Determinants of Spreads in Syndicated Loans to Euro Area Corporates[*]

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Abstract

This paper explores empirical regularities in the pricing of syndicated loans to euro area residents, aiming at isolating operation and borrower specific factors from country specific ones. The findings from previous empirical literature are confirmed and the results are in line with established theoretical predictions in what concerns the role of maturity, loan size and credit risk rating. The results also show that collateral and guarantees matter in the pricing of corporate loans differently, with a positive association between spreads and collateral pledging and the opposite in the case of guarantees. In addition, fee and pure intermediation business seem to be complementary activities at the operation level from the perspective of banks' revenues. Further, this study finds preliminary evidence of home bias in the syndicated loan market, a conclusion with natural implications for the assessment of cross-border integration of the euro area corporate bank loans market.

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1 Introduction

A clear-cut ranking of factors underlying price differentiation of banks' new business calls for the analysis of data at the operation level. Unfortunately, such a database is not readily available for retail bank loans for all euro area countries. With that in mind, this paper is intended to derive general results for the loan market in the euro area by making use of a rich database of syndicated loans at the operation level [for a description of the functioning of the syndicated loan market see Gadanecz (2004)]. This market is usually identified as a transaction market for more transparent companies or projects, a feature that suggests that it should be more integrated cross-border than the market for bank loans at large. In fact, the direct reading of the information available for the primary market shows up a widespread presence of non-resident banks in each syndicate, in many cases acting as leading managers of the operations. Notwithstanding those considerations, the theoretical predictions in the literature concerning factors for interest rate differentiation among borrowers are tested for the euro area and cross-country differences analyzed after controlling for economically relevant factors. In particular, the current version of this work provides some evidence of home bias in the syndicated loan market in the euro area, what will be further explored in subsequent versions. Given the more transactional nature of syndicated loans than average bank loans and the *a priori* evidence of deep cross-border bank presence in this market, there is a case for considering these results as a starting counterfactual for more general conclusions on the across-country integration of corporate bank loans in the euro area. To be sure, based on these findings, it should not be surprising if future empirical studies concluded for the lack of or incomplete integration of the several national corporate bank loan markets in the euro area.

The evidence uncovered in this paper may also inform the ongoing debate on the interpretation of cross-country differences in the euro area official statistics on bank loan interest rates. In January 2003, the so-called MIR interest rate statistics were set up. This new set of statistics covers the euro denominated lending and deposit business of monetary and financial institutions vis-a-vis euro area resident non-financial private sector counterparts. In spite of harmonization of concepts and breakdowns, systematic country differences show up in the aggregate statistics available so far. According to ECB (2006), a large set of factors may be explaining these differences. These range from differences in national practices that bring about difficulties in the fine tuning of the statistical breakdown of instruments into homogeneous categories, to differences in the market environment, ultimately more related to competitive issues.

The paper is outlined as follows. In section 2, the database used is described and some general features of the syndicated loan market are presented. In section 3, the econometric approach is explained and the corresponding results are discussed. Section 4 contains a further exploration on the role of collateral and on the results pointing to the presence of "home bias" in this market. Section 5 provides a short elaboration on the quantification of country-specific effects in this framework. Finally, section 6 outlines the most salient conclusions.

2   Data and descriptive statistics

According to the Dealogic Loanware database, the main source for this work, the syndicated loan market for non-financial corporations has posted a remarkable growth at the global level over the last few years, climbing from a total amount of deals closed of 1.5 trillion euro in 1999 to 2.7 trillion euro in 2006. These recent developments continue to shape a structural change in this market, which was fostered in the 1980's mostly as a means of developing countries' sovereign financing. Further, in what concerns non-financial corporations, this market has spread geographically very substantially: while 57 percent of money raised through loan syndicates were to US borrowers in 1999, this percentage dropped to 40 percent in 2006. This decline occurred at the expense of a rise of the growth in the financing of euro area residents in this market, whose share rose from 18 percent to 25 percent in the same period, and the stronger presence of Asian residents in the international syndicated loans market (see Chart 1). The growth in the market concerning euro area borrowers has occurred essentially in the non-rated borrowers' segment, even though the predominance of non-rated borrowers is present at the global level also (see Charts 2 and 3). The enormous expansion in this market in the euro area recently raises the interest of understanding its functioning, pricing mechanisms and the way it organizes (see Rhodes (2006) for the details of either the economic, legal aspects or conventions in this market, as well as a brief review of its development over the last three decades). Even though no precise estimates of how much this type of financing represents in the European banks loan books, a rough estimate point to a doubling of its importance between 1999 and 2006 (see Chart 4).[1]

As stated above, this work was undertaken making use of the Dealogic

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[1]A simple ratio of new deals announced each year and the cumulative amount of new business to euro area corporates, as published by the ECB points to an average of around 7.5 percent of syndicated loans in the overall loans to non-financial corporations resident in the euro area.

Loanware database for syndicated loans identified at the operation level granted to non-financial corporations domiciled in the euro area in the period January 1999 to October 2006. Further, loans with identified purpose as "public finance" were disregarded and it was imposed that the information about pricing at issue (excluding fees), loan amount and signing date (or at least funding date) was available. After these requirements, the database ended up with 6040 observations. Some aggregate statistics at the country and euro area levels are shown in table 1. Loans granted to corporates resident in France, Germany and Spain are the most frequent, while borrowers in Portugal and Austria are the least frequent in the sample.

Further analysis was undertaken with loans drawn by firms for which explicit default risk information is available. This implied a very significant compression in the database. For instance, if the analysis is concentrated on borrowers rated by either Standard&Poors or Moody's the number of observations drops to 605. In this case, observations for Austria and Belgium are very few. Accordingly, the results concerning these countries must be interpreted with particular caution.

In table 2 the variables used are explained. These include usual determinants of the spread applied in loans. The focus variable is the interest spread on each selected loan operation.[2] Loan size was taken into account with dummies for the quartiles of the loan amount of the operation, sorted by year. This variable controls for possible economies of scale in the design of the operation, with a higher dilution of fixed costs for larger operations. At the same time, the size of the operation can be a proxy for borrower size, allowing for the control of systematic differences associated to firm size.

The rating at issue is aggregated into adjacent classes and included as a direct measure of credit risk. Most operations involve unrated firms, while among rated ones, investment grade operations are the most frequent in this sample (see table 2.a).[3] The maturity of the operation was synthesized into classes and introduced into the regression as dummy variables. A large strand of literature on the relationship between maturity and loan spreads points to the existence of an upward sloping credit spread curve over the maturity spectrum [see Jackson and Perraudin (1999) and related references]. Hence, operations with longer maturity were expected to be more expensive, irrespective of the shape of the yield curve.

The announced purpose of the loan, with a dummy for controlling for the

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[2]The actual unit of observation is the loan tranche. Each loan facility may include several loan tranches with possible different loan terms.

[3]Ratings corresponding to investment grade are those BBB- or above in the Standard&Poors scale, while the remaining ratings correspond to borrowers or debt issues which are commonly labeled as "non-investment grade" or with "junk" status.

cases when this information is undisclosed, was taken also as a controlling variable. In particular, it was possible to identify in the database loan operations whose proceeds were intended to finance take-overs or recapitalization of the obligors, project finance and other specific purposes, very different by nature from a general purpose loan or credit line.

A dummy variable specifying whether the loan is a credit line, a term loan, a bridge loan, a mezzanine loan or other type of loan was introduced. In practice, the purpose of all mezzanine loans in the database is take over or recapitalization, so that this loan type was considered as a sub-type of the "take-over" purpose (see table 2). Previous research for the United States point to the existence of a positive premium on term loans when compared to credit lines. This empirical fact can be associated to the insurance role of credit lines and the liquidity provision service provided by banks by means of this instrument (Berger and Udell, 1992; Kashyap, Rajan, and Stein, 2002).

Fees (measured in basis points) accrued to loan arrangers, book runners and providers were included to control for possible substitution effects between fees for services and interest spread. In addition, a distinction between commitment and other types of fees was considered. Further, a dummy for controlling whenever information on fees is undisclosed was also included.

Dummies for the existence of guarantees and for the existence of collateral attached to the operation were also considered. The sign of the impact of these factors on pricing is ambiguous in light of both theoretical considerations and previous empirical research. In what concerns guarantees, it is our impression that they reflect chiefly support from entities in the same economic group of the borrower, in particular a guarantee from the parent company to its subsidiary. As such, a lower price was expected in association with the presence of guarantees. In what concerns loans secured on collateral, all else equal, it is natural to expect that, by the time a delinquency event has already occurred, loans with collateral are less risky than the ones without it. Conversely, the ex-ante relationship between collateral and risk (and subsequently pricing) is not obvious. In fact, at the time of approval of the loan, if all relevant characteristics of the borrower are not known to the lender, in some circumstances, it may be more probable that collateral is demanded for those borrowers perceived as riskier [(Boot, Thakor, and Udell, 1991) for a thorough description of the relationship between risk and collateral]. Empirical results point to a positive relationship between collateral and risk [see Jiménez and Saurina (2004) for a large sample of Spanish debtors]; and collateral and pricing [Berger and Udell (1990) and Carey and Nini (2004) for the international syndicated market]. Further, banks may demand collateral as a substitute of ex-post monitoring efforts (Manove and Padilla, 1999; Manove, Padilla, and Pagano, 2001). Other arguments point

to the opposite direction, i.e. collateral may serve as a screening device. The economic cost of pledging collateral is lower for low risk borrowers than for high risk ones, so that the former are willing to trade the pledging of collateral against a lower interest rates (Besanko and Thakor, 1987a,b). Given this ambiguity, there was no *a priori* straightforward expected role for collateral before the empirical approach was implemented.

The share-holding relationships of the borrowers with the general government were approached by means of a dummy controlling for the public versus private control of the borrower.

Asymmetry of information between banks with a local presence and remote-located banks was taken into account by attaching to each operation a dummy variable for the cases when the nationality of all banks listed as providers of funds in the operation are different from the borrower's. A set of dummies controlling for industry of the borrower were also put in place, even though no particular emphasis was dedicated to their analysis.

3 Econometric approach

3.1 The general model

Econometric regressions were performed with the interest rate spread as dependent variable. Dummies for the country of residence and for the economic sector of the borrower, other borrower and operation specific characteristics and time specific dummies were taken as explanatory variables. The specification taken is as follows:

$$\mathrm{Spread}_{j,i,t} = \alpha + \Theta \cdot \mathrm{Country\ dummies}_j + \Lambda \cdot \mathrm{Sector\ dummies}_j$$
$$+ \Pi \cdot \mathrm{Borrower}_j + \Gamma \cdot \mathrm{Operation}_i + \Omega \cdot \mathrm{Time\ dummies} \quad (1)$$

The specification in (1) was estimated by OLS in two alternatives: one set of regressions includes all loans in the database, while the other restricts the sample to rated firms only. The reasons for this approach are as follow. As the rating is available for a narrow sub-set of firms only, it implies that a bias may be arising through the absence of control for the market's perceived risk of the borrowers in most operations. This possibility is controlled for in the narrower sample, in which all firms considered have external rating. Further, as most databases lack harmonized information for controlling borrowers' risk, it is desirable to test whether the conclusions for the remaining characteristics are robust to the omission of explicit controls for default risk. For this same reason, two specifications were considered under the full and

the restricted samples, differing only on the inclusion of the credit rating controls.

3.2 Results in the full sample

Tables 3 and 4 present the results of the models using the full sample as described before. In table 3 it is shown the outcome of the general model using all variables listed in table 2, except for those capturing interactive effects. The results in table 3 differ from the ones in table 4 by the fact that the model in the latter table does not control for the rating of the borrower. The idea underlying this is to neglect direct information about borrower risk and test if the general conclusions for the remaining factors are robust to default risk measurement omission. This is particularly relevant, as only a relatively small group of companies in the bank's portfolio is publicly rated (and that is the case also in the database used in this work).

The main results of these regressions conform to the literature on the topic. For instance, the higher the loan size, the lower the spread, most significantly when comparing the quartile of the largest operations with the remaining.[4] This may be the result of economies of scale in preparation of a syndicated loan, i.e. there may be fixed costs, which can be diluted in larger loans. An alternative and more plausible explanation is that loan size may be a proxy for borrower size, so that this variable captures banks' perceived lower risk in (very) large borrowers.

Loan ratings are intended to be ex-ante measures of default probability expectations, so that better loan ratings should be associated with lower spreads. The empirical findings in table 3 indeed point to such a relationship. In particular, rating seems to have a sizeable marginal impact on pricing for ratings below triple B class and insignificant among investment grade classes (between the best rating class and BBB- class). Further, the spread paid by non-rated borrowers is slightly below the double B average, suggesting that, if rated, those firms would be, on average, at the margin between the BB+ and the BBB- rating.

Spreads increase monotonically with maturity. In particular, spreads of operations with "over 5 years maturity" differ very much significantly from lower maturities. Operations with unknown or uncertain maturity carry, on average, spreads which locate between the "1 to 5 years" maturity class and the "over 5 years" class. This is indicative of no significant maturity bias

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[4]In fact, the variables representing the first three quartiles of loan size post very similar coefficients, suggesting that these dummies could be aggregated. Anyway, the most general specification was kept in order to allow for the assessment of this feature in the remaining regressions.

in those operations, as the above-mentioned classes are the most frequent in the sample.

According to the results of the regression underlying tables 3 and 4, loans for take-over or recapitalization purposes are perceived as riskier than all other. This is not unsurprising, since take-overs financed by means of debt are conductive to increased leverage of the acquirer. Among these, the mezzanine tranches show up to be extremely expensive, posting a spread almost 6 percentage points higher than general purpose loans.

Term loans and most specially bridge loans carry higher spreads than credit lines. Bridge loans are a way of interim financing that can be assessed as embodying higher risk in the sense that are supposed to be replaced by more stable financing still in preparation that may not materialize due to, inter alia, the deterioration in market conditions. In what concerns the relative price of term loans and credit lines, the fact that the latter show up to be cheaper is in line with other works carried on for the United States. In addition to what was outlined before about the insurance role of credit lines, these instruments may have an hedging interest for banks, in case there is positive correlation between shocks in deposit supply and credit demand. This would mean that shocks to savers' liquidity and to investors' financing requirements are positively correlated.

As expected, loan facilities carrying guarantees price with lower spreads, while, in the sample under consideration, collateral is positively related to loan spreads. This effect is stronger in the specification that does not include ratings, which is indicative of positive correlation between the presence of colateral and borrower default risk, i.e., those firms carrying worse credit rating are more likely to post collateral when borrowing.

Entities owned and controlled by the general government pay less for their loans than their private peers. Again this reflects the fact that government owned companies tend to carry better ratings, ultimately reflecting the presence of implicit public guarantees in place.

The facilities in which banks with the same nationality of the borrower do not participate as providers of funds in the primary market carry higher spreads. This variable is intended to account for the hypothesis that domestic banks are better information processors than foreign banks. In this way, if there is no single bank with the same nationality of the borrower, that may constitute a signal for all other potential participants that unknown information to them is biased towards high risk. These results give support to the idea that, even in the syndicated loans market, there may be information asymmetries between local and foreign players in the credit market.

Loans with higher fees carry higher spreads, i.e. fee business and pure intermediation seem to be complements rather than substitutes from the

perspective of banks. In fact, 1 percentage point of additional fees (other than commitment fess) corresponds around 40 basis points of higher spread, and this result shows up to be slightly stronger when no control for rating is carried out.

Another interesting information that can be inferred from the set of regressions is the identification of a time-series credit cycle. The time dummies in the regression point to a hump shaped time-series of spreads (with a peak in 2003-2004), after controlling for the remaining factors. This cycle was not so evident when reading the average spreads as presented in table 1.

3.3   Model with rated borrowers only

In order to perform sensitivity analysis to test for the robustness of the previous results the same procedure was performed in a smaller sample which includes rated borrowers only. In table 5 the results of the same regression as in table 3 are presented (dummies for rating are included), while in table 6 no rating information is used in the regression as in the regression concerning table 4. Most previously highlighted results are generally confirmed in this smaller sample. A few differences are worth mentioning, however.

In what concerns the loan size the results point to a more (negatively) monotonic relationship between the loan size and the spread (as can be seen in table 6, for the model which does not control for rating). The results for credit risk rating are reinforced in this data set, with firms with triple B rating or above paying systematically less than those in the "non-investment grade" classes. The relevance of collateral appears stronger in this sub-sample, with a higher coefficient for those loans with collateral attached. This conclusion stands out in both the specification that controls for rating and the one that omits those controls.[5] This result is in line with the empirical literature that finds a positive relationship between risk and/or spreads and collateral demanded.

The negative relation between guarantees and spreads found in the previous section is confirmed is this narrower data set, even though with lower statistical significance. As in the larger sample, the results obtained concerning the relation between fees and spreads are observed also in the narrow sample and are stronger for fees other than commitment fees. Therefor, these results suggest that it should not be neglected in the design of tools for monitoring aggregate interest rate developments. The positive association between fees and interest spreads at the operation level is a striking feature which deserves

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[5]Recall that in this database rating information is only partial in the sense that only 605 out of 6040 loan facilities are drawn by rated borrowers.

further investigation in order to find a structural explanation.

4 Exploring further the role of collateral and of the "home bias" variable

In order to better understand the reasons behind the positive association found between collateral pledging and the interest spread applied on loans, a more detailed study of this effect was performed. This involved the running of additional regressions in which other characteristics of the borrowers and/or the operations were crossed with the variable identifying the presence of collateral. A comprehensive set of trials describing loan purpose, instrument type, borrower rating and loan size were put in place, and only the last two characteristics showed up to be relevant in shedding additional light to this issue. The results concerning the association between the impact of the collateral and loan rating are reported in tables 7 and 8 and are illustrative of the fact that the positive association is similar across rating classes. Tables 9 to 12 present the results of the regressions exploring the role of loan size crossed with the variable concerning the presence of collateral. In all specifications the positive association between collateral and spread appear robust for the largest loans (the 4th quartile, omitted in the regression), while there seems to be a general tendency for the effect to disappear in smaller loans. To be sure, the coefficient of the dummy for the first quartile of the loan size, crossed with the dummy for the existence of collateral, is in general significant and close to the symmetric of the coefficient of the collateral variable).

A similar procedure was undertaken trying to uncover what firm/operation characteristics could be associated with the positive relationship found between the non-presence of domestic banks in the syndicate and loan spreads. The statistically significant differentiation in this effect was found along the credit risk rating scale, with a strong differential effect in the double B rated borrowers, when compared to triple B borrowers. As can be seen in tables 13 and 14 the effect is not monotonic in the rating scale and can be observed both in the full sample and in the sample with rated borrowers only.

5 What can we say about cross-country differences?

In the raw data, the difference between the country carrying the whole sample highest average spread and the one with the lowest spread is as high as 150 basis points. A very crude exercise of contrasting the country dummies in the most general model (referred to in table 3) suggests that this metric compresses to less than 50 basis points. Standard deviations of the country dummies are only one third of the standard deviation of the spreads in the raw data, after scaling all countries against France, the omitted country in the regression (Chart 5).

In table 15, Wald tests on the joint statistical relevance of the coefficients underlying sets of characteristics of the borrowers or operations were performed. Borrower nationality stands out as significant in all specifications giving further support for the conclusion that country-specific effects still remain after taking into account the remaining borrower and loan operation characteristics.

6 Conclusions

This work provides an overview of empirical findings for the factors underlying the pricing of syndicated loans in the euro area. The approach allows for isolating country specific from borrower/operation specific effects. In addition, it provides indications of important factors to take into consideration when stratifying loan operations into homogeneous classes for the purpose of building up aggregate interest rate statistics.

Further, some interesting stylized facts emerge which deserve future research on their underlying reasons. First, fees seem to be complements to interest income for banks, rather than substitutes, as common wisdom would suggest and the literature on the role of up-front fees predicts. As such, this issue deserves further analysis, taking into consideration that not all fees payable on a loan contract are front-end fees; rather, they accrue over regular payment periods in the same fashion as interest. Second, there is some evidence of the presence of home bias in the syndicated loan market, in the sense that loan facilities in which no bank with the same nationality as that of the borrowers' are more expensive than the remaining. This conclusion, if confirmed in subsequent work, suggests that one should not be surprised by evidence of incomplete integration in the retail loan market in the euro area. This is particularly relevant if one takes into consideration that the syndicated loan market is, by nature, a much more integrated and transpar-

ent market than that for bank loans in general. Accordingly, a more detailed analysis crossing nationality and the roles of participating banks in each syndicate, for instance distinguishing between arrangers of the operation and the remaining banks, may provide finer conclusions about the structural factors underlying these findings.

References

BERGER, A., AND G. UDELL (1990): "Collateral, Loan Quality, and Bank Risk," *Journal of Monetary Economics*, 25, 21–42.

——— (1992): "Some Evidence on the Empirical Significance of Credit Rationing," *Journal of Political Economy*, 100, 1047–1077.

BESANKO, D., AND A. V. THAKOR (1987a): "Collateral and Rationing: Sorting Equilibria in Monopolistic and Competitive Credit Markets," *International Economic Review*, 28, 671–689.

——— (1987b): "Competitive Equilibria in the Credit Markets with Imperfect Information," *Journal of Economic Theory*, 42, 167–182.

BOOT, A., A. THAKOR, AND G. F. UDELL (1991): "Secured Lending and Default Risk: Empirical Analysis, Policy Implications and Empirical Results," *The Economic Journal*, 101, 458–472.

CAREY, M., AND G. NINI (2004): "Is the Corporate Loan Market Globally Integrated? A Pricing Puzzle," International Finance Discussion Papers 813, Board of Governors of the Federal Reserve System.

ECB (2006): "Differences in MFI Interest Rates Across Euro Area Countries," Discussion paper, European Central Bank, September.

GADANECZ, B. (2004): "The Syndicated Loan Market: Structure, Development and Implications," Quarterly review, BIS, December.

JACKSON, P., AND W. PERRAUDIN (1999): "The Nature of Credit Risk, the Effect of Maturity, Type of Obligor and Country of Domicile," Financial stability review, Bank of England, November.

JIMÉNEZ, G., AND J. SAURINA (2004): "Collateral, Type of Lender and Relationship Banking as Determinants of Credit Risk," WP 0414, Banco de España.

KASHYAP, A., R. RAJAN, AND J. STEIN (2002): "Banks as Liquidity Providers: an Explanation for the Co-existence of Lending and Deposit-taking," *Journal of Finance*, 57, 33–73.

MANOVE, M., AND J. PADILLA (1999): "Banking (Conservatively) with Optimists," *RAND Journal of Economics*, 30, 324–350.

Manove, M., J. Padilla, and M. Pagano (2001): "Collateral Versus Project Screening: a Model of Lazy Banks," *RAND Journal of Economics*, 32, 726–744.

Rhodes, T. (2006): *Syndicated Lending: Practice and Documentation.* Euromoney Books, 4th edn.

Chart 1

Syndicated loans to non-financial corporates
Shares of major economic areas in global flows
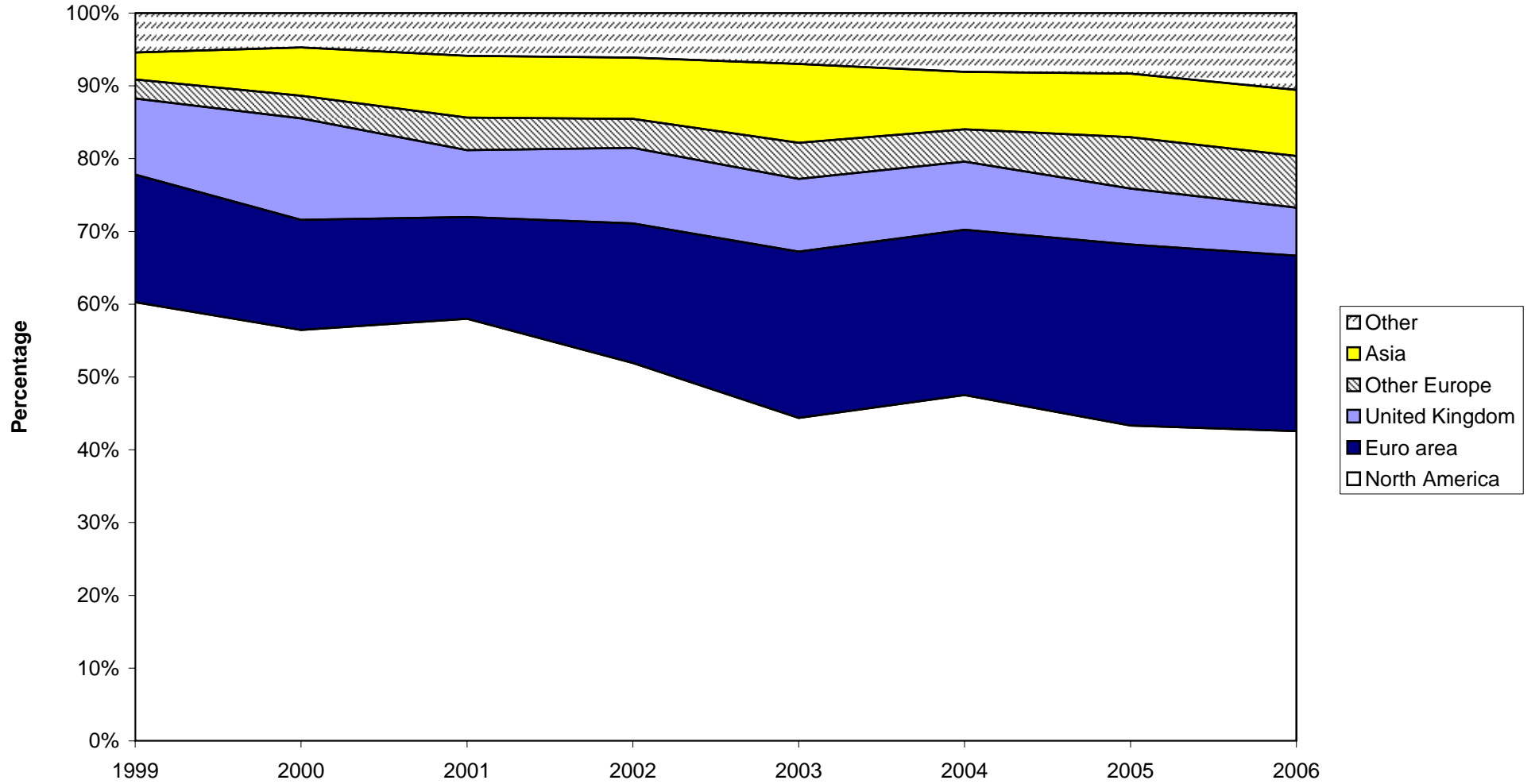
Source: Dealogic Loanware.

Chart 2

Global syndicated loans to euro area corporates
Breakdown of number of deals by S&P rating

Legend:
- Unrated
- Non-investment grade
- Investment grade
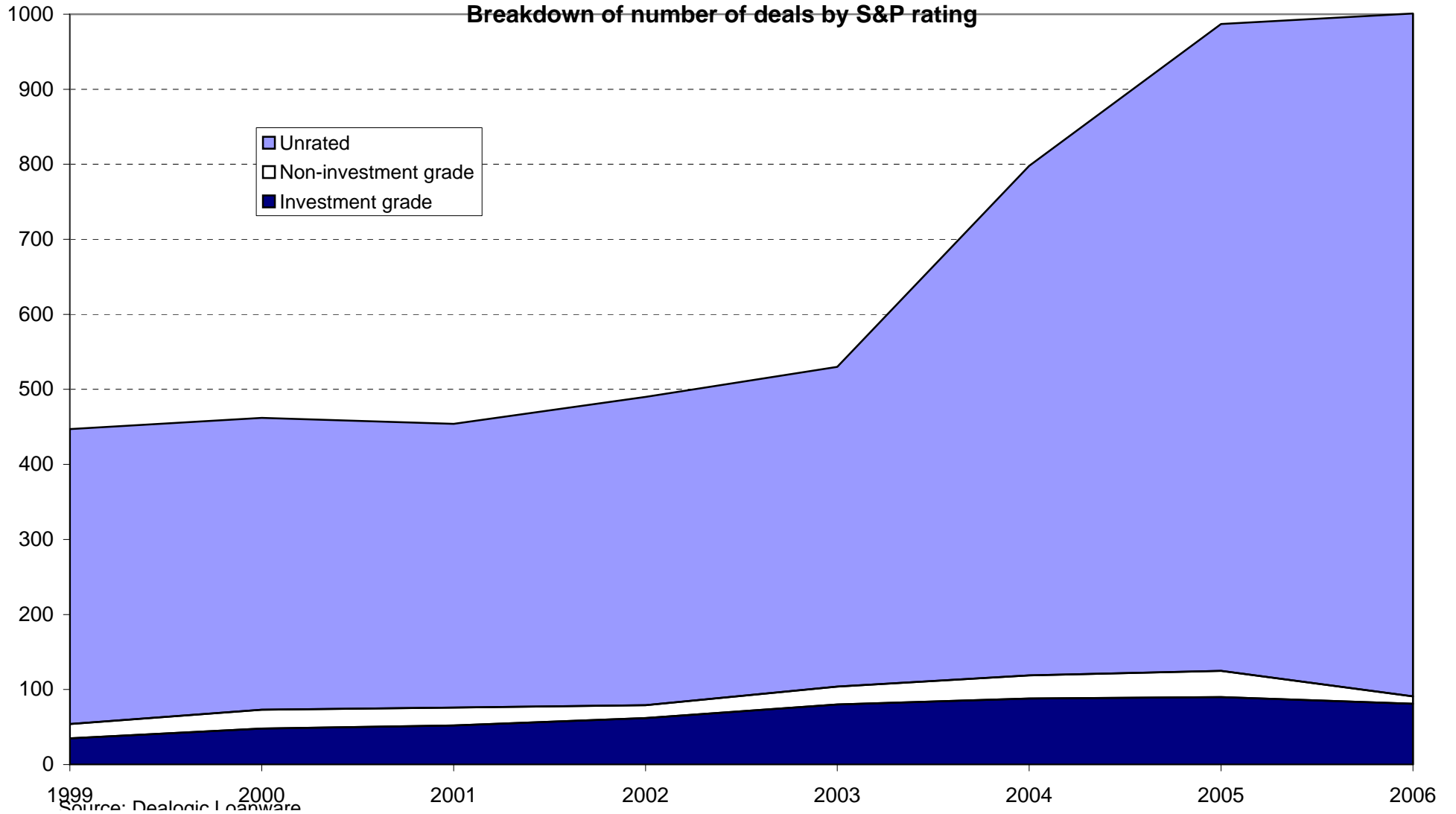
Source: Dealogic Loanware

Chart 3

Global syndicated loans to corporates (except euro area)

Breakdown of number of deals by S&P rating

Legend:
- Unrated
- Non-investment grade
- Investment grade

Source: Dealogic Loanware
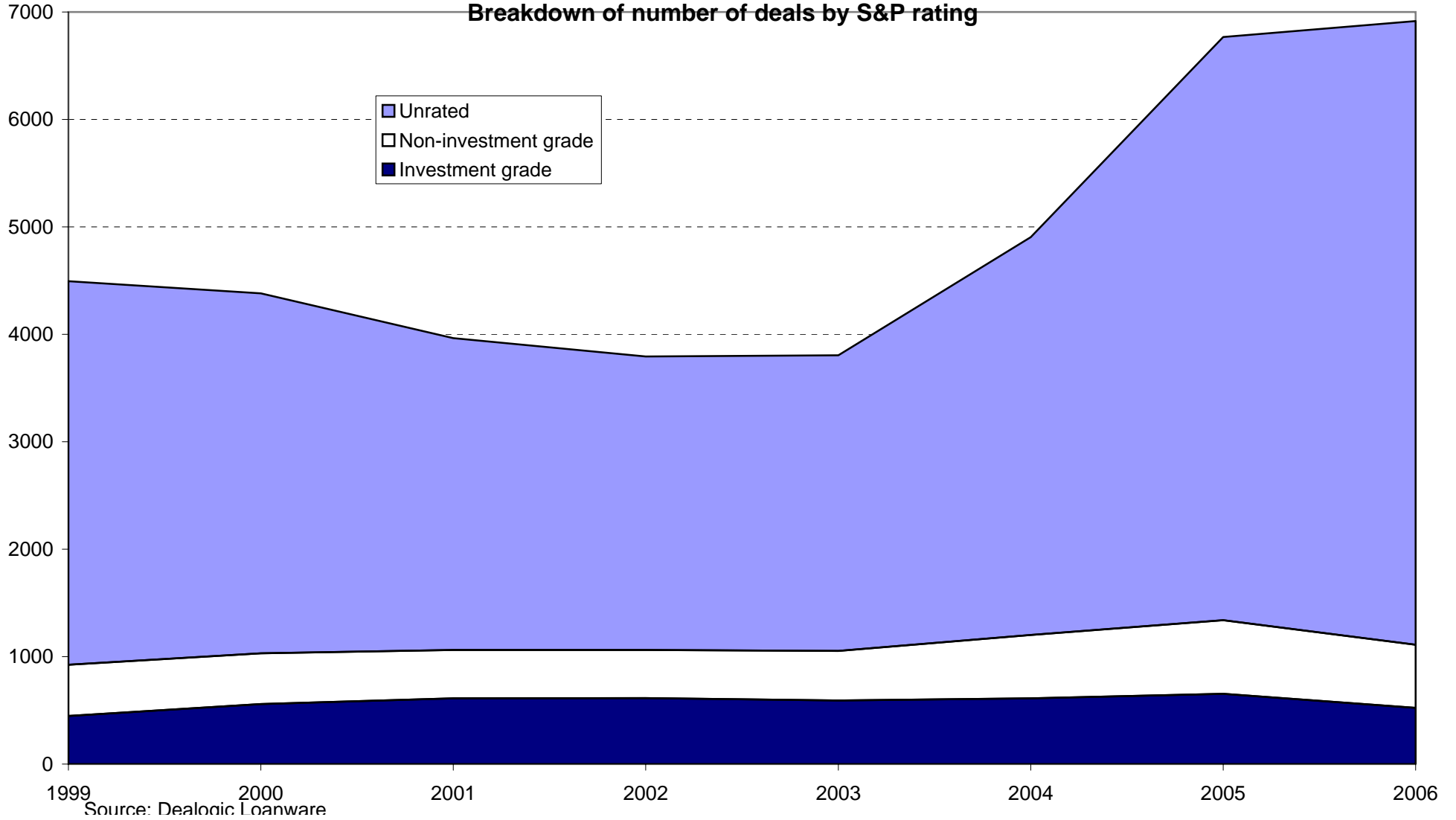
Chart 4

Syndicated loan market importance in the euro area

Legend:
- Volume Syndicated loans
- Annual accumulated new business volume (MIR)
- "Share" of syndicated loans (right scale)

Left axis: €Billion (0 to 10000)
Right axis: Percentage (0 to 8)

X-axis: 2003, 2004, 2005, 2006
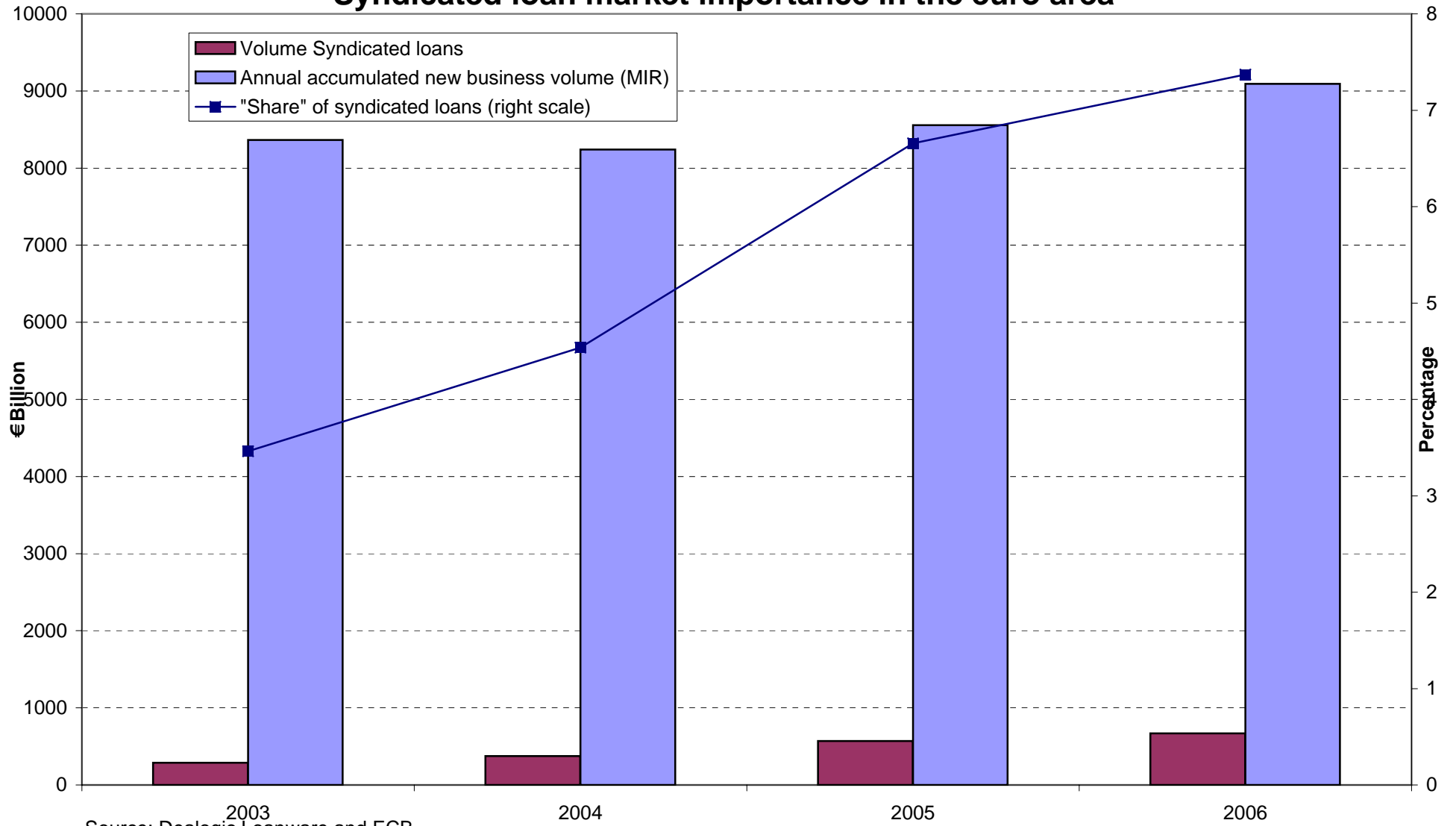
Source: Dealogic Loanware and ECB

Chart 5 - Differences to France average spreads
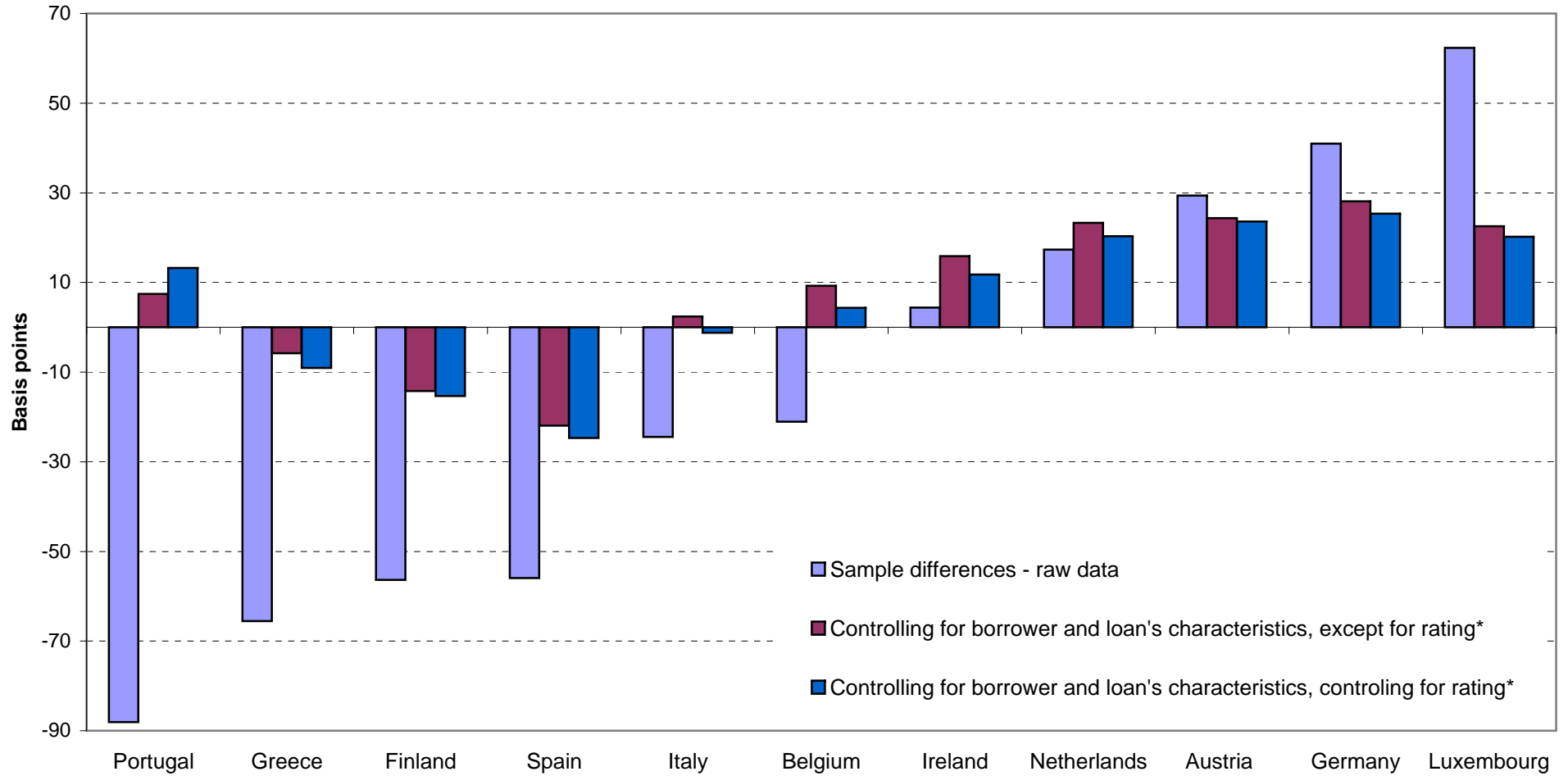
Notes: * Country differences stemming from the regression results as posted in Tables 3 and 4. Only Germany, Netherlands, Spain are statistically significan at 5%.

Table 1 - Descriptive statistics at the country level

	1999 Spread (1)	(2)	Obs #	2000 Spread (1)	(2)	Obs #	2001 Spread (1)	(2)	Obs #	2002 Spread (1)	(2)	Obs #	2003 Spread (1)	(2)	Obs #	2004 Spread (1)	(2)	Obs #	2005 Spread (1)	(2)	Obs #	2006 Spread (1)	(2)	Obs #	Total observations	of which rated
Austria			0	188	121	4	189	180	9			0	363	379	6	247	130	5	191	101	4	16	16	1	29	2
Belgium	59	68	5	88	80	16	97	84	17	130	59	10	211	145	15	222	203	43	174	63	34	254	118	24	164	3
Ireland	170	127	15	209	171	10	161	178	8	258	337	13	165	167	19	164	154	20	280	138	7	236	253	36	128	27
Finland	154	108	10	150	98	12	168	94	18	73	58	6	202	73	6	130	67	13	81	48	25	215	91	17	107	16
France	144	70	128	149	61	149	147	76	125	198	133	173	224	156	114	214	69	219	210	66	329	233	110	367	1604	186
Germany	120	63	40	174	107	57	206	108	79	222	56	83	269	105	93	250	121	219	266	117	255	250	80	253	1079	148
Greece	95	58	20	97	86	14	112	82	21	127	76	29	143	118	30	165	149	20	188	163	21	135	89	10	165	14
Italy	95	94	55	146	61	58	150	116	53	131	104	57	180	147	108	212	165	147	183	144	215	199	164	108	801	48
Luxembourg	109	102	3	266	283	7	199	132	14	223	64	6	331	331	12	335	147	17	285	186	28	189	78	16	103	9
Neetherlands	125	78	50	156	71	80	187	119	59	186	96	49	268	213	77	211	106	78	228	172	96	281	201	134	623	88
Portugal	133	117	6	122	70	16	85	67	14	68	35	3	128	100	8	138	65	8	106	68	19			0	74	15
Spain	87	77	75	107	60	83	116	105	72	116	85	90	148	131	111	168	101	191	149	97	288	166	99	253	1163	49
Euro Area	120	74	407	144	75	506	155	103	489	173	94	519	210	149	599	211	106	980	201	102	1321	224	113	1219	6040	605
St-dev	87			101			109			124			176			173			185			187				

Note: (1) Simple average in basis points; (2) Weighted average by loan amount.

Table 2 : Variable definitions

Variable		Definition
Dependent variable		
Spread		Spread applied to loans in basis points
Explanatory variables		
Year		
	year$_t$	Dummies equal to one if the loan takes place in year t (1999-2006*)
Borrower nationality		
	bel	Dummy equals one if borrower nationality is Belgian
	aus	Dummy equals one if borrower nationality is Austrian
	nee	Dummy equals one if borrower nationality is Dutch
	spn	Dummy equals one if borrower nationality is Spanish
	gre	Dummy equals one if borrower nationality is Greek
	fin	Dummy equals one if borrower nationality is Finnish
	irl	Dummy equals one if borrower nationality is Irish
	ita	Dummy equals one if borrower nationality is Italian
	lux	Dummy equals one if borrower nationality is Luxembourger
	ger	Dummy equals one if borrower nationality is German
	por	Dummy equals one if borrower nationality is Portuguese
	frc	Dummy equals one if borrower nationality is French (omitted in regressions)
Credit		
	lncrdp25	Dummy equals one if the loan is less than the percentile 25 of the loan size distribution (by year)
	lncrdp50	Dummy equals one if the loan is between the percentile 25 and 50 of the loan size distribution (by year)
	lncrdp75	Dummy equals one if the loan is between the percentile 50 and 75 of the loan size distribution (by year)
	lncrdp100	Dummy equals one if the loan is grather than the percentile 75 of the loan size distribution (by year) - (ommited in the regression)
Rating		
	a	Dummy equals one if borrower rating is between AAA and A-
	bbb	Dummy equals one if borrower rating is between BBB+ and BBB- (omitted in regressions)
	bb	Dummy equals one if borrower rating is between BB+ and BB-
	b	Dummy equals one if borrower rating is between B+ and CCC+
	notrat	Dummy equals one if the borrower is not rated
Maturity		
	mat0	Dummy equals one if the loan maturity is unknown
	mat1	Dummy equals one if the loan maturity is lower than or equal to 1 year
	mat2	Dummy equals one if the loan maturity is higher than 1 year and lower than 5 years
	mat3	Dummy equals one if the loan maturity is higher than 5 years (omitted in regressions)
Loan Purpose		
	tover	Dummy equals one if primary loan purpose is takeover or recapitalization
	mtover	Dummy equals one if among takeover or recapitalization operations the category is a mezzanine tranche
	abs	Dummy equals one if primary loan purpose is financing ships, aircraft or special-vehicles
	proj	Dummy equals one if primary loan purpose is project finance
	gen	Dummy equals one if primary loan purpose is general corporation purposes (omitted in regressions)
	unk	Dummy equals one if primary loan purpose is unknown
Instrument Type		
	terml	Dummy equals one if the category is term loan (omitted in regressions)
	crdlines	Dummy equals one if the category is credit lines
	bridge	Dummy equals one if the category is bridge loan
	other	Dummy equals one if the category is another type of loan
	mezl	Dummy equals one if the category is mezzanine loans. This variable is not presented since it was collinear with mtover
Fees		
	cmfees	Comminetement fees in basis points
	otfees	Other fees in basis points
	fees_und	Dummy equals one if fees are undisclosed
Garantor		
	gar	Dummy equals one if there is a garantor in the operation
Secured		
	sec	Dummy equals one if loan is secured
Type of borrower		
	pub	Dummy equals one if the borrower is controlled by the general government
	priv	Dummy equals one if the borrower is controlled by the private sector (omitted in regressions)
Lenders information		
	all	Dummy equals one if all lenders' nationality are different from borrower nationality
Borrower business		16 dummies variables representing the industry of the borrower
Rating and secured		
	asec	Dummy equals one if simultaneously the variables a and sec are equal to one
	bbbsec	Dummy equals one if simultaneously the variables bbb and sec are equal to one (omitted in regressions)
	bbsec	Dummy equals one if simultaneously the variables bb and sec are equal to one
	bsec	Dummy equals one if simultaneously the variables b and sec are equal to one
	notratsec	Dummy equals one if simultaneously the variables notrat and sec are equal to one
Loan size and secured		
	lncrdp25sec	Dummy equals one if simultaneously the variables lncrdp25 and sec are equal to one
	lncrdp50sec	Dummy equals one if simultaneously the variableslncrdp50 and sec are equal to one
	lncrdp75sec	Dummy equals one if simultaneously the variables lncrdp75 and sec are equal to one
	lncrdp100sec	Dummy equals one if simultaneously the variables lncrdp100 and sec are equal to one (omitted in the regression)
Rating and lender information		
	aall	Dummy equals one if simultaneously the variables a and all are equal to one
	bbball	Dummy equals one if simultaneously the variables bbb and all are equal to one (omitted in regressions)
	bball	Dummy equals one if simultaneously the variables bb and all are equal to one
	ball	Dummy equals one if simultaneously the variables b and all are equal to one
	notratall	Dummy equals one if simultaneously the variables notrat and all are equal to one

Note: * October of 2006

Table 2 a): Descriptive statistics of the explanatory variables*

	1999	2000	2001	2002	2003	2004	2005	2006
Credit (€m)								
mean	245.72	378.11	282.12	317.73	187.36	193.61	261.26	305.84
[min; Max]	[0.23; 9424]	[0.18; 20000]	[1.02; 5000]	[1.1; 10000]	[1.35; 6148]	[0.35; 7500]	[0.53; 8000]	[1; 21333]
Rating								
a	0.04	0.08	0.05	0.06	0.03	0.03	0.03	0.03
bbb	0.02	0.03	0.04	0.05	0.03	0.02	0.02	0.02
bb	0.01	0.02	0.01	0.02	0.03	0.03	0.02	0.01
b	0.01	0.02	0.00	0.02	0.02	0.02	0.02	0.02
notrat	0.90	0.86	0.90	0.85	0.90	0.91	0.91	0.92
Maturity								
mat0	0.04	0.06	0.04	0.01	0.02	0.02	0.02	0.01
mat1	0.14	0.13	0.14	0.10	0.05	0.06	0.04	0.04
mat2	0.32	0.27	0.31	0.34	0.30	0.29	0.29	0.21
mat3	0.50	0.54	0.51	0.55	0.63	0.64	0.65	0.73
Loan Purpose								
tover	0.59	0.61	0.70	0.73	0.78	0.78	0.77	0.84
mtover	0.01	0.02	0.03	0.02	0.03	0.03	0.04	0.05
abs	0.02	0.03	0.01	0.01	0.00	0.01	0.01	0.02
proj	0.09	0.14	0.09	0.06	0.10	0.08	0.09	0.05
gen	0.21	0.21	0.20	0.20	0.12	0.13	0.12	0.08
unk	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Instrument Type								
terml	0.51	0.53	0.52	0.55	0.51	0.58	0.50	0.53
bridge	0.02	0.03	0.02	0.03	0.03	0.02	0.03	0.03
crdlines	0.43	0.40	0.40	0.39	0.42	0.35	0.38	0.34
other	0.03	0.02	0.03	0.02	0.02	0.02	0.05	0.05
Fees								
cmfees (b.p.)								
mean	11.13	14.16	16.63	15.45	18.17	10.20	8.75	6.50
[min; Max]	[0; 100]	[0; 125]	[0; 150]	[0; 150]	[0; 190]	[0; 350]	[0; 150]	[0; 158]
otfees (b.p.)								
mean	4.02	6.92	7.00	7.60	7.90	4.57	4.29	3.92
[min; Max]	[0; 85]	[0; 100]	[0; 162]	[0; 300]	[0; 270]	[0; 160]	[0; 145]	[0; 360]
Fees_und	0.03	0.01	0.02	0.02	0.00	0.02	0.03	0.05
Garantor								
gar	0.06	0.04	0.02	0.04	0.05	0.04	0.03	0.02
Secured								
sec	0.18	0.26	0.19	0.18	0.31	0.25	0.33	0.23
Type of borrower								
pub	0.03	0.05	0.05	0.04	0.03	0.02	0.03	0.02
priv	0.97	0.95	0.95	0.96	0.97	0.98	0.97	0.98
Lenders information								
all	0.07	0.13	0.10	0.05	0.07	0.09	0.09	0.14

Note: * In percent of the total number of observations unless otherwise stated.

Table 3: General model with full sample, controlling for borrower rating

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	38.42	4.11 ***
year00	9.19	1.54
year01	14.68	2.47 **
year02	42.07	7.43 ***
year03	57.94	9.88 ***
year04	54.09	10.10 ***
year05	40.90	7.92 ***
year06	45.53	8.41 ***
bel	4.32	0.67
aus	23.60	0.86
nee	20.34	4.19 ***
spn	-24.69	-6.24 ***
gre	-9.04	-1.34
fin	-15.31	-1.64
irl	11.78	1.21
ita	-1.23	-0.31
lux	20.17	1.47
ger	25.33	6.38 ***
por	13.20	1.80 *
lncrdp25	50.02	13.98 ***
lncrdp50	50.01	13.19 ***
lncrdp75	44.50	12.56 ***
a	-10.62	-1.20
bb	84.21	7.37 ***
b	103.37	8.74 ***
notrat	57.54	8.14 ***
mat0	-34.45	-2.67 ***
mat1	-70.12	-13.25 ***
mat2	-61.36	-21.45 ***
tover	45.79	14.62 ***
mtover	583.17	25.12 ***
abs	-21.22	-2.42 **
proj	-14.86	-2.56 **
unk	0.29	0.03
crdline	-31.16	-14.31 ***
bridge	31.32	2.81 ***
other	75.52	7.01 ***
fees_und	-3.42	-0.42
otfees	0.36	2.69 ***
cmfees	0.18	3.35 ***
gar	-30.04	-5.06 ***
sec	11.97	3.50 ***
all	26.60	3.96 ***
pub	-36.64	-5.66 ***
Number of observations	6040	
R-squared	0.68	
Adj R-squared	0.68	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omited.

Table 4: General model with full sample, without controlling for borrower rating

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	85.27	12.35 ***
year00	6.40	1.07
year01	12.36	2.07 **
year02	40.16	7.03 ***
year03	57.54	9.74 ***
year04	54.89	10.17 ***
year05	41.38	7.95 ***
year06	45.37	8.33 ***
bel	9.27	1.46
aus	24.36	0.90
nee	23.29	4.69 ***
spn	-21.94	-5.52 ***
gre	-5.77	-0.86
fin	-14.21	-1.51
irl	15.87	1.64
ita	2.39	0.60
lux	22.53	1.65 *
ger	28.08	6.94 ***
por	7.41	1.00
lncrdp25	58.44	16.74 ***
lncrdp50	57.48	15.46 ***
lncrdp75	52.39	14.82 ***
mat0	-35.99	-2.79 ***
mat1	-80.41	-15.18 ***
mat2	-64.17	-22.17 ***
tover	47.59	15.00 ***
mtover	582.65	25.09 ***
abs	-21.09	-2.43 **
proj	-9.38	-1.61
unk	4.25	0.37
crdline	-34.08	-15.47 ***
bridge	32.19	2.81 ***
other	69.88	6.32 ***
fees_und	-1.09	-0.14
otfees	0.46	3.26 ***
cmfees	0.21	3.96 ***
gar	-28.31	-4.75 ***
sec	15.03	4.33 ***
all	26.80	3.97 ***
pub	-46.30	-7.35 ***
Number of observations	6040	
R-squared	0.67	
Adj R-squared	0.67	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.

- Borrower business dummies were included but their coefficients are omited.

Table 5: Model applied on rated borrowers (controlling for rating)

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	53.20	2.88 ***
year00	32.63	2.56 **
year01	28.29	2.14 **
year02	60.76	4.01 ***
year03	44.27	3.16 ***
year04	31.08	2.23 **
year05	-3.35	-0.25
year06	-14.34	-0.86
bel	6.57	0.51
aus	14.34	0.95
nee	39.52	3.86 ***
spn	-7.60	-0.74
gre	-21.44	-1.44
fin	-1.68	-0.14
irl	42.74	1.80 *
ita	30.04	2.42 **
lux	-5.90	-0.33
ger	8.40	0.90
por	-0.46	-0.04
lncrdp25	30.23	2.77 ***
lncrdp50	4.46	0.52
lncrdp75	10.17	1.25
a	-8.80	-1.02
bb	105.99	8.57 ***
b	149.09	8.75 ***
mat0	-43.75	-2.24 **
mat1	-60.06	-5.29 ***
mat2	-48.22	-5.83 ***
tover	20.77	2.93 ***
mtover	575.22	4.12 ***
abs	1.22	0.04
proj	-56.63	-2.05 **
crdline	-17.64	-2.80 ***
bridge	121.24	2.87 ***
other	27.76	1.57
fees_und	26.35	0.56
otfees	0.66	1.87 *
cmfees	-0.01	-0.07
gar	-20.89	-1.48
sec	39.35	2.62 ***
all	23.34	1.18
pub	-2.75	-0.27
Number of observations	605	
R-squared	0.75	
Adj R-squared	0.72	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omited.

Table 6: Model applied on rated borrowers (without controlling for rating)

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	50.15	2.61 ***
year00	24.18	1.62
year01	15.22	1.01
year02	68.66	4.06 ***
year03	60.69	3.92 ***
year04	54.11	3.60 ***
year05	11.46	0.76
year06	-6.08	-0.34
bel	-24.79	-1.81 *
aus	-2.11	-0.09
nee	56.52	4.42 ***
spn	-14.76	-1.20
gre	-16.48	-1.05
fin	-3.07	-0.18
irl	68.10	2.79 ***
ita	49.75	3.14 ***
lux	32.42	1.64
ger	25.89	2.19 **
por	-2.38	-0.15
lncrdp25	85.89	7.22 ***
lncrdp50	46.96	4.46 ***
lncrdp75	32.16	3.26 ***
mat0	-59.73	-2.13 **
mat1	-84.07	-6.48 ***
mat2	-67.23	-7.51 ***
tover	33.07	3.92 ***
mtover	578.98	3.64 ***
abs	-5.14	-0.15
proj	-10.42	-0.35
crdline	-37.34	-5.27 ***
bridge	102.75	2.39 **
other	16.78	0.86
fees_und	44.87	1.14
otfees	1.22	3.32 ***
cmfees	0.36	1.64
gar	-26.92	-1.58
sec	61.95	3.56 ***
all	20.51	0.96
pub	-22.25	-1.80 *
Number of observations	605	
R-squared	0.66	
Adj R-squared	0.63	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omited.

Table 7: Model with full sample (controlling for rating)
- Further analysis for the role of colateral - crossing with rating

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	35.80	3.72 ***
year00	8.85	1.48
year01	14.85	2.49 **
year02	42.50	7.47 ***
year03	58.56	9.93 ***
year04	54.08	10.00 ***
year05	41.37	7.97 ***
year06	46.15	8.47 ***
bel	4.69	0.73
aus	24.21	0.89
nee	20.73	4.25 ***
spn	-24.34	-6.12 ***
gre	-8.44	-1.24
fin	-15.04	-1.61
irl	12.93	1.32
ita	-0.69	-0.17
lux	20.81	1.52
ger	25.25	6.34 ***
por	14.18	1.93 *
lncrdp25	50.13	14.01 ***
lncrdp50	50.22	13.22 ***
lncrdp75	44.46	12.51 ***
a	-10.64	-1.17
bb	83.78	6.37 ***
b	90.71	7.22 ***
notrat	59.49	8.18 ***
asec	18.84	0.49
bbsec	-14.14	-0.44
bsec	18.26	0.53
notratsec	-24.68	-0.91
mat0	-34.21	-2.65 ***
mat1	-69.69	-13.18 ***
mat2	-61.14	-21.32 ***
tover	46.20	14.67 ***
mtover	583.07	25.11 ***
abs	-21.81	-2.52 **
proj	-13.68	-2.34 **
unk	0.32	0.03
crdline	-31.17	-14.29 ***
bridge	31.43	2.82 ***
other	75.91	7.06 ***
fees_und	-3.37	-0.41
otfees	0.37	2.74 ***
cmfees	0.17	3.26 ***
gar	-29.97	-5.04 ***
sec	34.63	1.29
all	26.70	3.95 ***
pub	-37.28	-5.73 ***
Number of observations	6040	
R-squared	0.68	
Adj R-squared	0.68	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omitted.

Table 8: Model applied on rated borrowers (controlling for rating)
- Further analysis for the role of colateral - crossing with rating

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	56.37	3.07 ***
year00	33.46	2.60 **
year01	27.45	1.91 *
year02	61.10	3.87 ***
year03	45.15	3.10 ***
year04	26.90	1.71 *
year05	-3.81	-0.28
year06	-15.55	-0.93
bel	8.11	0.60
aus	12.92	0.82
nee	38.85	3.79 ***
spn	-10.54	-0.97
gre	-22.06	-1.45
fin	-2.56	-0.22
irl	42.46	1.78 *
ita	30.97	2.51 **
lux	-3.50	-0.20
ger	8.43	0.89
por	-2.34	-0.21
lncrdp25	31.14	2.80 ***
lncrdp50	3.74	0.43
lncrdp75	8.72	1.10
a	-9.24	-1.10
bb	108.49	8.61 ***
b	138.94	7.11 ***
asec	-5.13	-0.11
bbsec	-0.71	-0.02
bsec	40.32	0.74
mat0	-43.15	-2.23 **
mat1	-60.23	-5.29 ***
mat2	-48.74	-5.82 ***
tover	19.57	2.76 ***
mtover	577.97	4.05 ***
abs	7.94	0.24
proj	-66.58	-2.33 **
crdline	-17.29	-2.60 **
bridge	120.39	2.87 ***
other	25.24	1.53
fees_und	27.00	0.56
otfees	0.67	1.91 *
cmfees	-0.05	-0.24
gar	-22.62	-1.54
sec	25.85	0.67
all	26.77	1.31
pub	-3.93	-0.36
Number of observations	605	
R-squared	0.75	
Adj R-squared	0.72	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omited.

Table 9: General model with full sample (controlling for rating)
- Further analysis for the role of colateral - crossing with loan size

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	35.40	3.78 ***
year00	8.95	1.50
year01	14.36	2.42 **
year02	41.89	7.40 ***
year03	58.86	10.03 ***
year04	54.55	10.19 ***
year05	42.02	8.13 ***
year06	46.16	8.51 ***
bel	4.53	0.71
aus	23.22	0.85
nee	20.79	4.28 ***
spn	-23.99	-6.05 ***
gre	-10.78	-1.61
fin	-14.09	-1.51
irl	13.30	1.36
ita	-0.73	-0.18
lux	21.13	1.54
ger	25.67	6.48 ***
por	13.53	1.83 *
lncrdp25	59.67	14.29 ***
lncrdp50	53.86	12.01 ***
lncrdp75	48.39	11.91 ***
lncrdp25sec	-35.52	-4.73 ***
lncrdp50sec	-15.89	-1.97 **
lncrdp75sec	-16.38	-1.99 **
a	-10.00	-1.13
bb	82.51	7.25 ***
b	99.19	8.40 ***
notrat	55.23	7.79 ***
mat0	-33.71	-2.61 ***
mat1	-68.31	-12.82 ***
mat2	-60.16	-20.86 ***
tover	45.72	14.66 ***
mtover	583.48	25.12 ***
abs	-21.19	-2.42 **
proj	-15.04	-2.59 **
unk	-1.31	-0.12
crdline	-30.65	-14.05 ***
bridge	31.47	2.82 ***
other	75.67	7.07 ***
fees_und	-4.45	-0.54
otfees	0.37	2.77 ***
cmfees	0.16	3.11 ***
gar	-30.94	-5.26 ***
sec	30.25	4.93 ***
all	26.58	3.97 ***
pub	-37.57	-5.87 ***
Number of observations	6040	
R-squared	0.68	
Adj R-squared	0.68	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omited.

Table 10: General model with full sample (without controlling for borrower rating)
- Further analysis for the role of colateral - crossing with loan size

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	77.68	10.95 ***
year00	6.17	1.03
year01	12.14	2.04 **
year02	39.99	7.01 ***
year03	58.73	9.94 ***
year04	55.52	10.29 ***
year05	42.74	8.21 ***
year06	46.27	8.48 ***
bel	9.11	1.45
aus	23.86	0.88
nee	23.69	4.77 ***
spn	-21.21	-5.34 ***
gre	-8.41	-1.27
fin	-12.64	-1.35
irl	17.84	1.84 *
ita	2.77	0.70
lux	23.88	1.74 *
ger	28.41	7.05 ***
por	7.27	0.98
lncrdp25	70.77	17.46 ***
lncrdp50	64.27	14.79 ***
lncrdp75	59.05	14.74 ***
lncrdp25sec	-49.37	-6.50 ***
lncrdp50sec	-30.54	-3.77 ***
lncrdp75sec	-30.80	-3.72 ***
mat0	-34.66	-2.68 ***
mat1	-77.23	-14.44 ***
mat2	-62.22	-21.29 ***
tover	47.38	15.01 ***
mtover	582.89	25.08 ***
abs	-20.70	-2.40 **
proj	-10.29	-1.77 *
unk	1.99	0.17
crdline	-33.13	-15.00 ***
bridge	32.54	2.85 ***
other	70.73	6.45 ***
fees_und	-2.56	-0.32
otfees	0.47	3.34 ***
cmfees	0.19	3.63 ***
gar	-29.59	-5.02 ***
sec	44.63	7.18 ***
all	26.66	3.96 ***
pub	-47.15	-7.63 ***
Number of observations	6040	
R-squared	0.68	
Adj R-squared	0.67	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omited.

Table 11: Model applied on rated borrowers (controlling for rating)
- Further analysis for the role of colateral - crossing with loan size

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	57.16	3.08 ***
year00	29.24	2.39 **
year01	24.32	1.97 **
year02	58.97	4.09 ***
year03	40.17	3.03 ***
year04	28.77	2.12 **
year05	-8.00	-0.63
year06	-19.21	-1.21
bel	5.16	0.41
aus	14.16	1.03
nee	38.16	3.74 ***
spn	-5.85	-0.56
gre	-22.69	-1.59
fin	-1.40	-0.12
irl	39.95	1.66 *
ita	28.60	2.19 *
lux	-6.00	-0.34
ger	7.43	0.83
por	-2.00	-0.18
lncrdp25	27.92	2.23 **
lncrdp50	10.68	1.21
lncrdp75	9.75	1.25
lncrdp25sec	-21.74	-0.50
lncrdp50sec	-61.78	-1.57
lncrdp75sec	-10.18	-0.21
a	-9.25	-1.06
bb	104.51	8.19 ***
b	148.83	8.08 ***
mat0	-44.63	-2.26 **
mat1	-61.58	-5.40 ***
mat2	-49.22	-5.91 ***
tover	21.58	3.03 ***
mtover	571.53	4.08 ***
abs	3.40	0.10
proj	-61.39	-2.04 **
crdline	-17.34	-2.71 ***
bridge	121.93	2.88 ***
other	28.46	1.63
fees_und	29.65	0.66
otfees	0.65	1.82 *
cmfees	-0.03	-0.16
gar	-21.43	-1.56
sec	71.89	1.98 **
all	25.96	1.32
pub	-2.77	-0.26
Number of observations	605	
R-squared	0.75	
Adj R-squared	0.73	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omited.

Table 12: Model applied on rated borrowers (without controlling for rating)
- Further analysis for the role of colateral - crossing with loan size

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	49.08	2.59 ***
year00	23.70	1.61
year01	10.96	0.76
year02	66.51	4.11 ***
year03	54.53	3.70 ***
year04	51.42	3.53 ***
year05	7.62	0.52
year06	-11.62	-0.67
bel	-22.36	-1.63
aus	-1.96	-0.09
nee	53.09	4.26 ***
spn	-11.62	-0.94
gre	-17.74	-1.16
fin	-1.82	-0.10
irl	68.31	2.76 ***
ita	49.99	3.19 ***
lux	30.85	1.58
ger	27.25	2.39 **
por	-3.29	-0.20
lncrdp25	92.09	7.86 ***
lncrdp50	54.34	4.81 ***
lncrdp75	30.51	3.20 ***
lncrdp25sec	-96.61	-2.11 **
lncrdp50sec	-105.64	-2.53 **
lncrdp75sec	-21.13	-0.39
mat0	-56.42	-2.01 **
mat1	-84.68	-6.47 ***
mat2	-66.43	-7.17 ***
tover	34.58	4.11 ***
mtover	575.44	3.59 ***
abs	3.19	0.10
proj	-18.44	-0.54
crdline	-35.67	-4.98 ***
bridge	105.49	2.45 **
other	17.73	0.92
fees_und	45.17	1.24
otfees	1.22	3.39 ***
cmfees	0.31	1.42
gar	-28.42	-1.69 *
sec	143.42	3.78 ***
all	23.96	1.12
pub	-24.73	-1.95 *
Number of observations	605	
R-squared	0.67	
Adj R-squared	0.63	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omitted.

Table 13: Model with full sample (controlling for rating)
- Further analysis on "home bias" variable - crossing with rating

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	36.63	3.74 ***
year00	10.35	1.73 *
year01	15.57	2.61 ***
year02	42.23	7.45 ***
year03	59.20	10.05 ***
year04	55.04	10.21 ***
year05	41.68	8.04 ***
year06	46.97	8.64 ***
bel	4.34	0.67
aus	23.47	0.86
nee	19.84	4.12 ***
spn	-24.92	-6.32 ***
gre	-8.91	-1.31
fin	-14.67	-1.58
irl	14.41	1.46
ita	-1.21	-0.31
lux	21.01	1.55
ger	25.70	6.49 ***
por	15.48	1.98 **
lncrdp25	50.70	14.32 ***
lncrdp50	50.75	13.60 ***
lncrdp75	44.91	12.71 ***
a	-5.34	-0.62
bb	74.90	7.11 ***
b	113.68	8.75 ***
notrat	58.35	7.79 ***
aall	-68.78	-1.30
bball	207.76	2.44 **
ball	-46.30	-1.53
notratall	-8.74	-0.41
mat0	-35.69	-2.75 ***
mat1	-70.57	-13.41 ***
mat2	-61.26	-21.55 ***
tover	45.59	14.47 ***
mtover	583.08	25.13 ***
abs	-21.55	-2.45 **
proj	-15.77	-2.68 ***
unk	-4.47	-0.37
crdline	-31.26	-14.41 ***
bridge	27.18	2.56 **
other	75.22	6.95 ***
fees_und	-4.20	-0.52
otfees	0.33	2.73 ***
cmfees	0.17	3.31 ***
gar	-30.00	-5.06 ***
sec	11.86	3.47 ***
all	35.65	1.76 *
pub	-36.48	-5.58 ***
Number of observations	6040	
R-squared	0.68	
Adj R-squared	0.68	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance level.
- Borrower business dummies were included but their coefficients are omitted.

Table 14: Model applied on rated borrowers (controlling for rating)
- Further analysis on "home bias" variable - crossing with rating

Dependent variable:	Spread	
	Coefficient	t-statistic
Explanatory variables		
Constant	54.12	2.78 ***
year00	39.91	2.94 ***
year01	32.37	2.39 **
year02	61.52	3.88 ***
year03	48.69	3.41 ***
year04	34.17	2.40 **
year05	-0.49	-0.04
year06	-6.91	-0.43
bel	3.77	0.30
aus	8.70	0.60
nee	36.84	3.54 ***
spn	-7.86	-0.78
gre	-24.24	-1.63
fin	-1.83	-0.15
irl	48.26	1.96 *
ita	28.56	2.34 **
lux	-2.30	-0.14
ger	10.11	1.05
por	0.40	0.03
lncrdp25	31.65	3.13 ***
lncrdp50	2.55	0.30
lncrdp75	9.50	1.20
a	-8.62	-1.15
bb	101.39	8.71 ***
b	153.79	8.64 ***
aall	-9.26	-0.20
bball	176.70	1.74 *
ball	-9.56	-0.31
mat0	-41.51	-2.32 **
mat1	-60.35	-5.64 ***
mat2	-48.31	-6.19 ***
tover	20.03	2.76 ***
mtover	574.90	4.23 ***
abs	-3.08	-0.09
proj	-81.07	-2.29 **
crdline	-18.97	-2.99 ***
bridge	88.54	2.29 **
other	26.34	1.45
fees_und	18.00	0.37
otfees	0.48	1.72 *
cmfees	-0.02	-0.09
gar	-20.53	-1.43
sec	37.61	2.54 **
all	14.04	0.63
pub	-2.17	-0.22
Number of observations	605	
R-squared	0.76	
Adj R-squared	0.73	

Notes: - Statistically different from zero, respectively, at *** 99 %, ** 95% and *90% significance leve
- Borrower business dummies were included but their coefficients are omitted.

Table 15 : Wald test for some groups of variables

Group of variable	model 1 (table 3)	model 2 (table 4)	model 3 (table 5)	model 4 (table 6)	model 5 (table 7)	model 6 (table 8)	model 7 (table 9)	model 8 (table 10)	model 9 (table 11)	model 10 (table 12)	model 11 (table 13)	model 12 (table 14)
Year												
	30.01	31.94	6.16	6.48	30.23	6.49	31.10	33.45	6.26	6.33	30.39	7.04
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Borrower nationality												
	13.95	13.56	3.80	5.09	13.81	3.77	13.87	13.55	3.62	4.84	14.17	3.54
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loan size												
	85.73	122.38	2.98	18.12	85.74	2.99	81.28	125.52	1.84	22.28	90.26	3.73
	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.14	0.00	0.00	0.01
Rating												
	45.57		30.80		41.23	29.79	41.03		26.65		52.45	33.47
	0.00		0.00		0.00	0.00	0.00		0.00		0.00	0.00
Maturity												
	165.06	183.86	12.08	19.94	163.16	12.09	154.96	167.18	12.47	18.45	167.21	14.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loan Purpose												
	181.67	180.96	8.60	7.56	181.57	8.29	180.91	180.48	8.33	7.97	181.89	9.11
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Instrument Type												
	103.55	110.67	9.62	15.48	103.93	8.92	100.93	106.08	9.61	14.34	103.25	8.63
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fees												
	6.76	9.44	1.29	5.97	6.66	1.30	6.44	8.86	1.23	5.81	6.73	1.02
	0.00	0.00	0.28	0.00	0.00	0.27	0.00	0.02	0.30	0.00	0.00	0.38
Borrower characteristics												
	17.00	18.52	3.59	4.70	16.64	3.10	16.00	16.93	3.43	4.45	17.19	3.47
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rating and secured												
					3.95	1.75						
					0.00	0.14						
Loan size and secured												
							7.70	14.14	1.41	3.31		
							0.00	0.00	0.24	0.02		
Rating and lender information												
											5.33	1.03
											0.00	0.39