Use of Formal Insolvency Procedure and Judicial Efficiency in Spain

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Abstract

In the framework of law and finance literature, this study focuses on analysing the impact of judicial efficiency in firms' decision on the use of court proceedings in the resolution of financial distress. The question as to whether the use of formal bankruptcy procedures can be related to efficiency in the implementation of legislation by the courts has been posed. The scarce empirical evidence has focused on the analysis of the impact of judicial efficiency at the international level, which implies assumption that the degree of efficiency is similar within each country. However, studies from Brazil and Spain have revealed the existence of differences among districts within the same country and its impact on different economic and financial aspects. Consequently, the work focuses on a single country allowing to isolate the effect of the content of the legislation from the efficiency of the application of these legal rules by the courts. The sample consists of 4.160 unlisted firms in Spain experiencing financial difficulties, among which are companies that have and have not opted to use the formal bankruptcy proceedings. The results indicate that firms located in Spain's autonomous communities that exhibit a higher efficiency of their judicial systems are more likely to use court proceedings to resolve financial distress.

Keywords Bankruptcy resolution · Judicial efficiency · Formal proceedings · Spain.

JEL Classification: G33, K22

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1. INTRODUCTION

The importance of a judicial system has been manifested by policymakers and by international literature, concluding that efficient judicial systems are necessary to ensure economic development and the functioning of the markets (Chemin 2009; 2012). An effective judicial system requires not only appropriate law but also its efficient enforcement achieved through an efficient court system (Mora-Sanguinetti 2013). In this regard, the excessive length of court proceedings and the inefficiency of courts have been observed in both developing and developed economies (Djankov et al. 2006).

These deficiencies in the functioning of judicial systems create costs paid by society in general and firms in particular. Moreover, because business relations are governed by contracts, the certainty as to compliance and efficiency in their enforcement by the courts in the case of failure is essential. According to Mora-Sanguinetti (2016), the quality in the functioning of the judicial system is relevant, in so far as it determines the degree of legal certainty, transaction costs, and efficiency of the economy. The lack of security and attempts to avoid these costs may lead companies to resolve conflicts outside of the judicial system, specifically through out-of-court agreements (Morrison 2008). In this regard, the objective of this paper is to analyse the impact of judicial efficiency on the use of formal bankruptcy proceedings in a specific country.

The literature has confirmed that improvements in judicial efficiency positively affect economic outcomes and business activities: efficient judicial systems positively affect international trade (Anderson 2008), foreign direct investments (Lorenzani and Lucidi 2014) and are expected to benefit credit markets (La Porta et al. 1997; Demirgüç-Kunt and Maksimovic 1998; Diamond 2004; Fabbri and Padula 2004; Laeven and Majnoni 2005; Jappelli et al. 2005; Bae and Goyal 2009; Fabbri 2010; Shvets 2012). The literature has also demonstrated a link between judicial efficiency and the entry rates of new firms into the market (García-Posada and Mora-Sanguinetti 2015), the firms' size (Beck et al. 2006), corporate governance (Klapper and Love 2004), venture capital operations (Armour 2004), entrepreneurship and innovation (Lee et al. 2007; Armour and Cumming 2008), the housing market (Casas-Arce and Saiz 2010), and the labour market (Berger and Neugart 2011).

Along the same lines, the grade of protection that the judicial system provides is crucial to insolvency resolution. The importance of a good insolvency legal framework was highlighted by the East Asian financial crisis (1997–1998), when the absence of an efficient and appropriate legislative framework delayed economic recovery, reflecting an increase in the amount of research on the bankruptcy regulations. Clear majority of studies in this field have instead

focused on searching for an optimal legislation to regulate business failure. The literature has demonstrated differences in countries' legislations, procedures[1] (Kaiser 1994; Hart 2000; Davydenko and Franks 2008; Armour et al. 2006; Dewaelheyns and Van Hulle 2009), and the use of formal bankruptcy (Hoshi et al. 1990; Gilson et al. 1990; Djankov et al., 2006; Morrison, 2008).

According to our review of the literature, there is a dearth of research on the efficient implementation of bankruptcy law by the courts; thus, this work aims to contribute to filling this gap. This topic is particularly important because even if the creditor's rights guaranteed by the legislation are strong, they are ineffective without efficient enforcement (Shah et al. 2017). Moreover, the efficiency issue is an ongoing problem which has been addressed for several years by the European Commission. Through the Regulation (EU) 2015/848, the Commission highlighted the importance of appropriate legislation applicable at Union level for the improvement of efficiency and effectiveness of insolvency proceedings. In the last proposal for a directive, even stronger emphasis is put on efficiency, in particular on the length of the proceedings:[2]: "*Raising the efficiency of restructuring, insolvency and discharge procedures and in particular the digitisation of all insolvency procedures will help reduce the length of procedures and increase their efficiency, which would translate to lower costs of restructuring and higher recovery rates for creditors*".

Furthermore, the literature has indicated that on many occasions firms prefer to resolve financial distress using alternative means, such as informal workouts or foreclosures instead of formal proceedings (Hoshi et al. 1990; Gilson et al. 1990; Morrison 2008; Nigam and Boughanmi 2017). This evidence lead to studies on business insolvency that combined law and finance[3]. Consequently, the question as to whether the use of formal bankruptcy procedures can be related to efficiency in the implementation of legislation by the courts has been posed. This

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[1] At the same time also indicated the institutional impact, stating that the use of the one procedure rather than the other depends on the institutional structure or legal origin (Hart, 2000).

[2] Proposal for a Directive of the European Parliament and of the Council on preventive restructuring frameworks, second chances, and measures to increase the efficiency of restructuring, insolvency, and discharge procedures and amending Directive 2012/30/EU. The proposal is currently at the stage of ordinary legislative procedure. A draft reading of it took place on 21 August 2018.

http://ec.europa.eu/information_society/newsroom/image/document/2016-48/proposal_40046.pdf

[3] Research initiated by La Porta et al. (1997) with the publication of the influential paper "Law and Finance" focused on the protection of corporate shareholders and creditors provided by legal rules. This publication has been an important step in the literature because previous research has not distinguished between socialist and non-socialist systems, combining legal and financial aspects.

study intends to perform an investigation on the impact of judicial efficiency and the legal origin on business decisions regarding the use of formal bankruptcy proceedings based on Claessens et al. (1999; 2001; 2003) and Claessens and Klapper (2005). Due to the difficulties in observing the use of informal ways of the insolvency resolution caused by the lack of data, the research question is directed towards the incentives for the firms to use formal bankruptcy procedures.

The scarce empirical evidence has focused on the analysis of the impact of judicial efficiency at international level. However, studies from Brazil and Spain have revealed the existence of differences among districts within the same country and its impact on different economic and financial aspects. In this sense, for example, Mora-Sanguinetti (2010) indicates that the resources invested in the administration of justice in Spain differ at regional levels, which may explain the differences in the application of law. Nevertheless, according to our review of the literature, no reference has been made to the study of the impact of judicial efficiency in the use of formal bankruptcy proceedings at the intra-country level.

The main contribution of this study is its analysis of the impact of judicial efficiency on the decisions taken by companies in Spain, where the legislation is the same. This allows to isolate the economic effects of efficiency in the application of the law of its content, which determines the creditors rights (Fabbri 2010). In this respect, we contribute to the literature on the "Spanish bankruptcy puzzle" (SBBP) initiated by Celentani et al. (2010). These authors applied a theoretical approach and have suggested that the inefficient functioning of the court system and the efficiency of alternative mechanisms in the resolution of situations of insolvency influence the limited use of formal bankruptcy proceedings in Spain in comparison with other countries. García-Posada and Mora-Sanguinetti (2012b) tested this hypothesis using a sample of French, Spanish and British companies. Following their theory, we created an econometric model using data on insolvency at the firm level and judicial efficiency at the regional level to establish the influence of judicial efficiency on the willingness of firms to use formal insolvency proceedings, which has not been done before. The low use of the formal bankruptcy proceedings in Spain make it an interesting case of study. The country is an example of one of the biggest insolvency reforms and despite of the improvements in the insolvency legislation, the level of bankruptcy rates remain abnormally low (Detotto et al. 2018).

The results of the analysis of judicial efficiency in Spain for a sample of 4.160 firms located in various geographical areas with different levels of judicial efficiency support these theoretical arguments. They permit the assumption that a higher level of judicial efficiency, in the context of the same regulatory frameworks, increases the probability that firms experiencing financial

distress will decide to file for formal bankruptcy proceedings rather than solve financial problems outside of the judicial system.

The subsequent sections are structured as follows. Section 2 presents details on the regulatory framework of insolvency in Spain. Section 3 refers to the theoretical arguments regarding the empirical evidence on the relationship between judicial efficiency and bankruptcy resolution. Section 4 addresses the methodological aspects, and section 5 presents the empirical results. Finally, Section 6 discusses the results and presents conclusions.

2. INSOLVENCY RESOLUTION. APPROACH OF LEGISLATION AND REGULATORY FRAMEWORK IN SPAIN

The bankruptcy systems in Spain and the rest of the world have been subject to constant changes. In the early nineteenth century, a debtor who did not comply with contractual conditions was perceived by society as a criminal, and the law focused on the creditors' protection, the payment of the debts by the liquidation of the debtor's assets, and debtor's penalties. However, changes in market, increase in the size of the business sector, and financing of firms by funds from private and public sources caused legislators to allocate greater importance to the question of continuity in business. In this context, in 2003, the biggest reform of the bankruptcy system took place in Spain. The new law, 'Law 22/2003', which replaced rules archaic and very harsh for the debtor, was approved on 9 July 2003 (*Ley Concursal,* hereinafter: LC) and entered into force on 1 September 2004. The problem was that this legislation designed in 'good times' could not manage the increasing number of firms facing insolvency problems. Therefore, during the financial crisis, the LC underwent several modifications and changed its approach.

Generally, the literature on bankruptcy classifies legislation into two main groups: geared towards the protection of the creditors or the debtors. However, no optimal system model to regulate insolvency exists (Lopez et al. 2008). The first favours creditors (UK system[4]) and can lead to more liquidations, and the second favours debtors and focuses on reorganisation (US system). Vast majority of reaserch have been dedicated to analysing the impact of both systems on the behaviour of enterprises (Rajan and Zingales 1995; Kaiser 1994; Davydenko and Franks 2008; Gennaioli and Rossi 2010).

[4] However, the changes made to the British law in recent years are approaching the US Chapter 11 model geared towards reorganisation.

The differences in the approach of legislation and the degree of protection offered to the debtor or creditor may significantly affect businesses and the results of insolvency processes. Kaiser (1994) indicated that a system geared towards the creditor may incentivise liquidations and result in a reduction in the value of assets or sales of the most significant assets for economic activity. Moreover, in this type of system, the secured creditors can easily enforce security rights, and they tend not to consider the interests of other creditors (Davydenko and Franks 2008). At the same time, the creditor-oriented system can influence the behaviour of administrators, who could abandon projects that provide a stable cash flow to engage in riskier activities with the objective to avoid bankruptcy and loss of work (Aghion et al. 1992; White 1996).

Debtors-oriented system can be used as a tool by the management to voluntarily breach a contract they no longer want to respect (Kaiser 1994). In addition, when non-viable companies are protected, creditors may incur high costs (Dewaelheyns and van Hulle 2009). After the process of reorganisation, which is considered long and costly, the firm has no objective value, and this situation may lead to discussions among the creditors regarding their part ownerships of the company (Hart 2000). This process is inclined to the continuity of the business and involves risk, such that the restructured companies will nevertheless face insolvency problems (Alderson and Betker 1999). In addition, in debtor-friendly legislation, financial institutions respond with adjustments to the terms of the loan contract, by demanding additional collateral or increasing the interest rate (Davydenko and Franks 2008).

According to its explanatory statement, the LC is directed towards the protection of creditors; nevertheless, looking at the changes introduced during the financial crisis, we could set the LC in the intermediate term[5] because, by encouraging agreements between the debtor and the creditors or agreements before the court proceedings[6], the legislator is focused on business continuity.

The law in Spain dictates that filing for insolvency *(concurso de acreedores)* is compulsory and must occur at the moment of debtor's insolvency. Under the Spanish legislation a debtor is insolvent when he is unable to pay debts as they fall due. In addition, the Art. 2(4) LC lists the

[5] Generally, in literature on bankruptcy, countries can be classified into two main groups: geared towards the protection of the debtor, as in the case of the United States, and aimed at the protection of creditors, as in the United Kingdom. However, there are also laws at an intermediate level, which address a combination of both, as in Germany.

[6] For example, an early composition agreement that allows to pause obligation to file for insolvency.

following insolvency indicators: existence of pending executions on debtors assets, hasty disposal of assets or its hiding, general failure to fulfil tax duties within three months, payment of social security, salaries or any other compensation to employees. In such cases, the debtor is required to request the filing for insolvency within two months following the date when the insolvency was known or should have been known[7]. In this case, the insolvency is called 'actual' *(insolvencia actual)*. The law also makes it possible for the debtor to anticipate the future state of insolvency and provides notification when its insolvency is just imminent *(insolvencia inminente)*, allowing the debtor to anticipate the process and avoiding large losses of the value of assets. The request for filing for insolvency may be also made by the creditor and in all the aforementioned cases must be duly justified (Art. 5, Art. 1 LC). Depending on the person who declared the insolvency, the filing will be voluntary (*concurso voluntario*, as declared by the debtor) or involuntary (*concurso necesario*, Art. 22 LC). However, the application for insolvency proceedings can be replaced by the presentation in the corresponding court of documentation proving the commencement of negotiations with a view of reaching a refinancing agreement or a proposal of early composition agreement.

In relation to the court which has jurisdiction in the field of insolvency, the LC stipulates that the declaration and the entire insolvency proceeding occurs under the supervision of a judge who specialises in commercial matters (*juez de lo mercantil*) and in whose territory the debtor has their centre of main interests. In the case of firms, this is presumed to be the location of the registered office (Art. 10 LC). The commercial courts have exclusive jurisdiction to lead insolvency proceedings. These institutions, with headquarters in the capital city of each province, were created by the LC, and their jurisdiction covers the entire province. In the same province, several courts may be established according to the needs of the population[8]. The creation of these courts is the origin of the introduction of a higher level of specialisation of the judges. Judicial specialisation is expected to positively affect the functioning of the courts as it creates economies of scale, reduces costs, and harmonises procedures, which means a shorter

[7] If insolvency is not requested in the time indicated by the law, it is presumed to be debtor's fault. This situation may result in classification of insolvency as fraudulent (concurso culpable, Art. 165 LC). Other causes for classification of insolvency as fraudulent are addressed in Art. 164 of the LC.

[8] According to Organic Law 6/1985 of 1 July on the Judiciary, the State is organized territorially into municipalities, provinces, and autonomous communities. Furthermore, there are different types of courts and tribunals that determine the existence of four jurisdictions: civil, criminal, administrative, and social. Before the LC entered into force, issues related to insolvency were dealt with in the civil law courts. In relation to the Commercial Courts, see Art. 2 of Organic Law 8/2003 of 9 July on Bankruptcy Reform amending the Organic Law 6/1985 of 1 July on the Judicial Power.

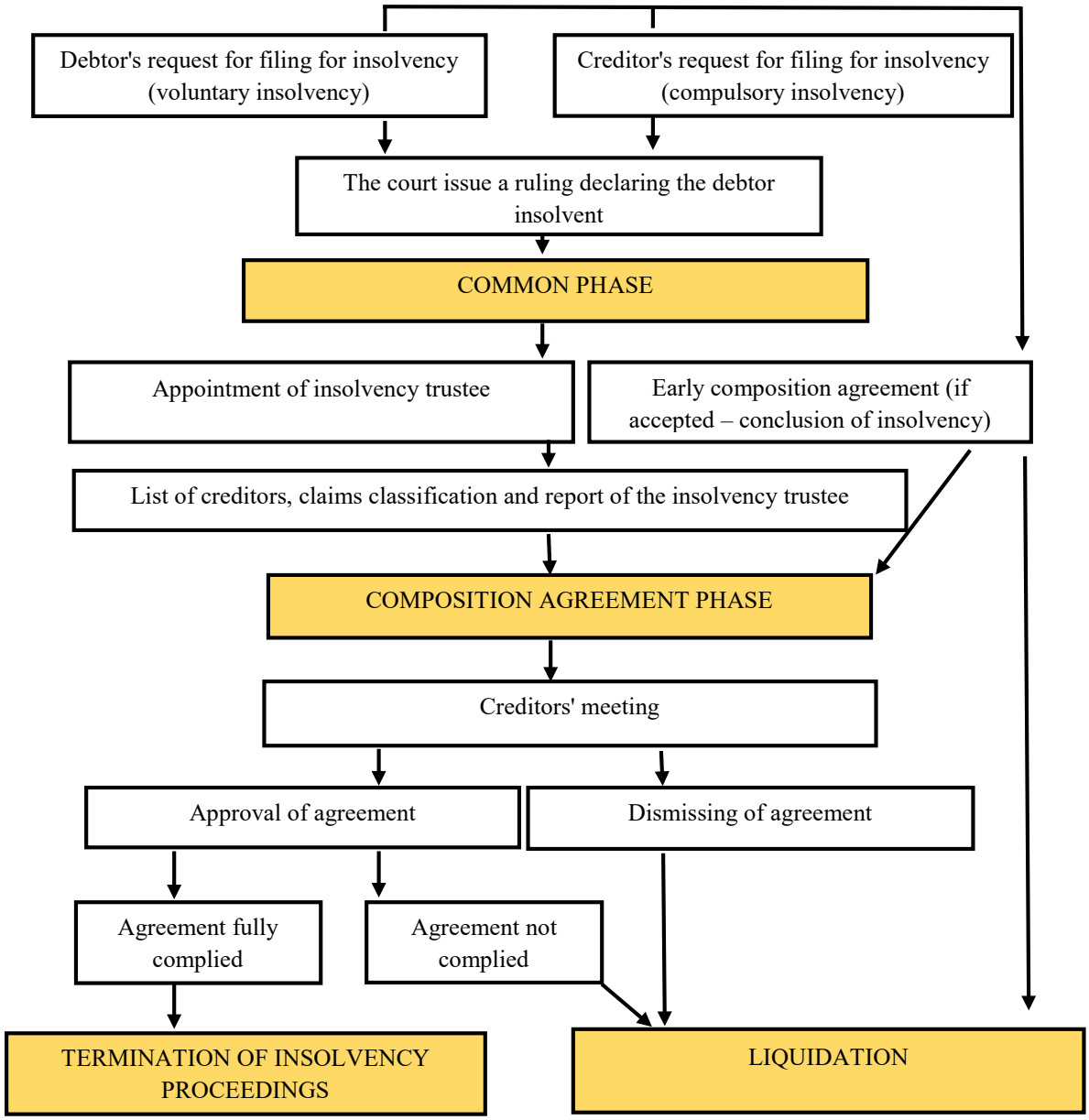
time for proceedings and an increase in the number, quality, and correctness of the decisions taken. However, the opinion on this topic is divided. Palumbo at al. (2013) indicated that higher specialisation is related to shorter trials, whereas Voigt and El-Bialy (2016) assert that in countries where percentage of specialised courts is higher, resolution rates are lower. Recent evidence from Spain focusing on special commercial courts established during the reform of bankruptcy law indicate that despite its positive impact, the bankruptcy rates in Spain are still abnormally low (Detotto et al. 2018).

Once the insolvency proceedings have been initiated, it is not possible to start execution against the debtor's assets required for the continuity of the business. Creditors having collateral may take actions against those assets, but they are put on hold until the end of the time limit set for the negotiations. After three months without having reached a debt refinancing agreement *(acuerdo de refinanciacion)* or early composition agreement *(convenio)*, the commencement of legal proceedings must be requested (Art. 5bis LC). In case of not fulfilling this obligation, it shall be presumed that the culprits are the management bodies of the company and will entail the appropriate penalties.

When the legal proceeding has been initiated, a judge specialising in commercial matters declares the insolvency of the debtor *(auto de declaracion del concurso)*, which begins the common phase *(fase comun)*, according to the Art. 21 LC. At this stage, an insolvency trustee who is an economist, entitled commercial, auditor (Art. 26 LC), or lawyer specialising in these matters is designated. After the insolvency declaration, business activity is not interrupted. The judge indicates who has the power of management at the company. The law distinguishes the cases of 'supervision', that is, the insolvency trustee monitors the debtor's management, or 'suspension' in a case when the debtor's management is replaced. Declaring the insolvency of the debtor causes that executions against the debtor's assets are suspended, including the accrual of interest from loans, except those from the collateralised debts (Art. 59). The common phase ends with the decision of the judge regarding the beginning of the liquidation phase *(fase de liquidacion)* or composition agreement between the debtor and creditors *(fase de convenio)*. This takes place after the report of the insolvency trustees has been presented, and the period for claims of creditors on the debtor has elapsed. Notably, the objective of the LC is to encourage the resolution of insolvency through the agreement to preserve business continuity. However, the evidence shows that majority of firms in Spain that file for insolvency proceedings are liquidated (Van Hemmen 2009).

Figure 1 summarises the phases of the insolvency proceeding in Spain.

Figure 1. Phases of insolvency proceedings in Spain*



Notably, Spain's legislation also provides the possibility for resolution of insolvency through summary proceedings *(concurso abreviado)*, which requires insolvency that is not particularly complex. The list of creditors must be less than 50, and the debtor's estimated liabilities and valuation of assets and rights must be less than five million euros; additionally, it may be used in cases exhibiting a proposal of an early composition agreement or agreement that includes a corporate restructuring. On a mandatory basis, summary proceedings apply in the case where the debtor presents a liquidation plan with the proposed purchase of a productive unit in operation and in the event of the complete cessation of business.

From the above, it can be concluded that the Spanish bankruptcy legislation gives different solutions to keep the business as a going concern. It also allows anticipating the upcoming insolvency and filing for proceedings before it becomes mandatory. This indicates that the Spanish bankruptcy legislation is not only focused on a formal obligation of highly distressed firms to file for court proceedings, but also provides incentives for early filing for insolvency. This could lead to higher use of bankruptcy system leaving less space for informal workouts. However, this is not the case for Spain, where even after the reform of insolvency law the bankruptcy rates remain low. This could indicate that generally known low efficiency and slowness of court proceedings discourage firms to file for insolvency.

In such cases, when the firm defaults on its debt, the other available alternatives are informal workouts and foreclosures. Informal workouts involve activities that can restructure the debtor's business and finances without judicial intervention. A foreclosure aims the debt recovery by seizing the loan's collateral. This means that, it can only be used by secured creditors and lead to overinvestment in fixed tangible assets. In case of Spain foreclosure is not a fully informal procedure as it is supervised by the court. The difference lies in the fact that the court is much less involved in foreclosure than in insolvency proceedings. The research indicates that the high efficiency of foreclosure related to the length of proceedings is the main reason why Spanish firms prefer to use foreclosure rather than file for bankruptcy (García-Posada and Mora-Sanguinetti 2012b). This may suggest that firms do not avoid court involvement in the resolution of financial distress since the courts are also involved in foreclosure. What they do avoid is the inefficiency of judicial proceedings related to their length. This leads to the question of the influence of judicial efficiency on the use of formal insolvency proceedings.

3. JUDICIAL EFFICIENCY AND BANKRUPTCY PROCEEDINGS. THEORETICAL ARGUMENTS AND EMPIRICAL EVIDENCE

The legal system refers to the content of the legislation, and judicial efficiency refers to the application of the law. In this sense, evidence shows that studies on insolvency have mainly focused on the former. However, little research has been conducted on the use of this legislation and efficient application of rules by the judicial institutions.

Claessens and Klapper (2005) refering to 35 countries show that different legal origin can affect the number of bankruptcies; therefore, in common law countries with a market-oriented financial system, the number of bankruptcies is higher. However, this argument explains neither the observed differences between countries with similar legal systems nor the differences within

a country in which the law is the same. The response to these differences may relate to the implementation of the law by the institutions, that is, the judicial efficiency, which may differ depending on the efficiency of the application of legal rules by the courts. This phenomenon, in turn, may depend on the resources available to the courts to perform their duties and the competence of judges to resolve the disputes in the shortest amount of time possible.

In accordance with the neo-institutional approach (Nugent and Lin 1995), the services provided by the institutions involve a series of costs, and consequently, market participants will use those services with a lower total cost. Following this theory, if the costs of using justice are lower than the benefits, the economic agents, in the case of a breach of contract, could attempt to execute their rights through court proceedings. This situation, in turn, may influence the use of formal mechanisms in the resolution of insolvency.

Efficient application of the law makes it possible to reduce the time (Armour et al. 2006) and costs of the process, leading to higher recovery rates or lower reorganisation costs (Dewaelheyns and van Hulle 2009) and maximising the firm's value. However, the differences in application of the insolvency legislation can create a situation where its maximum value will not always be reached. Consequently, the firms may attempt to resolve conflicts outside the court system.

The firms with insolvency problems that need to restructure their debt can apply for court procedure or renegotiate the terms out-of-court. In this sense, out-of-court agreements[9] cause changes in the composition or structure of the debtor's assets and liabilities without formal intervention by the courts. These interventions can be an agreement between the debtor and their creditors on reduction of interest rates, partial or total cancellation of the debt, new loans, or rescheduling payments.

Studies have investigated factors that influence a firm's choice between formal and informal bankruptcy proceedings (Morrison 2008); however, according to our review of the literature, little research was conducted on this with regard to European countries, except the United Kingdom (Franks and Sussman 2005), Germany (Jostarndt and Sautner 2009), and France (Blazy et al. 2014). Following the evidence, the most powerful reason to use out-of-court agreements is that certain costs can be avoided.

[9] In this paper, the terms 'out-of-court workout/agreement', 'workout', and 'informal proceeding' will be used as synonyms and refer to the contractual agreements between the debtor and its creditors without court intervention.

The insolvency process affects firms with high costs which are the sum of direct and indirect costs. The studies that have analysed the cost of financial distress suggest that direct costs are significantly higher for in-court proceedings (Haugen and Senbet 1988; Gilson et al. 1990; Wruck 1990; Morrison 2009), especially for small firms that are unable to create an economy of scale to cover the fixed costs of the process (Bergthaler et al. 2015). Direct costs refer to the administrative and advisory expenses and legal fees. Indirect costs refer to opportunity costs which are incurred due to uncertainty about the firm's future and the inability to carry out its usual activities. They include adverse reputational effects as decline in the demand and increase in the production costs due to a risk premium applied by the suppliers on the prices. Indirect costs refer also to the costs of management's time, stress and lost capacity to make their own decisions (Liou and Smith 2006). In addition, the length of the firm's involvement in court proceedings, which can be affected by the efficiency of the court system, is one of the proxies of indirect costs (Thorburn 2000). In this respect, Cutler and Summers (1988) indicated that these costs can be avoided in informal agreements because the renegotiations between the debtor and creditors can be conducted in secrecy. Moreover, as these procedures are usually faster than procedures under court supervision, the indirect costs are lower (Hotchkiss et al. 2008).

Following the theorem from Coase (1960), we could assert that firms will chose the most efficient manner of restructuring, where the costs are lower. Notably, the use of out-of-court proceedings may be more efficient because they allow for a reduction in costs and an increase in the assets to be distributed. However, this theory does not always work in practice because the informal agreements also involve costs such as professionals' fees, and are not applicable in every case.

Firms in financial distress avoided using the bankruptcy system and strongly favoured out-of-court agreements or alternative systems for debt enforcement such as the foreclosures (García-Posada and Mora-Sanguinetti 2012b) because they were convinced the efficiency was higher and the costs were lower. Notably, the purpose of the formal and informal methods of resolving financial distress is to preserve viable firms as an ongoing concern and maximise the return to creditors. Accordingly, the choice of strategy when a firm is in financial distress is critical. Therefore, prior to informal negotiations, an assessment should be carefully performed as to whether such solution, although less costly, is feasible. According to the literature (Gilson et al. 1990; Jostarndt and Sautner 2009), there are several difficulties that impede reorganisation outside of formal bankruptcy system. On one hand, high levels of asymmetric information may

prevent a fair bargaining between creditors and the debtor. "The literature has confirmed (Bergström, 2002). This can be important factor in case of Spanish firms which tend to borrow from multiple banks (García-Posada and Mora-Sanguinetti 2012b). Based on the above, it can be concluded that informal agreements are not applicable for all companies. This suggests that insolvent firms that are not able to negotiate out-of-court and for different reasons avoid filing for formal bankruptcy, remain in financial distress for extended period of time. Consequently, this non-widespread use of informal proceedings and late filing for formal insolvency can erode the firm's value, prevent efficient reallocation of assets and consequently threaten a firm's survival, leading to liquidation or unnecessary maintaining of non-viable firms in reorganization. The latter may cause high costs incurred by all parts involved including employees, customers and suppliers (James 2016).

A crucial reason why firms avoid court proceedings is their perception about the functioning of the bankruptcy system. This question was asked to bankruptcy and business lawyers in Spain, and it was determined that one of the reasons why firms initiate bankruptcy proceedings late is the negative perception of the effectiveness and efficiency of Spanish bankruptcy proceedings (Gurrea-Martínez 2016). This phenomenon could partially explain why Spain is known for its low bankruptcy rates. If we focus on current research on the use of formal and informal insolvency proceedings, which is also impeded by the lack of data on the latter, we observe that a firm's choice is affected by the costs; however, little evidence has been provided about how this choice is affected by the efficient functioning of bankruptcy system. Nevertheless, when a judicial system is inefficient, the creditors are affected by higher resolution costs and a poor outcome of the reorganisation (Wang 2012); therefore, they will attempt to avoid using the courts.

Regarding empirical evidence, studies measuring the impact of efficient functioning of judicial institutions on the use of formal mechanism to resolve financial distress are scarce. The investigations by Claessens et al. (1999; 2001; 2003) were pioneering in this field; in an analysis of the firms listed on the stock exchange in Asia, the authors demonstrated that an improved judicial efficiency related to aspects such as speed, cost, and ease of procedures, has an impact on the behaviour of creditors. In more efficient judicial systems, creditors are more inclined to push companies towards using legal procedures in case of failure. In addition, companies will be more willing to incur the cost of formal procedures if the ex-ante rights and ex-post efficiency allow for the recovery of losses. This evidence suggests an impact of the functioning of judicial systems on the use of formal proceedings.

Similarly, Claessens and Klapper (2005) found that in countries with more efficient judicial systems, the use of formal mechanisms for the resolution of insolvency is higher. This study indicates that judicial inefficiency is an incentive for firms to address the problems of financial distress by using other means. The increased use of formal proceedings in the resolution of financial distress in these economies is because the firms are more willing to assume the associated costs if they are certain that the institutions involved in the process function properly. The difficulty is that the institutions, even in advanced economies, are perceived negatively because of their poor functioning. Djankov et al. (2006) quantified the impact of inefficient functioning of the financial distress resolution. These authors analysed the process of insolvency for the same type of companies in 88 countries, showing that only 36% avoided liquidation and kept the firm in operation. In addition, in average terms, the results show a loss of 48% of the firm's value, including the costs associated with the enforcement of debt, delays in court proceedings, and inadequate classification as to the viability of the company.

The differences in the use of formal proceedings in the resolution of financial distress have drawn researchers' attention. By focusing on the analysis of the extremely low number of bankruptcies in Spain in comparison to other economies (including high-income economies and emerging markets), Celentani et al. (2010) conducted studies named the SBBP. These authors suggested that the limited number of formal insolvency proceedings is influenced by weak protection of creditors and low capacity of the judicial system. As Celentani et al. (2010: 2) asserted "the data we use are aggregate, we cannot test our view", the question was raised as a guide for future studies.

The next step in the resolution of the SBBP using an econometric analysis and focusing on the efficiency of legislation instead of its debtor or creditor orientation has been performed by García-Posada and Mora-Sanguinetti (2012b). These authors have suggested that the low rates of formal proceedings in Spain may be caused by the efficiency of an alternative mechanism for the resolution of insolvency, mainly, the mortgage system with procedures that consume less time and offer higher recovery rates. This indicates that Spanish firms intend to address their problems of financial distress without filing for bankruptcy. In addition, a study that analysed the use of the insolvency proceedings among Spanish SMEs (García-Posada and Mora-Sanguinetti 2014) highlighted that one of the main reasons why firms avoid formal proceedings and opt for alternative mechanisms is the excessive duration and high costs of court proceedings.

Despite an increase in the number of bankruptcies in the last years in Spain, the use of formal insolvency procedure is very low in relation to other economies with a similar level of development. According to the research conducted by Euler Hermes (2007; 2011) out of 30 countries, Spain is the second country with the lowest bankruptcy rates. Even the higher number of bankruptcies observed during the economic crises and creation of specialized commercial courts (Detotto et al. 2018) did not change the fact that insolvency rates in Spain are still one of the lowest. In Spain in 2010, for every 10.000 firms, 15 formal business bankruptcies took place while in other countries this number was significantly higher: 217 in France, 89 in Germany, 88 in Japan and 98 in United States (García Posada and Mora Sanguinetti 2012a). The recent report published by the Register of Forensic Economists (2018) indicates that Spain has a ratio of bankruptcies over the number of firms of 0.1, while France has a ratio of 1.5, Germany 0.7, Portugal 0.7, United Kingdom 0.7, Italy 0.3, Finland 0.7 or Denmark 2.9. In fact, there is no research that fully explains these low rates in Spain. Theoretical study of Celentani et al. (2010) suggests that one of the factors that can affect the probability of involving in a formal bankruptcy proceedings is the efficiency of bankruptcy procedures. The low rates may also be justified by the use of mortgage system (García-Posada Mora-Sanguinetti 2012b) characterised by shorter durations, higher recovery rates, procedural simplicity, and opportunities for business continuity (Gilson 1990; García Posada and Mora Sanguinetti 2012a,b). In this sense, for example in Spain, the duration of the foreclosure procedure is on average between 7 and 9 months, and the average duration of the formal bankruptcy process in the court is 18 months (García-Posada and Mora Sanguinetti 2012b). Additionally, the law and finance literature has shown that the high degree of formalism, the excessive length of court proceedings and inefficiency of courts are problems faced by the economies (Djankov et al. 2001; 2003; 2006) and can influence the aforementioned factors.

The noted studies were conducted at international level; consequently, their analyses of the differences among countries assumed that the level of judicial efficiency within the selected countries was similar. However, none have raised the question of whether variation exists in the context of one country where the law is unique, and consequently, the impact of efficiency is the most evident. According to our review of the literature, the only studies that have analysed the judicial efficiency for one country have been referred to in this paper. None focused on the use of formal bankruptcy proceedings within one country based on judicial efficiency. The works conducted in this line have mainly referred to Brazil and Spain. The literature on Brazil concentrated on the impact of judicial efficiency in the credit market (Pinheiro and Cabral 1999;

Ponticelli and Alencar 2016). Regarding Spain, the studies analysed the impact of the judicial system on the cost of debt (Fabbri 2010) and firm size (Mora-Sanguinetti 2010; García-Posada Mora-Sanguineti 2014).

The arguments put forward, results obtained at international level, and the scare evidence at national level justify the study of the impact of efficient functioning of judicial system in the context of a single country where legislation is the same. Because the efficiency in the implementation of legislation may differ, the following assumption was made:

> *For the same content of the bankruptcy legislation, better judicial efficiency increases the use of formal bankruptcy proceedings as a means of resolution of financial distress.*

4. DATA AND METHODOLOGY

4.1. Sample

The sample is composed of non-listed firms in Spain facing the problem of financial distress. Due to the particular regulatory framework, financial entities are excluded. The sample was divided into two sub-samples. The first comprises of insolvent firms that filed for bankruptcy proceedings in 2014. The second consists of active and financially distressed firms that have not filed for court proceedings between 2014 and 2017. The information comes from the SABI database (Bureau Van Dijk)[10].

To obtain the subsample of distressed companies involved in formal bankruptcy proceedings (subsample 1), we extracted the list of public limited companies (Plc) and private companies limited by shares (Ltd.) that filed for bankruptcy proceedings in 2014: a total of 4.419 companies[11]. It was required that those firms have financial information available in the database for at least one of the three years preceding the entry into bankruptcy (2011–2013), and this led to the exclusion of 1.613 companies reducing the sample to 2.806 firms. This requirement was set because some firms in the years preceding bankruptcy do not present their

[10] This database contains the status (active, in the bankruptcy procedure) and date of change of status. This information allows for the determination of the firms that file for formal proceedings within a certain period. However, the SABI database is updated in such a way that it loses the historical information. Therefore, search was conducted at the beginning of 2015 to obtain information relating to 2014. It is likely that many companies, which entered into bankruptcy procedure in the years prior to 2014, have changed their status in 2015. Therefore, it was decided to focus only on 2014.

[11] At the beginning of 2015, when the list was extracted from SABI database, there were 4.852 firms in bankruptcy. When cross-checking this list with those obtained in previous years, it was detected that 433 firms filed in bankruptcy in previous years, so they were eliminated.

financial statements (García-Gallego and Mures-Quintana 2013). Due to the fact that under Spanish law insolvency may be actual or imminent (Art. 2.3 LC), the sample could include those companies that anticipate the problem of financial distress. To assess the state of insolvency, we used a Z-score model (Altman 2000) for non-listed firms. Altman's failure prediction models have been widely used to classify distressed companies (Fan et al., 2013). This model obtains a score based on the weighting of four financial ratios (liquidity, self-financing, economic profitability and financial autonomy), and establishes a "distress zone" used to classify the firms. The firms with higher probability of bankruptcy are those for which $Z < 1.1$.[12]. Z value was estimated for each firm in the sample. Among the 2.806 companies in the sample, 2.080 (75%) have a Z value less than 1.1., while 726 firms (25%) have a Z value equal or greater than 1.1. There are two possible and non-exclusive explanations for the firms filing for bankruptcy with a Z value greater than 1.1. On the one hand, it can be accepted that the Altman model predicts correctly the insolvency of 75% of firms. On the other hand, it is possible that the financial statements presented by these companies do not reflect their true financial situation. Several works found that companies have a tendency to manage their earnings over several years before filing to bankruptcy (Arnedo and Lizarraga, 2004; Leach and Newsom, 2007). These companies have been eliminated from the initial analysis. However, 319 potentially bankrupt companies belonging to the "grey zone" ($1.1< Z <2.6$)[13] have been considered in a robustness analysis. Considering those firms, the subsample 1 consist of 2.399. Excluding 14.5% of companies with Z value greater than or equal to 2.6, this represents 85.5% of companies that filed for bankruptcy proceedings in 2014. Consequently, the final number of bankruptcy filing in the subsample 1 amounts to 2.080, of which 54% are micro-enterprises (1,123 firms with less than 10 employees) and 46% are SMEs and large firms (957 firms with more than 10 employees).

The selection of the subsample of insolvent firms not involved in formal bankruptcy proceedings (subsample 2) was obtained from the SABI database. This sample included only those firms, Plcs and Ltds, for which the financial information was available in the SABI database for the years 2011, 2012, and 2013. Only the firms that had a net loss in the last three years, the data on number of employees, and have not filed for bankruptcy between 2014 and

[12] The calculation of the Z Altman (2000) is explained in section 4.2 Variables.

[13] Companies whose insolvency probability is not clear cannot be considered as financially healthy firms and are classified in the Altman's bankruptcy prediction models under the "grey zone" ($1.1< Z <2.6$) ..

2017[14] have been taken into account. To homogenise the criterion used to determine the level of insolvency, which is the same as for subsample 1, the Z-score model (Altman 2000) has been used. The initial control sample included 9.289 companies. Of the total, 6.897 companies have less than 10 employees and 2.392 have at least 10 employees. Similarly, it was considered appropriate that the sample of insolvent firms not involved in the formal procedure of bankruptcy should be similar in terms of size and economic activity[15]. To create a sample matched by size and sector, within each group (micro-enterprises and SMEs and large companies) the same number of companies as in the subsample 1 for each sector identified according to two CNAE digits[16] was selected. Additionally, when the number of non-bankruptcy firms in a sector is greater than the number of bankrupt firms in the same sector, the selection was based on the lowest Z value. In summary, the control sample consists of 2.080 firms which have the same size and sectorial distribution as subsample 1. Finally, both subsamples have been integrated into one single database that contains 4.160 firms. 50% of them are insolvent and involved in formal bankruptcy proceedings and remaining 50% are financially distressed but did not file for bankruptcy. Table 1 presents the sectorial distribution of the sample. It can be observed that more than 65% of financially distressed companies belong to the sectors of industry, construction and trade.

Table 1. Sample distribution by sector

	Nº of filing firms (subsample 1)	Nº of non-filing firms (subsample 2)	% over total n º of firms
Agriculture, fishing and livestock	37	37	1.78
Industry and energy	468	468	22.50
Construction	407	407	19.57
Trade	483	483	23.22
Transport and communications	108	108	5.19
Hotels and restaurants	162	162	7.79
Real estate	54	54	2.60
Health and education	30	30	1.44
Other services	331	331	15.91
Total sub-sample	**2.080**	**2.080**	**100%**

[14] For this check, the list obtained was cross-checked with the list of companies that are in bankruptcy in 2015, 2016 and 2017 extracted from SABI in each year.

[15] The approach is similar to that used in the studies on prediction of business failure, which usually consider a matched sample. One is composed of all insolvent firms and a control sample that includes the same number of observations with a similar size and sector (García-Gallego and Mures-Quintana 2013).

[16] CNAE is the acronym of National Classification of Economics Activities in Spain. According to CNAE each activity is associated with 4 digits. For example, CNAE 4724 corresponds to trade (4), retail (47), food products (472), bread and bakery products (4724).

4.2. Variables

Dependent variable. To assess the impact of the functioning of the judicial system on the use of court proceedings versus alternative means during the resolution of financial distress, a dichotomous variable *(bankruptcy)* was created. This variable takes the value 1 if the insolvent firm filed for formal insolvency proceedings in 2014 and 0 if the firm being insolvent was still not involved in the legal proceedings until the end of 2017.

Explanatory variable (*judicial efficiency*). Different measures of judicial efficiency have been used by researchers. In our paper, we decided to follow the EU justice scoreboard[17], which indicates that the length of judicial proceedings and the rates related to the management of the flow of cases by the courts are the main indicators of an effective justice system. This phenomenon occurs because poor management of cases leads to a greater length of judicial proceedings. Moreover, the time spent in court proceedings is considered as a proxy of the indirect costs of bankruptcy, which can affect the use of formal proceedings (Thorburn 2000). Empirical studies have used different indicators related to time to measure judicial efficiency. Jappelli et al. (2005) used the length of trials and number of pending cases per thousand inhabitants. Fabbri (2010) used the average length of trials and the proportion of trials whose conclusion took longer than 12 months. The congestion rate has been used by García-Posada and Mora-Sanguinetti (2014). Padilla et al. (2007) used the flow of cases and the estimated duration as proxies of judicial efficiency.

In Spain, the General Council of the Judiciary (*Consejo General del Poder Judicial*, CGPJ) is the constitutional body responsible for improving the quality of justice and the publication of data related to judicial institutions. The database of the CGPJ contains information on judicial efficiency rates by jurisdiction, autonomous community, and year. Referring to jurisdiction, we have considered the rates related to the specialised commercial courts which since the bankruptcy law reform in 2003 are responsible for the management of insolvency proceedings in Spain. As a proxy of measuring judicial efficiency and following the study of García-Posada and Mora-Sanguinetti (2013), we consider the clearance rate, pendency rate, and congestion rate; their calculations and interpretations are presented in Table 2. In our paper, we use those rates at the level of autonomous community.

[17] Reports published by the European Commission providing an overview and indicators of the efficiency, quality, and independence of justice in the European Union member states.

As presented in Table 2, the higher the value of the clearance rate, the higher the capacity for resolution of cases by the courts assimilated with greater judicial efficiency. The rate of approximately 100% means that the judicial system resolves as many cases as came into the court. However, if the clearance rate is lower than 100%, it indicates that there are cases still pending. The number of pending cases refers to those that remain to be dealt with at the end of the year. The pendency rate and the congestion rate use in the denominator the number of resolved cases. The pendency rate considers in the numerator the pending cases at the end of the year, while the congestion rate takes into account pending cases at the beginning of the year as well as the incoming cases during the year. Consequently, in proportion to the resolved cases, a higher value of those rates indicates lower efficiency of courts. Considering that the purpose of the study focuses on analysing the impact of judicial efficiency on the numbers of formal insolvency proceedings in 2014, we considered efficiency rates from the year 2013.

Table 2. Judicial efficiency indicators used in models

Indicator	Formula	Interpretation
Clearance rate	$\frac{Number\ of\ resolved\ cases}{Number\ of\ incoming\ cases}\ x100$	The higher value, the greater judicial efficiency
Congestion rate	$\frac{Number\ of\ pending\ cases\ at\ the\ begining\ of\ the\ year + incoming\ cases}{Number\ of\ resolved\ cases}$	The higher value, the lower judicial efficiency
Pendency rate	$\frac{Number\ of\ pending\ cases\ at\ the\ end\ of\ the\ year}{Number\ of\ resolved\ cases}$	The higher value, the lower judicial efficiency

Control variables. To control for the factors which could affect business decisions regarding the use of the two means for resolving financial distress, we have considered the following variables: the insolvency level, tangibility of fixed assets, firm's size, age, legal form, and firm sector.

Insolvency level. The level of insolvency was approximated by Z score model (Altman 2000). There are different versions of Altman's model. In our work, we used the model applicable to non-listed companies, not necessarily industrial. The calculation formula is as follows: Z = 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4, where X1 = current assets-current liabilities/total assets, X2 = retained earnings/total assets, X3 = earnings before interest and taxes/total assets, X4 = book value of equity/total liabilities. The interpretation of the Z value is made in the sense that a higher value indicates a lower probability of insolvency. Specifically, Altman (2000) distinguishes three zones of discrimination: a) a "safe zone" that includes solvent companies:

$Z > 2.6$, b) "grey zone": $1.1 < Z \leq 2.6$, and c) "distress zone" that includes insolvent companies probably headed for bankruptcy: $Z < 1.1$. In the econometric models, the Z value was introduced as a continuous variable (*level of insolvency)* by accounting for the average of the years 2011–2013 for companies not involved in formal bankruptcy proceedings. For the firms under court proceedings, we took the value corresponding to last year preceding the bankruptcy and used the accounts available in the period 2011–2013[18]. García-Posada and Mora-Sanguinetti (2012b) are among the authors who have considered the Z value as a determinant of the likelihood of entry into bankruptcy proceedings.

Tangibility of assets. Gilson et al. (1990) argued that the companies with a greater concentration of intangible assets on their balance sheet attempt to avoid legal proceedings. This is because the costs of formal proceedings are more likely to be higher for companies with these types of assets. According to Thorburn (2000) firms with higher proportion of intangible assets show increased probability of going concern sales negotiated prior to bankruptcy filing as an alternative to formal proceedings. The importance of asset tangibility on the decision whether or not to use the formal procedure or other means such as foreclosure, in the resolution of financial distress has been highlighted in studies conducted by García-Posada and Mora-Sanguinetti (2012b; 2014). These authors suggested that companies should have tangible assets that can be used as collateral to be able to use the alternative procedure, particularly mortgage foreclosures. Foreclosure always results in asset liquidation; therefore, firms with high levels of intangible assets are less likely to use this type of procedure. The variable *tangibility* has been created as a ratio between fixed tangible assets and the total assets of the company.

Size. The firm size may have an impact on the use of formal bankruptcy proceedings (Claessens and Klapper 2005). Small companies may avoid formal procedures as they are less likely to incur high costs. At the same time, smaller firms often have fewer assets, which may influence the decision of the creditors to use of the court proceedings. The variable *size* has been approximated by the number of employees.

Age. Davydenko and Franks (2008) showed the existence of a relationship between the choice of formal insolvency procedure and the firm's age. These authors linked the propensity to enter informal proceedings with the information asymmetry because financial institutions have better

[18] As indicated, companies with financial problems frequently do not fulfil reporting requirements in the year preceding filing for bankruptcy. However, as a robustness check, the model is estimated considering only companies with information available for the year preceding the procedure.

knowledge of companies with a bigger market presence. This may increase their willingness to execute private negotiations instead of using formal proceedings. Firm age is also used as a proxy of its reputation and is expected to have a negative effect on the probability of filing for bankruptcy (Bergström et al. 2005). The variable *age* has been created and computed as the logarithm of the number of years from the incorporation of a company until 31 December 2013 for firms involved in the formal bankruptcy proceedings. For companies not in the formal proceedings, we have considered the time that elapsed until the date of the last available accounts in the period 2011–2013.

Legal form. García-Posada and Mora Sanguinetti (2012a), in their analysis of data provided by the National Institute of Statistics in Spain, indicated that the number of formal proceedings is higher for the firms where the liability of administrators is limited. Therefore, Plcs and Ltds. tend to use more legal proceedings than self-employed individuals or companies in which the liability is unlimited. In our analysis, we disaggregated the data for the firms with limited responsibility and included it as a control variable in our models. To consider legal form, a dummy variable called *legal form,* which adopts the value 1 for a Plc and 0 for an Ltd. was created.

Sector. Maksimovic and Phillips (1998), among others, considered that sector and its level of growth may influence the number of bankrupt firms. According to these authors, companies operating in high-growth sectors are less willing to sell or liquidate their assets, and mechanisms other than bankruptcy procedures might play an important role in restructuring distressed companies. This situation can also affect the value of assets. To include the firm's sector in our model, we created dummy variables classifying the firms in the sample into nine categories: *agriculture, fishing and livestock*, *industry and energy, construction, trade, transport and communications, hotels and restaurants, real estate, health and education,* and *other services*. The list of variables used and source of information are shown in Table A1 in the Appendix.

5. RESULTS

5.1. Descriptive analysis

As presented in Table A2 in the Appendix, the rates of judicial efficiency in 2013 differ depending on the autonomous community. For example, in La Rioja, with a clearance rate of 0.72, the courts have a much lower resolution capacity than in Aragon, where the rate is 1.06. These results indicate that these courts, in addition to solving all the incoming cases in a given period, are able to reduce the burden of pending cases. Since the legislation within the country

is the same and applies at a national level, it is not its complexity that causes the differences in the disputes resolution. The aforementioned table also contains distribution of both samples by autonomous community.

The descriptive statistics of variables for the insolvent firms involved (subsample 1) and not involved (subsample 2) in formal insolvency proceedings are shown in Table 3.

Table 3. Descriptive statistics of variables

	Subsample 1		Subsample 2		T-test
Variable	Mean	Standard deviation	Mean	Standard deviation	
Clearance rate	0.84	0.08	0.83	0.08	-1.3405*
Pendency rate	1.43	0.33	1.43	0.35	0.1947
Congestion rate	2.45	0.34	2.45	0.35	0.5717
Level of insolvency	-11.24	38.31	-16.13	5.41	-4.5822***
Tangibility	0.29	0.28	0.53	13.46	28.9965***
Size	2.13	1.29	0.93	385.05	-37.4396***
Age	2.53	0.79	1.16	10.75	-71.3470***
Legal form	19.42	-	14.66	-	-4.0893***

*; **, ***significant at 10%, 5% and 1%, respectively.

In average terms, the efficiency rates are similar in both subsamples, and only the clearance rate is significantly different (at 10%). The results show significant differences in all of the control variables. Firms involved in formal proceedings have the average mean Z-Altman value of -11.24. Insolvent companies not involved in court proceedings have a higher level of insolvency with the average mean value of -16.13. On one side, these results are due to the selection of non-bankrupt companies with lower Z values to ensure that they are in a state of severe insolvency. On the other side, companies under court proceedings have on average lower levels of tangible assets with a rate of 0.29, compared to insolvent companies not involved in formal proceedings whose level of tangible assets is 0.53. These results indicate that firms that decided not to solve financial distress through court proceedings have greater assets which may be used as collateral justifying the use of alternative proceedings for the resolution of insolvency. In terms of firm size, the average number of employees is higher in the subsample of firms involved in formal insolvency proceedings. The average age of these companies is also higher than in the group of insolvent firms that have filed for the court proceedings.

Lastly, Table 4 presents the correlation matrix between variables. It can be observed that the variables do not represent high correlation coefficients. Therefore, no problems of multicollinearity exist among them.

Table 4. Correlation matrix between variables

	1	2	3	4	5	6	7	8
1. Bankruptcy	1							
2. Clearance rate	0.0208*	1						
3. Pendency rate	-0.0030	-0.7648***	1					
4. Congestion rate	-0.0089	-0.7982***	0.9846***	1				
5. Tangibility	-0.4101***	0.0355**	-0.0400***	-0.0339***	1			
6. Level of insolvency	-0.0709***	0.0350**	-0.0380**	-0.0408***	0.0480***	1		
7. Size	0.5021***	-0.0130	0.0203	0.0196	-0.1834***	0.1401***	1	
8. Age	0.7419***	0.0155	0.0008	-0.0057	-0.2950***	-0.0881***	0.5198***	1
9. Legal form	0.0633***	-0.0589***	0.0649***	0.0613***	-0.0159	0.0635***	0.2557***	0.2689***

*; **, ***significant at 10%, 5% and 1% , respectively
Details on variables: see Table A1 (Appendix)

5.2. Multivariate analysis

Due to the dichotomous nature of the dependent variable, that is, decision on entry or not into court-involved insolvency proceedings, a logistic regression was used, specifically, the conditional probability model probit[19]. In this type of non-linear model, the coefficients are useful for the interpretation of the sign, while the marginal effects are dealing with the interpretation of the impact magnitude. Specifically, the marginal effects of the regressors represent how much the (conditional) probability of the outcome variable changes when changing the value of a regressor, holding all other regressors constant at some values. The marginal effect associated with a change of the i-th covariate in the probit model is as follows: $\partial \text{Prob(Bankruptcy)}/(\partial x\_i)\, dx\_i = \beta\_i\, \phi(\beta' x) dx\_i$. In accordance with the objectives of the study, the purpose is to analyse if the probability that a firm enters into bankruptcy proceedings depends on the level of judicial efficiency while accounting for other characteristics such as the level of insolvency, tangibility of assets, firm size, age, sector, and legal form.

The three rates of judicial efficiency were used alternatively as an explanatory variable; therefore, three models were estimated. The regression results are presented in Table 5 and show that the clearance rate (Model 1) for which a higher value is associated with a more efficient judicial system has a positive influence on filing for bankruptcy proceedings in autonomous communities of Spain. Given the construction of judicial efficiency rates,

[19] Because the explanatory variables show low inter-annual variability, the estimation by fixed effects regression model is not appropriate. For this reason we decided to estimate the models using random effects.

expressed in percentages, in order to compute marginal effects, we assume the marginal change of the explanatory variable of one standard deviation of the dependent variable[20]. Based on this assumption and on the results obtained from the model, one standard deviation increase in the value of clearance rate increases the probability to use court-involved proceedings during financial distress by approximately 3.18 percentage points. By contrast, pendency and congestion rates have a significant negative impact on the use of court proceedings, and this is consistent with the interpretation of these rates. A larger value of pendency rate relates to the accumulation of outstanding cases. Therefore, one standard deviation increase in its value reduces the probability of entry into formal bankruptcy proceedings by approximately 2.24 percentage points (Model 2). Similarly, one standard deviation increase in the value of the congestion rate (Model 3) reduces the probability of the use of court proceedings by approximately 2.45 percentage points. Notably, the results concerning pendency and congestion rates are similar because of the high correlation between the two rates.

Regarding the control variables, in all models, the results concerning the Z-Altman show a positive sign, although the level of significance is weak (10%). Initially, the expected sign should be negative indicating that most insolvent companies have a higher probability of filing for bankruptcy proceedings. However, these results are consistent with the aforementioned subsample composition which aims to ensure that firms not involved in court proceedings are in deep insolvency. This result can be interpreted in the sense that, despite presenting a greater probability of insolvency, the companies have decided not to pursue those formal proceedings.

Tangibility of assets has a negative and significant impact on the entry into formal bankruptcy proceedings. This indicates that firms that did not file for court proceedings have a higher proportion of tangible assets. It could suggest that those firms with tangible assets which can serve as collateral, and therefore can be used to offset the debt, prefer to use informal agreements or foreclosures. This result is in line with those obtained by García-Posada and Mora-Sanguinetti (2012b, 2014) who highlighted high efficiency of mortgage foreclosures in Spain.

All three estimated models show the positive relation between firm's size and formal insolvency.

[20] The computation of marginal effects considering one standard deviation change was obtained by multiplying a unit change marginal effect for the judicial efficiency rate in a given model (Table 5) by the standard deviation of the rate in question provided in the Table 3.

Table 5. Regression model- resolution of financial distress and judicial efficiency (depended variable bankruptcy)

	Model 1			Model 2			Model 3		
Bankruptcy = 1	**β**	**dy/dx**	**z**	**β**	**dy/dx**	**z**	**β**	**dy/dx**	**z**
Clearance rate	1.0230***	0.3970***	2.81	-	-	-	-	-	-
Pendency rate	-	-	-	-0.1747**	-0.0678**	-2.04	-	-	-
Congestion rate	-	-	-	-	-	-	-0.1861**	-0.0722**	-2.16
Level of insolvency	0.0014*	0.0005*	1.78	0.0014*	0.0005*	1.83	0.0014*	0.0005*	1.82
Tangibility	-1.8636***	-0.7232***	-16.75	-1.8557***	-0.7203***	-16.71	-1.8554***	-0.7202***	-16.71
Size	0.4111***	0.1595***	13.05	0.4091***	0.1588***	13.01	0.4094***	0.1582***	13.02
Age	1.4861***	0.5767***	35.26	1.4852***	0.5765***	35.28	1.4852***	0.5765***	35.27
Legal form	-0.9429***	-0.3617***	-10.93	-0.9457***	-0.3626***	-10.97	-0.9454***	-0.3625***	-10.97
Industry and energy	-0.2813	-0.1104	-1.12	-0.2700	-0.1060	-1.07	-0.2705	-0.1062	-1.08
Construction	-0.7173***	-0.2801***	-2.95	-0.7050***	-0.2755***	-2.90	-0.7039***	-0.2750***	-2.90
Trade	-0.1924	-0.0753	-0.76	-0.1824	-0.0714	-0.73	-0.1818	-0.0711	-0.72
Transport and communications	0.0095	0.0037	0.03	0.0145	0.0056	0.05	0.0160	0.0062	0.06
Hotels and restaurants	0.1419	0.0541	0.55	0.1497	0.0571	0.59	0.1523	0.0580	0.60
Real estate	-0.0145	-0.0056	-0.05	0.0015	0.0005	0.00	0.0008	0.0003	0.00
Health and education	0.0102	0.0039	0.03	0.0194	0.0075	0.06	0.0213	0.0082	0.06
Other services	0.0969	0.0373	0.39	0.1052	0.0404	0.42	0.1068	0.0410	0.43
Constant	-2.8277***	-	-7.08	-1.7267***	-	-6.06	-1.5221***	-	-4.59
Observations		4.160			4.160			4,160	
Pseudo-R^2		0.6139			0.6133			0.6134	
Log-likelihood		-1.113,18			-1.115,06			-1.114,81	
Cases correctly classified		92.60%			92.62%			92.64%	
Sensitivity		88.89%			88.89%			88.89%	
Specificity		96.30%			96.35%			96.39%	

Details on variables: see Table A1 (Appendix). Dependent variable: Bankruptcy =1 if distressed firm has filed for-court proceedings and 0 if not.
dy/dx: marginal effects, post-estimation probit. Sensitivity: % cases correctly classified subsample 1. Specificity: % cases correctly classified subsample 2.
*; **, ***significant at 10%, 5% and 1%, respectively.

These results are consistent with Claessens and Klapper (2005), who suggested that larger firms could use formal proceedings due to their ability to withstand the high fixed costs associated with the use of the courts. Our regression results in Table 5 reveal that the firm's age is positively associated with the use of bankruptcy proceedings, suggesting that old firms are more likely to solve financial distress using court proceedings. This result is contrary to Davydenko and Franks (2008) who associate the firm's age with the level of asymmetric information. However, use of age as a proxy for information asymmetry is not clear. Bergström et al. 2005 suggest that young firms can be more transparent than older companies. Our results are in line with the study of García Posada and Mora Sanguinetti (2014) where the age has a positive effect on the sample of Spanish firms, negative on U.K sample and no robust impact on French sample.

Although all firms in our sample have 'limited liability' and their personal assets cannot be liquidated, in all three estimated models the relation between variable *legal form* and filing for formal bankruptcy proceedings is positive and significant at 1%. We observe that Plcs are more willing to use formal proceedings. A possible interpretation of this result could be linked to the structure of these companies. Normally, the Ltds. are characterised by a higher number of shareholders whose liability is proportional to their shares in capital. Therefore, in the case of formal insolvency proceedings, the responsibility is divided between several parties.

With respect to the *sector* variable, the results have shown that only one of sectors is statistically different from the sector used as reference (agriculture, fishing and livestock). Specifically, the coefficient of construction sector is positive and significant, which indicates a higher probability of use of formal proceedings by firms operating in this sector. Notably, those firms tend to have high levels of tangible assets that could be used to offset the debt in informal negotiations. Therefore, we could expect that that they will be more geared towards informal workouts. However, the results, as expected, could be affected by the 2008 economic crisis in this sector, which was undoubtedly one of the hardest hitting ever. In this context, private negotiations could be extremely difficult. Finally, it is important to note the high value of Pseudo R2, exceeding 60%, as well as the very high percentage of correctly classified cases (over 90% in all models).

5.3. Robustness test

In this section, we provide additional estimations to demonstrate the robustness of the results obtained. For this purpose, we have re-estimated the models considering various sub-samples. The re-estimations were performed for the three rates of judicial efficiency. We present only those related to the clearance rate (table 6).

Table 6. Resolution of financial distress and judicial efficiency (dependent variable bankruptcy). Robustness Analysis

Sample	**Model 4** Only firms with data in 2013			**Model 5** Construction sector excluded			**Model 6** Bankruptcy firms with Z<2.6		
Bankruptcy = 1	**β**	**dy/dx**	**z**	**β**	**dy/dx**	**z**	**β**	**dy/dx**	**z**
Clearance rate	0.8681**	0.3088**	1.99	1.1662**	0..4054**	2.54	0.5281**	0.1963**	1.95
Level of insolvency	0.0002	0.0000	0.22	0.0027**	0.0009**	2.49	0.0045***	0.0016***	6.57
Tangibility	-1.6933***	-0.6024***	-12.75	-2.4076***	-0.8370***	-16.51	-1.8292***	-0.6799***	-18.87
Size	0.2271***	00808***	5.59	0.7412***	0.2577***	17.00	0.3302***	0.1227***	11.17
Age	1.6977***	0.6040***	25.60	1.7980***	0.6251***	32.99	1.2324***	0.4581***	33.12
Legal form	-0.8825***	-0.2567***	-10.03	-1.2391***	-0.4612***	-10.78	-0.4586***	-0.1768***	-6.21
Industry and energy	0.1008	0.0363	0.29	-0.3937	-0.1420	-1.34	-0.1091	-0.0408	-0.51
Construction	-0.4593	-0.1505	-1.47	-	-	-	-0.4673**	-0.1798***	-2.14
Trade	0.1171	0.0422	0.34	-0.2234	-0.0794	-0.77	-0.0830	-0.0311	-0.39
Transport and communications	0.3760	0.1422	0.98	0.0246	0.0085	0.08	-0.0439	-0.0164	-0.18
Hotels and restaurants	0.4267	0.1617	1.15	0.1182	0.0400	0.41	0.0878	0.0322	0.40
Real estate	0.3251	0.1225	0.78	0.1017	0.0344	0.30	0.1168	0.0424	0.45
Health and education	0.3652	0.1385	0.79	-0.0638	-0.0225	-0.16	0.0370	0.0136	0.12
Other services	0.5140	0.1938	1.44	0.1288	0.0438	0.46	0.1334	0.0486	0.63
Constant	-3.5527***	-	-6.92	-3.4594***	-	-7.06	-1.7889***	-	-5.84
Observations		3.242			3.346			4.479	
Pseudo-R^2		0.6374			0.6904			0.4897	
Log-likelihood		-767.03			-718.00			-1.578,36	
Cases correctly classified		93.92%			93.42%			87.14%	
Sensitivity		86.23%			90.79%			82.63%	
Specificity		98.22%			96.05%			92.12%	

Details on variables: see Table A1 (Appendix). Dependent variable: Bankruptcy =1 if distressed firm has filed for-court proceedings and 0 if not.
dy/dx: marginal effects, post-estimation probit. Sensitivity: % cases correctly classified subsample 1. Specificity: % cases correctly classified subsample 2.
*; **, ***significant at 10%, 5% and 1% , respectively.

First, since the subsample of insolvent firms involved in formal bankruptcy proceedings includes firms with financial information available in one of the previous years prior to the failure (2011, 2012 or 2013), Model 1 was re-estimated to consider only those firms that have accounts in SABI in the year preceding filing for bankruptcy (2013). The results of model 4 (Table 6), are similar to the obtained in the Model 1 (Table 5). Second, since the construction sector is the only sector that shows positive and significant relationship with filing for formal proceedings, the re-estimation was made excluding those companies. The results of this model are reported in Table 6 (Model 5), and the coefficient of the clearance rate is positive and significant. Third, we have explored the robustness of the sample selection. In subsample 1 we have considered firms with a Z Altman value <2.6 (so-called "grey zone"). As a consequence, only bankrupt companies that according to the Altman's model are in good financial health are excluded. The sample is integrated for 4.479 firms, 2.399 filing for bankruptcy and 2.080 control firms. This total sample is composed of 50% of micro companies and 50% of SMEs and large companies, and both subsamples have the same percentage distribution by sector of activity. The results (Model 6) are maintained and the resolution rate has a significant and positive coefficient, as in all previous models.

Taking into account the results in Table 5 which indicate that despite higher probability of insolvency, some firms did not file for court proceedings, an additional robustness analysis which controls for the creditors' incentives to claim in the court against the debtor's indebtedness was conducted. This is particularly interesting because, as pointed out earlier, the Spanish legislation allows the creditors to apply for debtor's insolvency. For this purpose, the Z score model was replaced by set of financial variables associated with financial distress and widely used in the literature to control for potential reasons of bankruptcy. In the Table 7, after having controlled for non-existence of multicollinearity with control variables, the Z-score of Altman was replaced by the following financial ratios: return on assets (ROA), leverage and liquidity. ROA is calculated as a ratio between earnings before interest and taxes (EBIT) and its total assets and it is used to assess firm's ability to pay its debt and proxy for default risk (Bliss and Gul 2012). Higher leverage, measured as total debt over total assets, is perceived as higher likelihood of insolvency (Myers 1977). To capture liquidity, we divide current assets less inventories by current liabilities. Following this criteria, Model 7 was re-estimated. Taking into account that firm size may affect bargaining power of firms, the model was re-estimated also for the sub-sample of micro-enterprises (Model 8) and the sub-sample of SMEs and large firms (Model 9).

Table 7. Resolution of Financial Distress and Judicial Efficiency. Robustness Analysis (II)

Sample	**Model 7** All firms			**Model 8** Microfirms			**Model 9** SME and larges firms		
Bankruptcy = 1	**β**	**dy/dx**	**z**	**β**	**dy/dx**	**z**	**β**	**dy/dx**	**z**
Clearance rate	1.1544***	0.4493	3.09	1.2077**	0.2368	1.88	2.6263***	1.0153	3.62
ROA	-0.2722***	-0.1059	-7.76	-0.4105***	-0.0804	-4.74	-0.1561***	-0.0603	-3.17
Leverage	-0.0255***	-0.0099	-3.20	-0.0395***	-0.0077	-4.18	0.7416***	0.2867	4.33
Liquidity	0.00001	0.00001	1.04	3.4057***	0.6677	11.03	0.00005**	0.00002	2.01
Tangibility	-1.8336***	-0.7136	-16.14	-1.8220***	-0.3572	-8.40	-0.7828***	-0.3026	-3.60
Size	0.4328***	0.1684	13.23	1.4924***	0.2926	11.60	1.4698***	0.5682	15.93
Age	1.5336***	0.5969	32.93	2.2042***	0.4322	20.08	11105***	0.4293	13.07
Legal form	-0.9905***	-0.3776	-10.12	-0.2588	-0.0575	-1.07	-1.0787***	-0.4103	-7.28
Industry and energy	-0.2835	-0.1115	-1.11	-0.2882	-0.0631	-0.56	-0.5770	-0.2250	-1.33
Construction	-0.7011***	-0.2740	-2.71	-0.2587	-0.0553	-0.51	-1.8825***	-0.6224	-4.18
Trade	-0.2141	-0.0841	-0.84	-0.1083	-0.0219	-0.21	-0.5662	-0.2222	-1.28
Transport and communications	-0.0030	-0.0011	-0.01	-0.2026	-0.0440	-0.37	-0.4176	-0.1651	-0.84
Hotels and restaurants	0.0674	0.0260	0.25	0.2078	0.0365	0.40	-0.2368	-0.0931	-0.51
Real estate	0.0144	0.0056	0.05	-0.3778	-0.0897	-0.67	-0.3093	-0.1223	-0.29
Health and education	-0.0388	-0.0151	-0.11	-0.5716	-0.1496	-0.81	-0.2421	-0.0955	-0.37
Other services	0.0353	0.0137	0.14	-0.1546	-0.0322	-0.30	-0.3272	-0.1287	-0.74
Constant	-3.0923***	-	-7.55	-5.2628***	-	-6.81	-7.0829***	-	-8.60
Observations		4,160			2246			1,914	
Pseudo-R^2		0.6324			0.7741			0.7863	
Log-likelihood		-1,057.49			-351.30			-282.29	
Cases correctly classified		92.82			94.74			95.44	
Sensitivity		89.39			92.15			94.85	
Specificity		96.24			97.33			96.02	

Variables: see Table A1 (Appendix).
Dependent variable: Bankruptcy =1 if distressed firm has filed for-court proceedings and 0 if not
dy/dx: marginal effects, post-estimation probit. Sensitivity: % cases correctly classified subsample 1. Specificity: % cases correctly classified subsample 2.
*significant at 10%, ** significant at 5% ,*** significant at 1%

Following the robustness test, in Model 7, the clearance rate keeps its positive sign and statistical significance. The coefficients of ROA and leverage are negative and significant, which indicates that the more profitable and indebted the firms, the less likely they are to use formal bankruptcy proceedings. This may be related to the fact that profitable firms with higher ROA are more likely to reach an out-of- court agreement with their creditors. In relation to the leverage, the negative coefficient indicates that the probability of filing for bankruptcy within highly leveraged firms is lower. This could be explained by the fact that in some legislations, also including the Spanish one, filing for insolvency implies that appointed administrator supervises or replaces the firms' management. For this reason, the managers of extremely leveraged firms have strong incentives to become involved in informal workouts and try to restructure quickly in order to solve financial distress. Similar evidence was found for Germany (Jostarndt and Sautner 2009).

As it can be observed in both Model 8 and Model 9 the results for clearance rate are maintained and show positive and significant sign. Nevertheless, the statistical significance level is higher in the sub-sample of SMEs and large firms. ROA and liquidity ratio maintain statistical significance in both models, as well as negative and positive signs, respectively. The positive coefficient of liquidity ratio suggests that firms with higher liquidity level are more willing to use bankruptcy procedures. In fact, liquidity-constrained debtors may face difficulties in obtaining agreement with creditors which can lead to avoidance of court proceedings. With regard to the leverage in the sub-sample of the SMEs and large firms, the coefficient is positive and significant. Meanwhile, it is generally known that bigger firms have greater bargaining power. Higher leverage may involve higher number of creditors, leading to coordination problems and difficulties in reaching informal agreement. The remaining control variables presents similar results to the previous models, except the legal form, which loses its statistical signification in the sub-sample of micro-enterprises.

Lastly, model 1 has also been re-estimated considering different proxies of size, number of employees in the form of a dichotomous variable, equal to 1 if it is a micro-enterprise and 0 if it is an SME or large firm, or the logarithm of sales, and the results do not vary (results not reported).

6. DISCUSSION OF RESULTS AND CONCLUSIONS

The literature investigating problems of insolvency and business failure has primarily focused on the content of legislation and appropriately designed bankruptcy laws. Specifically, the focus

has been on the differences in the rights of creditors in the context of the debtor- or creditor-oriented legislation. Nevertheless, a growing number of studies have recognised the importance of efficiency in the enforcement of legislation and its influence on business decisions and financial markets. This impact is due to high costs that may entail an inefficient judicial system on economic performance.

In the framework of law and finance literature, the aim of this work was to analyse the impact of the functioning of judicial institutions; in particular, the impact of courts' efficiency in the resolution of cases on the use of formal court-involved insolvency proceedings by the firms in financial distress. In this respect, it has been observed that the literature only represents studies that have been carried out at international level, whereas this study refers to a single country. This novel perspective allows the isolation of the effect of the legislation content, which is the same at the national level, from the efficiency in its enforcement that differs by regions.

The study was conducted on a sample of 4.160 non-listed firms in Spain with insolvency problems and divided into two sub-samples: insolvent firms that filed for formal insolvency proceedings and insolvent firms not involved in formal proceedings. Both sub-samples have a similar composition in terms of size, including micro, SMEs, and large firms, and the same number of firms by sector of activity. In contrast with the literature that used the data from the civil courts to address types of disputes, we based the measure of judicial efficiency on the data for the commercial courts in Spain that have jurisdiction in insolvency proceedings. Considering the judicial efficiency data at the regional level, we can observe that the efficiency with which the courts manage the flow of cases varies, and this affects the filing of formal insolvency proceedings. In particular, the estimated models are reasonably successful and show that firms located in the autonomous communities with more efficient judicial systems have a greater willingness to use formal bankruptcy proceedings when addressing a financial distress problem, and this corroborates the impact of judicial efficiency on the use of courts in the resolution of insolvency. The estimated models show a high predictive capacity, correctly classifying more than 90% of cases. Furthermore, the results are reasonably robust when taking into account only companies with financial information available in the year prior to filing for bankruptcy. Similar results are reported when excluding the companies from construction sector and expanding the sample of bankrupt companies through inclusion of 319 firms which according to Z value do not show a high probability of insolvency.

Thus far, our analysis provides support to the theoretical arguments, according to which greater judicial efficiency increases the probability that financially distressed firms will file for court-

involved proceedings to solve their problems rather than use alternative means. This result is in line with the suggestions of Celentanti et al. (2010), regarding the impact of judicial inefficiency on the low number of court-involved insolvency proceedings in Spain. Additionally, the results are also in line with García-Posada and Mora Sanguinetti (2012b), who suggested that in the process of insolvency resolution, out-of-court agreements and foreclosures are more attractive due to the inefficiency of the court system, which could partially explain low use of formal bankruptcy proceedings in Spain. Similarly, the results are in line with those obtained by Claessens et. al. (1999; 2001) and Claessens and Klapper (2005), although these were carried out at the international level.

Our results have relevant practical implications for different market participants, public authorities, judicial institutions, firms, debtors, or creditors and indicate that the differences in law enforcement by the courts help to explain low bankruptcy rates in Spain. They suggest that Spain's firms tend more towards the use of alternative mechanisms, such as foreclosure or private negotiations. This result may indicate that firms attempt to avoid the high costs that might be caused by judicial inefficiency, leading to a situation in which they file in court at later stage, showing serious financial deterioration. This idea shows that general improvements in the quality of the judicial enforcement system and, in particular, in the efficiency of the commercial courts, would have a positive impact on the timeless use of the formal insolvency proceedings in Spain, above all by companies that are not able to use informal agreements to address insolvency problems. This could bring positive economic returns in the form of more efficient outcomes of insolvency proceedings and higher firm value after this process. The results of the study could be useful in the context of the ongoing discussions in Spain over the insolvency framework and discussions ongoing at European level over the importance of efficient court system.

Our research contributes to the literature that examines the impact of the efficiency of judicial enforcement system on businesses operations and it is an approximation towards the close link existing between the functioning of institutions, and agents operating in the markets. The paper indicates that the efficiency of the judicial enforcement system and satisfactory functioning of the institutions might play an important role. This standard of efficiency should be present in reforms and analysis of judicial systems taken by regulatory bodies as well as be subject to future studies in the field of judicial efficiency. Future work can be built to explore the effect of judicial efficiency on the choice between formal and informal restructuring of financial distress.

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Appendix A

Table A1. Variables description

Variable	Description	Source
Bankruptcy	Dummy = 1 if the insolvent firm has filed for insolvency proceedings in 2014. Dummy = 0 if the firm being insolvent is not involved in the formal proceedings until the end of 2017.	SABI
Clearance rate	Ratio between the number of resolved and incoming cases in 2013 calculated by an autonomous community.	CGPJ
Pendency rate	Ratio between the number of pending cases at the end of 2013 and number of resolved cases in 2013 calculated by autonomous community.	CGPJ
Congestion rate	Ratio between the number of pending cases at the beginning of 2013 and a number of resolved cases in 2013 calculated by autonomous community.	CGPJ
Level of insolvency	An average of the Z-Altman for the years 2011–2013 in the group of insolvent companies was calculated from the last year in which the accounts were available for the period 2011–2013.	SABI
Tangibility	Ratio between fixed and total assets.	SABI
Size	Logarithm of the number of employees.	SABI
Age	For firms involved in the formal bankruptcy proceedings calculated as the logarithm of the number of years from the incorporation of a company until 31 December 2013. For firms that did not file for formal proceedings, we have considered the time that elapsed until the date of the last available accounts in the period 2011–2013.	SABI
Legal form	Dummy = 1 if the firm is public limited company (Plc) and dummy = 0 if the firm is private company limited by shares (Ltd.)	SABI
Sector	9 dummies corresponding to the sectors: agriculture, fishing and livestock, industry and energy, construction, trade, transport and communications, hotels and restaurants, real estate, health and education, and other services	CNAE 2009

CGPJ: General Council of the Judiciary. CNAE 2009: National Classification of Economic Activities. SABI: Database that contains information on companies in Spain and Portugal.

Table A2. Distribution of sample by autonomous community and judicial efficiency proxies

Autonomous community	Nº of firms	Nº of filing firms	Nº of non-filing firms	Clearance rate	Pendency rate	Congestion rate
Andalusia	490	224	266	0.78	1.57	2.57
Aragon	126	63	63	1.06	0.98	1.93
Asturias	111	42	69	0.84	1.05	2.29
Balearic Islands	121	63	58	0.81	1.28	2.49
Canary Islands	129	75	54	0.82	1.54	2.72
Cantabria	45	13	32	0.89	0.95	1.95
Castile and León	209	84	124	0.88	1.14	2.16
Castila-La Mancha	177	72	105	0.88	1.54	2.54
Catalonia	691	422	269	0.80	1.54	2.53
Valencian Community	506	297	209	0.96	1.16	2.14
Extremadura	62	35	27	0.75	1.40	2.4
Galicia	277	113	164	0.91	1.01	2.05
La Rioja	36	21	15	0.72	1.24	2.29
Community of Madrid	842	383	459	0.75	1.97	2.98
Region of Murcia	68	42	26	1.02	1.36	2.34
Navarre	41	12	29	0.86	1.04	2.04
Basque Country	229	119	110	0.88	0.84	1.85
Total nº of firms	4,160	2,080	2,080			

Details on judicial efficiency indicators are provided in Table 2. Source: CGPJ