Do Borrower Country Financial System and Corporate Governance System Types Influence the Spread of Syndicated Loans?

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Abstract

This research analyses the effect that the borrower's country can have on loan spreads, bringing countries together into homogenous groups relatively to certain institutional factors. Based in a database of more than 85.000 loans we find that borrowers from countries with bank-based financial systems pay lower interest rate spreads than those from countries with a market-based financial system. There is also evidence that borrowers from countries with more developed financial systems pay lower spreads. The results evidence that borrowers from countries with an Anglo-Saxon governance system pay higher spreads than borrowers from countries with a continental governance system.

Keywords: Financial System; Financial Development; Governance System; Cost of Debt; Bank Loans

JEL codes: D82; G3; G38; K22; P51

1. Introduction

There is a growing body of literature that has studied the implications of the institutional environment of the borrower's country in its choices in terms of financing. In fact, several studies that analyse capital structures in various jurisdictions provide evidence of the importance of countries' specific factors (Demirgüç-Kunt and Maksimovic, 1996, 1998, 1999; Booth et al., 2001; Fan et al., 2012, La Porta et al., 1997, 1998; Rajan and Zingales, 1995, 1998; Bancel and Mittoo, 2004; De Jong et al., 2008; Lopez-Iturriaga e Rodriguez-Sanz, 2008; Giannetti, 2003. Alves and Ferreira (2011) also evidence that institutional factors have an important role in the companies' capital structure. However, the literature is less abundant and conclusive with regard to the effects on the financing conditions, namely with regard to the costs of the loan.

Recently, some researchers study whether there are relevant differences between financing costs for companies from different countries. In this sense, Carey and Nini (2007) conclude that, regardless of nationality of the borrower or the lender, loans are cheaper when issued in Europe than in the USA. Houston et al. (2012) equally verify that loan spreads depend on the nationality of the borrower, and that syndicated loans granted to European companies are cheaper than those granted to North-American companies. Both studies find evidence that companies prefer banks in their domestic market, which (eventually due to a lower information asymmetry) is reflected in lower financing costs. In a study of the home effect on syndicated financings during the financial crisis, Giannetti and Laeven (2012) states that domestic banks have informational advantages on companies from their country of origin, allowing them to better know the factors that affect borrowers, better understand the country's political and economic risks, as well as have a greater familiarity with the borrower as a result of physical proximity and cultural affinity.

This research provide evidence toward the assumption that the borrower country's characteristics may be relevant in determining the cost of syndicated bank financing. The purpose of this study is to analyse if, *ceteris paribus*, the characteristics of the borrower country influence the loan's spread (and, therefore, its cost). In particular, this study analyses the influence of two distinctive characteristics of countries: the type of financial system (and its level of development) and the type of governance system.

In countries with a bank-based financial system, there is a close, long-term relationship between borrowers and lending banks, which potentially allows the mitigation of the information asymmetry, better control and evaluation of the quality of the company's management and, consequently, may materialize in lower financing costs than in countries with a market-based financial system. In fact, financial institutions in countries with bank-based financial systems have access to private information on the borrowers and are, therefore, able to adequately monitor the company (Levine, 2002). Furthermore, such institutions influence or have the power to influence the company's management, so that they can improve the efficiency of investments and their relevance to economic growth (*vide*, among others, Levine, 2002). In the same line, Rajan (1992) refers that bank relationship is revealed in successive loans through time that may be seen as a repetition of informed debt or inside debt by the same lender (bank), whereas debt obtained in the market with the general public may be seen as arm's length or outside financing, in which case the lender has less information on the borrower. Thus, since companies in countries with a bank-based financial system have a closer relationship with the financing

institutions – relationship lending – and the information asymmetry tends to be lower, it is to be expected that borrowers from these countries obtain financing with lower spreads.

Conversely, a more prominent capital market in the country's economic life promotes a more efficient capital allocation, supplying risk management tools and stimulating the performance through remuneration and compensation mechanisms based on the company's performance (Levine, 2002). Additionally, since monitoring has costs, bank financing can be more expensive than market financing (Chakraborty and Ray, 2006) and it gives banks that relate to the company an informational advantage over their competitors, which these may use to demand higher interest rates which are not adequate to the company's risk level (Sharpe, 1990; Rajan, 1992). In this perspective, and contrarily to that above, it is to be expected that financing costs are lower in market-based financial systems.

In addition, it is also important to analyse if the financial development of a country have effect in the loan cost. It should be considered that the financial development of a country allows to mitigate agency problems (Chakraborty and Ray, 2006) and to decrease the transaction costs (Rajan and Zingales, 1998), which can help to decrease the capital costs in the economy. Additionally, Rajan and Zingales (1998) explain that in countries with a more developed financial market the external financing costs are lower. Therefore, we would expect that borrowers from more financially developed countries to have better access to financing sources and that this should result in the negotiation of better financing agreements, that is, lower spreads.

To sum up, there is no empirical evidence that allows us to conclude whether the type of financial system (bank-based or market-based) determines the companies' financing costs, or how the country's level of financial development interferes with those costs. To our knowledge, this theme has not yet been directly investigated and is only the object of indirect research, particularly at the level of the effects of relationship lending. There are reasons to believe that, *ceteris paribus*, borrowers from countries with bank-based financial systems may benefit from different financing costs relative to those with market-based financial systems, and that the level of countries´ financial development also encourage different level of financial costs. Although the literature on this last subject indicates that such a relationship reduces information asymmetry and creates the conditions for banks to demand lower interest rates from their clients, there is also the possibility that banks take advantage of those informational advantages and impose higher interest rates. Therefore, even though we might expect that, especially for borrowers with more information asymmetry (vg, unrated borrowers), the positive effect of relationship is stronger that its costs and results in issuers from bank-based financial systems bearing lower spreads, there is no guarantee this will, indeed, happen. The results allow us to validate the assumption that borrowers from countries with a bank-based financial system obtain financing with a lower interest rate than borrowers from countries with a market-based financial system, as do those of countries with a more developed financial system.

Another dimension of this problem that is approached here is that of the governance model that best fits the borrower's country. Doidge et al. (2007) suggest that, for low levels of legal investor protection, the level of corporate governance in the company is complementary, and that for higher levels of investor protection, the company's

governance is a replacement of that protection[1]. In effect, among others, Schmidt and Tyrrel (1997), Shleifer and Vishny (1997) and Franks and Mayer (1997, 2001) consider that there are two main corporate governance systems and classify countries as having an Anglo-Saxon governance system or a continental governance system.

The Anglo-Saxon governance system is characterized by market-orientation, disperse ownership, the existence of institutional investors that are controlling shareholders and a large and liquid capital market. The continental governance system is supported by bank financing, companies' ownership is concentrated in government, families, bank or other companies and the capital market is small and illiquid. As to management, in the Anglo-Saxon system it is in the hands of the board of directors, composed of executive and non-executive members, and its compensation tends to be variable, a function of the company's performance. The monitoring is ensured by the capital market, through the threat of hostile takeovers. In the continental system, management is shared between the company's executive board of directors and the supervisory and audit committee, with a fixed compensation scheme. Monitoring is ensured by controlling shareholders. Bank financing is very important in financing companies with a continental governance system, and much less relevant in financing companies with an Anglo-Saxon governance system (Schmidt and Tyrrel, 1997; Cuervo, 2002; Cernat, 2004; Alves, 2005).

To sum up, we found no studies that specifically analyse the relevance of the governance system in the costs of debt for non-financial companies. However, given the characteristics of both types of system, it is possible that the greater involvement of banks in companies' governance typical of the continental system causes one of two effects. On the other hand, they may obtain more information and, in that way, be in a condition to supply financing at costs which do not include premia due to information asymmetry. On the other hand, they may use the power which comes with that role to supply credit to those companies at a higher cost than the market would. Then again, it is known that the Anglo-Saxon system is based on the disclosure of (audited) information to the market, on the disciplinarian effect of the market for corporate control and in the alignment of interests through variable compensation schemes. Hence, there may be a minimizing effect in the costs of financing through debt capital. Either it causes a cost reduction, given there is less information asymmetry and a higher ability to influence the company's life, or it causes an increase of those costs because the bank takes advantage of its influence to grant loans with worse conditions than those of the market. Assuming the information effect is more important than the expropriation effect, we expect companies from countries with continental systems to pay a lower interest rate spread than borrowers from the Anglo-Saxon governance system. However, if the relative positions of those effects are reversed, the opposite will result. Therefore, there are also reasons to believe that, all rest being equal, borrowers from countries with different governance systems may bear different levels of costs of debt financing. The results for the governance system show that borrowers from countries with Anglo-Saxon governance systems pay higher spreads than those from countries with continental governance systems.

This paper focuses on the costs of syndicated bank loans and study its relation with the classification of countries that share some characteristics. The underlying goal is to answer the following questions: *Does the type of financial system of the borrower's*

[1] Doidge et al. (2007) suggest that the country's governance system affects the corporate governance decisions of companies and that a better governance reduces financing costs, because investors expect the company to be well governed after the financing is granted.

country induce differences in the financing costs for syndicated bank loans? How does the level of the country's financial development interfere with the reply to the previous question? Do differences in the governance system imply differences in the financing costs for syndicated bank loans? In this sense, we seek to analyse the relationship between the type of financial system (bank-based or market-based) and the companies' cost of financing, as well as the way the country's level of financial development affects that relationship. We also analyse the relevance of type of governance system (Anglo-Saxon or Continental) for financing spreads. This research collect data from Thomson Dealscan database and is based on a sample of 85,220 loan tranches, corresponding to 50,658 loans from 25,511 non-financial borrowers from 122 countries.

This study presents several contributions to the literature. First, despite the literature suggest or provide evidence that the borrower country's institutional factors concerning the effective protection of the rights of financers are important in the choice of the companies' financing mix, the literature is scarce and little conclusive as to the influence of these institutional factors in the negotiated financing conditions, particularly in the loan cost. This study intends to contribute to bridge this gap. Second, Carey and Nini (2007), Giannetti and Laeven (2012) and Houston et al. (2012) show that the cost of syndicated bank debt is related to the location of the loan issuance, the nationality of the borrower and the financing by banks in the country of the borrower, respectively. This study will seek to verify empirically whether the spread supported by the borrower is affected by two distinguishing country's characteristics: the type of financial system (and its level of development) and the type of government system. As far as we know, there are no empirical studies that aggregate the countries according to these characteristics, so the results presented are the first to show how those characteristics affect the costs of financing. Because there is no evidence about this effect, this study intends to contribute to bridge this gap. This study also add evidence to the relationship lending literature, measured by the type of financial system and governance system, since each type of system have impact on information available, risk perception and creditor protection.

The paper proceeds as follows. The next section presents a literature review on both types of systems. The following section describes the databases and the methodology used, and also a brief characterization of the data. Then, the empirical results are presented and discussed. At the end is the conclusion.

2. The Impact of the Type of Financial System and the Type of Governance System on Financing Costs

2.1. Type of Financial System and Financial Development Level

Financial systems may be classified as market-based or bank-based. In the first type of financial system, financing is mainly public, through issue and placement of shares and bonds, while in bank-based financial systems financing is mostly private, through bilateral bank loans, negotiated between the borrower and a bank or a set of banks (Boot and Thakor, 2000; Dennis and Moullineaux, 2000). There is important differences between both systems as we can see below.

i) Relationship lending

In countries with a bank-based financial system there is, typically, a close, long-term relationship between borrowing companies and lending banks. This relationship allows the lending bank to obtain, over time and in the context of a day-to-day contact, qualitative information on the borrower (*soft information*). On the contrary, when loans are placed through capital market deals – like in the market-based financial systems – they are essentially based on quantifiable and easily transmissible information (*hard information*) (Stein, 2002, Cole et al., 2004, Berger et al., 2005, Berger and Udell, 2006, Udell, 2008). The market-based financial system is, therefore, in the words of Rajan and Zingales (2001), essentially "*arm's lenght*" (that is, lenders act independently and with no other relationship with the borrower) and the bank-based financial system is, mainly, "relationship lending" (that is, lenders have a close relationship with the borrowers, accompany their life and grant them successive bilateral loans through time). Rajan (1992) defines bank financing as inside debt due to the increased ability by the bank to gather information on the borrower. Therefore, "*relationship lending*" banks become qualitatively informed lenders, whereas capital market investors provide *arm's length* financing (Diamond, 1991; Rajan, 1992). Also, when borrowers are private companies and, for that reason, there is no public information on their economic and financial situation, banks mitigate the problem of no public information through a long-term relationship with companies (Boot et al., 1993).

In bank-based systems, lender monitoring has an important role in the companies' life. Diamond (1984), Fama (1985) and Boyd and Prescott (1986) highlight the banks' unique role in monitoring and Fama (1985) considers that a bank is an *insider debtholder* due to its access to privileged information relative to their clients' life. This monitoring reduces the information asymmetry and improves the efficiency of contracts between lender and borrower (Freixas and Rochet, 2008). Monitoring by banks implies that companies and banks develop long-term relationships (Mayer, 1988). Greenbaum and Thakor (2007) and Freixas and Rochet (2008) suggest that the long-term relationship between borrower and lender has value for the loan. In fact, since the loan relationship involves repeated interactions between lender and borrower through time, it may give rise to *inside information* for the lender and reduce the costs of loans and other services.

The bank's financing relationship allows the bank to produce information on the quality and situation of the company (Petersen and Rajan, 1994; Berger and Udell, 1995), which leads to less information asymmetry between the bank and the company. Banks get information through their relationship with the company and use that information to adjust the conditions of the loan contract (Berger and Udell, 1995). The relationship makes it easier to select loan clients, allows access to relevant information to establish future modes of credit and allows the control of the company's management behaviour (Ongena and Smith, 2000).

Financial intermediaries with a relationship to their clients get informational advantages over competitor banks, due to the bank's expertise in evaluation and monitoring the credit of the companies with whom they have that relationship (Diamond, 1984, 1991; Ramakrisman and Thakor, 1984; Boyd and Prescott, 1986; Leland and Pyle, 1997). So, despite the potential benefits which arise from banking relationship, it is not certain that they are materialised in effective and equal benefits for both parties. Boot (2000) presents, in this context, the *hold-up problem*, that occurs when a close banking relationship allows the bank to use privileged information, which gives it a competitive advantage over its competitors. As a consequence, these banks charge high interest rates later on, out of line with the company's risk profile (Sharpe, 1990; Rajan, 1992). Therefore, the acquisition

of privileged information on the companies by banks may lead to extraction rent (Hellwing, 1991; Weinstein and Yafeh, 1998). Concluding, it is not linear that banking relationship, characteristic of bank-based systems, leads to lower financing costs.

There is, in effect, evidence that strong banking relationships are empirically associated with lower interest rates (Diamond, 1984 and 1991; Petersen and Rajan, 1994; Berger and Udell, 1995; Leland and Pyle, 1997), a decrease in collateral demands (Berger and Udell, 1995; Harhoff and Korting, 1998), more senior debt issues (Longhofer and Santos, 2000), greater protection against interest rate cycles (Berlin and Master, 1998; Ferri and Messori, 2000) and an increase in available credit (Cole, 1998; Elsas and Krahnen, 1998). However, there are also studies that show no effects on interest rates (Elsas and Krahnen, 1998; Harhoff and Korting, 1998) or that document their increase (Degryse and Cayseele, 2000). Existing literature is not, therefore, conclusive on the effects of banking relationship in debt financing costs.

It seems, therefore, clear that although there are positive effects of banking relationship, there is also some literature that questions the idea that such effects are necessarily materialized in lower costs of debt.

ii) Other Relevant Factors

In addition, banking relationship is not the only factor that may lead to differences in debt capital financing costs for borrowers from different types of financial system. In reality, Levine (2002) considers that the market-based financial system has intrinsic advantages in capital allocation, supplying risk management tools and minimising the problems associated to excessively powerful banks. In the same line, some authors support that the capital market (predominantly in countries with market-based financial systems) have a positive role in providing information signals and allows the transmission of that information to investors, which has a positive impact in the companies' financing cost (Boot and Thakor, 1997; Allen and Gale, 1999). On the other hand, the capital market also affects the transmission of useful information to lenders. Grossman (1976) and Grossman and Stiglitz (1980) support the idea that the prices in the capital market reveal, at least partially, information that the most informed investors possess.

In turn, Chakraborty and Ray (2006) distinguish bank financing from market financing through the involvement of investors in investment projects. While banks are more involved in selecting projects, monitoring companies and identifying entrepreneurs with a future, market financing has little involvement in the company's investment decisions. While market investors are too dispersed to effectively control the borrower's activities, the financial intermediaries monitor entrepreneurs and partially resolve the agency problems. Since monitoring has costs, this implies that bank financing is more expensive than market financing.

iii) The Importance of Financial Development

Since there are countries with a bank-based financial system that simultaneously present banking industry development indicators below average and, on the other hand, countries with a market-based financial system with below-average levels of financial market development (Demirgüç-Kunt and Levine, 2001), it becomes important to analyse whether the country's level of financial development influences financing costs. Chakraborty and Ray (2006) states that more developed financial systems are better at

solving agency problems, allowing companies to borrow at lower interest rates and invest more. Rajan and Zingales (1998) present as effects of financial development the reduction of transaction costs, allowing the decrease of the costs of capital in the economy and helping companies overcome moral hazard and adverse selection issues. Alves and Ferreira (2011, p. 124) state that "*in less developed capital markets there is less available information about firms for several reasons that may include a weaker regulation, lower corporate governance standards, and limited investor protection rights*". In this sense, financial development should induce lower external financing costs. Thus, Beck and Levine (2002) and Levine (2002) evidence that the most developed financial systems induce economic growth, and Rajan and Zingales (1998) justify this growth with the reduction in financing costs. Therefore, we would expect that the higher the level of a country's financial development, the lower the spreads the borrowers from those countries would have to bear (namely, due to the alternatives the domestic market would provide). In addition, according to other authors, the higher the country's level of financial development, the greater the range of services allowing risk diversification and the better the access to financial services (Reuttner and Glass, 2012), which could have an impact in financing costs. In this sense, we would expect that borrowers from more financially developed countries have better loan agreements, particularly lower spreads.

To sum up, there is no empirical evidence that allows us to conclude whether the type of financial system (bank-based or market-based) determines the companies' financing costs, or how the country's level of financial development interferes with those costs. To our knowledge, this theme has not yet been directly investigated and is only the object of indirect research, particularly at the level of the effects of relationship lending. Although the literature on this last subject indicates that such a relationship reduces information asymmetry and creates the conditions for banks to demand lower interest rates from their clients, there is also the possibility that banks take advantage of those informational advantages and impose higher interest rates. Therefore, even though we might expect that, especially for borrowers with more information asymmetry (vg, unrated borrowers), the positive effect of relationship is stronger that its costs and results in issuers from bank-based financial systems bearing lower spreads, there is no guarantee this will, indeed, happen. This study will seek to verify empirically which effect is stronger and how generalized these effects are, considering the level of rating or its inexistence.

2.2. Type of Governance System

The separation between ownership and control in companies with dispersed ownership allows the manager to maintain a high level of discretionarity in management (Berle and Means, 1932). Bolton and Scharfstein (1998), among others, suggest that companies with dispersed ownership give managers the effective control over the company, which allows them to lead it in their own benefit, at the cost of shareholders' interests. Instead of maximizing profits or the company's value, managers seek to maximize their own utility function (Jensen and Meckling, 1976). .

i) Debt as a disciplinary role and conflicts of interest

In their seminal paper, Jensen and Meckling (1976) suggest debt as a way to overcome agency problems in the relationship between shareholders and managers. In this context, Jensen (1986) claims that the discretionary power of managers and agency costs resulting

from poor application of excess free cash flow can be minimized through debt. Degryse and de Jong (2006) and Zhang (2009) find empirical evidence consistent with this theory. Stulz (1988) also shows that debt helps limit managers' discretionary behaviour. Stiglitz (1985) and Shleifer and Vishny (1997) mention that if there are no major shareholders, the smaller shareholders do not have enough incentive to monitor and control managers. Therefore, since banks are important investors in the company (Shleifer and Vishny, 1997), banks have a role similar to shareholders. Banks are interested in companies' management as a way to verify the return on their investments and control inadequate manager behavior. Lenders are worried about if owners/managers increase risk or the probability that lenders will not be able to achieve the expected return on their investment.

On the other hand, considering that the increase in debt levels in a company with dispersed ownership increases the probability of default and bankruptcy, it produces serious consequences for wealth, reputation and job security for managers. Grossman and Hart (1982) predict that the threat of bankruptcy (resulting from high debt levels) supplies appropriate incentives for the manager to adopt a behavior that maximizes company value.[2] Simultaneously, Fama (1985), Stiglitz (1985), Boyd and Prescott (1986) and Diamond (1996) argue that given the need to ensure the debt's repayment and interest, banks play a central and unique role in monitoring management. Therefore, the minimization of conflicts of interest between shareholders and managers can also be achieved through the disciplinary role of debt, due to the monitoring by lenders, looking to guarantee the repayment of principal and the payment of interest.

Despite the benefits debt seems to bring, it also carries its own agency problems resulting from conflicts of interest, information asymmetry and incomplete contracts between shareholders (and the managers they choose) and lenders. In this way, shareholders and managers can adopt opportunistic behaviors that allow them to obtain advantages at the cost of lenders.

Therefore, lenders may feel the need to control all or at least some of the decisions of companies as a way to ensure the repayment of their loans. Debt contracts assume the principal repayment and the payment of interest that is independent of the company's performance. Furthermore, lenders may include in the contracts clauses that limit or condition the company's actions. Lastly, in case of default on any of these payments, lenders can use bankruptcy law to ensure their return. However, there are no complete contracts,[3] and the functioning of the courts does not allow a full and efficient safeguard of lenders.

ii) Financing and Corporate Governance

Companies' financing depends on their ability to ensure investors have appropriate return on their investment, which, according to Shleifer and Vishny (1997), is the ultimate goal

[2] Grossman and Hart (1982) establish that debt allows not only the alignment of interests between managers and shareholders, but also that lenders prevent managers from achieving private benefits from control in case of default, so that managers act so as to maintain control.

[3] Since the financing contract is incomplete, because it does not contemplate all possible future contingencies, lenders are interested in controlling and verifying if the borrowing company has the capacity to generate cash flows that allow it to repay the loan. Roberts and Sufi (2009) suggest that since debt contract imposes penalties in case of default, borrower tends to reveal true information to the lender *a priori*, so that it can evaluate its capacity to generate cash flow – the lender concentrates on its right to cash flow. Default in repayment triggers the transfer of control over the borrower's assets to the lender.

of corporate governance. Therefore, apart from contractual and legal investor protection, the way the corporate governance is structured is of great importance.

In this context, Doidge et al. (2007) suggest that, for low levels of legal investor protection, the level of corporate governance in the company is complementary, and that for higher levels of investor protection, the company's governance is a replacement of that protection. Corporate governance can be understood as the way ex post quasi-rent are negotiated in the company (Zingales, 1998), and can also help determine how management deals with incomplete contracts (Garvey and Swan, 1994). John and Senbet (1998), in their turn, consider that corporate governance is related to the mechanisms through which stakeholders exercise control over management, so as to protect their interests. Therefore, the existence of good practices in corporate governance is more important when the level of protection for capital market investors is lower.

Empirically, Klapper and Love (2004) find evidence that growing companies with high external financing needs are more receptive to adopt better governance practices in order to reduce their cost of capital.[4] However, the type of corporate governance in the company varies not only according to the company, but also according to the country. Hence, Doidge et al. (2007) suggest that the country's governance system affects the corporate governance decisions of companies and that a better governance reduces financing costs, because investors expect the company to be well governed after the financing is granted.

iii) Governance System

The companies' governance mechanisms are usually divided in two main systems: continental and Anglo-Saxon (Franks and Mayer, 1997; Schmidt and Tyrrel, 1997; Shleifer and Vishny, 1997; and Franks and Mayer, 2001). The United States of America, Canada, the United Kingdom and Australia are, traditionally, considered the model countries of the Anglo-Saxon governance system, whereas Japan and Germany are the prototypical continental governance system countries. Among others, Schmidt and Tyrrel (1997), Cuervo (2002), Cernat (2004) and Alves (2005) present the main characteristic of both governance models.

The Anglo-Saxon system is a market-based system, also known as *outsider control system*, where the market for corporate control (*takeover market*) is essential, since the threat of a potential takeover has a disciplining effect on management. In this system, there is typically a large number of listed companies with dispersed ownership, where only institutional investors have a strong equity stake, the capital market is broad, deep and liquid. Companies are subject to great demands to disclose information to investors and financing through equity issues is common in companies from those countries. Some institutional investors also play an important role in corporate governance, but banks' shareholdings and their influence on corporate governance appears to be low.[5]

In terms of the management structure, there is typically only one governing body (the board of directors), and this is composed of executive and non-executive members. The

[4] Jesover and Kirkpatrick (2005) mention that good corporate governance helps to overcome conflicts of interest, increases investor confidence and improves the perception of compliance with legal commitments to lenders. In this sense, these companies find more financing, under more favourable conditions.

[5] Note that, in the USA, paradigm of the anglo-saxon system, for a long time and even today, although to a lesser degree, banks have been subjected to limitations in other companies' shareholdings. Also, Kroszner and Strahan (2001) show that of the largest 500 north-american companies, around 27.2% had directors who worked for banks.

functions of the latter are to advise, monitor and evaluate the activity of the former, whereas these are in charge of the day-to-day management of the company. It is common to see specific committees to take care of specific issues in the company, such as an audit committee, a compensation committee and a nomination committee. The compensation in these companies is largely variable and dependent on the company's (stock market) performance, as a way to align the interests of management and shareholders.

The continental system is a bank-based system, more relationship oriented, also known as *insider control system*. The monitoring of companies in these countries is frequently performed by controlling shareholders with a high equity stake. The ownership is concentrated in families, banks[6] and/or related companies (clients and suppliers), so that the capital market in narrow and illiquid. In this system, there are, frequently, many shareholder structures and cross-shareholdings between companies and there is the possibility to restrict voting rights, limiting shareholders' votes to a certain percentage. Note also that banks play a very important role in granting credit, holding equity shares and participating in the boards of directors of companies in continental countries.[7]

In this context, Vitols (2005) states that, in Germany, banks take an active role in the governance of non-financial companies, due to the importance of bank credit in companies' financing, the fact that banks own equity stakes in companies, to proxy voting by banks in companies and the nomination of the bank's management as a director in the companies' board. In Japan, companies are often organized in *Keiretsu*, diversified and vertically integrated groups which encompass not only suppliers and customers, but also banks which, often, finance the *Keiretsu* members with whom they maintain privileged relationship that allow them to minimize information asymmetry (Hoshi et al., 1990; Hoshi et al., 1991; Berglöf and Perotti, 1994). Therefore, the *Keiretsu* creates an internal capital market where close relationships with these banks induces a greater access to financing and the reduction of costs of capital.

About the management, there are typically two governing bodies: one dedicated to supervision and another dedicated to the executive management of the company. Typically, the supervisory board includes people connected to the shareholders and the banks (in the German case, this body includes representatives of employees). In the continental system the compensation scheme is, generally, less relevant and the fixed compensation represents a significant portion of the remuneration. Listed companies in the stock exchange are also subject to high information disclosure demands, but the audit process is controlled indirectly by influential shareholders.

Since the importance of controlling the company' decisions and ensuring the repayment of the loan, lending banks can exercise their influence through relationships at the governance level, whether by taking an equity stake in the company, or through the nomination of non-executive directors. In both situations, the bank gets information which minimizes the information asymmetry and which can result in loans with lower spreads or, alternatively, the banks' informational advantage may generate rent extraction, through higher spreads.[8]

[6] Note that, in Germany, banks can still exercise their influence due to the fact that they acquire voting rights through representation of shareholders who deposit their shares in those institutions.

[7] Kaplan and Minton (1994) and Dittman et al. (2010) have shown that 64.7% and 46.0% of companies nominate members of banks to their boards of directors in Japan and Germany, respectively.

[8] Gischer et al. (2007) and Ge et al. (2012) explain that in anglo-saxon countries, the purpose of governance is to protect shareholders' interests, helping to resolve agency problems between shareholders and managers

iv) Governance System and Financial Costs

The literature which addresses the relationship between governance systems and financing costs is scarce. In this context, Ferreira and Matos (2012) find evidence that banks generally charge higher spreads to companies where they are members of the board, but during economic crisis periods, banks seem to charge lower spreads to these companies. These authors show that companies where lending banks own equity stakes pay higher spreads.

Notwithstanding the scarcity of literature on this subject, it is to be expected that different governance systems may result in different financing costs. Thus, for example, considering that continental countries tend to have a large number of banks which are represented in their borrowers' board of directors, and supposing the informational effect prevails over the rent extraction effect, borrowers from continental countries are expected to pay lower spreads than those from anglo-saxon countries. Conversely, if the rent extraction effect prevails, continental borrowers are expected to pay higher spreads. In terms of equity ownership, since more banks have equity stakes in continental countries, borrowers from these countries are expected to pay lower spreads.

Furthermore, the greater proximity of bank lenders in the continental governance system allows them to obtain privileged information on the quality of borrowers and to monitor management. A more efficient monitoring by lenders will also allow the minimization of conflicts of interest, so that borrowers from countries with continental governance systems are expected to bear lower financing costs of debt, and pay lower spreads, than borrowers from countries with an anglo-saxon governance system. However, if lenders are expected to use their informational advantage, achieved through proximity and borrower monitoring, to extract rents, borrowers from countries with continental governance systems are expected to pay higher interest rate spreads than those from anglo-saxon countries.

In addition, Sufi (2007) finds evidence that since the information asymmetry problems between lenders and borrowers with less information disclosure, the lender is forced not only to retain a larger percentage of the loan and to form more concentrated syndicates, but also to maintain a closer relationship with the borrower. In this case, given the proximity-related informational advantages for the lender, it is expected to demand lower interest rate spreads from borrowers with a continental governance system. However, Ivashina (2009) states that this increase in financing by a lower number of lenders can also increase the bank's exposure to credit risk (diversification effect), so that banks tend to demand higher spreads from borrowers with continental governance systems. Ivashina (2009) concludes that the information asymmetry prevails. Therefore, if the informational effect prevails over the diversification effect, borrowers from countries with a continental governance system are expected to obtain financing with lower spreads than those from countries with anglo-saxon governance systems. If, on the contrary, the diversification effect prevails, borrowers from continental countries are expected to pay higher spreads.

To sum up, we found no studies that specifically analyse the relevance of the governance system in the costs of debt for non-financial companies. However, given the

in order to maximize shareholder value. These countries are called shareholder-oriented countries. In continental countries, the goal of governance is not only to defend shareholders' interests, but also those of other stakeholders (namely, workers), so that these are called stakeholder oriented countries.

characteristics of both types of system, it is possible that the greater involvement of banks in companies' governance typical of the continental system causes one of two effects. Either it causes a cost reduction, given there is less information asymmetry and a higher ability to influence the company's life, or it causes an increase of those costs because the bank takes advantage of its influence to grant loans with worse conditions than those of the market (*vide* what was mentioned in the financial system on the appropriation of informational advantages by banks). Assuming the information effect is more important than the expropriation effect, we expect companies from countries with continental systems to pay a lower interest rate spread than borrowers from the Anglo-Saxon governance system. However, if the relative positions of those effects are reversed, the opposite will result.

3. Database and Variables

3.1. Database

The data source for syndicated loans is Thomson Reuters' Loan Pricing Corporation's Dealscan (Dealscan), which contains information about the loan contract conditions (interest rate spread, maturity, collateral, covenants and seniority), the borrower's country and credit rating. The sample used covers the period between 2000 and 2012 to non-financial companies with loan tranches qualified as "completed" or "closed". We also excluded observations without information on the interest rate and maturity. The study's statistical unit is the tranche and not the complete agreed financing program, given that each tranche generally presents (at least partially) distinct characteristics from all others. The final sample have 85.220 tranches, corresponding to 50.658 financing programs, of 25.511 borrowers from 122 countries.

The study uses data from other sources. The World Bank Financial Development and Structure Dataset is used to build countries' financial development and structure indicators. Beck et al. (2000, 2009) and Čihák et al. (2012) describe and present this database in detail. In order to identify the countries' governance system, we used the works of Schmidt and Tyrrel (1997), Mitchell (2006), and Sapir (2006). The World Bank World Development Indicators is also used to get country's Gross Domestic Product (GDP); from the rating agencies were collected the ratings of the borrowers' countries and Thomson Reuters Datastream is used to collect borrowers' financial characteristics. Rating agencies are used to get information about the countries' rating.

3.2. Summary of Loan Conditions per Country

Table 1 supplies a description of loan conditions in each of the 48 countries with the greater number of loans, which represent 98.8% of the total number of loans and 99.0% of the total loan amounts. Note that about 61% of loan tranches are of borrowers from the USA, which represent 55% of the total sample loan amount. This is natural given not only the size of the North-American economy, but also the fact that in this country, syndicated loans have a great relevance in financing the economy. Note, there are 40 countries with at least one hundred loans, which means the sample includes a wide range of countries with an important number of loans.

Table 1: Loan conditions per country

This table presents the average values for each of the variables relative to the main financing conditions per group of countries. «*Spread*» is the average cost of loans over the index in basis points and corresponds to the «*all-in-spread drawn*» variable of the LPC database. «Amount» is the average amount of loans in million dollars. «Maturity» is the average loan maturity in months. «Collateral» is the percentage of loans per country that is guaranteed by collateral. «Covenants» is the percentage of loans per country with restrictive covenants of some sort. «Senior» is the percentage of loans considered senior debt. «*Rating*» presents the average *rating* per country. «*Investment Grade*», «*Junk Grade*» and «*Unrated*» are, respectively, the percentage, for each country, of loans with rating BBB or higher, with rating lower than BBB and with no rating. Also included in the table is the average number of lenders and leading banks per country. The variable are defined in Appendix I.

Countries	N	*Spread*	Amount	Matu-rity	Colla-teral	Cove-nant	Senior	*Rating*	*Investment Grade*	*Junk Grade*	*No Rating*	Lenders	Leader Lenders
United States	52 404	267,9	240,2	48,1	0,4	0,4	1,00	BB-	11%	27%	62%	6,7	2,8
United Kingdom	3 984	253,6	376,0	78,6	0,4	0,1	0,93	BB	9%	10%	80%	10,5	5,6
Taiwan	3 746	103,4	76,6	60,5	0,5	0,4	1,00	BBB-	0%	0%	99%	14,9	4,1
France	2 813	218,9	376,3	76,7	0,5	0,0	0,95	BBB-	11%	5%	84%	12,6	6,6
Canada	2 088	248,9	344,3	44,7	0,5	0,2	0,99	BB	17%	29%	54%	7,8	3,3
Germany	1 974	253,4	585,7	74,2	0,5	0,0	0,94	BB	10%	16%	74%	13,4	7,6
Spain	1 934	186,4	324,4	87,6	0,4	0,0	0,97	BBB-	6%	3%	91%	13,8	7,2
Australia	1 508	148,0	266,2	76,5	0,2	0,1	0,98	BBB+	19%	1%	80%	12,7	5,3
Japan	1 355	97,6	209,1	38,9	0,1	0,0	0,99	BBB+	30%	6%	64%	7,8	2,0
Hong Kong	1 211	109,7	229,0	50,9	0,2	0,3	0,99	BBB	6%	1%	92%	17,4	7,8
Netherlands	1 169	248,2	406,7	71,3	0,4	0,1	0,94	BB-	7%	17%	76%	12,0	6,5
South Korea	1 128	134,1	118,9	63,6	0,2	0,0	0,98	BBB	4%	2%	95%	8,4	3,3
Italy	988	207,5	496,4	77,9	0,5	0,0	0,96	BB	8%	7%	85%	12,9	6,7
Singapore	669	134,9	218,6	54,8	0,3	0,2	0,99	BBB-	2%	3%	94%	12,9	5,9
India	617	360,9	227,3	89,2	0,2	0,1	0,99	BB	4%	5%	91%	13,6	5,0
China	524	155,0	155,2	59,5	0,3	0,2	0,99	BB-	0%	2%	98%	10,9	4,6
Mexico	446	189,2	326,2	54,2	0,1	0,1	1,00	BB+	18%	20%	62%	10,9	6,3
Russia	431	261,7	543,4	44,9	0,6	0,0	1,00	BB-	8%	38%	54%	14,3	8,0
Sweden	431	226,1	353,0	75,0	0,4	0,0	0,93	BBB-	16%	9%	74%	11,3	6,4
Switzerland	409	197,0	818,5	60,9	0,3	0,1	0,97	BB+	21%	10%	69%	17,8	10,2
Brazil	335	232,9	299,3	56,0	0,1	0,0	1,00	BB	11%	19%	70%	10,6	6,1
Belgium	273	231,2	589,1	71,4	0,4	0,0	0,96	BBB-	10%	8%	82%	13,0	8,0
Indonesia	244	348,1	139,3	59,5	0,2	0,1	0,98	BB-	0%	5%	95%	11,7	5,6
Malaysia	231	130,9	187,0	69,4	0,3	0,1	1,00	BB+	3%	1%	96%	10,3	5,1
Norway	228	203,3	281,7	76,1	0,5	0,0	0,95	BB	8%	7%	84%	9,4	5,0
Thailand	223	84,4	81,8	78,4	0,2	0,1	1,00	BBB	2%	0%	98%	8,0	3,6
Greece	207	161,1	192,0	75,3	0,4	0,1	0,97	BB	7%	13%	81%	7,3	3,7
United Arab Emirates	193	157,9	678,4	84,9	0,3	0,0	0,99	A	18%	3%	79%	14,0	8,5
Philippines	191	194,7	109,6	66,4	0,2	0,1	1,00	BB-	0%	8%	92%	12,1	5,4
Finland	186	176,2	445,4	67,3	0,3	0,0	0,96	BBB-	17%	7%	76%	11,8	7,9
Ireland	185	220,2	339,7	103,8	0,5	0,2	0,96	B+	5%	34%	61%	11,3	5,7
Luxembourg	180	268,3	526,7	64,9	0,4	0,1	0,96	BB	18%	30%	52%	13,7	8,3
Chile	160	127,5	238,0	68,1	0,1	0,0	1,00	BBB-	33%	8%	59%	9,9	6,1
New Zealand	152	142,2	259,1	50,5	0,2	0,1	1,00	BBB-	11%	7%	82%	7,9	3,0
Portugal	151	182,2	286,0	157,5	0,7	0,0	0,93	BBB+	13%	1%	87%	9,5	6,9
Denmark	147	246,1	521,9	71,4	0,4	0,0	0,90	BB-	12%	29%	59%	12,4	6,5
Bermudas	132	195,0	353,9	57,2	0,6	0,3	1,00	B+	9%	27%	64%	10,8	5,9
Poland	125	160,9	295,7	78,6	0,4	0,0	0,02	BBB-	15%	10%	74%	5,2	5,1
Turquey	114	248,3	283,2	65,9	0,4	0,0	0,97	BB-	5%	10%	85%	13,0	7,7
Argentina	106	327,1	172,4	44,9	0,2	0,1	1,00	B+	13%	34%	53%	9,6	5,7
South Africa	99	203,8	417,6	59,0	0,3	0,1	0,97	BB+	13%	1%	86%	14,7	10,3
Cayman Islands	90	160,6	459,7	53,6	0,2	0,4	0,97	BBB-	16%	7%	78%	13,3	4,9
Saudi Arabia	90	137,4	711,2	101,2	0,4	0,0	1,00	BBB	3%	2%	94%	15,9	10,0
Hungary	84	193,7	276,0	92,9	0,4	0,0	0,98	BB-	2%	12%	86%	12,6	7,5
Czech Republic	78	182,3	105,4	65,9	0,2	0,0	0,99	A-	6%	1%	92%	8,1	5,4
Qatar	72	103,7	718,1	140,7	0,4	0,0	0,99	A	21%	0%	79%	20,8	14,1
Virgin Islands	60	161,8	170,1	39,6	0,2	0,4	1,00	No rating	0%	0%	100%	14,7	5,3
Austria	59	213,2	437,3	78,4	0,3	0,1	0,93	BBB	15%	7%	78%	14,4	8,6
Others	996	253,8	183,9	66,5	0,4	0,0	1,0	BB+	0,0	0,1	0,9	9,5	4,5
Average	85 220	243,8	273,1	55,9	0,4	0,3	0,98	BBB	10,7%	20,0%	69,3%	8,8	3,9
Standard deviation	85 220	174,9	707,1	36,7	0,5	0,4	0,12		0,31	0,40	0,46	8,6	4,6

This table allows us to see that the average costs of financing vary between a maximum of 361 basis points and a minimum 84 basis points. There is, therefore, a significant range between the average financing costs in the different countries in the sample, confirmed by the standard deviation, which makes this database relevant in studying the influence of each country's characteristics in financing their economic agents through the international syndicated loan market. Therefore, also in terms of loan amount and maturity the database presents a significant diversity among the average values verified for each country.

As for the level of rating, note that in many cases there is no rating attributed by the international rating agencies (S&P, Moody's and Fitch) - with the percentage of such loans in the «No rating» column-, that in global terms, 20% of loans receive a Junk Grade rating and 11% of loans are classified as Investment Grade.

Table 1 also makes it easy that there are significant differences between the average values of countries in terms of the percentage of collateralised loans, the percentage of loans with covenants, or the percentage of senior (and subordinated) loans placed. Concerning the leadership of the bank syndicate, we verify that the number of leaders and members also presents some range.

In summary, Table 1 shows the great variability between the average characteristics of the financing conditions for different countries, which makes the sample particularly adequate to the purpose of this study.

3.3. Groups of Countries and Summary of Conditions per Group of Countries

Classification of Countries

The classification of countries according to the type of financial system follows the methodology used by Demirgüç-Kunt and Levine (2001), Beck and Levine (2002) and Levine (2002). We first use the Structure-aggregate Indicator, which is the first principal component that results from the aggregation, through Principal Components Analysis, of three other indicators: Structure-activity, Structure-size and Structure-efficiency. The higher the value of the Structure-aggregate indicator, the closer we are to the prototypical market-based financial system. Then, we use this indicator to group countries into two categories depending on its value, with those with the highest value (than the median) forming the group of countries with market-based financial systems and those with the lowest values forming the group of countries with bank-based financial systems.

In order to ensure the robustness of results, we use three variations of the categorisation of countries according to financial system, as described below. First, we use the Type I (Levine) variant, in which we use the values disclosed by Levine (2002), which refer to the period between 1980 and 1995. Then, in the Type II (Updated Levine) variant, first we calculate the Structure-aggregate indicator ourselves, for the 48 countries in the sample of Levine (2002), using the data for the period 2000-2011, of World Bank's Financial Development and Structure Dataset,[9] which were also used by Beck et al. (2009) and Čihák et al. (2012). Finally, in the Type III variant, we calculate the Structure-aggregate indicator ourselves for countries on which we have data, over the period 2000-

[9] Database available at: http://go.worldbank.org/X23UD9QUX0.

2011, and the countries are split according to the median on the 48 countries in Type II sample. This allows us to classify 111 countries, as seen in Appendix II.

Regarding the type of governance system, countries were divided into Anglo-Saxon governance systems, continental governance systems, or other type of predominant governance system. For a discussion of the characteristics of each governance system see, among others, Alves and Vicente (2013). To identify countries' governance system, we followed the classification of Schmidt and Tyrrel (1997), Mitchell (2006) and Sapir (2006). The remaining countries were considered as having another type of governance system. In total, 6 countries, representing a total of 70.8% of loans, are considered as having an Anglo-Saxon governance system, 19 countries (Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Japan, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland), representing 14.7% of loans, were considered as having a continental governance system, and the remaining countries, representing 14.5% of loans, were included in the residual category "others".[10]

Summary of Conditions According to Countries' Classifications

Panel A of Table 2 shows that, whatever the type of classification used, on average, borrowers from countries with a bank-based financial system negotiate financing with lower spreads, higher average amounts and longer maturities, bear less covenants and issue comparatively less senior debt. On the other hand, they frequently need to put up collateral. They are, furthermore, borrowers that present, on average, a lower level of risk than borrowers from market-based financial systems. This is mostly due to the fact that market-based countries have a much higher proportion of junk grade loans than other countries. Therefore, the more favourable interest rate spread conditions may result from a higher average level of rating. We will see, further on, that even after controlling for these factors, there is still a difference between financing costs according to the type of financial system. Therefore, this preliminary statistical analysis to regressions indicates that there are, in fact, differences in financing conditions for borrowers from bank-based financial systems, when compared to borrowers from market-based financial systems.

About the governance system, from the analysis of Panel B of Table 2 we observe that borrowers from countries with a continental governance system borrow with better conditions relatively to borrowers from countries with Anglo-Saxon governance systems. In effect, according to this univariate analysis, these borrowers pay higher spreads, get loans with shorter maturities, lower amounts and bear more restrictive covenants. There is also evidence that borrowers from countries with governance systems classified as «Others» are the ones with the lowest spreads and loan amounts.

[10] Under the Type III classification, 63.7% of borrowers from countries with a financial system based on banks are from borrowers from countries with a continental governance system, 5.3% with Anglo-Saxon governance and 31.0% from another type of corporate governance. Of the loans from countries with a market-based financial system, 76.5% are from countries with an Anglo-Saxon governance system, 10.8% have a continental governance system, and 12.6% from other types of governance. From the governance systems perspective, loans from countries with a continental governance system 67.9% are from countries with a market-based financial system. Of the Anglo-Saxon governance system loans 99.4% are from countries with a market-based financial system and only 0.6% from countries with a bank-based financial system. The correlation between type of corporate governance system and type of financial system by type III classification is only 16.8%.

Table 2: Conditions of loans per group of countries

This table presents the average values for each of the variables relative to the main financing conditions per group of countries. «*Spread*» is the average cost of loans over the index in basis points and corresponds to the «*all-in-spread drawn*» variable of the LPC database. «Amount» is the average amount of loans in million dollars. «Maturity» is the average loan maturity in months. «Collateral» is the percentage of loans per country that is guaranteed by collateral. «Covenants» is the percentage of loans per country with restrictive covenants of some sort. «Senior» is the percentage of loans considered senior debt. «*Rating*» presents the average *rating* per country. «*Investment Grade*», «*Junk Grade*» and «*Unrated*» are, respectively, the percentage, for each country, of loans with rating BBB or higher, with rating lower than BBB and with no rating. Also included in the table is the average number of lenders and leading banks per country. Panel A presents data for countries classified as having a financial system based on banks or a market-based financial system. In Panel B the data present the classification by governance system of the countries. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively, for bilateral tests.

Panel A - Types of Financial System

Panel A.1 - Levine Classification - Median (Classification Type I)

Countries	N	*Spread*	Amount	Maturity	Collateral	Covenant	Senior	*Rating*		*Investment Grade*	*Junk Grade*	*No Rating*	Lenders	Leader Lenders
Bank based	7 915	217,1	357,2	81,1	0,42	0,03	0,96	BB+		0,09	0,06	0,85	12,6	6,6
Market based	71 299	248,3	259,5	52,7	0,39	0,30	0,99	BB-		0,11	0,23	0,66	8,0	3,4
t test		***	***	***	***	***	***		***				***	***
Wilcoxon/Mann-Whitney		***	***	***	***	***	***		***				***	***

Panel A.2 - Actual Levine Classification - Median (Classification Type II)

Countries	N	*Spread*	Amount	Maturity	Collateral	Covenant	Senior	*Rating*		*Investment Grade*	*Junk Grade*	*No Rating*	Lenders	Leader Lenders
Bank based	4 706	228,9	466,1	76,9	0,43	0,04	0,95	BB		0,09	0,13	0,78	12,3	6,7
Market based	74 508	246,2	256,9	54,2	0,39	0,29	0,99	BB-		0,11	0,21	0,67	8,3	3,5
t test		***	***	***	***	***	***		***				***	***
Wilcoxon/Mann-Whitney		***	***	***	***	***	***		***				***	***

Panel A.3 - Authors Classification - Median (Classification Type III)

Countries	N	*Spread*	Amount	Maturity	Collateral	Covenant	Senior	*Rating*		*Investment Grade*	*Junk Grade*	*No Rating*	Lenders	Leader Lenders
Bank based	6 338	219,6	419,6	75,1	0,41	0,05	0,94	BB		0,08	0,12	0,80	12,0	6,5
Market based	78 392	241,6	256,4	54,4	0,39	0,28	0,99	BB-		0,11	0,21	0,68	8,5	3,7
t test		***	***	***	***	***	***		***				***	***
Wilcoxon/Mann-Whitney		***	***	***	***	***	***		***				***	***

Panel B - Types of Governance System

Countries	N	*Spread*	Amount	Maturity	Collateral	Covenant	Senior	*Rating*		*Investment Grade*	*Junk Grade*	*No Rating*	Lenders	Leader Lenders
Anglo-saxon	60 321	262,9	253,8	50,9	0,39	0,32	0,99	BB-		0,12	0,25	0,63	7,2	3,1
Continental	12 561	206,5	412,2	73,4	0,40	0,03	0,96	BB+		0,12	0,09	0,79	12,3	6,5
Others	12 338	160,7	195,7	63,0	0,34	0,19	0,98	BB+		0,05	0,05	0,90	13,0	5,4
Anova F-test		***	***	***	***	***	***		***				***	***
Kruskal–Wallis test		***	***	***	***	***	***		***				***	***
Anglo-saxon vs continental														
t test		***	***	***		***	***		***				***	***
Wilcoxon/Mann-Whitney		***	***	***		***	***		***				***	***

3.4. Preliminary Analysis of the Rating Effect

Table 2 has made it clear that average spreads are significantly diverse for different groups of countries. However, we have also seen that other loan characteristics differ significantly between different groups of countries. It may, therefore, happen that the difference in spreads may be due not to the characteristics of the borrower's country, but to other characteristics of the borrower or of the loan itself. The multivariate analysis intends to clarify if it is or not. However, still in a preliminary and univariate statistical analysis, we try to investigate whether rating, probably the one characteristic most likely to influence spreads, is enough to eliminate the effects of the type of financial and governance systems.

In fact, borrowers and loans have different characteristics and conditions which should result in different interest rate spreads on financing, since lenders evaluate the risk of each borrowers and each loan prior to making the decision to finance. Interest is, therefore, deeply related to the borrower's level of risk and the characteristics of the loan (Polenberg et al., 2010; Miller, 2013). Credit rating is a measure of the risk of default on the responsibilities taken on by the borrowers on a given loan. Since credit ratings are based on the borrower's attributes, specific factors related to companies that may have an impact on the financing interest should, theoretically, be captured by the credit rating, as explained in Carey and Nini (2007).

Table 3 makes it clear that, globally, borrowers from countries with a market-based financial system pay a higher spread than those from countries with a bank-based financial system. This table shows that unrated borrowers from countries with a bank-based financial system obtain loans with a lower spread that those from countries with a market-based financial system (220 basis points versus 247 basis points). Hence, for unrated loans, the conclusions of Table 2 still hold. As for the various levels of credit risk in investment grade or junk grade loans, we see that borrowers pay different spreads according to the type of financial system. In some cases (Investment Grade borrowers with A, AA, AAA, and Junk Grade with BB and B), borrowers from countries with bank-based financial systems pay higher spreads, while in other cases (CCC, CC, C and D) borrowers from countries with market-based financial systems pay higher spreads.

Table 3: Conditions of loans by level of risk and country classification

This table presents the spread according to the classification of the borrowers' country (financial system type III; governance system) and the level of risk (*Investment Grade*: borrower with BBB rating or higher; *Junk Grade*: borrower with BB rating or lower; *Unrated*: borrower without rating). Borrowers rated AA and AAA are grouped in the "AA_AAA" classification and borrowers with rating D, C and CC are grouped in the "D_C_CC" classification. Also include the results of statistical tests to study the differences between sample groups: *t-test*; *Wilcoxon/Mann-Whitney* test; *Kruskal-Wallis* test; *Anova F-test*. For parametric tests we have: ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively, for bilateral tests. For non-parametric tests we have: +++, ++ and + indicate statistical significance at the 1%, 5% and 10% level, respectively, for bilateral tests.

Rating	Financial System			Governance System			Total
	Bank based	Market based		Anglo-Saxon	Continental		
N	**6 338**	**78 392**		**60 321**	**12 561**		
Investment Grade	**87**	**88**	+++	**90**	**68**	*** +++	**88**
AA_AAA	71	55	** +	54	54	*** +++	56
A	71	48	*** +	49	32		51
BBB	102	106	+++	108	88	*** +++	106
Junk Grade	**310**	**306**		**312**	**275**	*** +++	**306**
BB	352	322	** +++	324	320	*** ++	323
B	247	225	***	233	206	+++	226
CCC	296	390	*** +++	393	271	*** +++	386
D_C_CC	278	438	*** +++	439	307	*** +++	430
No rating	**220**	**247**	*** +++	**275**	**220**	*** +++	**244**
Total	**220**	**242**	*** +++	**263**	**206**		**240**

Furthermore, we can see that, for any of the rating categories (*investment grade*, *junk grade* and *unrated*), borrowers from countries with an Anglo-Saxon governance system bear higher spreads than those from countries with continental governance systems.

In summary, the analysis of Table 3 shows that borrower financing conditions do not depend only on the level of risk as reflected in ratings, but also differs according to the borrower's country.

4. The Impact of the Countries' Classification on the Spread

To assess the impact of financial and governance system we build a base model which relies on the specification of Carey and Nini (2007) [11]. This model is, therefore, based on a specification where the dependent variable (*Spread*) is the cost of the loan, measured by the *All-In-Spread*[12] variable, and in which we try to control for the explanatory variables which include those relating to the characteristics of the loan and the borrower (especially those relating to risk). The estimation method adopted was the Ordinary Least Squares Method – OLS corrected for heteroscedasticity using White method. Bharath et al. (2011), Lin et al. (2011) and Ferreira and Matos (2012) also used this estimation methodology. This section proposes to verify whether after controlling for various dimensions, the type of financial system and/or the predominant type of governance system of the borrower's country have any relevance in explaining the interest rate spread of syndicated loans. Variables are described Appendix 1.

4.1. Type of Financial System

We investigate whether there is a difference between financing costs for borrowers from countries with market based financial systems and the ones from countries with bank-based financial systems. The regressions presented in Panel A of Table 4 show that the full sample, and using only a part of it depending on the loan's rating (i.e. calculating separate regressions for loans rated *Investment Grade*, *Junk Grade* and *Unrated*), it is clear that the closer to market-based the financial system of the country, the higher the spreads paid by borrowers on debt financing. Therefore, even controlling for the variables in the base model, the effect of the country's financial system, already hinted by the univariate analysis in the previous section, subsists at 1% level of statistical significance.

This result is consistent with the literature that defends that, in a bank-based financial system, and comparatively to a market-based financial system, financial lenders obtain more information about borrowers and their investment projects and can better evaluate the loans they request, meaning they are more efficient in monitoring them and demand lower spreads.[13] In this context, in case the financial system is more bank-based, spreads paid by borrowers are lower, due to banks' informational advantages comparatively to market agents in monitoring borrowers which come with *relationship lending* (Leland

[11] Carey and Nini (2007) used variables which were not included in this analysis since the available databases did not contain the necessary information: changes in the borrower's rating in the year following the loan's contract; loans to multiple borrowers.

[12] To limit the influence of outliers, we winsorize the variable spread at 1% on the right and 5% on the left, as in Carey and Nini (2007) and Bharath et al. (2011).

[13] Note that lower spreads may not result from the higher efficiency of the bank-based financial system, but rather from "promiscuous" relationships between banks and borrowers, whether through equity stakes or the appointment of members of the board of directors of borrowers. Given the impossibility to access ownership and board of director's data for the borrowers, it was impossible to test the validity of this alternative explanation.

and Pyle, 1997; Diamond, 1984 and 1991; Petersen and Rajan, 1994; and Berger and Udell, 1995).

In Panel B, instead of the Structure-Aggregate indicator we use the «Market» dummy variable to identify the borrowers from market- or bank-based financial system. Here, we also conclude that borrowers from countries with market-based financial systems pay more for syndicated bank loans than those from bank-based financial systems.

In summary, control variables tend to present the expected signs and will, from now on, not be the object of particular attention, since the focus of this paper lies in the variables related to the types of financial system and corporate governance.

The Importance of the Level of Development of the Financial System

Demirgüç-Kunt and Levine (2001) present some criticism to the classification of countries into bank-based or market-based. Those authors identify countries that, although they were classified as having bank-based financial systems, still present banking industry development indicators that fall below the average, as well as some countries that, despite being considered as having a market-based financial system, show levels of financial market development below average. This suggests the importance of analysing and controlling for the influence of country's level of financial development in financing costs. This task is performed next using the methodology proposed by Levine (2002) and Beck and Levine (2002).

To that effect, we calculated a measure of financial development, a Finance-aggregate indicator, defined in Appendix I, which is the first component in the Principal Component Analysis of development indicators based on activity, size and efficiency of countries' financial systems. This indicator measures the degree to which the financial system (through contracts, market and intermediaries) of a country supplies financial services. Therefore, it is possible to analyse the creation of an environment for availability of financial services which may allow the improvement of market imperfections and transaction costs (Levine, 2002). The most developed financial systems may allow the improvement of the bank's and the market's operation. The greater the financial development of a country, the larger the range of available services which allow risk diversification and the wider the access to financial services (Reuttner and Glass, 2012). In addition, the development of countries allows the reduction of transaction costs and the minimization of information asymmetry problems (Rajan and Zingales, 1998). This may have impact on financing costs. Therefore, we would expect that if a country had a higher level of financial development, the borrowers from that country would bear lower spreads (namely due to the access to alternatives in the domestic market).

Given the high correlation between the variables Structure-aggregate and Finance-Aggregate (85.6%), we did not include both variables simultaneously in a regression. Therefore, given that the effect of Finance-aggregate may be captured, at least in part, by the effect of Structure-aggregate, the former variable was orthogonalized to control for this effect. Thus, in Panel C of Table 5 we confirm the positive relationship between Structure-aggregate and the interest rate spread and find evidence that the countries' financial development (measured by the «Orthogonal Development» variable) has a negative impact on syndicated loan spreads.

Table 4: The importance of the type and the level of financial system in financing costs

This table presents OLS regressions corrected for heteroskedasticity using White's methodology. The sample is divided into sub-samples according ratings. The explained variable is the loan's spread. Other than the variables in the base case, we use: (i) Structure-aggregate, an indicator of the type of financial system; (ii) Market, a dummy variable which takes a value of 1 if the financial system of countries is based on the market and zero otherwise; iii) Orthogonal development, an indicator of the country's level of financial development. (iv) Development, a dummy variable which takes a value of 1 for countries with a Finance-aggregate indicator above the median and zero otherwise. The definitions of variables are in Appendix 1. ***, ** and * indicate, respectively, 1%, 5% and 10% statistical significance for bilateral tests.

	Panel A				**Panel B**				**Panel C**				**Panel D**			
	All	***Investment Grade***	***Junk Grade***	***No Rating***	**All**	***Investment Grade***	***Junk Grade***	***No Rating***	**All**	***Investment Grade***	***Junk Grade***	***No Rating***	**All**	***Investment Grade***	***Junk Grade***	***No Rating***
C	-34,2 *	213,9 ***	358,9 ***	-2,8	-61,7 ***	167,6 ***	372,8 ***	-46,8 **	-116,0 ***	130,4 ***	343,5 ***	-84,6 ***	-133,2 ***	188,2 ***	426,5 ***	-100,6 ***
Structure-Aggregate	13,2 ***	12,3 ***	18,1 **	18,0 ***					20,8 ***	14,2 ***	18,0 **	27,9 ***	25,5 ***	15,0 ***	15,1 **	31,3 ***
Market					44,5 ***	30,9 ***	49,6 ***	47,9 ***								
Orthogonal development									-82,5 ***	-38,5 ***	-9,8	-89,0 ***				
Development													-87,6 ***	-14,1 **	29,7 *	-96,5 ***
Sponsors	25,6 ***	13,0	2,8	33,4 ***	26,4 ***	8,5	3,5	34,3 ***	25,4 ***	11,3	2,8	33,0 ***	25,9 ***	13,4	2,8	33,8 ***
Government owned	-23,1 ***	6,9	-31,1 **	-26,2 ***	-19,1 ***	11,6 **	-44,9 ***	-21,6 ***	-40,0 ***	-0,4	-33,7 **	-39,7 ***	-42,8 ***	4,0	-24,0	-45,7 ***
Amount	-8,6 ***	-4,9 ***	-12,6 ***	-6,0 ***	-8,5 ***	-4,5 ***	-12,2 ***	-6,2 ***	-8,8 ***	-5,4 ***	-12,6 ***	-6,3 ***	-8,8 ***	-4,9 ***	-12,6 ***	-6,4 ***
Maturity	0,1 ***	0,0	-0,1	0,1 ***	0,1 ***	0,0	-0,1	0,1 ***	0,1 ***	0,0	-0,1	0,1 ***	0,1 ***	0,0	-0,1	0,1 ***
Same currency country	-12,0 ***	0,3	-0,4	-12,8 ***	-12,2 ***	0,9	4,5	-14,7 ***	-5,2 **	3,0	0,1	-5,2 **	-7,4 ***	0,9	-1,3	-7,3 ***
Fees included	26,8 ***	-2,1 *	31,0 ***	20,8 ***	26,6 ***	-2,8 **	30,9 ***	21,2 ***	26,5 ***	-2,0 *	31,1 ***	20,0 ***	26,3 ***	-2,1 *	31,1 ***	19,7 ***
Previous Loans	0,1	-7,9 ***	-6,1 ***	3,8 ***	-0,1	-7,7 ***	-6,4 ***	3,4 ***	0,9	-7,5 ***	-6,0 ***	4,4 ***	0,6	-7,8 ***	-6,1 ***	4,3 ***
Number members syndicate	-1,0 ***	-0,1 ***	-0,9 ***	-1,5 ***	-0,9 ***	-0,1 **	-0,9 ***	-1,3 ***	-1,0 ***	-0,2 ***	-0,9 ***	-1,5 ***	-1,0 ***	-0,2 ***	-0,9 ***	-1,5 ***
Leader in country	-1,8	0,5	2,7	-2,7	-4,8 **	-3,7	1,8	-6,0 **	-2,8	-0,7	2,8	-3,9	-3,2	0,4	2,7	-4,9 *
Banks same country	-10,2 ***	-6,3	-19,5 ***	-5,9 **	-5,0 **	-2,0	-19,1 ***	0,8	-9,6 ***	-5,3	-19,4 ***	-5,7 *	-10,4 ***	-6,2	-19,6 ***	-6,4 **
Libor	-1,3	12,7 ***	-31,9 ***	-3,6 *	-12,1 ***	4,9	-45,3 ***	-14,5 ***	-3,5 **	12,4 ***	-32,0 ***	-6,0 ***	-5,8 ***	12,2 ***	-31,0 ***	-8,5 ***
Rating country	-4,2 ***	-1,2 *	6,1 ***	-6,7 ***	-5,6 ***	-2,9 ***	4,2 ***	-8,0 ***	3,4 ***	2,5 ***	7,2 ***	1,2 **	1,6 ***	-0,3	3,8 **	-0,5
GDP	9,3 ***	-4,6 ***	-7,7 **	10,9 ***	11,1 ***	-1,8 *	-7,0 **	13,2 ***	6,1 ***	-4,7 ***	-8,0 **	7,4 ***	10,9 ***	-4,1 ***	-9,1 ***	12,5 ***
Loan Rating	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranche Type	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranche Objective	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Market Segment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0,56	0,64	0,55	0,51	0,57	0,64	0,55	0,52	0,57	0,64	0,55	0,52	0,57	0,64	0,55	0,52
Adjusted R-squared	0,56	0,63	0,55	0,51	0,57	0,64	0,55	0,52	0,57	0,64	0,55	0,52	0,57	0,63	0,55	0,52
N - Observations	80 729	9 063	16 955	54 711	80 734	9 063	16 955	54 716	80 729	9 063	16 955	54 711	80 729	9 063	16 955	54 711

It seems evident that, regardless of whether a country's financial system is market- or bank-based, the most financially developed countries provide access to loans at more favourable rates. The exception is the relationship, without statistical significance, between the level of financial development and *Junk Grade* borrowers' spreads. For these borrowers, the level of development of the financial system does not seem to be relevant in determining the cost of financing.

Additionally, Panel D includes the variable Structure-aggregate and a dummy variable (Development) which takes a value of 1 if the borrower's country presents the financial development indicator above the median and zero otherwise. The results of this panel allow us to corroborate the previous findings and conclude that, even controlling for the type of financial system, the closer to the prototypical market-based financial system a country is, the higher the spread its borrowers must pay. On the other hand, the coefficients of the variable Development are all negative, except for *Junk Grade* borrowers. Hence, it is notable that, controlling for the effect of the type of financial system, the higher the level of the country's financial development, the lower the interest rate spread (which is consistent with international literature), except for the highest risk borrowers from whom lenders demand higher spreads in countries with higher values for the variable Development. Hence, it can be concluded that, in countries with a higher level of financial development, borrowers suffer lower penalties, with the exception of the higher risk ones (Junk Grade).

In summary, these results make it clear that borrowers from countries with market-based financial systems are called to bear higher spreads than borrowers from countries with bank-based financial systems. This difference is partially mitigated in the case of countries with more developed financial systems, except in the case of junk grade borrowers, which suffer additional penalties in these countries.

4.2. Type of Corporate Governance System

The prototypes of corporate governance systems, which allow the reduction of the problems that come from the separation between ownership and management, are divided into two groups: the *continental system* and the *Anglo-Saxon system* (Franks and Mayer, 1997; Schmidt and Tyrrel, 1997; Shleifer and Vishny, 1997; and Franks and Mayer, 2001). Bearing in mind the positive informational effect on borrowers from countries with a continental governance system, they are expected to pay lower spreads. However, there is the risk that the informational advantages are captured by the lenders, which are thus able to extract rents from borrowers in the form of higher interest rate spreads.

In order to test this hypothesis, we analyse the differences between financing prices for borrowers in Anglo-Saxon governance countries and in continental governance countries. That is, we study, as mentioned, the hypothesis that, ceteris paribus, borrowers from countries with different corporate governance systems bear different financing costs.

Panel A in Table 5 shows that borrowers from countries with an Anglo-Saxon governance system bear higher spreads than those in the remaining countries (that is, than borrowers from countries with a continental governance system and other systems), when considered the full sample, or when it is divided according to rating groups. In all cases, the coefficient of the dummy variable that identifies this type of countries presents a value that is positive and statistically different from zero at a 1% level of significance. Panel B, on the other hand, confirms that borrowers from countries with a continental governance

Table 5: The importance of the governance system in financing costs

This table presents OLS regressions corrected for heteroskedasticity using White's methodology. The sample is divided into sub-samples according ratings. The explained variable is the loan's spread. Other than the variables in the base case, we use: (i) «Anglo-Saxon», a dummy variable which takes a value of 1 when a country has an Anglo-Saxon governance system and zero otherwise; (ii) «Continental», a dummy variable which takes a value of 1 when a country has a continental governance system and zero otherwise; (ii) Structure-aggregate, an indicator of the type of financial system; (iii) Orthogonal development, an indicator of the country's level of financial development. (iv) Dynamic variables that capture the effect of the interaction between each of the binary variables for the governance system type and the «Structure-Aggregate» variable. Panel C.2 present the test results - Wald test - to verify if the coefficients of the variables of the governance system are statistically different from each other, where the null hypothesis test the equality between the respective coefficients. Panel D.2 presents the same tests for the dynamic variables. The definitions of variables are in Appendix 1. ***, ** and * indicate, respectively, 1%, 5% and 10% statistical significance for bilateral tests.

	Panel A				**Panel B**				**Panel C.1**				**Panel D.1**			
	All	***Investment Grade***	***Junk Grade***	***No Rating***	**All**	***Investment Grade***	***Junk Grade***	***No Rating***	**All**	***Investment Grade***	***Junk Grade***	***No Rating***	**All**	***Investment Grade***	***Junk Grade***	***No Rating***
C	147,9 ***	232,9 ***	386,6 ***	179,0 ***	-52,5 ***	102,6 ***	156,8 ***	-23,5	144,7 ***	179,6 ***	661,6 ***	152,5 ***	209,6 ***	207,5 ***	781,9 ***	209,3 ***
Structure-Aggregate									19,7 ***	7,2 **	20,4 ***	25,1 ***	16,8 ***	0,7	6,5	21,5 ***
Orthogonal development									-79,5 ***	-33,4 ***	-54,4 ***	-83,9 ***	-72,6 ***	-30,1 ***	-36,2 ***	-77,4 ***
Anglo-Saxon	69,6 ***	38,8 ***	84,3 ***	71,2 ***					58,1 ***	18,5 ***	137,4 ***	49,7 ***	32,6 ***	-0,8	79,6 ***	27,1 ***
Continental					-45,4 ***	-36,2 ***	-64,5 ***	-47,4 ***	-16,6 ***	-22,7 ***	50,4 ***	-26,9 ***	-3,6	-27,9 ***	53,5 ***	-17,4 ***
Anglo-Saxon * Structure-Aggregate													29,8 ***	22,2 **	66,6 ***	26,0 ***
Continental * Structure-Aggregate													-14,7 ***	7,7	-11,3	-10,1 *
Sponsors	26,4 ***	7,0	3,2	34,2 ***	26,3 ***	7,1	3,2	34,2 ***	26,0 ***	5,6	3,0	33,6 ***	25,9 ***	5,1	3,2	33,5 ***
Government owned	-26,2 ***	9,9 *	-16,4	-38,0 ***	-31,0 ***	6,7	-29,3 *	-40,7 ***	-34,2 ***	3,4	-24,9 *	-38,1 ***	-34,5 ***	3,2	-19,2	-39,9 ***
Amount	-8,4 ***	-4,6 ***	-11,9 ***	-6,0 ***	-8,3 ***	-4,4 ***	-12,0 ***	-5,8 ***	-8,7 ***	-5,0 ***	-12,0 ***	-6,4 ***	-8,7 ***	-5,0 ***	-11,8 ***	-6,3 ***
Maturity	0,0 **	0,0	-0,1	0,1 ***	0,1 ***	0,0	-0,1	0,1 ***	0,1 ***	0,0	-0,1	0,1 ***	0,1 ***	0,0	-0,1	0,1 ***
Same currency country	-15,5 ***	-3,0	2,9	-18,2 ***	-11,1 ***	-0,7	5,9	-12,6 ***	-9,8 ***	0,1	2,9	-11,4 ***	-11,4 ***	0,2	2,0	-12,8 ***
Fees included	26,2 ***	-2,9 **	29,8 ***	20,2 ***	26,0 ***	-3,3 ***	31,1 ***	20,8 ***	26,1 ***	-3,0 **	29,5 ***	19,3 ***	25,8 ***	-3,0 **	28,8 ***	19,3 ***
Previous Loans	0,3	-7,1 ***	-6,8 ***	3,8 ***	0,2	-7,3 ***	-6,5 ***	3,7 ***	0,9	-6,7 ***	-6,5 ***	4,2 ***	1,0	-6,7 ***	-6,3 ***	4,2 ***
Number members syndicate	-0,8 ***	0,0	-0,8 ***	-1,2 ***	-0,9 ***	-0,1	-0,8 ***	-1,3 ***	-0,8 ***	0,0	-0,8 ***	-1,2 ***	-0,8 ***	0,0	-0,8 ***	-1,1 ***
Leader in country	-8,4 ***	-6,1 *	0,9	-9,9 ***	-5,2 **	-4,8	1,9	-6,4 **	-9,4 ***	-6,7 **	0,3	-10,8 ***	-9,5 ***	-6,6 **	0,1	-10,9 ***
Banks same country	-5,3 **	-0,7	-19,1 ***	-0,4	-4,9 *	-0,8	-18,8 ***	0,5	-6,1 **	0,3	-19,3 ***	-1,5	-6,1 **	0,1	-19,6 ***	-1,5
Rating country	-7,2 ***	-3,6 ***	1,1	-9,3 ***	-2,7 ***	-0,4	7,2 ***	-4,9 ***	-1,9 ***	0,2	1,5	-3,5 ***	-2,3 ***	0,0	0,4	-3,8 ***
GDP	4,8 ***	-3,3 ***	-5,3 **	6,2 ***	9,9 ***	-0,3	0,3	11,4 ***	0,6	-4,1 ***	-17,8 ***	2,6 ***	-1,4	-4,9 ***	-20,8 ***	0,8
Libor	-20,9 ***	1,9	-54,4 ***	-23,1 ***	-13,9 ***	0,5	-49,3 ***	-15,8 ***	-22,7 ***	1,3	-55,9 ***	-25,6 ***	-24,8 ***	0,3	-60,4 ***	-27,4 ***
Rating	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranche Type	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranche Objective	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Market Segment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0,57	0,65	0,56	0,52	0,56	0,65	0,55	0,52	0,58	0,65	0,56	0,53	0,58	0,65	0,56	0,53
Adjusted R-squared	0,57	0,64	0,56	0,52	0,56	0,64	0,55	0,52	0,57	0,65	0,56	0,53	0,58	0,65	0,56	0,53
N - Observations	81 033	9 077	17 012	54 944	81 033	9 077	17 012	54 944	80 729	9 063	16 955	54 711	80 729	9 063	16 955	54 711
									Panel C.2				**Panel D.2**			
Anglo-Saxon vs Continental									35,9 ***	14,6 ***	11,7 ***	31,6 ***	7,3 ***	3,8 ***	1,9 *	7,6 ***
Anglo-Saxon * Structure-Aggregate vs Continental * Structure-Aggregate													8,4 ***	1,9 *	4,8 ***	5,8 ***

system bear lower spreads than the others. Once again, these results are valid for the full sample and for each rating-based sample.

Panels A and B show, therefore, in robust terms, that borrowers from countries with an Anglo-Saxon governance system pay higher spreads and borrowers from countries with a continental governance system pay lower spreads. These results are valid for the full sample and for each subsample. In a way, given that continental governance countries are mainly Western Europe countries and the main Anglo-Saxon country is the USA, the results seem to confirm those of Carey and Nini (2007) and Houston et al. (2012), that financing is cheaper in Europe than in USA.

Panel C.1 shows that these results are not due to the type of financial system. In fact, even controlling for the variables «Structure-aggregate» and «Orthogonal Development», the signs of the coefficients of the variables «Anglo-Saxon» and «Continental» are the same for all regressions, except for the «Continental» variable in *Junk Grade* subsample.[14] However, the results in Panel C.2 allows to conclude the borrowers from continental governance system bear lower *spreads* than others, even when borrowers exhibit higher risk (*Junk Grade*).

In fact, controlling for the type of financial system, borrowers from countries with an «Anglo-Saxon» governance system bear higher financing costs than all others (that is, continental or other governance system countries). The results in Panel C.1 also corroborate the results of Table 4, that market-based financial systems and their level of development are, respectively, positively and negatively related to spreads.

In Panel D.1 we add a dynamic analysis of the financial system with the governance system. On the one hand, in countries with an Anglo-Saxon governance system, the closer to market-based the financial system is, the higher the spreads paid by borrowers. On the other hand, in countries with a continental governance system, the closer to market-based the financial system is, the lower the spreads paid by borrowers. These effects remain in the Unrated subsample, relative to borrowers on which there are no problems of an informational nature, for which banks demand lower spreads when the financial system is more market-based. In the remaining subsamples, when the type of governance system is continental, the type of financial system does not have a statistically significant effect on loan spreads, but the positive effect of the financial system remains when the governance system is anglo-saxon. In Panel C.2 and Panel D.2 there is also evidence that the coefficients for the anglo-saxon governance system are statistically higher than the coefficients for the continental governance system. Therefore, the conclusion that borrowers from anglo-saxon countries get more expensive loans than those from continental countries is confirmed.[15]

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[14] The only variable that changes sign is the Continental variable on the Junk Grade sample. In fact, controlling for the type of financial system and the level of financial development, it can be observed that higher risk issuers are penalized both in the anglo-saxon and in the continental space. However, comparing the coefficients of the variables «Anglo-Saxon» (higher) and «Continental» (lower), as well as analysing the tests for their differences (Panel C.2) it is verified that this type of borrower is also much more penalized in the anglo-saxon universe than in the continental universe.

[15] Table 1 shows that the sample is composed of roughly 60% (52.404) of loans to borrowers from the USA, which represent about 86,9% of loans relative to anglo-saxon governance system as such, to test this effect, two new variables were introduced identifying loans from anglo-saxon countries other than the USA («Anglo-Saxon without USA» variable) and those from the USA («Anglo-Saxon: USA» variable). To conserve space, we do not report the results of specifications that control the effect of the weight of US borrowers in the sample. We find that north-american anglo-saxon borrowers are, effectively, those that

In summary, the results provide evidence that, ceteris paribus, borrowers from countries with an anglo-saxon governance system pay higher spreads than those from countries with a continental governance system.

4.3. The Inclusion of Loan Protection Clauses

Syndicated loans often include, apart from spread, other conditions intending to ensure the loan's repayment and the payment of interest to lenders. It is, therefore, important to analyse whether the spread paid by a borrower in a country with characteristics associated to a certain financial system and governance system is affected by the inclusion of agreements which protect lenders. This section contains, therefore, the controls for the effects of collaterals, covenants, seniority and guarantor on the spreads.

In order to control for the effect of these loan characteristics on the spread, we use the «Protection» variable that measures the protection of lenders, resulting in the aggregation of clauses pertaining to collateral, covenants, guarantors and seniority into an index which allows the measurement of the amount of guarantees included in a loan contract. With the introduction of all these clauses, lenders are more protected, so that they will, in principle, be willing to lend with lower spreads. However, they are also aware that the most opaque borrowers, with higher information asymmetries, are probably those more willing to accept such clauses.

Considering that all loan conditions are negotiated simultaneously (Melnik and Plaut, 1986; Dennis et al., 2000; Santos and Winton, 2008), we are faced with a problem of endogeneity between spread and other non-price loan conditions (Dennis et al., 2000; Brick and Palia, 2007; Francis et al., 2012; Hasan et al., 2012; and Menkhoff et al., 2012). To deal with this we employ the two-stage least squares (2SLS) estimation method with the use of the following instrumental variables, as in Bharath et al. (2011) and Ferreira and Matos (2012): «Loan Concentration» is the instrument used for collateral (adapted from Bharath et al., 2011); «Reputable Arranger» and «Covenants Number» are the instruments used for covenants (Costello and Wittenberg-Moerman, 2011); «Syndicated loan» and «Industry guarantor» are the instruments used for guarantors, while «Senior Industry» is the instrument used for seniority (Lin et al., 2011; Bharath et al., 2011).

Panel A.1 of Table 6, for the financial system, confirms the previous results indicating that the more market-oriented are the countries, the higher is the loan's spread, and the higher the level of financial development, the lower the loan's cost. In the variables for the governance system, the results of show that borrowers from anglo-saxon countries pay higher spreads than borrowers from countries with other types of governance system, and that borrowers from continental countries pay lower spreads than all others. It also seems clear, from Panel A.2, that borrowers from anglo-saxon countries always pay higher spreads than borrowers from continental countries. As for the variable «Protection», it is observed that the higher the level of protection included in a syndicated

obtain the most expensive loans and that continental borrowers pay lower spreads. Also, borrowers from anglo-saxon countries other than the USA pay higher spreads than those from continental countries and from those labelled «Other», but those spreads are lower than those paid by Anglo-saxon, north-american borrowers. Even though Junk Grade borrowers with continental governance pay a higher spread than those from «Other» countries. Note that continental Junk Grade borrowers also pay lower spreads than anglo-saxon ones, both in and out of the USA. With the separation of the countries with anglo-saxon governance, the coefficients for the variable «Structure-Aggregate» lose statistical significance in the *Investment Grade* and *Junk Grade* subsamples.

Table 6: Loan Protection in Borrowers' Countries

This table presents 2SLS regressions corrected for heteroskedasticity using White's methodology. The sample is divided into sub-samples according to borrower rating. The explained variable is the loan's spread. Other than the variables in the base case, are: (i) Structure-aggregate, an indicator of the type of financial system of the borrower's country; (ii) Dummy variables to classify each governance system; (iii) Orthogonal development, an indicator of the country's level of financial development; (iv) variables relative to the security of repayment: «Collateral», dummy variable that takes the value one if the tranche is guaranteed by collateral and zero otherwise; «Covenant», dummy variable that assumes the value one if the borrower is subject to some kind of restriction or obligation of conduct (restrictive clause) and zero otherwise; «Guarantor», dummy variable which takes the value one if the tranche benefits from any kind of guarantor and 0 otherwise; «Seniority» dummy variable which assumes the value one if the credit is senior and 0 otherwise; (v) «Protection», variable that results from the sum of one point for each positive answer to the following questions: "1 - Does the syndicated loan have collateral?"; "2- Does the syndicated loan have at least one covenant?"; "3- Does the syndicated loan have guarantor(s)?"; "4- Does the syndicated loan have seniority?" The results for the 2SLS estimation with instrumental variables are presented in Panel A.1 and B.1. The «Loan Concentration» variable is used as an instrument for collateral, «Reputable Arranger» and «Number of Covenants» as instruments for covenants, «Syndicated Loan» and «Surety-Industry» as an instrument for guarantors and «Senior-Industry» as an instrument for seniority. Panel A.2 and Panel B.2 present the test results - Wald test - to verify if the coefficients of the variables of the governance system are statistically different from each other, where the null hypothesis test the equality between the respective coefficients. Panel A.3 and Panel B.3 present the endogeneity and validation tests of the instruments. The definitions of variables are in Appendix 1. ***, ** and * indicate, respectively, 1%, 5% and 10% statistical significance for bilateral tests.

	Panel A.1				**Panel B.1**		
	All	***Investment Grade***	***Junk Grade***	***No Rating***	**All**	***Investment Grade***	***Junk Grade***
C	128,4 ***	183,4 ***	585,3 ***	119,2 ***	183,6 ***	233,4 ***	710,9 ***
Structure-Aggregate	22,6 ***	10,4 ***	21,7 ***	28,2 ***	24,6 ***	14,8 ***	29,4 ***
Orthogonal development	-79,0 ***	-32,1 ***	-61,0 ***	-83,2 ***	-81,4 ***	-41,8 ***	-71,9 ***
Anglo-Saxon	56,5 ***	23,2 ***	121,2 ***	48,2 ***	55,1 ***	25,8 ***	151,6 ***
Continental	-16,2 ***	-18,4 ***	31,4 *	-24,4 ***	-18,9 ***	-19,6 ***	54,1 ***
Protection	5,5 ***	5,7 ***	-1,3	13,6 ***	8,9 ***	12,4 ***	0,5
Loan variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lenders variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Loan Rating	Yes	Yes	Yes	No	No	No	No
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranche Type	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranche Objective	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Market Segment	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0,58	0,66	0,56	0,53	0,57	0,62	0,54
Adjusted R-squared	0,58	0,65	0,56	0,53	0,57	0,62	0,54
N - Observations	76 516	8 961	16 544	51 011	76 516	8 961	16 544
	Panel A.2				**Panel B.2**		
Anglo-Saxon vs Continental	34,4 ***	14,9 ***	11,8 ***	29,4 ***	34,6 ***	15,7 ***	12,4 ***
	Panel A.3				**Panel B.3**		
Endogeneity test							
- Durbin-Wu-Hausman test	132,24	4,05	0,55	261,51	175,09	25,41	0,04
- p-value	0,00	0,04	0,46	0,00	0,00	0,00	0,84
Sargan test of overidentifying restrictions							
- LM est	241,19	42,50	31,15	181,73	259,30	41,37	29,49
- p-value	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Hansen. J statistic	240,89	42,08	30,99	181,43	259,02	40,99	29,34
- p-value	***	***	***	***	***	***	***

loan contract, the more the borrowers will be penalized with higher spreads. As such, protection appears to be complementary to spread, since both allow the perception of the level of risk associated to the loan and the borrower. For Junk Grade borrowers, the level of protection is irrelevant for determining the interest rate spread paid by borrowers. Although the clauses of protection intend to guarantee the return and repayment of the loan to lenders, in Junk Grade borrowers these guarantees are not valued. In this way,

lenders seem not to find relevant the number of guarantees they may obtain, namely because these guarantees, for these borrowers, may have a low value relatively to the credit and not allow a true protection.[16]

In what concerns the relevance and validity of the instruments used, Panel A.3 provide evidence on the correlation of the instruments with the endogenous variable and whether those instruments affect the dependent variable solely through the endogenous variable (Bharath et al., 2011). The validity of the premise of endogeneity and the validity of the analyzed instruments is, thus, verified. The Durbin-Wu-Hausman test allows the verification that the variables used are endogenous and the validation of the use of instruments, with the exception of the Junk Grade sample. With Hansen's J statistic the relevance of the instruments is evaluated and their validity for the model is verified. The instruments used are also validates by the F statistic and the Cragg-Donald statistic.

Among others, Sufi (2009) explains the importance of *rating* issued by international agencies on syndicated loans. Credit *rating* reflects the opinion of the rating agency on the general credibility of the company and its ability to fulfil its financial obligations. The loan's rating not only supplies information on the risk of default and the ability to repay the loan, but it also allows the mitigation of information asymmetry problems between lender and borrowers. Therefore, the loan's rating has specific information on the loan's conditions which are not made available any other way. Note that "*in assigning a loan rating, Standard & Poor's credit analysts look to see whether there is collateral security or other enhancement that would enable investors to achieve ultimate recovery even if the loan defaults*" (Bavaria, 2004, p. 21). This seems to indicate that the level of rating and the characteristics of loans that are aimed at ensuring its repayment are substitutes.

In this sense, in Panel B.1 we present the results without the rating variables. The results for the type of financial system, for the type of governance system and for protection are similar to those analysed previously. The results remain generally the same in terms of signal and statistical significance.

Summarizing, even controlling for lender protection contractual clauses, the type of financial system seems to be relevant in determining the spread. As for the type of governance, again it is verified that borrowers from anglo-saxon countries pay higher spreads and that borrowers from continental countries pay lower spreads.

[16] To save space we do not report the results with the four protection variables individually. We find evidence that the results for the type of financial system and the type of governance system remain generally the same. In terms of the loan protection variables, borrowers with loan contracts that include collateral and a third entity that guarantees the fulfilment of the loan's obligations (guarantors) are associated to lower spreads. As guarantees seem to be perceived as effectively protecting against credit risk, borrowers pay lower spreads on their loans. For Junk Grade borrowers, the existence of collateral and guarantors does not seem to be relevant in the definition of the interest rate, perhaps due to the fact that the collateralized assets are not sufficiently valuable to cover the borrower's risk. In Investment Grade borrowers, the inclusion of these protection clauses is not perceived as a positive sign, since the willingness of these borrowers to provide collateral and/or guarantors may signal the presence of a riskier loan and with higher agency problems. In these cases, a higher spread is demanded. As for covenants, their existence seems to penalize borrowers who are forced to include them in loan contracts. Borrowers willing to accept covenants are perceived by lenders as riskier, inducing the demand for higher spreads as a way to compensate that added risk. This effect is only relevant in the subsample of unrated loans. Therefore, lenders seem to especially penalize, in terms of spreads, more opaque borrowers when they are willing to accept these restrictive clauses which limit management's decision-making powers. In reality, covenants seem to be positively valued for Investment Grade borrowers, which support lower spreads when they include these clauses in the syndicated loan contract. Seniority, in its turn, is only positively valued in the Junk Grade subsample.

4.4. Borrower's Financial Characteristics

In the analysis of a loan contract it is ever important to consider the borrower´s financial characteristics to verify if the effects of the financial and corporate governance systems shown in previous sections persists. We use a subsample that includes near 10% of the initial sample, since many of the borrowers analyzed initially have no publicly available financial information (*vg*, unlisted companies and other entities that do not disclose financial information). In this section, therefore, the analysis is focused on a subsample of issuers that disclose financial information to the market and are, therefore, less opaque than the remaining borrowers. The informational problem here will be less relevant than in the global sample. The data were collected from Thomson Reuters DataStream.

Table 7 shows the financial characteristics of the borrowers which are relevant for the spreads paid in syndicated loans. It indicates that larger companies pay lower spreads, consistent with the results of Santos and Winton (2008) and Houston et al. (2012), probably as a reflection of their diversification capacity, access to capital market, greater ability to negotiate and economies of scale. Furthermore, in accordance to the idea that companies with less debt present lower risk levels, the results reveal that borrowers with higher debt levels pay higher spreads (in agreement with the theory represented by Dennis et al., 2000). As for subsamples, this effect is only robust for the subsample of unrated borrowers, in which the borrowers are directly monitored by lenders, with no intervention from rating agencies.

The higher the company's value (as measured by the market-to-book ratio), the lower the cost of financing, confirming the results of Santos and Winton (2008), since the value of the company is positively associated with its ability to repay its debts. This variable is particularly relevant in companies with lower rating levels. The high operational return on assets is also associated with lower spreads. Companies with higher profits are able to demonstrate their ability to manage their commercial activity and, therefore, generate enough funds to repay the loan. Note that the results indicate that owning tangible collateralizable assets is not relevant to the determination of the spread, with the exception of borrowers with lower risk (Investment Grade) which are called to pay higher spreads.

As for the subsamples, for Investment Grade borrowers it is shown that those from countries with a market-based financial system pay higher spreads, while in the Junk Grade sample the type of financial system and development are irrelevant in explaining spreads. When borrowers have no rating, the negative influence of financial development in the loan spread subsists.

For unrated borrowers, the financial system basis is not relevant, but borrowers from more financially developed countries are able to negotiate lower financing costs (lower spreads). For borrowers with no rating from a risk rating agency lenders seem to feel the need for a more careful analysis of the company's financial status, as shown by the statistical significance of four of the five borrower financial variables. Hence the apparent result of a replacement effect between the level of rating and the financial characteristics of the borrowers, as indicated by Bavaria (2004) and Sufi (2009). The existing literature refers that these borrowers, given their opacity and lower access to the capital market, engage in closer relationships and permanent interaction with the lenders to minimise the information asymmetry problems, so we naturally find evidence that continental borrowers pay lower spreads.

Table 7: The importance of borrower's financial characteristics

This table presents OLS regressions corrected for heteroscedasticity using White's methodology. The sample is divided into sub-samples according to borrower rating. The explained variable is the loan's spread. Other than the variables in the base case are: (i) Structure-aggregate, an indicator of the type of financial system of the borrower's country; (ii) Orthogonal development, an indicator of the country's level of financial development; (iii) Dummy variables to classify each governance system; (iv) Borrower's financial variables: «Sales», variable that refers to the sales of the borrower in the year prior to the current loan, measured in millions of euros; «Leverage», ratio of debt (total liabilities) over total assets; «Market-to-book ratio», the ratio of market capitalization to equity; «Tangibility», ratio of tangible fixed assets to total assets and «Profitability» is the operating profitability of the asset. The definitions of variables are in Appendix 1. ***, ** and * indicate, respectively, 1%, 5% and 10% statistical significance for bilateral tests.

	Panel A.1				**Panel B.1**			
	All	***Investment Grade***	***Junk Grade***	***No Rating***	**All**	***Investment Grade***	***Junk Grade***	***No Rating***
C	113,4 *	294,6 ***	190,9	-31,9	130,1 **	301,8 ***	240,0	-44,7
Structure-Aggregate	-1,7	15,8 ***	-21,1	-0,8	1,7	17,9 ***	-16,1	1,3
Orthogonal development	-33,7 ***	-34,1 ***	18,0	-74,3 ***	-37,0 ***	-32,8 ***	9,3	-84,6 ***
Anglo-Saxon	16,1 *	27,7 **	66,2 ***	-18,7	16,7 *	30,9 **	55,7 ***	-22,4
Continental	-36,3 ***	-9,9	9,1	-84,5 ***	-37,6 ***	-4,8	1,9	-92,9 ***
Sales	-6,5 ***	-1,2 *	-2,1	-8,6 ***	-5,9 ***	-1,5 **	-3,1 *	-6,9 ***
Leverage	29,8 ***	-2,2	11,2	44,2 ***	30,5 ***	-6,2	-1,3	50,7 ***
Tangibility					-1,0	16,8 ***	-12,2	-6,8
Market-to-book					-0,0 ***	-0,0	-0,0 ***	-0,2 *
Profitability					-98,2 ***	-34,6 ***	-108,0 ***	-81,8 ***
Loan variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Borrower variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lenders variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Loan Rating	Yes	Yes	Yes	No	Yes	Yes	Yes	No
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranche Type	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tranche Objective	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Market Segment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0,68	0,72	0,61	0,65	0,69	0,72	0,61	0,67
Adjusted R-squared	0,68	0,71	0,60	0,64	0,68	0,71	0,59	0,65
N - Observations	9 082	3 763	2 655	2 664	8 356	3 593	2 328	2 435
	Panel A.2				**Panel B.2**			
Anglo-Saxon vs Continental	52,5 ***	37,6 ***	57,1 ***	65,8 ***	54,3 ***	35,7 ***	53,7 ***	70,5 ***

The results show the importance of the two types of system analyzed in different perspectives. Considering the data in the global sample with all the financial variables (see Panel B.1), relatively to the type of financial system, it is noted that more than the market or bank-based system, the borrowers from more developed financial systems obtain loans with lower spreads. The results for the type of governance system confirm previous conclusions that borrowers from anglo-saxon and continental countries pay, respectively, higher and lower spreads. Panel B.2 show, again, that borrowers from anglo-saxon countries pay higher spreads than borrowers from continental countries.

5. Conclusion

This research investigates whether borrowers from different countries (or, rather, countries with different characteristics) are, *ceteris paribus*, able to negotiate loans with different spreads. Based on the idea that spreads may be related not only to intrinsic borrower factors, but also with institutional factors associated to the borrower's country, the effect of the latter on the spread is analyzed by gathering the countries into homogenous groups relatively to certain institutional factors, namely the type of financial

systems (and its level of development) and the type of governance system. We use a sample of 85,220 international syndicated loans granted to borrowers from 122 countries.

With this study we evidence, for the financial system, that borrowers from countries with bank-based financial systems pay lower interest rate spreads than those from countries with a market-based financial system. These results are consistent the idea that the bank-based system presents informational advantages, allowing the financial intermediaries to minimize problems related to information asymmetry. These results are also consistent with the notion that, in this system, lenders are more efficient in monitoring borrowers from countries with bank-based financial systems, which help to limit discretionary management behaviour.

We also find support for the hypothesis that borrowers from countries with more developed financial systems pay lower spreads. This effect is consistent with the idea that more developed financial systems are better at solving agency problems and allow the decrease of transaction costs, as well as providing a greater range of financial services which, in turn, allow the use of debt capital at lower costs.

Regarding the governance system, we show that borrowers from countries with an anglo-saxon governance system pay higher spreads than those from countries with a continental governance system. These results are also consistent with the theory that the greater proximity and long-term relationship between lenders and borrowers in continental governance countries minimize the information asymmetry problems and allow a more efficient monitoring by lenders. The results are also consistent with the literature that states that banks, in continental governance systems, obtain informational advantages through their equity stakes in the borrowers or through the appointment of a trusted member of the board, an advantage which results in lower financing costs.

This work also tested the hypothesis that spreads depend on the inclusion of protection clauses in loan contracts. We find evidence that the level of financial development, the type of financial system and the type of governance system remain equally relevant in determining spreads when analyzed together with protection clauses. We show that borrowers which offer a higher level of protection are also those which have to pay higher spreads, which may simply indicate that only borrowers with higher credit risk are willing to accept these clauses. This conclusion seems to indicate a complementary rather than a replacement effect between protection and spread.

Therefore, these results support the importance of the type of financial system, as well as its level of development. However, they also make it clear that this last aspect seems to be predominant. In reality, using a subsample of borrowers that periodically disclose financial information, the results confirm the negative relationship between the spread and the level of financial development and suggest the loss of relevance of the type of financial system in the explanation of spreads for non-Investment Grade loans. This result is consistent with the inference by Levine (2002) about the predominance of the level of financial development over whether the financial system is market- or bank-based.

In summary, the results are consistent with Carey and Nini (2007), Giannetti and Laeven (2012) and Houston et al. (2012), which show that loans are cheaper in Continental European countries, which suggests that the borrower's location is an important factor in the financial intermediation process. In reality, we show that the borrower's country's characteristics, namely the type of financial system, level of financial development and type of governance system, are relevant in determining financing costs.

The empirical study developed presents some limitations, like the lack of information on the ownership structure and governance bodies, which would allow to test the hypothesis that lower spreads result from "promiscuous" relationships between banks and borrowers, whether through participation of the former in the shareholder structure of the latter, or by appointment of members of the board of directors or the supervisory council of borrowers. For future research, it seems important to analyze these privileged relationships between borrowers and lenders. For the analysis of loan contracts, it is also relevant to understand how other conditions than price (*vg*, maturity, amount, collateral, covenants, …) may be determined by the institutional characteristics of the countries and the types of system of the borrowers' country. It would also be very interesting to study the effect of an international financial crisis and their impact on spreads, as well as understanding if borrowers from different type of systems borrow with similar interest rate spreads during this crisis periods.

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Appendix I: Description of the variables in the base model

Variable	Description
Dependent Variable	
Spread	Corresponds to the All-in-spread drawn, defined as the amount the borrower pays over LIBOR or LIBOR equivalent in basis points. ***Fonte***: Dealscan.
Variables related to the type of financial system and governance system	
Structure-Aggregate	Variable that aggregated the country's financial structure indicators, calculated as in Demirgüç-Kunt and Levine (2001), Beck and Levine (2002), Levine (2002), Beck et al. (2009). Specifically, it is the principal component in the Principal Components Analysis of three indicators: Structure-activity, Structure-size and Structure-efficiency. The value of the Structure-aggregate indicator is calculated as the average of the first principal component, on a year to year basis, over the period between 2000 and 2011. The Structure-activity indicator is the logarithm of the ratio between (1) the total value of national share trades in national stockmarkets divided by GDP (numerator) and (2) the value of bank credit granted to the private sector divided by GDP (denominator).The Structure-size indicator is the logarithm of the ratio between (1) the value of the market capitalization of the national listed shares in national stockmarkets divided by GDP (numerator) and (2) the value of bank credit granted to the private sector divided by the GDP (denominator). Finally, the Structure-efficiency indicator is the logarithm of the product between (1) the total value of national share trades in national stockmarkets divided by GDP and (2) the overhead costs ratio (that is, the functioning costs of the banking system divided by the banking system's total assets). We use data for the year prior to the syndicated loan. ***Source***: Financial Development and Structure Dataset from World Bank. Author Calculations.
Market	Dummy variable that takes a value of 1 if the country presents a value for the Structure Aggregate variable that is higher than its median (in that case, the country is considered as having a market-based financial system by the classification Type III) and zero otherwise (in which case the country is considered as having a bank-based financial system by the classification Type III). We use data for the year prior to the syndicated loan. ***Source***: Financial Development and Structure Dataset from World Bank. Author Calculations.
Finance-Aggregate	Variable that aggregated the country's financial development indicators, calculated as in Beck and Levine (2002), Levine (2002). Specifically, it is the principal component in the Principal Components Analysis of three indicators: Finance-activity, Finance-size and Finance-efficiency. The Finance-activity indicator is the logarithm of the product between (1) the total value of national share trades in national stockmarkets divided by GDP and (2) the value of bank credit granted to the private sector divided by GDP. The Finance-size indicator is the logarithm of the product between (1) the value of the market capitalization of the national listed shares in national stockmarkets divided by GDP and (2) the value of bank credit granted to the private sector divided by the GDP. Finally, the Finance-efficiency indicator is the logarithm of the ratio between (1) the total value of national share trades in national stockmarkets divided by GDP (numerator) and (2) the overhead costs ratio (that is, the functioning costs of the banking system divided by the banking system's total assets) (denominator). We use data for the year prior to the syndicated loan. ***Source***: Financial Development and Structure Dataset from World Bank. Author Calculations.
Development	Dummy variable that takes a value of 1 for countries with a value for the Finance-Aggregate variable higher than its median (indicating a more financially developed country) and zero otherwise. We use data for the year prior to the syndicated loan. ***Source***: Financial Development and Structure Dataset from World Bank. Author Calculations.
Anglo-Saxon	Dummy variable that takes a value of 1 for countries with an Anglo-Saxon type of corporate governance system and zero otherwise. A country is considered as having an Anglo-Saxon corporate governance system following the classification in Schmidt and

Variable	Description
	Tyrrel (1997), Mitchell (2006) and Sapir (2006). ***Source***: Schmidt e Tyrrel (1997); Mitchell (2006); Sapir (2006).
Continental	Dummy variable that takes a value of 1 for countries with a continental type of corporate governance system and zero otherwise. A country is considered as having a continental corporate governance system following the classification in Schmidt and Tyrrel (1997), Mitchell (2006) and Sapir (2006). ***Source***: Schmidt e Tyrrel (1997); Mitchell (2006); Sapir (2006).
Others	Dummy variable that take a value of 1 for countries which adopt other types of corporate governance systems other than the Anglo-Saxon and the continental (that is, those with a zero in both variables Anglo-Saxon and Continental) and zero otherwise. ***Source***: Schmidt e Tyrrel (1997); Mitchell (2006); Sapir (2006).
Control variables in the base case	
Rating"XXYY YY"	Dummy variable which takes a value of 1 if the tranche's rating is "XXYYYY" and zero otherwise. If more than one rating exists, we consider the lowest. 14 levels of credit rating were considered, whose hierarchy is identified by the first two digits "XX", which consequently vary between 01 (corresponding to the highest rating) and 14 (corresponding to the lowest rating). The "YYYY" digits vary between AAA (corresponding to the highest rating category of the three rating agencies, AAA of S&P, Aaa of Moody's and AAA of Fitch), which corresponds to the hierarchic level 01, and LTB3 (Less Than B3) which corresponds to the lowest categories of rating of the three rating agencies (lower that B- of S&P, B3 of Moody's and B- of Fitch) and that corresponds to the hierarchic level 14. The rating assigned by the credit rating agencies were grouped. For example, the notation "AA-", "AA", "AA+" and "AAA" corresponds to the classification "01AA", the "A+" rating corresponds to the classification "02A1" and the "A" rating corresponds to the classification "03A2". ***Source***: Dealscan. Author Calculations.
Rating "No" **No rating**	Dummy variable which takes a value of 1 if the tranche was not rated by any of the international rating agencies (S&P, Moody's and Fitch) and zero otherwise. ***Source***: Dealscan. Author Calculations.
Investment Grade	Dummy variable which takes a value of 1 if the tranche has a credit rating of BBB or higher (corresponding to the highest rating classes of the three rating agencies) and zero otherwise. That is, the variable *Investment Grade* is 1 if the hierarchy used in constructing the variables RATINGXXYYYY (identified by the first two digits XX) is between 01 and 07 and zero otherwise. ***Source***: Dealscan. Author Calculations.
Junk Grade	Dummy variable which takes a value of 1 if the tranche has a credit rating lower than BBB (corresponding to the lowest rating classes of the three rating agencies) and zero otherwise. That is, the variable *Junk Grade* is 1 if the hierarchy used in constructing the variables RATINGXXYYYY (identified by the first two digits XX) is between 08 and 14 and zero otherwise. ***Source***: Dealscan. Author Calculations.
Year 20XX	Year 20XX is a dummy variable that takes a value of 1 if the tranche was issued in year 20XX and zero otherwise. The years these variables were constructed for are those between 2000 and 2012. ***Source***: Dealscan.
Amount	Logarithm of the amount of each loan tranche in dollars. ***Source***: Dealscan.
Maturity	Time to maturity of the tranche, in months. ***Source***: Dealscan.
Sponsors	Dummy variable which takes a value of 1 if the tranche benefits from the support of a sponsor and zero otherwise. The tranche is considered as having support from a sponsor when a financing entity (usually a private equity investor) with an equity stake in the borrower controls at least 20% of the borrower's equity and, therefore, is considered capable of influencing the company's management or operations. The database does not include strategic or corporate investors in this definition. ***Source***: Dealscan.
Same currency country	Dummy variable which takes a value of 1 if the loan's currency is the same as the one in the borrower's country and zero otherwise. ***Source***: Dealscan. Author Calculations.

Variable	Description
Number members syndicate	Total number of lenders which are members of the bank syndicate. ***Source***: Dealscan. Author Calculations.
Leader in country	Number of leaders of the syndicate from the same country as the borrower divided by the total number of leaders in the syndicate. ***Source***: Dealscan. Author Calculations.
Banks same country	Number of members in the syndicate from the same country as the borrower divided by the total number of members in the syndicate. ***Source***: Dealscan. Author Calculations.
Previous Loans	Dummy variable which takes a value of 1 if the borrower has at least one previous loan relationship with the lender(s) during the 3 years prior to the activation date of the current loan. ***Source***: Dealscan. Author Calculations.
Libor	Dummy variable which takes a value of 1 if the reference rate is LIBOR and zero otherwise. ***Source***: Dealscan.
Type "XX"	Dummy variable which takes a value of 1 if the tranche is type XX and zero otherwise. We consider 7 types of tranches: 364 day facility, bridge, revolver line, term loan A, term loan B-C-D, other term loan, and other types. ***Source***: Dealscan.
Objective "XX"	Dummy variable which takes a value of 1 if the tranche's objective is XX and zero otherwise. We consider 12 objectives for tranches: acquisition line, investment, corporate purposes, CP Backup, debt repayment, LBO, project finance, takeover, real estate, working capital, ship and air finance and other objectives. ***Source***: Dealscan.
Segment "XX"	Dummy variable which takes a value of 1 if the tranche's market segment is XX and zero otherwise. We consider 8 market segments for tranches: investment grade, non investment grade, high leverage, leveraged, institutional, asset based, mergers & acquisitions and other segments. ***Source***: Dealscan.
Fees	Dummy variable which takes a value of 1 if it is known that the available spread for the dummy includes fees and zero otherwise. ***Source***: Dealscan.
Government owned	Dummy variable which takes a value of 1 if the tranche is granted to a borrower fully owned by the State and zero otherwise. ***Source***: Dealscan.
Industry	Dummy variable which takes a value of 1 if the borrower is in industry XX and zero otherwise. Borrowers are classified into 28 industries. ***Source***: Dealscan.
GDP	Logarithm of the borrower's country Gross Domestic Product (GDP) in dollars. We use data for the year prior to the syndicated loan. ***Source***: World Development Indicators, World Bank.
***Rating* Country**	Credit rating of the borrower's country attributed by S&P, Moody's and Fitch, on the closest previous date to the activation date of the current loan. The variable varies between 0 and 24, with higher values representing a better level of rating (and lower risk). We use data for the year prior to the syndicated loan. ***Source***: *Rating agencies*.