0.04)	(0.0387)
Creditor rights	0.0998***	0.0109	0.0366***	0.0359***
	(0.0094)	(0.0214)	(0.0091)	(0.0092)
Rule of law	-0.1539***	0.1661***	0.0052	-0.0016
	(0.0152)	(0.0324)	(0.0134)	(0.0136)
Intercept	-32.2318***	-8.3350	-37.9221***	-27.4776***
	(11.3297)	(8.5718)	(7.2874)	(7.2863)
N	3274	2596	3274	3274
Chi^2	2171.887	6713.32	8350.457	4377.683

Table 3: Estimation results with syndicate composition measures only

The table provides estimation results of the accelerated failure time model with a gamma distribution for different specifications (2.1 to 2.4) in terms of syndicate organization measures. The dependent variable is *Loan arrangement duration*. Definition of variables appear in table 1. Robust standard errors in parentheses. ***, **, * correspond to coefficients significantly different from 0 at 1%, 5% and 10% level. Loan type, loan purpose, benchmark rate, facility active year, industry and geographical areas dummies included but not reported.

Specifications	(2.1)	(2.2)	(2.3)	(2.4)
Same country top lenders	0.1388***	0.1075***		
	(0.0275)	(0.0274)		
Same country mid lenders		-0.1055***		
		(0.0386)		
Same country mid-low lenders			-0.0505**	
			(0.0242)	
Same country top-low lenders				0.0466
				(0.0356)
Loan size	-0.0232***	-0.0248***	-0.0264***	-0.0276***
	(0.006)	(0.006)	(0.0065)	(0.0064)
Spread	-0.0004***	-0.0004***	-0.0005***	-0.0005***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Fee	0.0014***	0.0014***	0.0014***	0.0014***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Maturity	0.0005***	0.0004***	0.0004***	0.0004***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Guarantors	0.04**	0.0455***	0.0317*	0.0295*
	(0.016)	(0.0159)	(0.0167)	(0.0163)
Covenants	0.0548***	0.053***	0.0623***	0.0647***
	(0.0133)	(0.0133)	(0.013)	(0.0131)
Senior debt	-0.1403**	-0.1504**	-0.1319*	-0.1401*
	(0.0713)	(0.0724)	(0.0773)	(0.0801)
S&P rating	0.0141	0.0187	0.0235	0.026
	(0.035)	(0.0351)	(0.0371)	(0.0372)
Creditor rights	0.0418***	0.0418***	0.0373***	0.0383***
	(0.0087)	(0.0083)	(0.0089)	(0.009)
Rule of law	0.0153	0.0075	-0.0040	-0.0054
	(0.0137)	(0.0136)	(0.0134)	(0.0133)
Intercept	-27.6439***	-32.5827***	-28.1710***	-28.2415***
	(6.6182)	(6.9538)	(6.9599)	(7.1009)
N	3274	3274	3274	3274
Chi^2	7349.766	7970.226	7857.641	8143.089

Table 4: Estimation results with syndicate size and concentration (Arrangers) measures and syndicate composition measures

The table provides estimation results of the accelerated failure time model with a gamma distribution for different specifications (1.1a to 1.1d) in terms of syndicate organization measures. The dependent variable is *Loan arrangement duration*. Definition of variables appear in table 1. Robust standard errors in parentheses. ***, **, * correspond to coefficients significantly different from 0 at 1%, 5% and 10% level. Loan type, loan purpose, benchmark rate, facility active year, industry and geographical areas dummies included but not reported.

Specifications	(1.1a)	(1.1b)	(1.1c)	(1.1d)
Number of arrangers	-0.0162***	-0.0161***	-0.0170***	-0.0182***
	(0.0021)	(0.0021)	(0.0023)	(0.0023)
Same country top lenders	0.2139***	0.1757***		
	(0.0397)	(0.0406)		
Same country mid lenders		-0.1955***		
		(0.0647)		
Same country mid-low			-0.2875***	
			(0.0425)	
Same country top-low				0.2843***
				(0.0556)
Loan size	0.0284***	0.028***	0.0316***	0.0281***
	(0.0098)	(0.01)	(0.0092)	(0.0098)
Spread	0.0006**	0.0008**	0.0008***	0.0008**
	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Fee	-0.0007	-0.0007	-0.0007	-0.0008
	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Maturity	0.0023***	0.0021***	0.0017***	0.0018***
	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Guarantors	0.1102***	0.1269***	0.1172***	0.1203***
	(0.0221)	(0.0236)	(0.023)	(0.0234)
Covenants	0.0766***	0.0786***	0.0891***	0.0947***
	(0.0219)	(0.0217)	(0.0221)	(0.0213)
Senior debt	0.1264	0.1138	0.1558*	0.1111
	(0.0866)	(0.0935)	(0.0803)	(0.0933)
S&P rating	0.2401	0.2463	0.2372	0.2668
	(0.441)	(0.426)	(0.458)	(0.447)
Creditor rights	0.1049***	0.1028***	0.1008***	0.1006***
	(0.0094)	(0.0092)	(0.0093)	(0.0092)
Rule of law	-0.1247***	-0.1290***	-0.1368***	-0.1452***
	(0.0154)	(0.0151)	(0.0161)	(0.0153)
Intercept	-35.4757***	-44.9626***	-44.8021***	-46.5379***
	(10.8001)	(11.6281)	(11.9105)	(12.2271)
N	3274	3274	3274	3274
Chi^2	2360.716	2473.53	2183.467	2419.181

Table 5: Estimation results with syndicate size and concentration (Top 10 lenders (presence)) measures and syndicate composition measures

The table provides estimation results of the accelerated failure time model with a gamma distribution for different specifications (1.3a to 1.3d) in terms of syndicate organization measures. The dependent variable is *Loan arrangement duration*. Definition of variables appear in table 1. Robust standard errors in parentheses. ***, **, * correspond to coefficients significantly different from 0 at 1%, 5% and 10% level. Loan type, loan purpose, benchmark rate, facility active year, industry and geographical areas dummies included but not reported.

Specifications	(1.3a)	(1.3b)	(1.3c)	(1.3d)
Top 10 lenders (presence)	-0.1218***	-0.1147***	-0.1560***	-0.1537***
	(0.0281)	(0.0293)	(0.0283)	(0.0279)
Same country top lenders	0.1109***	0.0864***		
	(0.0309)	(0.0295)		
Same country mid lenders		-0.0877**		
		(0.0403)		
Same country mid-low lenders			0.0011	
			(0.0267)	
Same country top-low lenders				0.011
				(0.0376)
Loan size	-0.0215***	-0.0229***	-0.0246***	-0.0245***
	(0.0062)	(0.0063)	(0.0068)	(0.0069)
Spread	-0.0004**	-0.0004**	-0.0004**	-0.0004**
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Fee	0.0012***	0.0013***	0.0012***	0.0012***
	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Maturity	0.0004***	0.0004**	0.0004**	0.0004**
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Guarantors	0.0402**	0.045***	0.029*	0.0301*
	(0.016)	(0.0159)	(0.0166)	(0.0163)
Covenants	0.0568***	0.055***	0.0679***	0.0669***
	(0.0134)	(0.0134)	(0.0132)	(0.0132)
Senior debt	-0.1309*	-0.1393*	-0.1252	-0.1261
	(0.0746)	(0.0764)	(0.079)	(0.0814)
S&P rating	0.0095	0.0137	0.0177	0.0172
	(0.0371)	(0.0373)	(0.0394)	(0.0394)
Creditor rights	0.0405***	0.0408***	0.0366***	0.0369***
	(0.009)	(0.0087)	(0.0092)	(0.0094)
Rule of law	0.0195	0.0127	0.0052	0.0052
	(0.0136)	(0.0136)	(0.0134)	(0.0134)
Intercept	-36.7240***	-40.4002***	-37.8967***	-38.3784***
	(7.0882)	(7.2511)	(7.3020)	(7.3876)
N	3274	3274	3274	3274
Chi^2	7885.444	8439.457	8408.059	8414.194

Table 6: Estimation results with syndicate size and concentration (Top 10 lenders (market)) measures and syndicate composition measures

The table provides estimation results of the accelerated failure time model with a gamma distribution for different specifications (1.4a to 1.4d) in terms of syndicate organization measures. The dependent variable is *Loan arrangement duration*. Definition of variables appear in table 1. Robust standard errors in parentheses. ***, **, * correspond to coefficients significantly different from 0 at 1%, 5% and 10% level. Loan type, loan purpose, benchmark rate, facility active year, industry and geographical areas dummies included but not reported.

Specifications	(1.4a)	(1.4b)	(1.4c)	(1.4d)
Top 10 lenders (market)	-0.3595**	-0.3714**	-0.3707**	-0.3807**
	(0.1626)	(0.1718)	(0.152)	(0.1539)
Same country top lenders	0.1294***	0.0955***		
	(0.0298)	(0.031)		
Same country mid lenders		-0.1101***		
		(0.0376)		
Same country mid-low lenders			-0.0455	
			(0.0444)	
Same country top-low lenders				0.0528
				(0.033)
Loan size	-0.0208***	-0.0223***	-0.0248***	-0.0256***
	(0.0063)	(0.0063)	(0.0065)	(0.0065)
Spread	-0.0005***	-0.0005***	-0.0005***	-0.0005***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Fee	0.0014***	0.0015***	0.0014***	0.0014***
	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Maturity	0.0002	0.0001	0.0001	0.0001
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Guarantors	0.0575***	0.0647***	0.0481**	0.048**
	(0.019)	(0.0195)	(0.0192)	(0.0192)
Covenants	0.0518***	0.0492***	0.0599***	0.0611***
	(0.0136)	(0.0136)	(0.0134)	(0.0135)
Senior debt	-0.2258***	-0.2364***	-0.2310***	-0.2397***
	(0.063)	(0.0646)	(0.0652)	(0.0675)
S&P rating	0.0001	0.0038	0.0113	0.0119
	(0.0368)	(0.0371)	(0.0383)	(0.0384)
Creditor rights	0.0396***	0.04***	0.0359***	0.0371***
	(0.0092)	(0.0088)	(0.0092)	(0.0092)
Rule of law	0.018	0.0096	0.00007	-0.0012
	(0.0138)	(0.0139)	(0.0137)	(0.0136)
Intercept	-29.8470***	-35.5837***	-29.7993***	-30.6405***
	(7.1059)	(7.5837)	(7.4394)	(7.6857)
N	3274	3274	3274	3274
Chi^2	4279.283	4509.396	4436.914	4403.339

Table 7: Distribution of the number of loans and lenders-tranches, and mean loan arrangement duration by country

The table provides the number of loans and lenders-tranches, as well as respective in sample frequency, by country, as well as mean values of the endogenous variable *Loan arrangement duration* by borrower country.

Country	Number of loans	Freq.	Loan arrangement duration	Number of lenders-tranches	Freq.
Argentina	-	-	-	10	0.03
Australia	172	3.58	63.61	158	0.55
Austria	3	0.06	51.33	924	3.21
Bahrain	11	0.23	37.81	297	1.03
Belgium	21	0.44	49.52	744	2.59
Bermuda	2	0.04	56.00	-	-
Bulgaria	2	0.04	43.00	-	-
Canada	-	-	-	543	1.89
Cayman Islands	10	0.21	48.00	-	-
China	350	7.28	59.99	101	0.35
Croatia	10	0.21	46.20	16	0.06
Cyprus	-	-	-	16	0.06
Czech Republic	2	0.04	125.00	56	0.19
Denmark	10	0.21	54.3	325	1.13
Egypt	7	0.15	53.00	86	0.30
Finland	14	0.29	39.28	167	0.58
France	167	3.47	52.31	3894	13.54
Germany	117	2.43	53.06	4819	16.76
Ghana	3	0.06	45.33	-	-
Greece	7	0.15	63.00	168	0.58
Hong Kong	759	15.79	51.38	409	1.42
Hungary	21	0.44	50.57	154	0.54
Iceland	4	0.08	41.25	19	0.07
India	190	3.95	56.45	48	0.17
Indonesia	525	10.92	61.49	30	0.10
Iran	-	-	-	35	0.12
Ireland	5	0.10	45.00	319	1.11
Israel	-	-	-	74	0.26
Italy	47	0.98	51.95	1593	5.54
Japan	57	1.19	47.26	1906	6.63
Jordan	-	-	-	119	0.41
Kazakhstan	5	0.10	32.00	-	-
Korea (South)	616	12.81	32.74	44	0.15
Kuwait	2	0.04	64.00	182	0.63
Latvia	-	-	-	22	0.08
Luxembourg	14	0.29	68.85	334	1.16
Malaysia	151	3.14	70.10	22	0.08
Malta	-	-	-	15	0.05
Morocco	-	-	-	16	0.06

Table 7: (continued)

Country	Number of loans	Freq.	Loan arrangement duration	Number of lenders-tranches	Freq.
Netherlands	61	1.27	57.57	2034	7.07
New Zealand	28	0.58	57.07	-	-
Norway	20	0.42	42.10	303	1.05
Oman	5	0.10	116.80	90	0.31
Pakistan	19	0.40	38.47	14	0.05
Papua New Guinea	5	0.10	93.60	-	-
Philippines	115	2.39	69.23	-	-
Poland	17	0.35	65.82	111	0.39
Portugal	15	0.31	40.53	288	1.00
Qatar	6	0.12	80.83	107	0.37
Romania	8	0.17	47.15	21	0.07
Russian Federation	31	0.64	50.48	44	0.15
Saudi Arabia	4	0.08	18.50	187	0.65
Singapore	155	3.22	54.66	72	0.25
Slovakia	2	0.04	50.50	37	0.13
Slovenia	9	0.19	43.33	13	0.05
South Africa	21	0.44	47.95	74	0.26
Spain	30	0.62	46.76	489	1.70
Sri Lanka	3	0.06	38.33	-	-
Sweden	26	0.54	47.65	327	1.14
Switzerland	14	0.29	43.57	396	1.38
Taiwan	293	6.10	86.01	200	0.70
Thailand	395	8.22	56.29	-	-
Tunisia	3	0.06	48.00	36	0.13
Turkey	21	0.44	31.71	65	0.23
United Arab Emirates	6	0.12	56.66	296	1.03
United Kingdom	165	3.43	51.57	2701	9.39
United States of America	-	-	-	3047	10.60
Venezuela	3	0.06	113.66	-	-
Vietnam	14	0.29	77.92	-	-