UNDERSTANDING UNRATED BOND ISSUANCE

Armen Arakelyan
Eric Duca
Carlos Salvador

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Abstract

This paper assesses the importance of initial credit ratings for European firms, with an emphasis on Spanish companies. In the case of Spain, we examine how the coupon rate, as a proxy for the cost of debt, is related to the initial rating, while controlling for other bond and firm characteristics. We find that unrated bonds in Spain pay the same coupon as investment grade bonds, whereas high-yield bonds pay a higher coupon. In additional analyses of European firms in general we examine the change in yields of outstanding unrated bonds around the initial rating date. We find that the initial ratings result in a reduction in borrowing costs. In particular, the decrease in yield for companies that are assigned an investment grade rating for the first time is 0.14 percentage points, whereas for those that obtain a speculative rating the reduction is 0.08 percentage points.

Key words: Credit rating; unrated bonds, rating agencies; cost of debt.
JEL classification: G12, G14, G24.

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* Armen Arakelyan is from Comisión Nacional de Mercado de Valores (CNMV), Calle Edision 4, Madrid, 28006, Spain. Eric Duca and Carlos Salvador Muñoz are from Colegio Universitario de Estudios Financieros (CUNEF), Calle Leonardo Prieto Castro 2, Ciudad Universitaria, 28040, Madrid, Spain.
Corresponding author: Armen Arakelyan. E-mail: armen@cnmv.es

1. Introduction

1.1. Main Objective

The aim of our study is to determine the impact of credit ratings on the cost of the debt of corporate issuers. To this effect, we perform two analyses: First, in the case of Spain, we consider debt issues by both financial and non-financial entities between 1999 and 2015. This period permits us to analyze an entire credit rating cycle characterized by a period of economic growth and subsequently by a crisis period. We provide summary statistics for the principal financial and accounting measures of companies issuing bonds. We also describe the characteristics of both unrated and rated issues by the major Credit Rating Agencies (CRAs), namely Standard and Poor's, Moody's and Fitch. Finally, we evaluate the sensitivity of bond yields at issue to the bond rating, in addition to other issue and issuer controls.

In the second analysis, performed for European firms, we measure the benefits of obtaining a credit rating for the first time. We expand our sample to European firms because there are not enough Spanish firms to be able to perform this analysis. Indeed, even with European data, our sample remains relatively small, because we specifically focus on firms that initially issue unrated bonds but subsequently obtain a rating. We quantify the effects of being rated through the changes in yields in the unrated bonds around the date that a firm becomes rated.

1.2. Importance of ratings

Academic research has identified two main benefits of being rated (see, e.g., Kisgen, 2006; Frost, 2007). First, ratings issued by traditional credit rating agencies reduce information asymmetries that arise between bond issuers and investors (Salvador and Fernández de Guevara, 2015; Trujillo del Valle, 2011). Ratings represent opinions of CRAs regarding the relative long-term default risk of an issuer, and incorporate both public and private information. Furthermore, the experience and specialization of rating agencies in information processing gives rise to the effect of economies of scale. The latter allows credit agencies to offer reasonable prices for credit risk assessment services (Mattaroci, 2014). Overall, having a rating enables companies to access capital markets and

reduce the costs associated with corporate debt issues (Salvador and Fernández de Guevara, 2015).

The second use of ratings is an institutional feature that arises because of investment-based rules and regulations that are linked to ratings (e.g., Boot et al., 2006; Kisgen, 2006; Kisgen and Strahan, 2010). For instance, many institutional investors such as mutual and pension funds are restricted to investing only in investment grade issues (SEC 2003; Salvador and Fernández de Guevara, 2015; González et al., 2004) Due to these ratings-based investment rules, ratings can help companies reduce their cost of debt further (Partnoy, 2006).

Despite the afore-mentioned advantages of obtaining a rating, the empirical evidence on the value of having a rating is mixed.[1] As noted by Kliger and Sarig (2000) and Gonzalez et al. (2004), two common approaches to this question are subject to methodological drawbacks. The first approach relates bond yields to ratings in the cross-section. Yields, however, may be influenced by publicly-available omitted variables that are also correlated with ratings. An alternative approach looks at the impact on yields of ratings upgrades and downgrades. While this approach controls for issue-specific variables, it suffers from other drawbacks. Most significantly, ratings are changed infrequently, and bond prices tend to lead rating changes. In addition, ratings are commonly revised at the same time that public news is revealed, making it hard to separate the effect of both events.

A third approach examines the impact of ratings on bond yields by using a natural experiment. Identification depends on the exogenous event influencing ratings or ratings-based criteria for reasons unrelated to the issuer's fundamental risk. Kliger and Sarig (2000) and Tang (2009) use Moody's refinement of its rating system in 1982 as a natural experiment, whereas Kisgen and Strahan (2010) use the introduction of a fourth officially recognized rating agency in 2003.[2] These tests are less prone to the shortcomings associated with the other two approaches.

[1] Cantor (2004), Norden and Weber (2004), and Micu et al. (2006) summarize findings about the price implications of ratings, broadly concluding that downgrades may influence bond prices. However, they find weaker evidence for upgrades.

[2] Previously, the only three Nationally Recognized Statistical Ratings Organizations (NRSRO) by the SEC were Moody's, S&P, and Fitch.

2. Growing Importance of Financial markets in Spain

Since the start of the subprime crisis of 2008, and the subsequent sovereign debt crisis in Europe, the economic situation of financial entities in Spain has deteriorated significantly (Bank of Spain, 2009; 2010). In particular, the profitability, liquidity, and provision coverage ratios of entities has decreased drastically. At the same time there has been a sharp increase in the non-performing assets following the weakening economic conditions of bank-loan customers. Given the worsening financial environment, the majority of the entities of the Spanish Banking System (BDE) had to undertake significant recapitalization actions. Furthermore, many entities were induced to the process of restructuring in exchange for support from the *Fondo de Restructuración y Ordenación Bancaria* (FROB). Lastly, another factor that affected negatively the asset situation of the firms was the increase in the cost of financing as a result of the strains in the sovereign-debt markets.

At the same time, as pointed out the Bank of Spain (2013), non-financial firms linked to the real estate sector accumulated a significant amount of debt during the period of economic growth. The joint deleveraging process, and uncertainty about future revenues, adversely affected the asset situation of these firms.

As a consequence of the adverse financial and economic conditions, financial entities contracted substantially their loan supply to firms. In particular, as stated in the Economic Bulletin of the Bank of Spain (2013), non-financial companies in Spain experienced an annual decrease of 9.4% in credit since 2009. This fall in credit was largest for real estate companies (17.9%), followed by industrials (11.3%) and services firms (6.8%).

Given these circumstances, Spanish companies found it difficult to access external funds to finance their operations because, as Guijarro et al. (2015) point out, 80% of financing came from banks. This percentage is considered excessively high compared to that of other developed economies, such as the United States and United Kingdom, where financial markets play a bigger role in corporate fund raising.

Spanish companies rely considerably on bank financing because banks have traditionally played a significant role in mitigating problems of asymmetric information. These problems have hindered the access of Spanish companies to the capital markets, and thus the possibility of diversifying sources of financing by issuing fixed income securities such as corporate bonds. In this regard, it should be noted that the proportion of financing through bond issuance in 2012 represented less than 1% of total externally raised funds, which is significantly lower than that of the euro area (Maudos and Fernández de Guevara, 2014). However, as pointed out by the Bank of Spain (2015), the financial crisis and subsequent credit crunch induced Spanish companies to increase their participation in the financial markets by issuing fixed-income securities. As a result, the demand for credit ratings also increased. Overall, one of the objectives of this paper is to analyze the effect of initial credit ratings on the cost of debt of Spanish companies, as proxied by the coupon rate of the newly issued bonds.

3. Overview of results

The results of the analysis show that since 2003 there has been significant growth in bond issuance by Spanish firms. With the outbreak of the subprime crisis and the subsequent sovereign debt crisis, however, there was a decrease in the amount of bond issuance. In 2012, with restored confidence in the financial markets, the data show a brief recovery. But thereafter, a reduction observed in the last three years may be due to the recovery of bank credit and the possible process of deleveraging of firms that had accumulated high debt levels in the years before the financial crisis. Lastly, the data show that practically all the amount issued by the Spanish firms was by financial companies.

Regarding the quality of debt issues, the results show that most of the issues were investment grade, with relatively few high-yield issues. Looking at the value of ratings, the results show that rating agencies are significantly important for Spanish firms: In particular both investment grade and unrated issuers pay less coupon than high-yield issuers. On the other hand, the coupon rate of the debt rated investment grade is similar to unrated debt.

The results of our second analysis, using a different methodology for European firms, are as follows: Once a rating is assigned the yield across all issuers drops by an average of 0.12 percentage points, indicating that ratings are valued by investors. The decrease in yield for companies that are assigned an investment grade rating is 0.14 percentage points, whereas those that obtain a speculative rating benefit from a 0.08 percentage point reduction in borrowing costs.

The remainder of this paper is organized as follows. Section 4 describes the data and sample characteristics of companies issuing bonds. Section 5 describes the results, and Section 6 concludes.

4. Sample

4.1. Spain

The sample comprises 3,416 corporate bond issues by 290 Spanish companies between 2000 to 2015, with data obtained from Bloomberg. Our sample start date is restricted to 2000 due to data availability. This period allows us to analyze the effect of ratings on the cost of financing of financial and non-financial companies (Utilities, Energy, communications, etc.) both before and after the financial crisis. We include corporate bonds with over one-year maturity. For each issue, we consider data on bond characteristics, such as amount of issue, date of issue, maturity date, rank, currency of issue and the long-term ratings from the three main rating agencies. In addition to issue characteristics we obtain data on company fundamentals. In particular, for each company-issue, we consider company size, leverage, and the price-to-book ratio for the year preceding the year of issue. The accounting information is available for 2,700 bond issues by around 190 companies. We collect data from Bloomberg.

4.2. Europe

Our sample includes corporate bonds with over one-year maturity, issued between January 2000 and March 2015 by companies incorporated in Western Europe. Data come from Bloomberg. For each issue, we have detailed data on bond characteristics, such as issue size, date, maturity, rank, currency, and

rating. At issuer level, we obtain the sector in which the company operates, and whether it is a private or public company. We exclude financials and utilities, and require that issue and issuer characteristics are available in Bloomberg. We also add the important condition that an issuer has an unrated bond that is still trading when the issuer later obtains a rating. Mainly due to this condition, our initial sample of 10,689 observations is narrowed down to a final sample of 68 observations.

4.3. Construction of rating scale

Among the different types of ratings, we consider in this study the rating associated with each bond issue, which measure the credit quality of an individual debt issue. There is a close relationship between issuer and issue ratings because, as pointed out by Standard and Poor's (2011), the rating agencies usually begin with an evaluation of the creditworthiness of the issuer before assessing the credit quality of a specific debt issue.

The categorical scale of ratings is transformed into a numerical scale, as specified in Table 1. The numerical scale awards higher values as credit quality decreases. In Table 1, two groups of ratings can be differentiated depending on the degree of risk of default that they represent. Those in the investment grade group (from AAA/Aaa to BBB-/Baa3) indicate a relatively low risk of default while ratings in the speculative grade group (from BB+/Ba1 to D) indicate either a high default risk or that the default has already occurred.

Table 1. Ratings and numerical score

	Fitch		Standard and Poor's		Moody's	
	Rating	**Scale 21**	**Rating**	**Scale 21**	**Rating**	**Scale 21**
Investment	AAA	1	AAA	1	Aaa	1
	AA+	2	AA+	2	Aa1	2
	AA	3	AA	3	Aa2	3
	AA-	4	AA-	4	Aa3	4
	A+	5	A+	5	A1	5
	A	6	A	6	A2	6
	A-	7	A-	7	A3	7
	BBB+	8	BBB+	8	Baa1	8
	BBB	9	BBB	9	Baa2	9
	BBB-	10	BBB-	10	Baa3	10
Speculative	BB+	11	BB+	11	Ba1	11
	BB	12	BB	12	Ba2	12
	BB-	13	BB-	13	Ba3	13
	B+	14	B+	14	B1	14
	B	15	B	15	B2	15
	B-	16	B-	16	B3	16
	CCC+	17	CCC+	17	Caa1	17
	CCC	18	CCC	18	Caa2	18
	CCC-	19	CCC-	19	Caa3	19
	CC	20	CC	20	Ca	20
	C	20	C	20	C	20
	D	21	D	21	D	21

Table 1. Transformation of the categorical rating assigned by Fitch, Standard and Poor's and Moody's into the numerical scale defined in this study (Scale 20). As the score increases, the credit quality decreases, and consequently the probability of default increases.
Source: Own elaboration.

In order to analyze the effect of ratings on the bond yield, for each issue we construct a Single Rating Index (SRI) across the three credit rating agencies. To do this, firstly, we classify an issue by a CRA to be rated if the rating by a given CRA is assigned within seven days from the issue date. If the rating is assigned seven days after the issue date or no rating is observed before the maturity of a bond issue, we classify that issue as unrated. Secondly, if the issue is rated only by one rating agency, we assign the corresponding numeric rating according to the numeric scale specified in Table 1. If an issue is rated by the three credit rating agencies we calculate the composite rating for each issue by taking the median numerical rating. Otherwise, we consider the lower numerical rating if only two ratings are available.

5.1. Empirical Results: Spain

In this first part of the empirical results, we focus on the sample of Spanish firms. The aim is to analyze the benefit of getting a rating on the cost of debt when the bonds are issued.

Figure 1 plots the issue amount by the Spanish firms. In the period before the financial crisis, from 2003 to 2006, Spanish companies increased significantly their level of indebtedness. On the order hand, with the onset of the subprime crisis in 2007 and the sovereign debt crisis in 2010 in the peripheral countries in Europe, among them, Spain, there is a reduction in the amount of bond issues due to a lack of liquidity in the financial markets. The reduction in the amount of bond issue between 2012 and 2015 can be attributed to improved access to bank financing (Maudos et al., 2015).

Figure 1. Aggregate issue amount by year

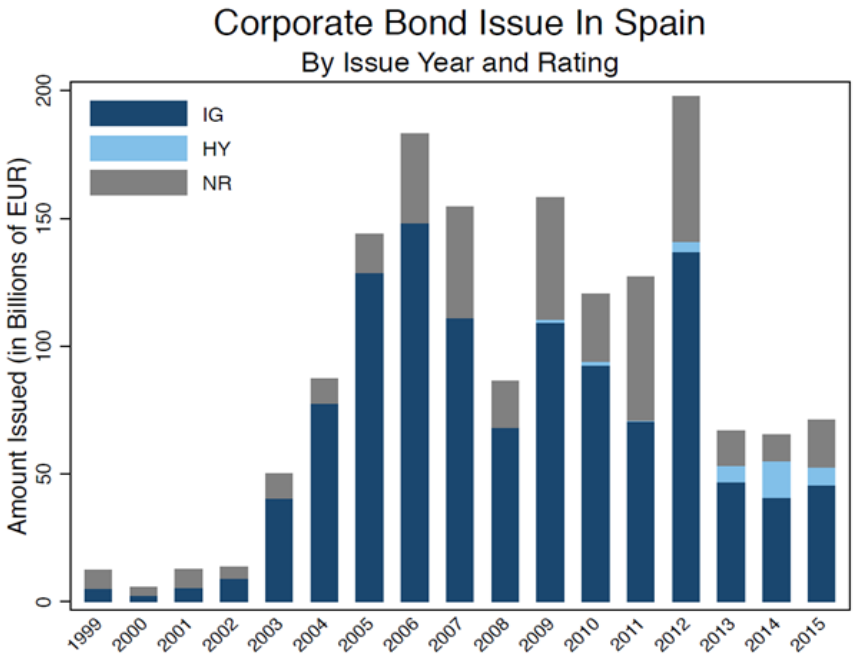


Figure 1. Aggregate amount of bond issues by issue year. In particular, each vertical bar represents the sum of issue amounts of all bonds issued rated as investment grade, high-yield and unrated in each year.
Source: Bloomberg and own elaboration.

In terms of ratings, Figure 1 reveals that the majority of newly issued bonds are investment grade. However, in 2009, 2011 and 2012 there is a growth in the debt rated as high-yield (i.e. Junk grade), which reaches the maximum in 2014. Finally, we observe that since 2006 unrated debt has gained importance. This could be because the crisis increased doubts regarding the use-

fulness of the three principal rating agencies due to a number of reasons, among others: Their business model (Bank of England, 2011); the oligopolistic structure of the industry (Dittrich, 2007); the scant transparency of the methodologies that they use; the relaxation of their rating criteria during the period of growth prior to the recent crisis (SEC, 2008; IMF, 2010) and the absence of any strict regulation guaranteeing the quality of the ratings issued. Figure 2 reveals that the weight of unrated bonds is higher when considered in terms of the number of issues, rather than the amount of issue.

Figure 2. Aggregate number of bond issues.

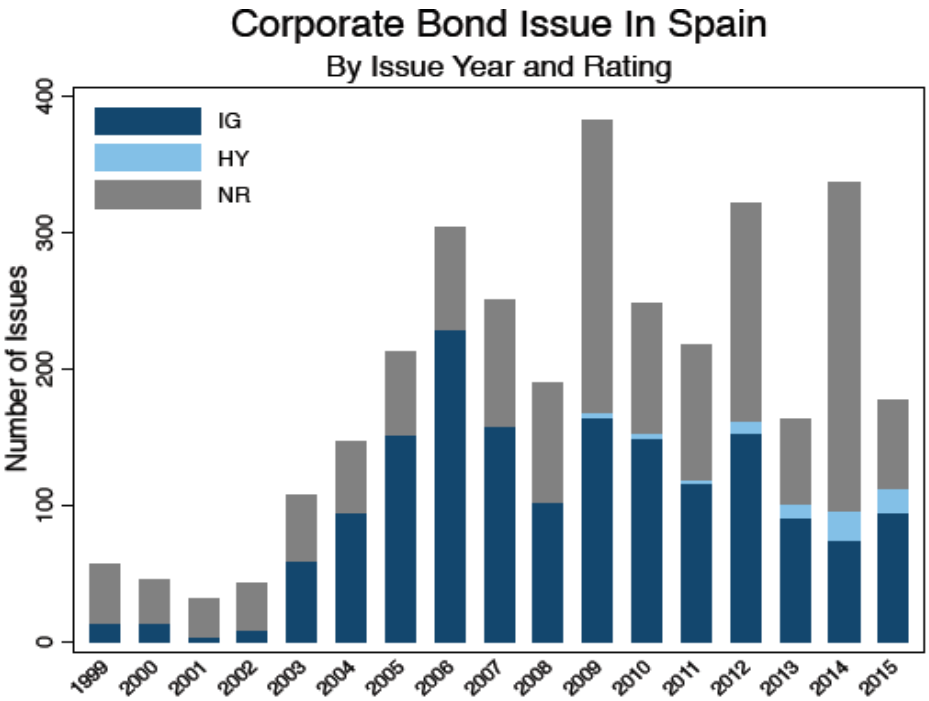


Figure 2. Aggregate number of bond issues by issue year. In particular, each vertical bar represents the sum of issue numbers of all bonds issued rated as investment grade, high-yield and unrated in each year.
Source: Bloomberg and own elaboration.

If we focus on the evolution of debt issuance by sector, we can observe from Figure 3 that during all the period analyzed most of the amount issued came from the financial sector. This sector increased significantly from 2003 to 2012. This suggests that the outbreak of the subprime crisis in 2007 and the subsequent sovereign debt crisis in 2010 had a significant negative effect on the amount issued. A potential explanation pointed out in Salvador and Fernández de Guevara (2014) is that the creditworthiness of Spanish banks deteriorated during the subprime crisis. As a consequence, there was a restruc-

turing process characterized by mergers and adjustments in the branch network of savings banks. Consequently, this adjustment caused an increased in investors' lack of confidence in the debt issued by the Spanish banks. Finally, during the last three years of the sample we observe that the level of debt issued is relatively low. This could be explained by deleveraging experienced by the Spanish financial sector.

With regard to the non-financial sectors such as communications, utilities, and industrials, it should be noted that since 2006 these sectors increased considerably the amount issued. In context, as pointed out Maudos and Fernández de Guevara (2014) the excessive indebtedness of the private sector was one of the main reasons for the financial crisis in Spain. Lastly, we can observe that in the last three years these sectors have increased their weight in the sample due to the reduction in debt issued by financial companies.

Figure 3. Issue amount by year and sector

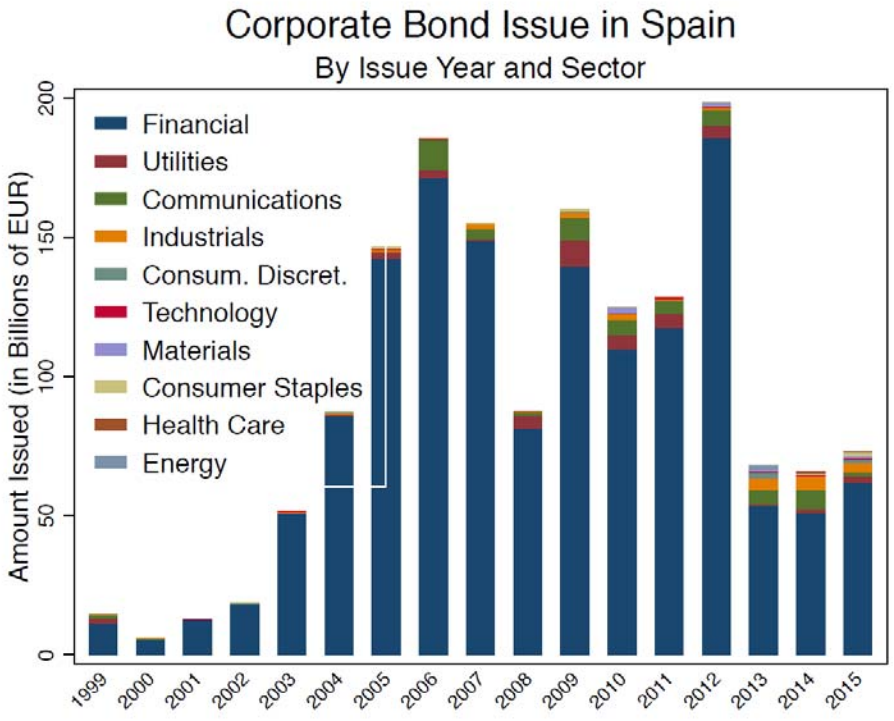


Figure 3. Aggregate amount of bond issues by issue year and by sector. In particular, each vertical bar represents the total sum of issue amounts by sector of all bonds issued in that given year.
Source: Bloomberg and own elaboration.

If we focus on the bond characteristics broken down by rating, we observe in Table 2 that most of the issues are rated investment grade. Specifically, we can observe that the number of bond issues with investment grade, high-

yield and unrated grade represents 53.02%, 2.58%, and 44.92%, respectively. Likewise, on average most of the amount issued belongs to the investment grade. Specifically, the average amount issued with investment grade, high-yield grade, and unrated, is 689.25, 430.61 and 266.36, million euros respectively.

In Table 2, we note that the issues with investment grade rating offer a coupon rate lower than the high-yield grade, but higher than unrated debt. In particular, we observe that the mean coupon rate of the investment grade issues is 2.94%, while the coupon rate of high-yield grade and unrated issued is of 5.28% and 2.55%, respectively. Usually, getting a high rating implies that the probability of default is low, so that the cost of financing should be lower than of unrated debt (Barron et al., 1997). While the low unrated coupon is unexpected, a company with a speculative rating faces a substantially higher yield when raising funds. This may in part be because the analysis is based only on the type of rating issue and not the issuer rating, which captures the credit risk of the company. Thus, some companies can issue unrated debt because they have an issuer rating inside the investment category and thereby, a good reputation in the financial markets.

Table 2: Summary statistics on bond characteristics broken down by rating.

	N Obs.	Mean	St. Dev.	5th Percentile	Median	95th Percentile
IG						
Issue Amount (in mill. of EUR)	1597	689.25	814.70	23.34	400.00	2139
Original Maturity (in years)	1597	5.49	4.67	1.50	4.00	15
Coupon Rate (in %)	1597	2.94	1.85	0.10	3.00	6
HY						
Issue Amount (in mill. of EUR)	62	430.61	292.36	100.00	387.50	1000
Original Maturity (in years)	62	5.63	3.22	1.50	5.02	10
Coupon Rate (in %)	62	5.28	2.64	0.97	5.25	10
NR						
Issue Amount (in mill. of EUR)	1353	266.36	528.31	3.55	67.40	1394
Original Maturity (in years)	1353	5.02	3.73	1.08	4.00	12
Coupon Rate (in %)	1353	2.55	1.96	0.00	2.53	6
Total						
Issue Amount (in mill. of EUR)	3012	493.96	722.82	5.00	180.00	2000
Original Maturity (in years)	3012	5.28	4.25	1.35	4.00	12
Coupon Rate (in %)	3012	2.81	1.96	0.00	2.80	6

Table 3 provides summary statistics of some indicators about the company performance around a bond issue. If we focus on the size of the firms measured by total assets, we observe that issues with investment grade rating belong on average to the firms with the largest size. In particular, we observe that issues with an investment grade rating have an average size of 219.61 million euros, compared with 155.04 million euros for high-yield and 192.14 million euros for unrated issuers. With regard to the profitability of the firms, we observe that the issues of investment grade belong to firms with a Return on Equity of 23.25%, in comparison with the 7.21% of the high-yield grade, and 2.69% of unrated issues. In addition, we note that the issues of investment grade have a lower level of indebtedness than the other issuers, as shown by their long-term debt-to-total assets. Specifically, investment grade, high-yield grade and unrated issues, present on average a level of indebtedness of 0.21%, 0.25% and 0.18%, respectively. Lastly, we see that the investment grade issues have a higher price-to-Book Ratio (1.74) than high-yield issues (1.01), and unrated issues (1.31). That means that the market values the company more than its accounting value.

Table 3. Summary statistics about the company performance around bond issue.

	N Obs.	Mean	Median
IG			
Total Assets (in Billions of EUR)	769	219.61	86.93
LT Debt to Total Assets	762	0.21	0.19
Return on Equity (%)	721	23.25	9.87
Price to Book Ratio	597	1.74	1.66
HY			
Total Assets (in Billions of EUR)	50	155.04	21.15
LT Debt to Total Assets	50	0.25	0.19
Return on Equity (%)	50	7.21	4.11
Price to Book Ratio	43	1.01	0.95
NR			
Total Assets (in Billions of EUR)	843	192.14	91.04
LT Debt to Total Assets	836	0.18	0.16
Return on Equity (%)	779	2.69	7.30
Price to Book Ratio	584	1.31	0.95

In summary, investment grade issues belong to firms with a higher size, profitability, price-to-book Ratio, and lower level of indebtedness. This explains the value of being rated investment grade, which as shown in Table 2, also results in a lower coupon rate. It should also be highlighted that unrated issues

represent a higher size, price-to-book Ratio, and lower level of indebtedness than the high-yield grade issues. In effect, firms that issue debt rated high-yield pay a higher coupon rate than the other types of issues.

To determine the value of obtaining a rating on the cost of bond issues, we run the follow regression:

$$Coupon_{it} = \beta_0 + \beta_1 HY_{it} + \beta_2 NR_{it} + \beta_3 Maturity_{it} + \beta_4 Amount_{it} + \beta_5 Debt_{it} + \beta_6 ROE_{it} + \beta_7 PBR_{it} + u_{it} \quad (1)$$

Where $Coupon_{it}$ is a linear function of the explanatory variables, x_{it}, that could affect the coupon rate that bonds pay at issuance. High-yield (*HY*) is a dummy variable that takes the value of one if the bond issued is rated investment grade, and zero otherwise. Likewise, unrated debt (*NR*), is a dummy variable that takes the value of one if the bond is unrated and zero otherwise. Thus, the category of reference is the investment grade. Furthermore, we consider some bond characteristics such as maturity (*Maturity*) defined as the years until the expiration of the bond, and the logarithm of the amount issued (*Amount)*.

Lastly, we control for risk differences across issuers through profitability (*ROE*), and leverage (*Debt*), measured as long-term debt-to-total assets. Finally, we consider price-to-book ratio (*PBR*).

Table 4 shows the results of the estimation of equation (*1*) that analyzes the impact of obtaining a rating on the coupon rate that bonds pay at issuance. In all the estimations in this table the dummy variable (*HY*) has a positive and significant coefficient. This implies, that the bonds that are rated in the High-yield category have to pay a higher coupon than the bonds rated as Investment rate. Thus, the results of this equation provide evidence about the value of obtaining an investment grade rating. It should be highlighted that the results also indicate that unrated bonds have to pay a lower coupon than the bonds rated investment grade. Specifically, we can observe in estimation (*1*) that high-yield bonds pay 2.1% more compared to the base category (investment grade bonds), whereas unrated bonds pay 0.37% less than investment grade bonds.

In Table 4 we control for risk characteristics and risk differences across issuers, with estimations (*2*) and (*3*) showing that unrated bonds do not significantly pay lower coupon. In fact it is positive, although statistically insignificant. At the same time, we observe that the bond characteristics *Maturity* and *Amount Issued* have a positive and significant coefficient in regressions (*2*) and (3). This means that issuers pay a higher coupon when bonds are structured to be riskier. Finally, in estimation (3) we observe that the amount of debt (*Debt*) accumulated by the issuer has a positive and significant effect on the coupon rate. Thus, the coupon is higher for riskier and more indebted companies.

Table 4: Regression Results

	Dep Var: Coupon Rate Estimation (1)	Dep Var: Coupon Rate Estimation (2)	Dep Var: Coupon Rate Estimation(3)
Dummy HY	2.143***	1.957***	1.969***
	(7.48)	(6.76)	(6.90)
Dummy NR	-0.372***	0.153	0.170
	(-3.75)	(1.40)	(1.51)
Maturity		0.029**	0.028**
		(2.31)	(2.16)
Amount		0.260***	0.236***
		(9.41)	(8.25)
Debt			0.737**
			(2.03)
ROE			0.000
Equity			(0.64)
Intercept	3.189***	1.450***	1.395***
	(44.60)	(7.91)	(6.98)
N	1617	1573	1456
R-squared	0.049	0.100	0.099

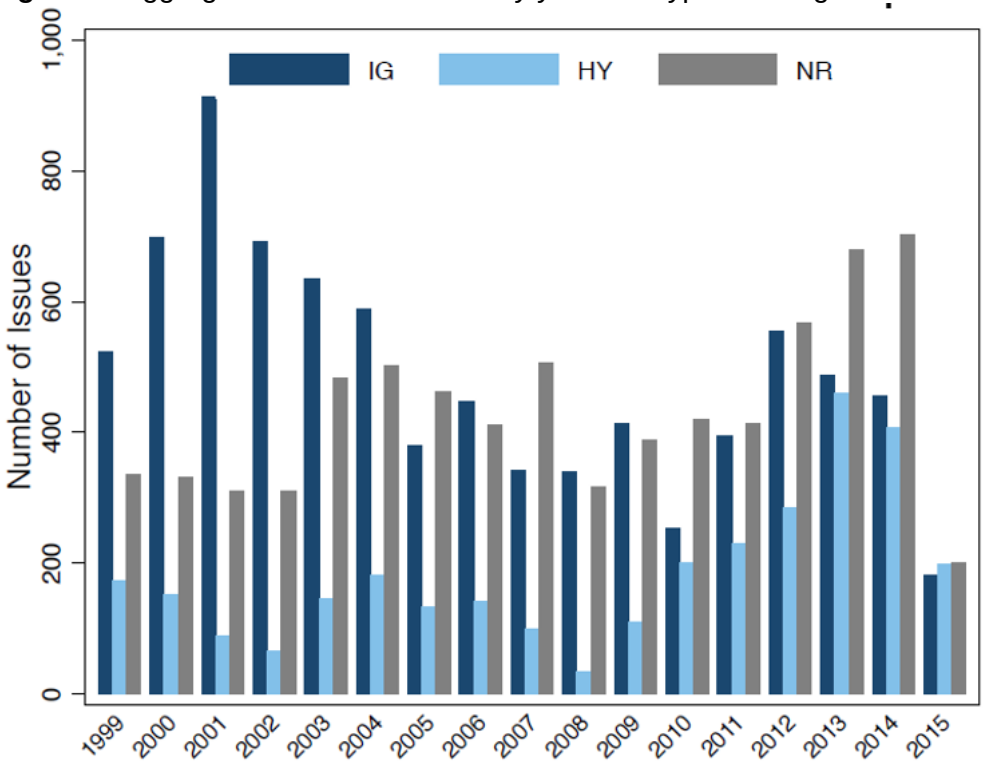
Table 4. Results of the estimation of the equation (1) for the case without control variables (column 1), controlling only by bond characteristics (column 2), considering both bond and firm characteristics (column 3) . *** Significant at 1%, ** Significant at 5%, * Significant at 10%. T-statistics in parentheses.

5.2. Empirical Results: Europe

In this second we analyze the benefits on getting a rating on the cost of debt for European firms. We employ a different methodology in this analysis, explained below. Figure 4 compares the number of unrated bond (*NR*) issues with invest-

ment grade (*IG*) and high-yield (*HY*) issuance.[3] The chart illustrates the importance of unrated bond issuance among European companies, especially in recent years, when unrated issues were more common than investment grade or high-yield issues. This could be, as noted in the first part of the empirical results, due to the loss of trust in CRAs during the recent financial crisis.

Figure 4: Aggregate number of issues by year and type of rating



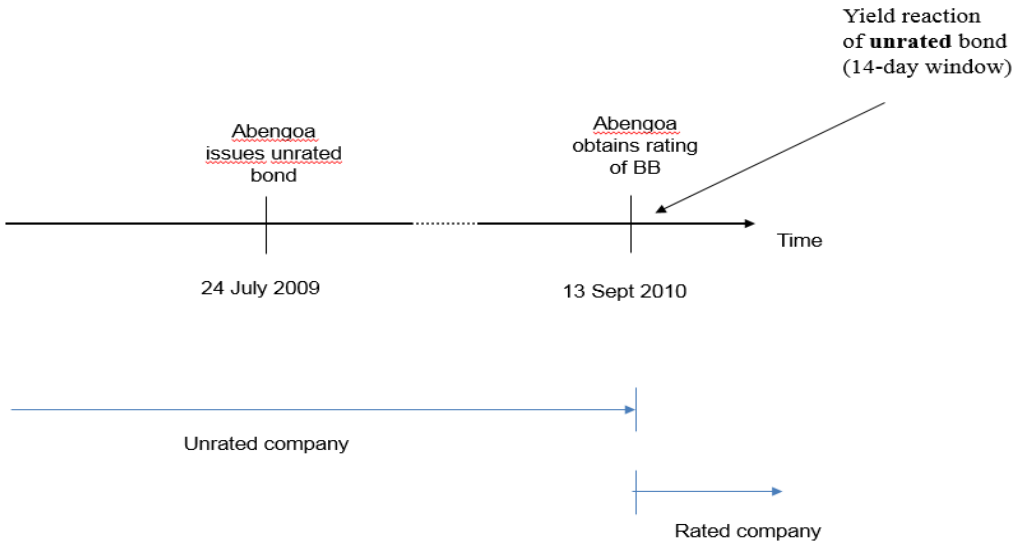
Note: Aggregate number of bond issues by issue year in Western Europe. In particular, each vertical bar represents the sum of issue numbers of all bonds issued rated as investment grade (IG), high-yield (HY) and unrated (NR) in each year.
Source: Bloomberg and own elaboration.

Figure 5 shows the timeline for the event study employed in our approach, using a Spanish multinational issuer, Abengoa, for exponential purposes. Abengoa obtained a rating for the first time on the 13th of September 2010. It had earlier issued an unrated bond prior to obtaining a rating, on July 24th 2009. These bonds were still trading when Abengoa obtained a rating, allowing us to measure the reaction in their yield in the 14-days period surrounding the event that Abengoa gets a rating for the first time. In this regard, Figure 6 shows that the bond yield of the unrated debt falls when it gets

[3] In comparison, average annual unrated bond issuance in the U.S. is around 70 issues, with a total value of $50 billion.

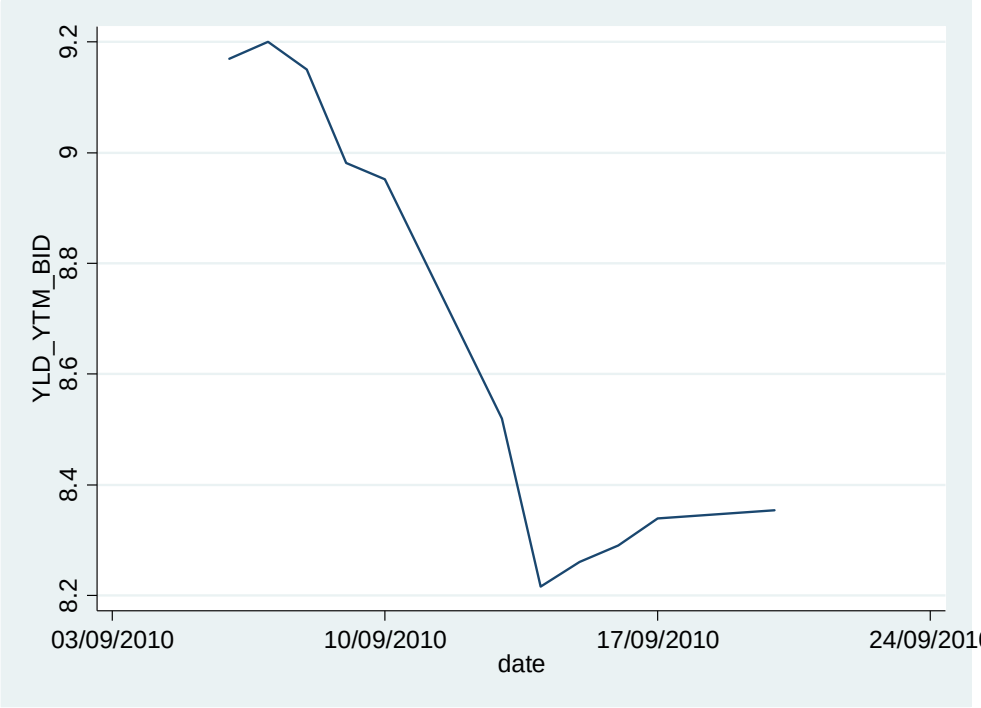
the first rating, from around 9.2% to 8.2%. Moreover, we can see that the yield starts to adjust before the announcement date, justifying our use of a longer event window.

Figure 5: Timeline for the Event Study



Note: The figure illustrates the timeline used for our event study. We use Abengoa, a Spanish multinational company, for expositional purposes. **Source:** Own elaboration.

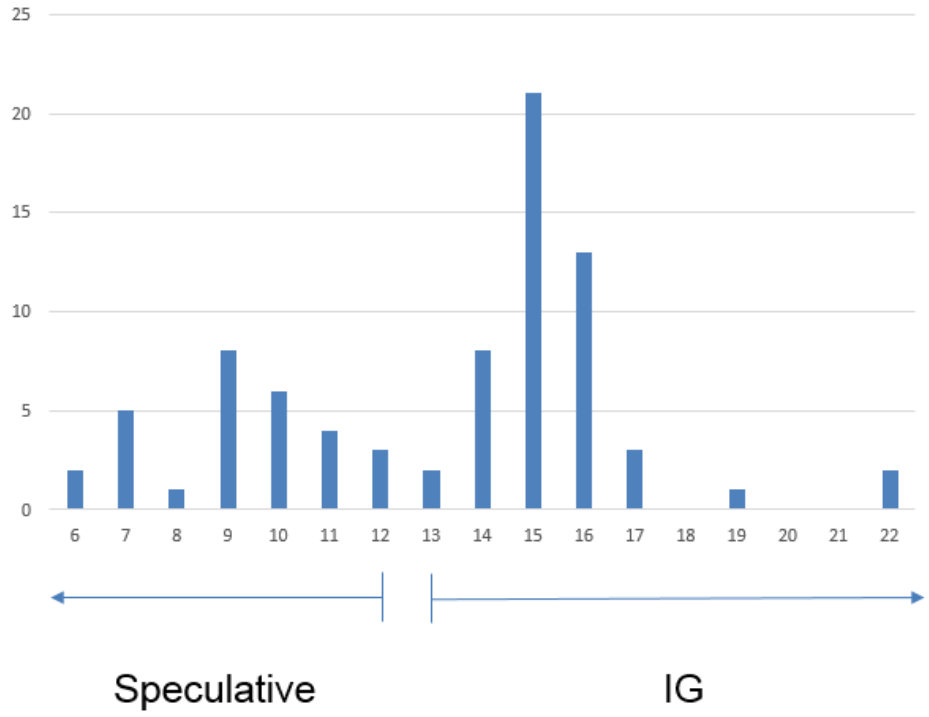
Figure 6: Yield Reaction at the event study



Note: This figure shows the reaction in the yield of unrated Abengoa bonds in the 14-day period surrounding the rating date. **Source:** Bloomberg and own elaboration.

Therefore, the main variable of interest captures the yield reaction when the event occurs, that is, when an unrated bond of a company gets a rating for the first time. The yield reaction is measured as the change in yield over a 14-day window, starting in the 7 trading days prior to the event day, and ending in the 7 trading-days after. It should be highlighted that typical bond event studies in the literature use windows ranging from 3 days to one month (Maul and Schiereck, 2012). We choose a 14-day window to account for infrequent trading, while limiting the confounding effects of unrelated events during the window.

Figure 7: First Ratings for Unrated Issuers



Note: This figure depicts the rating that an unrated issuer is given when it first obtains a rating, conditional on the issuer having unrated bonds outstanding. **Source:** Bloomberg and own elaboration.

Figure 7 indicates that most companies obtain an investment grade rating, ranging from 14 to 16 in scale. This is just above the cut-off point that separates investment grade from high-yield, suggesting that marginal companies are more likely to obtain a rating when they think it will be investment grade. The preference for an investment grade rating for firms is in line with the benefits of regulation documented in previous literature (Section 1.2). While most firms obtain an investment grade rating, around a third are given a high-yield grade rating, suggesting that there is value in obtaining a

rating even if not for the regulatory benefits. The relatively large amount of investment grade bonds indicates that bonds that are initially unrated are issued by good-quality companies, not only those without access to public debt, in contrast with the findings of Faulkender and Peterson (2006).

Table 5: Value of Rating: This table shows the change in the yield of unrated bond issues when issuers obtain a rating for the first time.

	Average rating	%Yield before	%Yield after	Change	Obs.
Spec.	9.21	5.94	5.87	-0.08	26
IG	15.59	2.78	2.64	-0.14	42
Total	13.12	3.99	3.87	-0.12	68

In Table 5 we present the reaction in the yield of unrated bonds over the 14-day period around the date that a company obtains a rating. This Table shows that investors are to some extent able to assess the riskiness of unrated bonds before a rating is assigned: Yields are higher on unrated bonds that eventually obtain a speculative rating, rather than an investment grade rating, at 5.94% and 2.78%, respectively. Once a rating is assigned the yield across all issues drops by an average of 0.12 percentage points, from 3.99% to 3.87%. This reduction in the cost of borrowing indicates that ratings are valued by investors. In particular, the decrease in yield for companies that are assigned an investment grade rating is 0.14 percentage points, whereas those that obtain a speculative rating benefit from a 0.08 percentage point reduction in borrowing costs. This difference provides support for the regulatory value of ratings (see, e.g., Kisgen, 2010). This is not the only benefit of ratings, however, since those obtaining a speculative grade rating also experience a decline in borrowing costs. Thus, these results support the hypothesis that ratings reduce information asymmetry between lenders and investors.

Table 6: Variation in Rating: This table shows the highest and lowest yields, and changes in yields, for unrated bonds included in our event study. Chg. Refers to the number of unrated bonds, which experience a positive change in yield when a company becomes rated.

	Max % yld.	Min % yld.	Max chg.	Min chg.	Pos. chg.
Spec.	10.5	0.8	1.9	-1.1	12 / 26
IG	6.6	0.1	0.3	-0.8	11 / 42
Total	10.5	0.1	1.9	-1.1	23 / 68

We obtain more insight into the value of ratings by examining the variation in unrated bond yields across issuers, before and after a company is rated. Table 6 shows the pre-rating yields for unrated bonds that eventually obtain a rating. For those that get a speculative rating, the maximum and minimum are dispersed. There is also more variation in the maximum and minimum change in yields after a rating is assigned, indicating that the usefulness of a rating is more uncertain. A significant amount of such companies (12 out of 26) also experience a positive change in yield after a rating is assigned, representing an increase in borrowing costs. For those rated investment grade only 11 out of 42 issues experience an increase in yields. These findings suggest that, while ratings decrease borrowing costs on average, it is possible that costs rise, especially if the issuer is assigned a speculative grade rating.

6. Conclusions

Ratings are valuable to companies if they reduce information asymmetries between investors and issuers, or if they alleviate contracting costs associated with regulatory requirements. However, the empirical evidence on the value of having a rating is mixed. In this paper we measure the effect of obtaining a credit rating for the first time on the cost of debt issued. We find that for the case of Spanish firms, unrated bonds pay the same coupon as

investment grade bonds. Meanwhile, high-yield bonds pay a higher yield than these two types of bonds. This result suggest that the firms that get an investment grade rating for the first benefit in comparison with the firms that are rated high-yield.

In the second part of our study we apply a more sophisticated methodology for the case of European firms. We find that when firms obtain a rating they experience a decrease in the yield of their outstanding bonds. Specifically, the results show that when a company gets a rating for the first time the yield drops by an average of 0.12 percentage points, indicating that ratings are valued by investors. The decrease in yield for companies that are assigned an investment grade rating is 0.14 percentage points, whereas those that obtain a speculative rating benefit from a 0.08 percentage point reduction in borrowing costs.

Therefore, our study contributes to a body of research that examines whether credit rating agencies play a meaningful role in financial markets. First we provide evidence that credit ratings are valued by investors, by documenting the change in yields when unrated bonds obtain a rating. This contributes to recent literature that also finds a relationship between ratings and bond yields, such as Kliger and Sarig (2000), Tang (2009), and Kisgen and Strahan (2010). It should be highlighted that our paper is the first to implement an event study for the case when the company obtains a rating for the first time.

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