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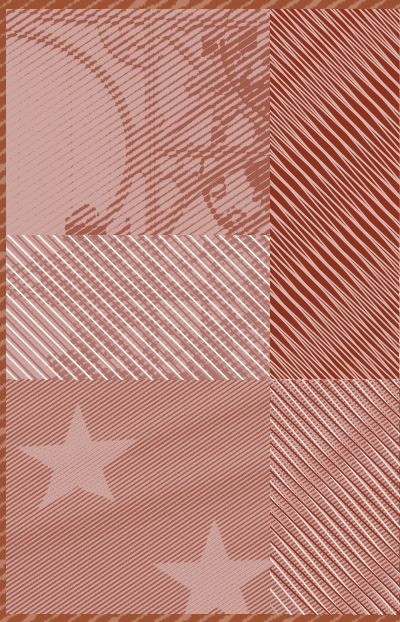

BANCO DE **ESPAÑA**
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BANCO DE ESPAÑA – EUROSYSTEM

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Abstract

Small businesses, the majority of Spanish firms, rarely file for formal bankruptcy, and this has been the case even during the current economic crisis. This suggests that bankruptcy law has a limited role to play in the distress of small firms. We propose an explanation based on two premises: (i) bankruptcy procedures are more costly and drawn out than the main alternative procedure, the mortgage foreclosure; (ii) personal bankruptcy law is unattractive to the individual debtor. Empirical analyses on a large micro data sample of Spanish, French and UK firms corroborate our hypothesis. It is important to note that these results are based on data that do not yet capture the impact of recent reforms of the Spanish insolvency framework.

Keywords: bankruptcy, mortgage, insolvency.

JEL classification: G33, G21, K0.

Resumen

Las empresas pequeñas, que constituyen la mayoría del tejido empresarial español, raramente solicitan concurso de acreedores, incluso durante la actual crisis económica. Esto sugiere que la Ley Concursal desempeña un papel limitado en la resolución de las dificultades financieras de estas empresas. El presente trabajo propone una explicación de este hecho que se basa en dos premisas: i) los concursos de acreedores son más costosos y lentos que la principal alternativa, el sistema hipotecario, y ii) los concursos de acreedores son poco atractivos para el deudor individual. El análisis empírico de una amplia base de datos de empresas españolas, francesas y británicas corrobora nuestra hipótesis. En todo caso, es importante tener en cuenta que los resultados de este trabajo se basan en datos que no recogen todavía los efectos de las recientes reformas del marco jurídico que gobierna la insolvencia corporativa y personal.

Palabras clave: concurso de acreedores, hipotecas, insolvencia.

Códigos JEL: G33, G21, K0.

1. Introduction

Business bankruptcy[2] rates (number of business bankruptcies divided by the number of firms in the economy) in Spain were among the lowest in the world before the current economic crisis and they are still relatively low in comparison with most developed countries, as documented by Celentani *et al.* (2010, 2012) and García-Posada and Mora-Sanguinetti (2012).

However, the use of bankruptcy procedures by Spanish businesses varies widely depending on the size of the distressed firms. Panel A of Figure 1 shows that bankruptcy rates of small, medium and large firms have soared since the onset of the economic crisis, reaching levels in line with the aggregate rates of developed countries. By contrast, the rates of micro firms –defined as businesses with less than 10 employees- are still in very low levels, averaging 12 bankruptcy filings per 10,000 firms in 2012. We reach a similar conclusion when we restrict our attention to the firms that have exited the market by computing the conditional bankruptcy rates (number of business bankruptcies over firm exits), as shown in Panel B of Figure 1. Since micro firms account for more than 95% of the firms in Spain[3], it is essential to know how they deal with financial distress[4] for the design of adequate insolvency institutions.

Spanish micro firms also have other distinct characteristics. They hold, by far, the largest proportion of mortgage loans over financial debt, as shown in Figure 2. Filing for bankruptcy is especially unattractive for them because a significant proportion of the bankruptcy costs (compensation of the insolvency administrators, lawyers' fees, etc) are fixed. Personal bankruptcy may apply to many of those firms regardless of their legal form, because the distinction between limited and unlimited liability may be blurred for them, partly because lenders require personal guarantees or security in the form of a mortgage on the owner's home (Berkowitz and White, 2004). Finally, although the available evidence is rather limited, Spanish micro firms seem to file for bankruptcy much less than some of their European counterparts: in 2006, the bankruptcy rates for self-employed and micro enterprises were 0.1 and 1.5 per 10,000 firms, respectively, in Spain, while those in France were 95.2 and 163.1[5], and the bankruptcy rate for self-employed in the UK exceeded 176[6].[7]

In contrast with the low incidence of business bankruptcies, business foreclosures have soared during the crisis. While around 8,000 firms filed for bankruptcy in 2012, there

[2] Following Djankov *et al.* (2008), by "bankruptcy" we mean a legal procedure that imposes court supervision over the financial affairs of a firm or individual that has broken its promises to creditors or honours them with difficulty, and whose possible outcomes are reorganisation or liquidation. See Appendix A for a complete discussion on the legal terms used in this paper.

[3] Source: Central Business Register, National Statistics Institute of Spain.

[4] By "financial distress" we mean a situation in which a firm is close to default and it needs to take corrective action, such a selling major assets, merging with another firm or filing for bankruptcy (Ross et al., 2005).

[5] Sources: *Instituto Nacional de Estadística*, Altares (2010), Eurostat.

[6] Figures on bankruptcy filings for self-employed are only available for England and Wales, so the computed bankruptcy rate (176) is a lower bound of that for the U.K.

[7] Sources: The Insolvency Service, Eurostat.

were nearly 26,000 business foreclosures[8] in the same year. Moreover, the latter figure must be considered a lower bound, since small business owners may finance their firms with loans secured on their homes (Berkowitz and White, 2004) but, if lenders repossess the collateral, they will be reflected as residential foreclosures in the official statistics.

Parenthetically, a foreclosure –either on firms' assets or households' properties- could be defined as "a debt enforcement procedure aimed at recovering the money owed to secured creditors" (Djankov *et al.* 2008). There are different types of foreclosures depending on which collateral can be repossessed using a single execution procedure. Since this paper concentrates on the analysis of small firms and entrepreneurs, and land and buildings are the main assets that can be given as collateral by them[9], we will focus on "mortgage over land and buildings" foreclosures. For brevity of exposition, *we shall refer to "mortgage over land and buildings" as just "mortgage"* throughout the paper. In other words, *by "mortgage" we will mean a loan secured by land and buildings* (*hipoteca* under Spanish law), *and not by other types of collateral*[10]. This is an important remark because there are other types of mortgages in some legal systems such as the British one. For more details on some relevant legal concepts and their comparability across countries we refer the reader to Appendix A.

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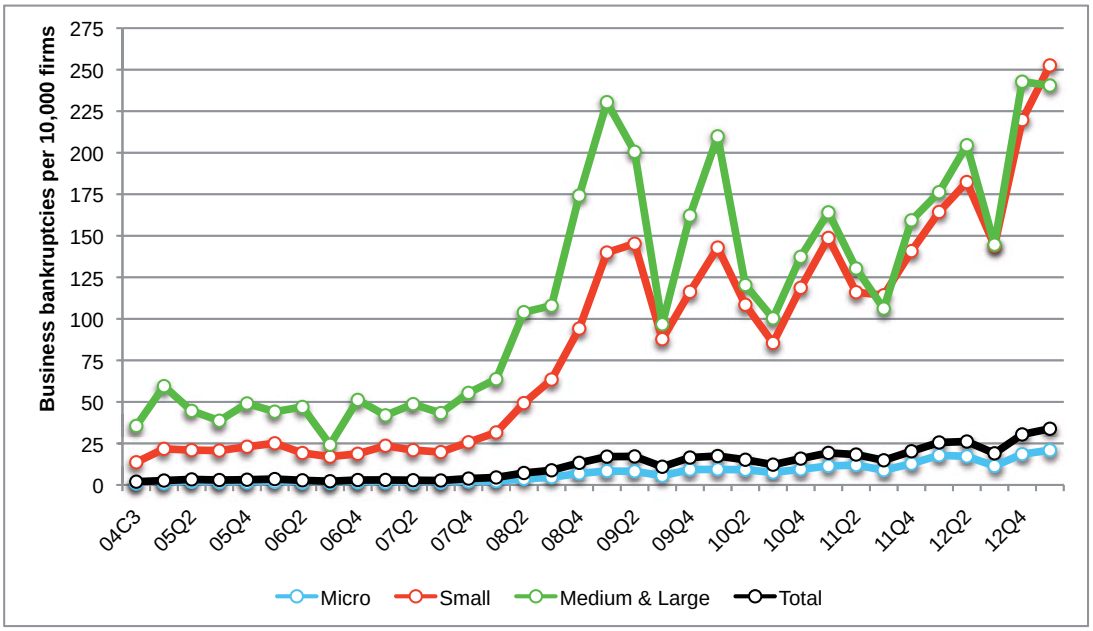
[8] Source: Consejo General del Poder Judicial (2012) and Registradores de España (2012).

[9] For instance, the entrepreneur's home and other residential properties. According to the Eurosystem Household Finance and Consumption Survey, these assets accounted for 77.6% of the total wealth of households in Spain and 67.5% in France.

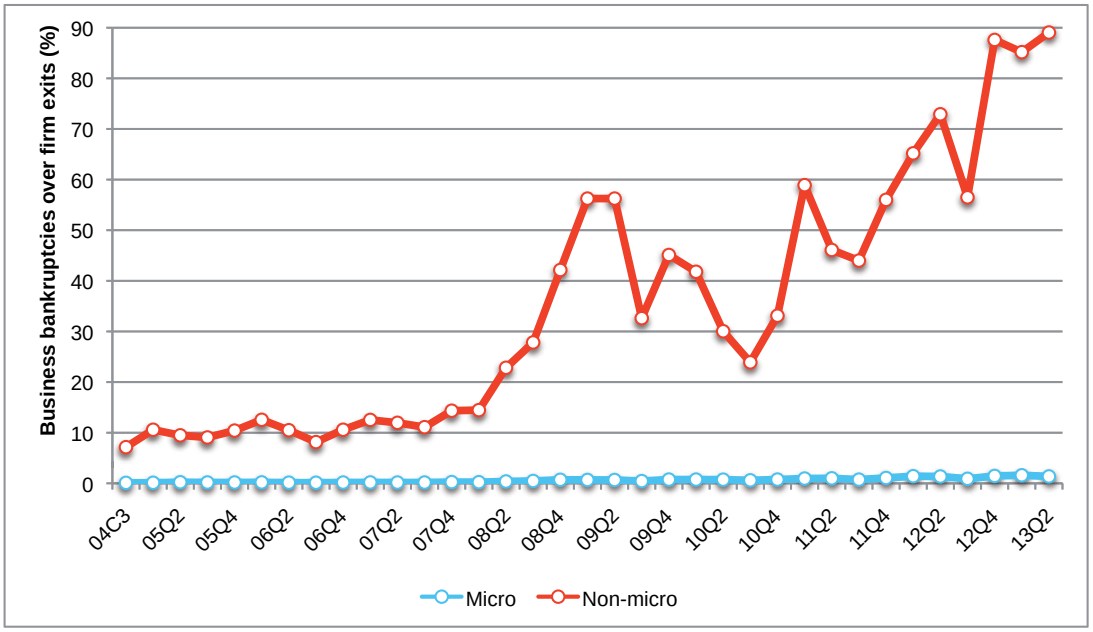
[10] Machinery can also be part of the collateral of the *hipoteca* as long as they are inside the building.

Figure 1: Bankruptcy rates by size in Spain.

Panel A: Business bankruptcy rates

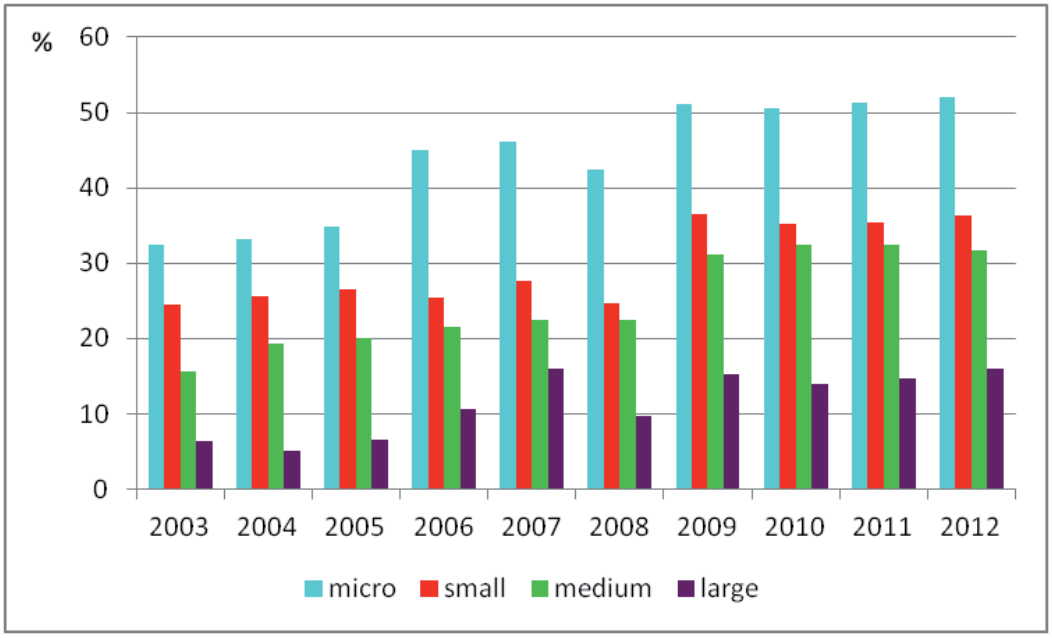


Panel B: Conditional bankruptcy rates.



Quarterly data except for the first period 04C3, which corresponds to the last 4 months of 2004. Rates are annualized. Source: authors' calculations on data from the Spanish National Statistics Institute. Size is measured in terms of employees. Micro: [0,9], small: [10,49], medium & large: >50. Non-micro: >9.

Figure 2: % mortgage loans over bank debt by business size in Spain.



Source: Authors' elaboration with data from the Central Credit Register and the Central Balance Sheet Data Office, Banco de España.

Consistent with those stylized facts, our hypothesis on the low business bankruptcy rates of Spanish micro firms is that those businesses and their lenders avoid filing for bankruptcy by making possible that creditors foreclose (execute) the collaterals of the loan contracts. Since most of their secured credits are mortgage loans (*préstamos hipotecarios*)[11], debt enforcement takes place via mortgage foreclosures (*ejecuciones hipotecarias*), which consist of the repossession of the land and buildings that were pledged as collateral. This is a more attractive way to deal with financial distress because mortgage foreclosures are much cheaper and quicker than the bankruptcy system (*concurso de acreedores*). Furthermore, personal bankruptcy is a very unattractive option because it is extremely severe towards the individual debtor. Since the costs of filing for personal bankruptcy are substantial while the benefits are almost none, *(de jure* or *de facto)* unlimited liability firms have strong incentives to avoid filing for bankruptcy and use mortgage foreclosures instead.

We can summarise our hypothesis as:

H_0: *The low bankruptcy rates of Spanish micro firms are due to an institutional framework that discourages the use of the bankruptcy system and encourages the use of an alternative procedure, mortgage foreclosures.*

The hypothesis H_0 implies that small financially distressed firms with a high proportion of mortgage debt should rarely file for bankruptcy in Spain, while this phenomenon should not be observed in other institutional settings where the bankruptcy system is more appealing than mortgage foreclosures or secured credit does not heavily rely on

[11] Notice in Figure 2 that mortgage loans currently account for more than 50% of all bank loans of micro firms, and bank loans account for most of the credit to small businesses in Spain (Arce *et al.*, 2011).

land and buildings as collateral. While we cannot directly test H_0, we can test its implication. If the empirical evidence corroborates this implication, we can conclude that H_0 is not falsified by our analyses, shedding some light on the research question.

Hence, the identification strategy consists of testing whether a higher percentage of mortgage loans imply a lower probability of filing for bankruptcy in the case of small Spanish distressed firms. As the comparison group we use distressed firms from France and the U.K., as well as large Spanish firms. In France mortgage foreclosures are slower and more costly than the bankruptcy system. In the UK firms need not hold high amounts of land, buildings or other related tangible fixed assets to obtain secured credit, since the high efficiency that the floating charge brings to insolvency procedures makes the use of mortgage foreclosures less necessary.

Table 1 illustrates our approach. Since we cannot directly test whether A (the Spanish institutional framework) causes C (the low bankruptcy rates in Spain)[12], what we do is to test whether B (the endogenous responses of firms and lenders) causes C –obviously, controlling for the endogeneity of B- in Spain, while B does not cause C in other institutional settings.

Table 1: Our view of the Spanish case.

A: INSTITUTIONAL FRAMEWORK
Bankrupty system:
-corporate: slow and costly procedures
-personal: no debt discharge.
VS
Mortgage foreclosures:
quicker and cheaper procedures.
⇓
B: ENDOGENOUS RESPONSES OF FIRMS AND LENDERS
Lenders provide mortgage loans.
Firms adjust their capital and asset structures.
⇓
C: LOW BANKRUPTCY RATES

[12] To carry out that strategy we would need time series variation of the institutional framework. However, although the current bankruptcy system entered into force in 2004 after a major legislative reform, it seems that the *de facto* institutional framework barely changed because the performance of bankruptcy proceedings did not seem to substantially improve (Gutiérrez, 2005; Van Hemmen, 2004). In fact, bankruptcy rates did not increase after the introduction of the new law and it seems that firms' capital and asset structures did not change either (Celentani *et al*., 2010).

Our main findings do not falsify the proposed hypothesis. Specifically, a higher proportion of tangible fixed assets (the only assets can that be used as mortgage collateral in Spain) over total financial debt significantly decrease the probability of being in bankruptcy among Spanish micro firms in financial distress, while this does not hold neither for Spanish larger businesses nor for firms from the other countries (France and the UK).

To the best of our knowledge, this is the first paper that addresses the research question. Claessens and Klapper (2005) use country-level data to explain bankruptcy rates around the world. They find that a country's overall institutional quality and some features of bankruptcy systems (creditors' consent for reorganisation, automatic stay of creditors' claims) are associated with more bankruptcies. However, since Spain, according to Claessens and Klapper, has high institutional quality and its bankruptcy system requires creditors' consent for reorganisation and provides an automatic stay provision, Spain should exhibit high (aggregate) bankruptcy rates.

Celentani, García-Posada and Gómez (2010, 2012) address the (aggregate) low bankruptcy rates in Spain. Their main objective is to propose an explanation that is not immediately contradicted by a number of related aggregate stylized facts that they document. Specifically, they use the theoretical prediction of Ayotte and Yun (2007), according to which low creditor protection and low judicial ability imply low bankruptcy rates, to conjecture a wide set of activities (leverage reduction, lenders' screening and monitoring, choice of projects that trade off return for lower risk and/or lower liquidation costs, use of mortgage collateral) in which firms and their creditors could potentially engage to reduce the probability of bankruptcy. García-Posada and Mora-Sanguinetti (2012) also address the same research question, but focusing on the correlations between the percentage of tangible fixed assets in firms' balance sheet, several determinants of financial distress and the probability of filing for formal bankruptcy.

The contribution of this paper to the existing literature is twofold. First, it studies the different behaviour towards bankruptcy of Spanish micro firms relative to that of larger firms, something that has been overlooked before. Second, it uses an identification strategy that allows establishing *causal* links between the factors of interest.

Finally, we must stress why explaining the low business bankruptcy rates of Spanish micro firms is important. Although it is well known that enforcement of security interests can substitute for a court-supervised bankruptcy procedure if coordination costs are low (Picker, 1992), Djankov *et al.* (2008) provide survey evidence that foreclosures work extremely well when coupled with "floating charge" debt securities (i.e., when the assets of the entire business can be used as collateral), but poorly when – as in the case of Spain- only specific assets can be used as collateral. This finding goes in line with the theoretical analysis of García-Posada (2012), who shows that the Spanish institutional framework, characterised by the wide use of mortgage foreclosures and the low utilisation of bankruptcy proceedings, may generate several inefficiencies that have a negative impact on aggregate welfare. Moreover, an unattractive personal insolvency law may not only discourage self-employed and micro firms from filing for bankruptcy, but it may also deter entrepreneurship (Fan and White, 2003, Armour and

Cumming, 2008), efficient risk-taking and innovation (Armour, 2004) and consequently it may have a negative impact on welfare (Meh and Terajima, 2008).

This paper's results are based on data that do not capture yet the impact of the recent reforms of the Spanish insolvency framework –regarding both corporate and personal bankruptcy[13]. Therefore, the results should be interpreted as reflecting the situation before the introduction of these reforms.

The rest of the paper is structured as follows. Section 2 provides a brief literature overview. Section 3 discusses some key features of the insolvency framework of Spain, France and the U.K. Section 4 focuses on data sources and sample selection criteria. Section 5 explains the empirical testing of the hypothesis. Section 6 concludes. Some robustness analyses and additional information on the insolvency institutions of each country are displayed in the appendices.

2. Related literature

Although there is a vast literature on bankruptcy, only few studies have focused on alternative mechanisms to deal with financial distress and the impact of the insolvency framework in lenders' practices and firms' capital and asset structures.

Djankov *et al.* (2008), in their study of debt enforcement institutions in 88 countries, provide survey evidence on the use and efficiency of foreclosures and bankruptcy procedures[14]. They find that the efficiency of foreclosure rises with the availability of "floating charge" finance and when the senior creditor is allowed to take collateral in an out-of-court procedure. Franks and Sussman (2005) corroborate those results, providing compelling evidence that the "contractualist" approach[15] of debt enforcement, coupled with floating charge foreclosures, worked extremely well for small and medium-sized firms in the U.K. The main findings of Djankov *et al.* (2008) and Franks and Sussman (2005) have been formally rationalised by Gennaioli and Rossi (2013).

Morrison (2008a, 2008b) studies why US small firms rarely file for bankruptcy when dealing with financial distress. He argues that there are cheaper and speedier procedures for these firms, such as foreclosures, out-of-court liquidations and private workouts. However, some of these procedures, unlike the bankruptcy system, face major coordination and asymmetric information problems that may hamper their use. Thus he identifies the conditions under which these problems are not very important so those procedures can be implemented: small firms, with simple capital structures (i.e., low number of secured creditors) and with close and trustworthy relationships with their creditors are likely to avoid filing for bankruptcy.

[13] Appendix A includes a discussion on some of the latest legal developments in Spain in this issue.

[14] Categorised into "liquidation" and "reorganization first" procedures.

[15] By "contractualist" approach we mean debt enforcement procedures with little involvement of the judiciary, where the law "…is little more than the strict enforcement of the default clauses in the debt contract, as negotiated ex ante by the lender and the borrower" (Franks and Sussman, 2005, page 66) where agents can resolve financial distress privately, by using debt contracts, instead of relying on state-provided bankruptcy procedures.

Davydenko and Franks (2008) use a sample of small defaulted firms in France, Germany and the U.K. that restructured their debt using either bankruptcy or private workouts. Their main finding is that lenders adjust their lending and reorganisation practices to mitigate costly aspects of bankruptcy laws. In particular, they respond to poor creditor protection under bankruptcy by requiring more collateral and by relying on types of collateral that minimise the dilution of their claims. Hence, both lenders practices and firms' capital and asset structures are endogenous to the insolvency framework.

Finally, a strand in the literature has focused on the determinants of private workouts, starting with the seminal paper of Gilson *et al*. (1990). According to them, firms more likely to restructure their debt privately, outside of Chapter 11, have more intangible assets, owe more of their debt to banks, and owe fewer lenders. This is because, while trade credit is often dispersed among a large number of poorly informed small trade creditors, bank credit, in contrast, tends to be concentrated in a smaller number of better informed lenders with stronger incentives to monitor the firm, which ameliorates coordination and information asymmetry problems.

3. Insolvency framework: the bankruptcy system and mortgage foreclosures.

In order to provide an adequate basis for the econometric exercise, it is necessary to analyse in-depth the insolvency framework of the countries of interest. Those are Spain, France and the UK. France and the U.K. are chosen as the comparison group because their bankruptcy rates are much higher than the Spanish ones and because the specific features of their insolvency frameworks[16]. We must exclude other potentially interesting examples (e.g. Germany and the US) due data constraints[17]. In this section we will only focus in the institutional factors that may influence on the arbitration between bankruptcy and alternative ways of solving default, such as the cost-effectiveness of the procedures, while Appendix A provides an description of the main legal concepts used in this paper. For a more thorough analysis of the insolvency frameworks –especially the bankruptcy laws- see Celentani *et al*. (2010, 2012) and Davydenko and Franks (2008).

An important remark that must be made is about the data we use to evaluate the performance of each insolvency institution. An easy, off-the-shelf solution would be to use the survey-based Doing Business indicators, whose methodology is based on Djankov *et al*. (2008). The survey is based on a *hypothetical* case study on a firm for which they assume *exogenous* capital and asset structures that do not vary across countries. However, their study finds somewhat puzzling results for the Spanish case. First, it predicts that the firm will end up filing for bankruptcy, while bankruptcy is rarely used in Spain. Second, the *survey* estimates indicate that bankruptcy procedures are relatively quick in Spain and constant over time, while *hard* data (see below) shows that they are usually quite lengthy and their duration has dramatically increased due to the congestion of courts in the current economic crisis. A couple of factors that may

[16] They are also representative examples of the two main world "legal families": Civil Law and Common Law, respectively.

[17] Our data come from the office of the Registrar of Companies of each country, but only large firms have the legal obligation to register their annual accounts in Germany. In the case of the US, the available data is at plant-level, while the decision to file for bankruptcy is made at firm-level.

explain those contradictions is that firms *endogenously* adjust their asset and capital structures to the specific features of their country's insolvency institutions, as shown by Davydenko and Franks (2008), and that the results may be sensitive to the nature of the hypothetical employed (Armour *et al*, 2012). Hence we prefer to use hard data from other sources and use the Doing Business only when no other data is available and with all the necessary cautions.

3.1 Alternative insolvency procedures: informal workouts and foreclosures.

When a firm defaults on its debt, filing for bankruptcy is just one of the available alternatives. There are other procedures that may be cheaper and speedier for some types of businesses and creditors. First, in the case of a secured loan, the creditor can seize the assets that serve as collateral for the loan (foreclosure). Second, in the case of an unsecured loan, the creditor can call on the court to sell some of the debtor's assets (individual enforcement of claims). Finally, the firm and its creditors may attempt to reach an out-of-court agreement (private workout).

Foreclosures substantially differ across countries in several important dimensions. The insolvent company or the unsecured creditors can cause a stay of foreclosure proceedings by filing for bankruptcy in France, whereas filing for bankruptcy does not stop foreclosure in the U.K and it is limited in time and scope in the case of Spain. In some countries a foreclosure can be an entirely out-of-court procedure, a private contractual solution in which a receiver liquidates the company (piecemeal or as a going concern) to maximise the recovery of the floating charge holder. This used to be case of administrative receivership in the U.K. prior to the Enterprise Act 2002. In France, a court oversees the foreclosure. In Spain, a foreclosure may be either judicial or out-of-court if supervised by a notary[18].

Foreclosures do not protect unsecured creditors, who must rely on separate insolvency proceedings to individually enforce their claims. This method of debt collection runs into difficulties when there are many creditors and the debtor's assets do not cover his liabilities, since they may lead to creditors' races and the dismantlement of the firm's assets, implying a loss of value for all creditors.

An informal workout is a private reorganisation process in which the major financial creditors of the distressed company act in a coordinated manner to either restructure its debt, so that the company can be kept as a going concern, or to liquidate the company's assets in a orderly manner. Regardless of its potential advantages *vis-à-vis* formal bankruptcy -cost savings, avoidance of adverse publicity- it is often unfeasible due to coordination and asymmetric information problems (Gilson *et al.*, 1990, Morrison, 2008a, 2008b).

The choice between mortgage foreclosures and the bankruptcy system will mainly depend on which procedure is more cost-effective, in terms of the duration of its proceedings and costs for the contract parties (court fees, fees of insolvency administrators, auctioneers, lawyers).

[18] See Appendix A.

3.2 Bankruptcy laws: corporate and personal.

In order to study the potential impact of the insolvency framework on the arbitration between bankruptcy and alternative ways of solving default, both corporate bankruptcy and personal bankruptcy laws must be examined. Personal bankruptcy laws may be used by non-corporate businesses and by small corporate firms (Berkowitz and White, 2004). When a business is non-corporate, its debts are personal liabilities of the firm's owner. When a firm is a small corporation, lenders often require personal guarantees that wipe out the owner's limited liability. This may be especially important in the case of Spain since, as previously discussed, small firms account for a large proportion of the total stock of firms and their bankruptcy rates are the lowest.

The Spanish bankruptcy system (*Ley Concursal)*, which entered into force in 2004[19], only had, until very recently, an insolvency procedure, the *concurso de acreedores*, both for firms and individual debtors[20], though there is a simplified procedure (*concurso abreviado*) that the Court may follow in certain circumstances. The *redressement judiciaire* and the *liquidation judiciaire* are the main insolvency procedures for corporations in France, although a new procedure, the sauvegarde, was introduced in the latest reform of the bankruptcy code (*Loi de sauvegarde des entreprises*), which came became effective in 2006. There are two different procedures for personal bankruptcy: the *plan de redressement* and the *procedure de rétablissement personnel*[21]. Although various corporate insolvency procedures coexist in the U.K., administration is the most important one since the entry into force of the Enterprise Act 2002[22], and "Bankruptcy" is the most common procedure used by individuals[23].

3.3 Choice of insolvency mechanism in Spain, France and the U.K.

3.3.1 Spain

Since the Spanish bankruptcy law allows both the debtor and the creditors to initiate the proceedings (*concurso voluntario* and *concurso necesario*, respectively) we must identify which features of the insolvency framework discourage the former or the latter from doing it. Mortgage foreclosures are an attractive alternative to bankruptcy because they are much quicker and cheaper than bankruptcy procedures, which deter both debtors and creditors from filing from bankruptcy. Moreover, the personal bankruptcy law is very unattractive on the debtor's perspective because of its severity, while it does not yield any extra benefits to the creditors relative to mortgage foreclosures.

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[19] The current Act has been modified twice, one in March 2009 and the other at the end of 2011, both trying to cope with various dysfunctional features in the initial design.

[20] In September 2013 the Spanish Parliament has approved some legal reforms that will create some sort of special bankruptcy regime for self-employed individuals. See Appendix A., section 6, for details.

[21] See Blazy *et al.* (2011, page 6) for an excellent discussion of those procedures.

[22] September 2003.

[23] In the U.K. the term "bankruptcy" only applies to individuals, while insolvency is the term that applies to companies.

The usual length of a mortgage foreclosure is 7 to 9 months (European Mortgage Federation, 2007)[24], while the median duration of a bankruptcy process in 2007 ranged between 20 and 23 months[25] (Van Hemmen, 2008). Furthermore, the modest increase in the number of bankruptcy filings due to the economic crisis has implied a congestion of the courts and a dramatic increase in the median length of the procedures: between 27 and 36 months in the period 2008-2010 (Van Hemmen, 2009, 2010, 2011).[26]

There is a consensus among practitioners on mortgage foreclosures being much cheaper than bankruptcy filings. A mortgage foreclosure is a well-defined and quite standardised process with a low degree of uncertainty about its final outcome, so that its implementation is subject to economies of scale (the bank files several foreclosure lawsuits at the same time, only changing the details of the debtor and the collateral). By contrast, bankruptcy procedures are much more complex and uncertain and they often involve high information asymmetries between the company and its creditors, requiring a great deal of intervention by the court, insolvency administrators, lawyers, etc. This is corroborated by survey evidence. According to European Mortgage Federation (2007), the total costs of foreclosures are between the 5% and 15% of the price obtained in the auction of the collateral (the percentage decreases as the sale price increases) while the Doing Business estimates 15%.

Finally, there is no discharge in personal bankruptcy (all the present and future income of the debtor must be used to pay back pre-bankruptcy debts) and homestead exemptions are very low. Since the costs of filing for bankruptcy are high (compensation of insolvency administrators, lawyers' fees, etc) while the benefits are almost none in the absence of a discharge, Spanish small firms have strong incentives to avoid personal bankruptcy and use the mortgage foreclosures instead, as they are going to have unlimited liability either way.

3.3.2 France

The debtor, creditors, the public prosecutor and the court itself may initiate bankruptcy procedures in France.

Mortgage foreclosures are not such an attractive alternative to bankruptcy in France, unlike Spain, because they are slower and more costly than bankruptcy procedures. Moreover, personal bankruptcy may be an attractive way to solve insolvency in the case of small firms and self-employed. The usual length of a mortgage foreclosure is between 15 and 25 months (European Mortgage Federation, 2007), while the average duration of bankruptcy proceedings in 2007 was 14.2 months (Ministère de la Justice, 2010). According to European Mortgage Federation (2007), the total costs of

[24] Some of the legislative changes concerning the Spanish mortgage law (*Ley Hipotecaria*) introduced in 2013 may increase the length of mortgage foreclosures in the future (see Appendix A, section 6 for details), but not in the period of study of this research.

[25] 20 months for the simplified procedure (*concurso abreviado*), 23 for the ordinary (*concurso ordinario*).

[26] Similar estimations are provided by the General Council of the Judicial Power (Consejo General del Poder Judicial, 2011).

foreclosures are between the 10% and 12% of the price of allocation while the Doing Business estimates 9% in the case of bankruptcy procedures.

In the case of personal bankruptcy, there is immediate debt discharge in the *procedure de retablissement personnel*. The *plan de redressement*, although it mainly consists of a reorganisation plan through debt renegotiation, if the renegotiation between the debtor and his main creditors fails, the judge may enforce a debt restructuring schedule by ruling that the debtor do not have to reimburse their debts for a maximum of two years and he can also partly reduce the debts or elaborate a schedule of repayment for creditors[27].

3.3.3 U.K.

Mortgage foreclosures are not expected to be an appealing alternative procedure because they are not significantly faster nor cheaper than bankruptcy procedures. The usual length of a foreclosure is between 8 and 12 months (European Mortgage Federation, 2007), while the average length of bankruptcy proceedings (administration) is less than 1 year (Armour *et al.* 2012, Frisby, 2006). According to European Mortgage Federation (2007), the total costs of foreclosures are around 5%[28] while the Doing Business estimates 6% in the case of bankruptcy procedures.

More important, the high efficiency that a particular type of loan security, the floating charge -which does not exist in neither Spain nor France- used to bring to foreclosures and now brings to bankruptcy procedures[29] makes the use of mortgage foreclosures less necessary.

Prior to the Enterprise Act (2002), secured creditors were almost entirely in charge of the foreclosure procedure under an administrative receivership scheme. The holder of a floating charge on the business, commonly one bank providing the bulk of finance to the company, could appoint, with almost no other constraints, as soon as there was a default in the loan, a receiver who would take over the entire company, and would try to maximize recovery for the holder of the floating charge[30]. Since preferential credit (wage arrears and tax debts) was senior to floating charges but junior to fixed charges, Franks and Sussman (2005) showed that British banks used to take both a fixed and a floating charge to enjoy both control rights over the bankruptcy process and seniority over most of the proceeds of the sale. This also eliminated coordination failures: there was little litigation and no evidence of creditors' runs. All these factors resulted in fast and cheap procedures, as also documented in Djankov *et al.* (2008). Appendix A provides legal definitions of both fixed and floating charges.

For floating charges created after the enactment of the Enterprise Act 2002 (September 2003), enforcement otherwise than by formal bankruptcy proceedings has been

[27] On condition that debts will be totally reimbursed during a period of ten years at most.

[28] For a sales price set at € 100,000.

[29] The insolvency regime before the Enterprise Act 2002, administrative receivership, is normally characterised as a foreclosure, since it was a procedure for the enforcement of a security interest (a "floating charge") covering all or nearly all the assets of the debtor firm, while the current regime, administration, is normally classified as a bankruptcy procedure (Djankov et al, 2008).

[30] This normally did not imply piecemeal liquidation of the assets, but the sale of the business to a new entrepreneur.

prohibited. This means that the insolvency regime has switched from foreclosures (administrative receiverships) to bankruptcy (administration)[31]. Although under administration floating charges grant less control rights to the secured creditor than under receivership, the bank may, under some conditions, appoint an administrator who takes over the management -although he owes duties also to other creditors and to the company itself. The secured creditor, even without court order and proof of insolvency, may initiate the procedure. The company management is entirely replaced, and the administrator is supervised by the court, and by a committee of creditors. Hence, even under the new regime (administration), creditors have strong incentives to use insolvency proceedings rather than mortgage foreclosures.

Finally, in the case of personal bankruptcy, debt discharge is allowed one year after the end of the procedure, giving clear incentives to small firms and self-employed to file for bankruptcy.

3.4. Scope for private workouts: Spain vs. France.

Since private workouts are feasible when bargaining costs are low, one could argue that they are the main mechanism through which Spanish micro firms and their lenders avoid filing for bankruptcy. Small firms usually have few creditors and they may have engaged in "relationship lending" with their main bank, hence reducing coordination and asymmetric information problems. While, to the best of our knowledge, there is no available evidence on the incidence of workouts in Spain relative to that in other countries, there are several arguments why we think workouts cannot explain the extremely low bankruptcy rates of the very small firms in Spain.

First, although there is an automatic stay over the enforcement of secured credit in Spanish bankruptcy proceedings, this only involves secured credit over assets that are integrated in the debtor's production process –as considered by the court- and only for 1 year or until a restructuring plan that does not affect their rights is approved, whichever occurs first. Moreover, the law allows the insolvency administrator to pay secured creditors out of the company's total assets during the stay, i.e., without the enforcement of their security interests[32]. The restrictive legislation on the stay, as well as its uncertain scope, implies that mortgage creditors are unlikely to be held up by a debtor.

By contrast, debtors are expected to have much more bargaining power outside bankruptcy in France because the bankruptcy law determines an automatic stay for secured creditors until the end of the procedure and because of the high dilution that mortgage credit suffers inside bankruptcy. This is because French bankruptcy courts tend to sell the assets below their potential market prices, as they are not obliged to sell the assets to the highest bidder, but they can sell the whole company to a lower bidder that commits to preserve employment[33] (Davydenko and Franks, 2008), and the state places its own claims and those of employees first in priority when the collateral is sold. This implies that French creditors may be more willing to make some debt concessions in a private workout than Spanish creditors.

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[31] See Armour *et al.* (2012) and Appendix A for further details on this evolution.

[32] Article 155 of the Ley Concursal.

[33] Creditors' approval is not required for the sale of their collateral.

Hence it seems implausible to explain the large differences in the bankruptcy rates of micro firms and self-employed in Spain and France in terms of the relative incidence of private workouts in those countries. Since those rates are low in Spain and high in France, workouts should be abundant in Spain and rare in France, while an analysis of the incentives to file for bankruptcy by debtors and creditors in those countries suggests the opposite.

4. Data

The firm-level data come from the OECD-Orbis database, which is the result of the treatment of raw data from the commercial database Orbis by the OECD (Ribeiro, Menghinello and De Backer, 2010, and Ragoussis and Gonnard, 2011). Orbis contains financial information on both private and publicly held companies around the world although coverage, especially of small firms, greatly varies across countries. Orbis also provides other firm-level information, such as year of incorporation, industry, legal form and status. Status is a variable that tells the legal and economic condition of the firm (e.g. if the company is active or it has ceased its operations, and if it is undergoing some bankruptcy procedure or not) only at the moment in which the data are extracted from the database, i.e., no historical records are kept. Since the data from Orbis were extracted in 2010 (December 31, 2010), we have the status of each company at that time.

Regarding the sample selection, we use data on firms from three countries: Spain, France and the U.K. We only keep their financial data for 2008 because of two reasons. First, the main variable in all our analyses will be constructed using the information on status, which is only available for 2010. This makes panel data an unfeasible structure for the sample, since the variation in the main variable will happen across sections, but not across time. Second, because of the time lag in the submission of financial statements by firms, the Orbis database is characterised by a typical time lag of two years (Ribeiro, Menghinello and De Backer, 2010), which implies that the coverage (in number of companies and complete records) for 2009 and 2010 is very poor, leaving 2008 as the best choice. We only keep financially distressed firms because we aim to test whether Spanish small firms behave differently when dealing with financial distress. In other words, what we want to model is the probability of bankruptcy *conditional* on financial distress. While it is probably safe to assume that all firms under bankruptcy proceedings are distressed (rarely will a healthy business file a bankruptcy petition), for the rest of observations we proxy distressed businesses as those whose interest coverage ratio (EBITDA over interest expenses) is lower than 1. After applying all these filters[34] we end up with a sample of more than 150,000 observations comprising both firms under bankruptcy proceedings (henceforth, bankrupt firms) and distressed businesses that have not filed for bankruptcy (henceforth, non-bankrupt firms).

Since Orbis is a commercial database, our sample may not be representative of the whole population of Spanish, French and British firms. In order to increase the representativeness and the external validity of our results we construct sampling

[34] We also exclude state-owned companies, non-profit organisations and membership organisations. To avoid double-counting of information we eliminate all consolidated accounts for which unconsolidated information exists. Finally, we remove inconsistent observations and extreme values.

weights using data from the OECD's Structural and Demographic Business Statistics (SDBS) and the Spanish Statistical Institute (INE). SDBS provides the distribution of enterprises in each economy by detailed industrial sector (up to 4-digit level) and by size class[35], while INE has the distribution of Spanish bankrupt firms by size and industry[36]. Hence, by weighting our observations we can correct sampling biases. A caveat of this approach is that, since the SDBS does not have information on some industries[37], we must throw away some firms, ending up with around 136,000 observations. Nevertheless, since there is no consensus in the literature about the use of sampling weights in regression techniques (Cameron and Trivedi, 2005), the analyses will be implemented using both the unweighted and the weighted sample in order to check for the robustness of our results.

Table 2 shows the number and percentage over the total number of companies of micro firms, by country, for both samples. We can see that those percentages are somewhat higher in the weighted sample in the case of Spain and France, while they are dramatically higher in the U.K., indicating that micro firms are underrepresented in the unweighted sample, especially in the U.K.

Table 3 shows the number and percentage over the total number of companies of bankrupt firms, by country and by size, of both samples. We can observe that, in the case of the unweighted sample, although the percentage of bankrupt firms is the lowest for Spain, the differences relative to France and the U.K. are much smaller than the differences in bankruptcy rates reported in the introduction[38]. However, this is not longer the case in the weighted sample, where the percentages of bankrupt firms in France and the U.K are more than 60 times larger than that of Spain, in line with the differences in bankruptcy rates, and the percentage of Spanish micro firms under bankruptcy is much lower than that of their non-micro counterparts, also in line with the aggregate evidence. Hence the oversampling of Spanish bankrupt firms in the unweighted sample enhances the internal validity of our estimations because, given the rarity of bankruptcy filings, a simple random sample will not yield enough bankruptcies to implement statistical analyses, while the correction of this sampling bias with the weighted sample ensures the external validity of our results.

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[35] The size class breakdowns, according to the number of employees, are: 1-9, 10-19, 20-49, 50-249, 250 or more.

[36] Unfortunately we did not have analogous information on French and British firms. However, the examination of the sample (see below) revealed that the main source of sampling bias was the case of Spanish bankrupt firms.

[37] Specifically, the SDBS has no information on the following industries (ISIC Rev. 3): Agriculture, hunting and forestry; Fishing; Financial Intermediation; Education; Health and social work; Other community, social and personal service activities.

[38] Although notice that bankruptcy rates are the proportion of bankrupt firms over the *total* stock of firms in the population, while these percentages are the proportion of bankrupt firms over the number of *distressed* firms in the sample.

Table 2: number of micro firms and % over the total number of firms.

	SPAIN	FRANCE	U.K.
unweighted sample	47,710	47,861	2,387
	80.6%	74.6%	21.3%
weighted sample	44,189	42,497	2,048
	93.3%	92.9%	87.9%

Table 3: number of bankrupt firms and % over the total number of firms.

Panel A:unweighted sample

	SPAIN	FRANCE	U.K.
All firms	3,182	7,988	3,354
	5.4%	12.4%	29.9%
Micro	1,713	5,023	753
	3.6%	10.5%	31.6%
Non-micro	1,469	2,965	2,601
	12.8%	18.2%	29.5%

Panel B:weighted sample

	SPAIN	FRANCE	U.K.
All firms	3,052	7,431	3,040
	0.2%	12.8%	36.6%
Micro	1,642	4,643	674
	0.1%	12.4%	36.5%
Non-micro	1,410	2,788	2,366
	1.1%	17.9%	37.7%

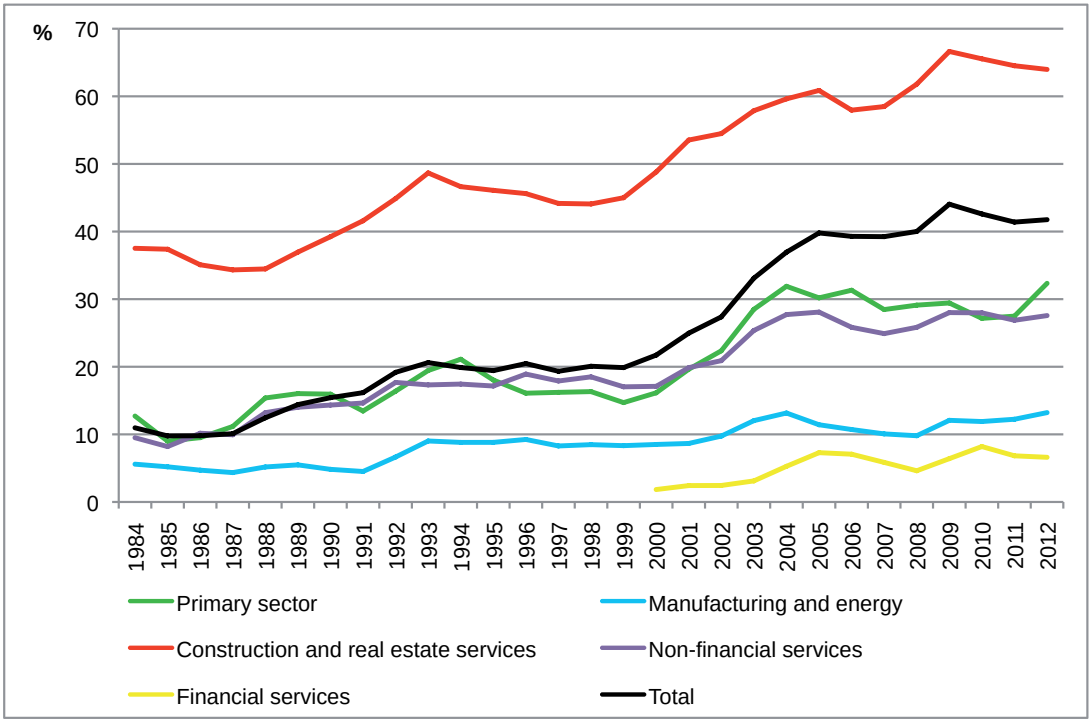
For the empirical analyses of this paper we need to construct several variables. Bankruptcy is a dummy variable that equals 1 if the firm was bankrupt when the data were extracted (2010). As for our key regressor, since the Orbis database does not contain specific information on mortgage loans, we need to construct a proxy for the proportion of those loans on total debt. The proposed proxy is "Tangibility", which is computed as the ratio between tangible fixed assets (land, buildings, plant and machinery)[39] to financial debt, in percentage terms. Since tangible fixed assets are the only assets that can be used as mortgage collateral in Spain, we relate those assets with the debts they may secure. This is also suggested by Figure 3. As expected, "Construction and real estate services" has by far the highest percentage of mortgage loans, while the lowest percentage corresponds to financial services. As controls, we will use the firm's age (in logs), the firm's size –computed as the number of employees[40], in logs- and industry dummies. According to Berger and Udell (1995) and

[39] Plant and machinery can also be mortgage collateral as long as they are inside the buildings.

[40] Since the number of employees were missing for a non-negligible part of the sample, values have been imputed using Poisson regressions for each country, where the predictor variables were a proprietary variable of Orbis that has four size categories according to several size measures (revenue, total assets, employees and whether the firm is listed) and industry dummies. Nevertheless, this paper's results – available upon request- do not qualitatively change when total assets or turnover are used as alternative measures.

Petersen and Rajan (1994), firm's age captures the public reputation of the firm, since they find a negative relationship between firms' age and interest rate premium charged by banks. Davydenko and Franks (2008) interpret age as a proxy for information asymmetries between a firm and its lenders, since they find a negative impact of age on the probability of filing for bankruptcy (vis-à-vis using out-court procedures). With respect to firm's size, small firms may file less for bankruptcy if a substantial proportion of the bankruptcy costs are fixed (Morrison, 2008a and 2008b) or if personal insolvency laws are very severe, although the relationship between size and bankruptcy need not be linear because very large firms may prefer to avoid the adverse publicity of a bankruptcy filing.

Figure 3: Percentage of mortgage loans over financial debt by industry in Spain.



Source: Authors' elaboration with data from the Central Credit Register, Banco de España.

Table 4 shows the descriptive statistics of the regressors for the unweighted sample. The Spanish distressed firms have, on average, slightly higher Tangibility than their British counterparts and much more than the French ones. They are substantially smaller. More insights are found when we split the sample into micro and non-micro firms and bankrupt and non-bankrupt ones (Table 5). In the case of micro firms (panel A), distressed non-bankrupt firms have much higher levels of Tangibility in Spain, while the opposite occurs in France and the U.K. Non-micro firms follow the same pattern, but the positive gap between bankrupt and non-bankrupt in Spain is now smaller. As expected, non-bankrupt Spanish firms are smaller and younger for both size classes, while those patterns are not so clear in France and the U.K.

Table 4: descriptive statistics (unweighted sample)

SPAIN				
	Scale/units	Mean	St.Dev.	N
TANGIBILITY	%	85.1	101.0	59,187
AGE	natural log	2.3	0.6	59,141
SIZE	natural log	1.4	1.1	59,187
FRANCE				
	Scale/units	Mean	St.Dev.	N
TANGIBILITY	%	54.9	74.5	64,200
AGE	natural log	2.3	0.8	64,197
SIZE	natural log	1.6	1.1	64,200
U.K.				
	Scale/units	Mean	St.Dev.	N
TANGIBILITY	%	82.8	98.7	11,216
AGE	natural log	2.5	0.8	11,216
SIZE	natural log	3.2	1.4	11,216

Table 5: descriptive statistics by size and bankruptcy status (unweighted sample)

Panel A: micro firms

	SPAIN			FRANCE			U.K.		
	Panel A: firms with BANKRUPTCY=0.			**Panel A: firms with BANKRUPTCY=0.**			**Panel A: firms with BANKRUPTCY=0.**		
	Mean	St.Dev.	N	Mean	St.Dev.	N	Mean	St.Dev.	N
TANGIBILITY	85.7	101.5	45,997	49.5	69.9	42,838	67.4	89.1	1,634
AGE	2.3	0.6	45,967	2.2	0.7	42,835	2.4	0.7	1,634
SIZE	1.0	0.7	45,997	1.1	0.7	42,838	1.7	0.6	1,634
	Panel B: firms with BANKRUPTCY=1.			**Panel B: firms with BANKRUPTCY=1.**			**Panel B: firms with BANKRUPTCY=1.**		
	Mean	St.Dev.	N	Mean	St.Dev.	N	Mean	St.Dev.	N
TANGIBILITY	55.8	81.7	1,713	65.0	75.9	5,023	98.6	110.8	753
AGE	2.3	0.6	1,712	2.4	0.6	5,023	2.3	0.6	753
SIZE	1.2	0.7	1,713	1.3	0.7	5,023	1.9	0.4	753
	Panel C: Differences in BANKRUPTCY=0,1.			**Panel C: Differences in BANKRUPTCY=0,1.**			**Panel C: Differences in BANKRUPTCY=0,1.**		
	Diff.(means)		p-value	Diff.(means)		p-value	Diff.(means)		p-value
TANGIBILITY	29.9		0.00	-15.5		0.00	-31.2		0.00
AGE	-0.1		0.00	-0.2		0.00	0.1		0.00
SIZE	-0.2		0.00	-0.2		0.00	-0.2		0.00

Panel B: non-micro firms

	SPAIN			FRANCE			U.K.		
	Panel A: firms with BANKRUPTCY=0.			**Panel A: firms with BANKRUPTCY=0.**			**Panel A: firms with BANKRUPTCY=0.**		
	Mean	St.Dev.	N	Mean	St.Dev.	N	Mean	St.Dev.	N
TANGIBILITY	89.5	103.6	10,008	62.5	82.3	13,374	74.2	90.8	6,228
AGE	2.5	0.7	9,993	2.5	0.8	13,374	2.6	0.8	6,228
SIZE	3.1	0.8	10,008	3.2	0.9	13,374	3.8	1.3	6,228
	Panel B: firms with BANKRUPTCY=1.			**Panel B: firms with BANKRUPTCY=1.**			**Panel B: firms with BANKRUPTCY=1.**		
	Mean	St.Dev.	N	Mean	St.Dev.	N	Mean	St.Dev.	N
TANGIBILITY	69.2	79.4	1,469	81.2	87.4	2,965	108.7	112.7	2,601
AGE	2.7	0.6	1,469	2.7	0.7	2,965	2.3	0.7	2,601
SIZE	3.2	0.8	1,469	3.0	0.7	2,965	3.0	0.8	2,601
	Panel C: Differences in BANKRUPTCY=0,1.			**Panel C: Differences in BANKRUPTCY=0,1.**			**Panel C: Differences in BANKRUPTCY=0,1.**		
	Diff.(means)		p-value	Diff.(means)		p-value	Diff.(means)		p-value
TANGIBILITY	20.3		0.00	-18.7		0.00	-34.5		0.00
AGE	-0.1		0.00	-0.2		0.00	0.3		0.00
SIZE	-0.1		0.00	0.2		0.00	0.8		0.00

The statistical significance of differences in means is evaluated through one-sided p-values of two-sample t-tests. These tests can be implemented with and without the assumption of equal population variances. In order to ascertain whether this assumption is plausible, two tests for the equality of variances have been implemented in each case. The selected tests are those of Brown and Forsythe (1974), since they are robust to non-normality and the variables of this study have been found to be non-normal.

5. Empirical Analyses

The main implication of our hypothesis is that holding mortgage debt should reduce the probability of filing for bankruptcy by a small financially distressed firm in Spain, while this relationship should not be observed in other institutional settings where the bankruptcy system is more efficient than mortgage foreclosures, such as France and the U.K.

In this section we test this implication by running within-country regressions to assess the sign and size of the relationship between a proxy for the percentage of mortgage debt, Tangibility, and the probability of filing for bankruptcy by a financially distressed firm in each country, once other determinants are controlled for. We will split the data into two sub-samples, one corresponding to micro firms and another one to larger firms, when carrying out the empirical analyses. In analytical terms what we will estimate is the following model:

$$P(Bankruptcy_i / FinancialDistress) = f(Tangibility_i, Control1_i, ..., ControlK_i, u_i)$$

Notice that we do not face a sample selection bias by only keeping the financially distressed firms. Denoting S_i as a selection indicator that equals 1 if the observation is included in the sample and 0 otherwise, and icr the interest coverage ratio: $S_i = 1$ if $icr_i < 1$; $S_i = 0$ if $icr_i \geq 1$. As long as icr is uncorrelated with u, the unobserved that factors that influence the decision to file for bankruptcy *conditional* on being in financial distress, our sampling mechanism $S(icr)$ will be exogenous. As the interest coverage ratio icr is measured in 2008, two years before the measurement of our dependent variable BANKRUPTCY (2010), it seems safe to assume that BANKRUPTCY cannot have any influence on icr, implying $E\left[u_i / S(icr_i)\right] = 0$.

5.1 Micro firms.

The first set of results is shown in Table 6, which displays probit regressions for the probability of bankruptcy. Four specifications, where Age, Size and dummies for industry are used as controls, are shown for robustness. The table reveals that Tangibility is negatively *correlated* with the probability of bankruptcy in Spain, while positively *correlated* in France and the U.K.

Table 6: average marginal effects (%) for the probability of bankruptcy in micro firms (probit)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.013*** **	**-0.013*** **	**-0.014*** **	**-0.014*** **
	(0.001)	(0.001)	(0.001)	(0.001)
Age		0.829***	0.665***	0.502***
		(0.147)	(0.147)	(0.148)
Size			1.345***	1.234***
			(0.122)	(0.125)
Industry dummies	NO	NO	NO	YES
N	47,710	47,679	47,679	47,679
Pseudo R2 (%)	1.16	1.37	2.24	3.00
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.027*** **	**0.023*** **	**0.021*** **	**0.009*** **
	(0.002)	(0.002)	(0.002)	(0.002)
Age		3.565***	3.345***	2.841***
		(0.193)	(0.193)	(0.191)
Size			3.148***	1.831***
			(0.213)	(0.213)
Industry dummies	NO	NO	NO	YES
N	47,861	47,858	47,858	47,858
Pseudo R2 (%)	0.63	1.69	2.38	7.77
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.067*** **	**0.075*** **	**0.065*** **	**0.065*** **
	(0.009)	(0.009)	(0.009)	(0.009)
Age		-7.939***	-6.803***	-7.468***
		(1.393)	(1.374)	(1.353)
Size			20.658***	17.632***
			(1.970)	(1.955)
Industry dummies	NO	NO	NO	YES
N	2,387	2,387	2,387	2,382
Pseudo R2 (%)	1.70	2.78	6.59	10.81

Dependent variable: Bankruptcy. Baseline probabilities=3.6% (Spain), 10.5% (France), 31.6% (U.K.). All regressions include a constant. Estimator: Probit. Standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

However, we expect the estimates of Table 6 to be biased due to the endogeneity of our key regressor, Tangibility. As previously explained, firms' asset and capital structures and the selected mechanism used to deal with insolvency (and hence the probability of bankruptcy) are jointly chosen by firms, causing a simultaneity bias. Moreover, Tangibility is expected to be measured with error, since tangible fixed assets are valued at their acquisition (historical) cost, which may differ from their market and collateral values. To solve these problems we use as instrumental variable (IV) the average industry level of tangibility –where industry is defined at 4 digits of disaggregation- in our sample[41]. We expect this IV to be uncorrelated with any unobserved determinant of the probability of bankruptcy of a single firm because no firm chooses the asset and capital structure of its industry counterparts. Moreover, there is a positive and sizeable correlation between the IV and the endogenous regressor –as reflected by first-stage regressions[42]- since companies for the same industries tend to have similar levels of tangibility

The selected IV estimator is Two-Stage Least Squares (2SLS). We prefer not to use IV probit as our main estimator because its consistency relies in some strong assumptions such as conditional normality of the endogenous regressor (Wooldridge, 2002) that do not seem to hold in our case. Despite the well-known caveats of the linear probability model (heteroskedasticity, fitted probabilities out of [0,1]), it requires weaker assumptions and it usually provides good approximations of the marginal effects (Angrist and Pischke, 2009). Nevertheless, Appendix B shows the results when IV probit is used instead, revealing that the conclusions are robust to the selected estimator.

The results for the estimation via 2SLS are displayed in Table 7. In the regressions for the Spanish subsample, the marginal effects of Tangibility are negative and highly significant, and they are substantially higher than those estimated without instrumenting the regressor. A 1% increase in Tangibility decreases the probability of filing for bankruptcy by a Spanish micro firm by around 0.03%. Notice that this is a sizeable effect because the baseline probability (the probability without conditioning in any regressor) of those firms is 3.6%. By contrast, the marginal effects of Tangibility are positive and significant both in France and the U.K.

With respect to the control variables, size has a positive impact in the probability of bankruptcy in the three countries, suggesting that the fixed costs of bankruptcy procedures deter very small firms from using them, as argued by Morrison (2008). The case of age is less intuitive, since it has a positive effect in the Spanish and French subsamples while a negative one in the case of the U.K.

[41] In other words, the average level of tangibility is computed for each industry, *regardless of the country*. Although we could have instead computed the average industry-country level of tangibility to increase the variability of the IV, that variable may not be exogenous, since it may be influenced by the country's institutional framework.

[42] Results available upon request.

Table 7: average marginal effects (%) for the probability of bankruptcy in micro firms (2SLS)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.011*****	**-0.013*****	**-0.017*****	**-0.026*****
	(0.003)	(0.003)	(0.003)	(0.004)
Age		0.886***	0.796***	0.794***
		(0.159)	(0.158)	(0.170)
Size			1.358***	1.228***
			(0.124)	(0.128)
Industry dummies	NO	NO	NO	YES
N	47,710	47,679	47,679	47,679
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.186*****	**0.180*****	**0.173*****	**0.074*****
	(0.005)	(0.006)	(0.006)	(0.007)
Age		1.817***	1.770***	2.045***
		(0.205)	(0.203)	(0.196)
Size			1.925***	1.634***
			(0.221)	(0.212)
Industry dummies	NO	NO	NO	YES
N	47,861	47,858	47,858	47,858
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.269*****	**0.259*****	**0.170****	**0.141***
	(0.074)	(0.070)	(0.070)	(0.079)
Age		-11.556***	-8.799***	-8.839***
		(2.000)	(1.956)	(2.029)
Size			15.921***	13.863***
			(1.824)	(1.899)
Industry dummies	NO	NO	NO	YES
N	2,387	2,387	2,387	2,387

Dependent variable: Bankruptcy. Baseline probabilities=3.6% (Spain), 10.5% (France), 31.6% (U.K.). All regressions include a constant. Estimator: 2SLS. Robust standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

5.2 Non-micro firms.

The relationship between Tangibility and the probability of bankruptcy is, as expected, less strong for non-micro firms in the case of Spain. As a benchmark, Table 8 shows the (biased) probit estimates for the three countries, which shows the same patterns as for micro firms: negative *correlations* in Spain and positive *correlations* in France and the U.K.

Table 8: average marginal effects (%) for the probability of bankruptcy in non-micro firms (probit)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.026*** **	**-0.029*** **	**-0.028*** **	**-0.030*** **
	(0.003)	(0.004)	(0.004)	(0.004)
Age		3.768***	3.452***	1.447***
		(0.483)	(0.484)	(0.503)
Size			1.935***	2.341***
			(0.380)	(0.383)
Industry dummies	NO	NO	NO	YES
N	11,477	11,462	11,462	11,462
Pseudo R2 (%)	0.66	1.36	1.65	6.16
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.037*** **	**0.033*** **	**0.032*** **	**0.009*** **
	(0.003)	(0.003)	(0.003)	(0.003)
Age		3.569***	4.306***	1.575***
		(0.387)	(0.389)	(0.379)
Size			-5.266***	-4.460***
			(0.403)	(0.393)
Industry dummies	NO	NO	NO	YES
N	16,339	16,339	16,339	16,339
Pseudo R2 (%)	0.75	1.30	2.48	14.13
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.068*** **	**0.075*** **	**0.068*** **	**0.064*** **
	(0.005)	(0.004)	(0.004)	(0.004)
Age		-8.005***	-5.541***	-6.816***
		(0.614)	(0.627)	(0.635)
Size			-7.692***	-6.920***
			(0.419)	(0.417)
Industry dummies	NO	NO	NO	YES
N	8,829	8,829	8,829	8,829
Pseudo R2 (%)	1.98	3.54	6.74	11.05

Dependent variable: Bankruptcy. Baseline probabilities=12.8% (Spain), 18.2% (France), 29.5% (U.K.). All regressions include a constant. Estimator: Probit. Standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

An analysis of the consistent IV estimates in Table 9 shows that Tangibility has, unlike the case of micro firms, a positive impact on the probability on bankruptcy of Spanish non-micro firms in 3 out of the 4 specifications, but it is not significant in specification (4), suggesting that it is not a robust determinant. By contrast, Tangibility has a robust positive impact in the probability of bankruptcy both in France and the UK.

With respect to the control variables, size has a positive impact in the probability of bankruptcy in Spain -as it was the case in the subsample of micro firms- but a negative one in France and the UK. A possible interpretation is that the fixed costs of bankruptcy proceedings deter small and very small firms from using them but, in the case of quite large firms, other factors, such as the reputational loss of managers, make filing for bankruptcy less appealing. As in the case of micro firms, age has a positive effect in the Spanish subsample, but a negative one in the U.K and no robust impact in France.

Table 9: average marginal effects (%) for the probability of bankruptcy in non-micro firms (2SLS)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**0.054*****	**0.046*****	**0.049*****	**0.010**
	(0.010)	(0.010)	(0.010)	(0.016)
Age		2.423***	2.015***	1.036*
		(0.499)	(0.507)	(0.537)
Size			2.683***	2.781***
			(0.417)	(0.417)
Industry dummies	NO	NO	NO	YES
N	11,477	11,462	11,462	11,462
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.296*****	**0.301*****	**0.292*****	**0.144*****
	(0.010)	(0.010)	(0.010)	(0.013)
Age		-0.950**	-0.232	-0.280
		(0.459)	(0.462)	(0.399)
Size			-3.950***	-3.642***
			(0.352)	(0.306)
Industry dummies	NO	NO	NO	YES
N	16,339	16,339	16,339	16,339
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.210*****	**0.225*****	**0.208*****	**0.138*****
	(0.025)	(0.026)	(0.026)	(0.030)
Age		-9.639***	-7.412***	-7.884***
		(0.685)	(0.725)	(0.779)
Size			-5.717***	-5.492***
			(0.386)	(0.391)
Industry dummies	NO	NO	NO	YES
N	8,829	8,829	8,829	8,829

Dependent variable: Bankruptcy. Dependent variable: Bankruptcy. Baseline probabilities=12.8% (Spain), 18.2% (France), 29.5% (U.K.). All regressions include a constant. Estimator: 2SLS. Robust standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

5.3 Robustness analysis: weighted sample

Table 10 shows, again as a benchmark, the results of a probit model for the probability of bankruptcy of a micro firm using sampling weights. Comparing it with Table 6 (no weights) we can see that results are remarkably similar for Spanish firms: there is a negative and significant *correlation* between Tangibility and the probability of bankruptcy, which is robust to all specifications. The correlation is positive and significant in the case of the U.K., as it was in the unweighted sample. By contrast, the conclusions do change for French firms: now such a relationship is not statistically different from zero in any specification.

In the case of the consistent IV estimates, Table 11 corroborates the findings of Table 7 (unweighted sample). Tangibility has a negative impact on the probability of bankruptcy of a Spanish micro firm. The effect is statistically and economically significant: a 1% increase in Tangibility decreases that probability by around 0.002%. Notice that this is a sizeable effect because the baseline probability (the probability without conditioning in any regressor) of those firms is 0.1%. By contrast, the effect is positive in the U.K. and non-robust in France, since it is insignificant in the most complete specification (4).

The results for larger firms, which are displayed in Tables 12 y 13, confirm the findings for the unweighted sample in the case of Spain: Tangibility has no impact on the probability of bankruptcy, since it is not statistically different from zero in any IV estimation. By contrast, the effect is positive in the U.K. -as it was in the unweighted sample- and non-robust in France, since it is insignificant in the most complete IV estimation of specification (4), unlike the unweighted case. An interpretation of the contradictory results for France is that the associations between the two variables found in the unweighted sample were driven by some observations that were overrepresented in such a sample.

Table 10: average marginal effects (%) for the probability of bankruptcy in micro firms (probit) [weighted sample]

	(1)	(2)	(3)	(4)
Tangibility	**-0.0005*** **	**-0.0005*** **	**-0.0006*** **	**-0.0006*** **
	(0.0000)	(0.0000)	(0.0000)	(0.0001)
Age		0.0209***	0.0174***	0.0159***
		(0.0043)	(0.0042)	(0.0052)
Size			0.0252***	0.0368***
			(0.0039)	(0.0047)
Industry dummies	NO	NO	NO	YES
N	44,189	44,164	44,164	44,164
Pseudo R2 (%)	1.22	1.31	1.52	3.35
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.002**	**0.000**	**-0.000**	**-0.003**
	(0.006)	(0.005)	(0.005)	(0.005)
Age		2.822***	2.721***	2.552***
		(0.508)	(0.522)	(0.564)
Size			1.351*	0.253
			(0.739)	(0.670)
Industry dummies	NO	NO	NO	YES
N	42,408	42,405	42,405	42,405
Pseudo R2 (%)	0.00	0.52	0.62	1.58
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.075*** **	**0.080*** **	**0.070*** **	**0.071*** **
	(0.013)	(0.014)	(0.013)	(0.013)
Age		-4.814**	-4.085**	-5.601***
		(1.923)	(1.861)	(1.794)
Size			21.719***	17.387***
			(3.468)	(3.113)
Industry dummies	NO	NO	NO	YES
N	2,041	2,041	2,041	2,041
Pseudo R2 (%)	1.87	2.21	5.78	9.79

Dependent variable: Bankruptcy. Baseline probabilities=0.1% (Spain), 12.4% (France), 36.5% (U.K.). All regressions include a constant. Sampling weights are used. Estimator: Probit. Standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

Table 11: average marginal effects (%) for the probability of bankruptcy in micro firms (2SLS) [weighted sample]

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.0015*** **	**-0.0015*** **	**-0.0016*** **	**-0.0020*** **
	(0.0001)	(0.0001)	(0.0001)	(0.0002)
Age		0.0397***	0.0377***	0.0397***
		(0.0048)	(0.0049)	(0.0056)
Size			0.0311***	0.0350***
			(0.0040)	(0.0042)
Industry dummies	NO	NO	NO	YES
N	44,189	44,164	44,164	44,164
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.065** **	**0.065** **	**0.062** **	**0.061**
	(0.031)	(0.029)	(0.031)	(0.056)
Age		2.349***	2.301***	1.972***
		(0.554)	(0.556)	(0.625)
Size			1.073	0.269
			(0.757)	(0.700)
Industry dummies	NO	NO	NO	YES
N	42,408	42,405	42,405	42,405
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.274*** **	**0.263*** **	**0.212** **	**0.286*** **
	(0.082)	(0.080)	(0.084)	(0.099)
Age		-8.843***	-7.238***	-10.678***
		(2.733)	(2.729)	(2.791)
Size			17.212***	12.517***
			(3.627)	(3.816)
Industry dummies	NO	NO	NO	YES
N	2,041	2,041	2,041	2,041

Dependent variable: Bankruptcy. Baseline probabilities=0.1% (Spain), 12.4% (France), 36.5% (U.K.). All regressions include a constant. Sampling weights are used. Estimator: 2SLS. Robust standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

Table 12: average marginal effects (%) for the probability of bankruptcy in non-micro firms (probit) [weighted sample]

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.0012*** **	**-0.0012*** **	**-0.0012*** **	**-0.0012*** **
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Age		0.0817***	0.0589***	0.0398**
		(0.0165)	(0.0165)	(0.0177)
Size			0.1039***	0.0948***
			(0.0129)	(0.0136)
Industry dummies	NO	NO	NO	YES
N	10,291	10,285	10,285	10,285
Pseudo R2 (%)	0.73	0.90	1.40	2.82
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**-0.000**	**-0.000**	**-0.000**	**-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Age		0.095**	0.118***	0.078*
		(0.040)	(0.042)	(0.046)
Size			-0.129**	-0.164***
			(0.054)	(0.060)
Industry dummies	NO	NO	NO	YES
N	14,790	14,790	14,790	14,790
Pseudo R2 (%)	0.01	0.28	0.81	5.47
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.003*** **	**0.004*** **	**0.003*** **	**0.003*** **
	(0.000)	(0.000)	(0.000)	(0.000)
Age		-0.250***	-0.193***	-0.242***
		(0.040)	(0.042)	(0.041)
Size			-0.245***	-0.254***
			(0.021)	(0.021)
Industry dummies	NO	NO	NO	YES
N	7,589	7,589	7,589	7,589
Pseudo R2 (%)	4.66	6.24	8.21	10.93

Dependent variable: Bankruptcy. Baseline probabilities=1.1% (Spain), 17.9% (France), 37.7% (U.K.). All regressions include a constant. Sampling weights are used. Estimator: Probit. Standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

Table 13: average marginal effects (%) for the probability of bankruptcy in non-micro firms (2SLS) [weighted sample]

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**0.0013**	**0.0009**	**0.0013**	**-0.0023**
	(0.0014)	(0.0014)	(0.0015)	(0.0019)
Age		0.1829***	0.1096**	0.1130**
		(0.0501)	(0.0516)	(0.0576)
Size			0.3914***	0.3272***
			(0.0549)	(0.0554)
Industry dummies	NO	NO	NO	YES
N	10,291	10,285	10,285	10,285
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.086****	**0.088****	**0.095****	**0.015**
	(0.042)	(0.041)	(0.042)	(0.049)
Age		1.884*	2.521**	1.779
		(1.138)	(1.189)	(1.227)
Size			-3.619***	-4.127***
			(1.189)	(1.251)
Industry dummies	NO	NO	NO	YES
N	14,790	14,790	14,790	14,790
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.343*****	**0.338*****	**0.324*****	**0.261*****
	(0.047)	(0.043)	(0.043)	(0.047)
Age		-11.190***	-9.275***	-10.145***
		(1.598)	(1.661)	(1.444)
Size			-6.304***	-6.637***
			(0.623)	(0.629)
Industry dummies	NO	NO	NO	YES
N				
	7,589	7,589	7,589	7,589

Dependent variable: Bankruptcy. Baseline probabilities=12.8% (Spain), 18.2% (France), 29.5% (U.K.). All regressions include a constant. Sampling weights are used. Estimator: 2SLS. Robust standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

5.4 Robustness analysis: subsample of firm exits.

In our main sample we have two types of firms: bankrupt and non-bankrupt distressed firms. The former consists of firms under bankruptcy proceedings (i.e., still operating in the market) and firms that have been liquidated after a bankruptcy procedure (i.e., they have exited the market). The latter consists of companies that are still operating the market under financial distress and companies that exited the market while they were financially distressed. An alternative explanation for the negative impact of Tangibility on the probability of filing for bankruptcy by a Spanish micro firm is that firms with high levels of tangible fixed assets relative to their levels of financial debt still have assets they may pledge as mortgage collateral to get new loans or refinance

their current ones, so they may avoid bankruptcy because they manage to survive and stay in the market, rather than leaving via a foreclosure.

We address this potential criticism by keeping in the sample only those firms that exited the market. We construct a new dependent variable, bankruptcy2, which takes the value 1 if the firm left the market after a bankruptcy procedure and 0 otherwise. Our main results are the same: Tangibility has a negative and significant impact on the probability of being bankrupt in the case of Spanish micro firms (see Table 15). This effect does not seem to take place in Spanish larger firms, since the correlation is not different from zero in our probit estimates (see Table 16) and the causal impact is not robust to several specifications in our IV estimates (see Table 17). By contrast, Tangibility has a positive impact on the probability of leaving the market after bankruptcy in the case of French firms of both size classes, while there is no effect in the case of British firms.

Table 14: average marginal effects (%) for the probability of bankruptcy in micro firms (probit)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.069*****	**-0.066*****	**-0.067*****	**-0.064*****
	(0.012)	(0.012)	(0.012)	(0.012)
Age		-13.696***	-13.965***	-16.024***
		(2.137)	(2.132)	(2.101)
Size			5.424***	2.754
			(1.669)	(1.699)
Industry dummies	NO	NO	NO	YES
N	1,474	1,474	1,474	1,474
Pseudo R2 (%)	1.52	3.47	4.00	10.45
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.041*****	**0.040*****	**0.038*****	**0.016**
	(0.012)	(0.012)	(0.012)	(0.011)
Age		-7.505***	-7.757***	-6.144***
		(1.244)	(1.252)	(1.222)
Size			2.490*	-0.608
			(1.372)	(1.342)
Industry dummies	NO	NO	NO	YES
N	2,220	2,220	2,220	2,220
Pseudo R2 (%)	0.49	1.97	2.11	11.49
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.054*****	**0.047*****	**0.045*****	**0.045*****
	(0.015)	(0.015)	(0.015)	(0.015)
Age		5.867***	5.949***	6.284***
		(2.197)	(2.199)	(2.208)
Size			3.268	2.244
			(2.884)	(3.009)
Industry dummies	NO	NO	NO	YES
N	636	636	636	636
Pseudo R2 (%)	3.89	5.71	6.01	9.13

Dependent variable: Bankruptcy. Baseline probabilities=61.8% (Spain), 77.3% (France), 89.8% (U.K.). All regressions include a constant. Estimator: Probit. Standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

Table 15: average marginal effects (%) for the probability of bankruptcy in micro firms (2SLS)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.131*****	**-0.120*****	**-0.142*****	**-0.198*****
	(0.041)	(0.041)	(0.042)	(0.048)
Age		-13.334***	-13.498***	-15.137***
		(2.192)	(2.193)	(2.234)
Size			5.817***	2.773
			(1.702)	(1.768)
Industry dummies	NO	NO	NO	YES
N	1,474	1,474	1,474	1,474
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.337*****	**0.331*****	**0.340*****	**0.111***
	(0.060)	(0.059)	(0.064)	(0.063)
Age		-7.250***	-7.076***	-6.072***
		(1.506)	(1.557)	(1.364)
Size			-1.508	-1.663
			(1.782)	(1.568)
Industry dummies	NO	NO	NO	YES
N	2,220	2,220	2,220	2,220
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.041**	**0.040**	**0.029**	**-0.019**
	(0.054)	(0.054)	(0.060)	(0.073)
Age		5.375**	5.656**	6.971**
		(2.479)	(2.547)	(2.719)
Size			4.014	4.820
			(4.372)	(4.507)
Industry dummies	NO	NO	NO	YES
N	636	636	636	636

Dependent variable: Bankruptcy. Baseline probabilities=61.8% (Spain), 77.3% (France), 89.8% (U.K.). All regressions include a constant. Estimator: 2SLS. Robust standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

Table 16: average marginal effects (%) for the probability of bankruptcy in non-micro firms (probit)

	(1)	(2)	(3)	(4)
Tangibility	**0.010**	**0.010**	**0.009**	**0.029**
	(0.023)	(0.023)	(0.023)	(0.022)
Age		8.528***	8.572***	0.756
		(2.730)	(2.730)	(2.748)
Size			-1.120	-0.257
			(2.636)	(2.313)
Industry dummies	NO	NO	NO	YES
N	544	544	544	544
Pseudo R2 (%)	0.03	1.62	1.65	20.18
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.034*** **	**0.037*** **	**0.040*** **	**0.026** **
	(0.013)	(0.013)	(0.013)	(0.012)
Age		-4.522***	-3.879***	-3.957***
		(1.397)	(1.397)	(1.350)
Size			-6.292***	-5.098***
			(1.477)	(1.402)
Industry dummies	NO	NO	NO	YES
N	1,635	1,635	1,635	1,635
Pseudo R2 (%)	0.39	0.97	1.95	12.77
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.044*** **	**0.040*** **	**0.040*** **	**0.037*** **
	(0.008)	(0.008)	(0.008)	(0.008)
Age		7.464***	7.393***	6.858***
		(1.165)	(1.169)	(1.156)
Size			0.586	1.171
			(0.823)	(0.834)
Industry dummies	NO	NO	NO	YES
N	1,862	1,862	1,862	1,862
Pseudo R2 (%)	3.52	7.94	7.99	11.23

Dependent variable: Bankruptcy. Baseline probabilities=76.1% (Spain), 76.3% (France), 91.3% (U.K.). All regressions include a constant. Estimator: Probit. Standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

Table 17: average marginal effects (%) for the probability of bankruptcy in non-micro firms (2SLS)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.095**	**-0.103**	**-0.105**	**-0.258*****
	(0.072)	(0.073)	(0.073)	(0.095)
Age		8.788***	8.923***	0.092
		(2.875)	(2.898)	(3.370)
Size			-2.180	-2.086
			(2.868)	(2.797)
Industry dummies	NO	NO	NO	YES
N	544	544	544	544
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.261*****	**0.270*****	**0.280*****	**0.139*****
	(0.048)	(0.049)	(0.049)	(0.051)
Age		-6.343***	-5.521***	-4.689***
		(1.697)	(1.711)	(1.556)
Size			-8.223***	-6.489***
			(1.815)	(1.735)
Industry dummies	NO	NO	NO	YES
N	1,635	1,635	1,635	1,635
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.014**	**0.011**	**0.011**	**0.021**
	(0.023)	(0.023)	(0.023)	(0.025)
Age		6.687***	6.609***	5.334***
		(1.022)	(1.036)	(1.054)
Size			0.505	1.515*
			(0.767)	(0.793)
Industry dummies	NO	NO	NO	YES
N	1,862	1,862	1,862	1,862

Dependent variable: Bankruptcy. Baseline probabilities=76.1% (Spain), 76.3% (France), 91.3% (U.K.). All regressions include a constant. Estimator: 2SLS. Robust standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level.

6. Conclusions

Spain had, before the current economic crisis, one of the world's lowest business bankruptcy rates, i.e., number of business bankruptcies divided by the total number of firms in the economy. Only the crisis has modestly increased the number of bankruptcies, but the Spanish bankruptcy rate is still relatively low. This fact is driven by the behaviour of micro firms –the majority of Spanish firms-, which rarely file for bankruptcy when dealing with financial distress.

This paper presents and tests a hypothesis that attempts to explain this empirical finding. According to this hypothesis, Spanish micro firms and their lenders avoid filing for bankruptcy by making possible that creditors foreclose on the company's assets. Since most of their secured credits are mortgage loans (i.e., loans secured on land and buildings), debt enforcement takes place via mortgage foreclosures (*ejecuciones hipotecarias*). This is a more attractive way to deal with financial distress because mortgage foreclosures are much cheaper and quicker than the bankruptcy system (*concurso de acreedores*). Furthermore, personal bankruptcy is a very unattractive option because it is extremely severe towards the individual debtor. Since the costs of filing for personal bankruptcy are substantial while the benefits are almost none, *(de jure* or *de facto)* unlimited liability firms have strong incentives to avoid filing for bankruptcy and use mortgage foreclosures instead.

The above hypothesis implies that financially distressed firms with a high proportion of mortgage loans should rarely file for bankruptcy in Spain, while this phenomenon should not be observed in other institutional settings where the bankruptcy system is more attractive than mortgage foreclosures or secured credit does not heavily rely on buildings or land as collateral. While we cannot directly test the hypothesis, we can test its implication. If the empirical evidence corroborates it, we can conclude that the hypothesis is not falsified by our analyses, shedding some light on the research question. Hence, the identification strategy consists of testing whether a higher percentage of mortgage loans imply a lower probability of filing for bankruptcy in the case of Spanish distressed firms. As the comparison group we use distressed firms from France and the U.K.

Our main findings do not falsify the proposed hypothesis. We find that a higher proportion of tangible fixed assets (the assets that can be used as mortgage collateral in Spain) over total financial debt significantly decrease the probability of being in bankruptcy among Spanish micro firms in financial distress, while this does not hold neither for Spanish larger businesses nor for firms from the other countries.

Our study may have policy implications because bankruptcy procedures and mortgage foreclosures are not perfect substitutes, and the underutilization of one of them may lead to efficiency losses and lower welfare (García-Posada, 2012). An unattractive personal bankruptcy law may also discourage entrepreneurship, firm entry and innovation. It is important to note, however, that these results are based on data that do not capture yet the impact of the recent reforms of the Spanish insolvency framework –regarding both corporate and personal bankruptcy.

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APPENDIX A: LEGAL TERMINOLOGY RELATED TO INSOLVENCY PROCEDURES, SECURED LENDING AND FORECLOSURES UNDER SPANISH, ENGLISH AND FRENCH LAW.

A.1. Some preliminary clarifications.

Legal terms are difficult to translate and do not have exact equivalents in different legal systems. Basic concepts such as a "floating charge" (under English Law) have not a direct translation into Spanish Law or French Law. Furthermore, Spanish or French Law basic terms like "*hipoteca*"[43] or "*hypothèque*"[44] cannot be unambiguously translated as "mortgage" in the British law. This appendix attempts to clarify the main concepts used in this paper.

In all cases, we define "insolvency" as a situation in which the debtor is unable to pay debts when they are due (cash-flow insolvency)[45]. This situation is known in French law as "*cessation de paiements*" or "*faillite*" and in Spanish Law as "*quiebra*" or "*bancarrota*". In this appendix we focus on the analysis of insolvency once that insolvency situation has been formally recognized. Previously, the debtor, in any country, could have tried to reach an out-of-court arrangement or private workout with its creditors by which the creditors could accept less than the full amount (or in some cases, the full amount, if it can be determined without the aid of any legal proceeding) they are owed. If those possible arrangements fail or they are not even attempted, in Spain there is a formal procedure to resolve an insolvency situation called "*concurso*" ("*concurso de acreedores*"). In this paper the Spanish procedure is compared with the main procedures for corporate insolvency in France (the "*redressement judiciare*"[46] –a reorganisation procedure- and the "*liquidation judiciare*" –a liquidation one[47]) and in the U.K. ("administration" and, before 2003, "administrative receivership")[48].

The Spanish insolvency procedure, until very recently, applied to consumers and all types of firms, including both limited liability companies and personally owned businesses with no limit to personal liability. In September 2013 the Spanish Parliament has approved some legal reforms in this regard that are summarized in section A.6. By contrast, there are specific procedures for personal debtors both in France and the U.K., which may be used by consumers, self-employed individuals and owners of small firms that used personal guarantees to fund their businesses. France has two procedures, the "*plan de redressement"* and the "*procedure de rétablissement personnel"*, while

[43] In Spanish law, Article 1874 *et seq* of the Spanish Civil Code.

[44] Articles 2393 *et seq* of the French Civil Code.

[45] See Armour (2001) for a discussion on the different types of insolvency.

[46] Law 2005-845 of July 26, 2005 "*de sauvegarde des enterprises*".

[47] A new procedure, the *sauvegarde*, was introduced in the latest reform of the bankruptcy code (*Loi de sauvegarde des entreprises*), which came became effective in 2006. In addition, the parties have the possibility to recur to a "*réglement amiable*" equally supervised by a judge

[48] Other (much less used) procedures are company voluntary arrangements – a reorganization procedure- compulsory liquidations and creditors' voluntary liquidations.

"bankruptcy" is the main insolvency procedure for individuals in the U.K[49]. It is necessary to remark that, in the U.K., the term "bankruptcy" only applies to individuals, while insolvency is the term that is used for companies. Once taken into account this legal notice, we must note that the term "bankruptcy" is used in this paper as a general term to denote formal insolvency procedures in general (as used in American Standard English).

A.2. The equivalents in Spanish and French law of the UK insolvency proceedings.

In the U.K. the main corporate insolvency procedure is called "administration". "Administrative receivership" is not available from September 15, 2003 (although, of course, we could still observe some active cases) due to the adoption of the Enterprise Act 2002. This case is discussed separately in Section A.4.

In the case of "administration", an administrator is appointed and tries to reach a better outcome for creditors than the one that could be achieved in a liquidation by the debtor. The administration is requested before a judge by the insolvent company or its creditors (among other options). If the judge deems that there is actually a situation of insolvency, she will issue an "administration order". It is very important to note that the holder of a "floating charge" (concept explained below) can appoint an administrator even without court order. This administrator, however, will take care of the interests of all creditors (and not only of the floating charge holder, unlike in the administrative receivership procedure, see section A.4).

As it was mentioned, the procedures closer to "administration" in French and Spanish Law are, respectively, the "*redressement judiciare*" and the "*concurso de acreedores*". In all these cases there is judicial supervision of the procedures and the judge may appoint an administrator (or a similar figure) for the insolvent company.[50]

A.3. The equivalents in Spanish and French law of the security interests in the UK law.

A.3.a Fixed charge

A "fixed charge" is defined over a determined (specific) movable or immovable property. That is, the goods secured by a fixed charge must be clearly identifiable (in contrast to the "floating charge").

There are several types of fixed charges in English Law: "mortgage over land and buildings owned by the company", "chattels mortgage" or the "charge against goodwill and other intellectual property rights".

[49] Bankruptcy in Scotland is referred to as "sequestration". Other personal insolvency procedures in England, Wales and Northern Ireland are individual voluntary arrangements and debt relief orders, while another one in Scotland is a "protected trust deed".

[50] This last circumstance only occurs in some specific cases in French law (in which the judge appoints an "*Administrateur Judiciaire*").

The first type of fixed charge is the one that is closest to what in Spanish law we call "*hipoteca*" (which is a "*derecho real*", "Real Right Law"). It is regulated by articles 1874 *et seq* of the Spanish Civil Code. The figure is close to the "*hypothèque*" in French law (articles 2393 *et seq* of the French Civil Code). When there is a *hipoteca* or equivalent figures, the ownership of the property remains to the buyer, but there is a charge over that property right which disappears only when the loan has been repaid.

In the case of a "chattels mortgage", the purchaser borrows funds for the purchase of movable property (the chattel). The lender secures the loan with a mortgage over the chattel. Legal ownership of the chattel is transferred to the purchaser at the time of purchase, and the mortgage is removed once the loan has been repaid.

Potentially similar legal figures exist in Spanish law as the "*prenda*"[51] (which is also a "*derecho real*") or the "*prenda sin desplazamiento*" and "*hipoteca mobiliaria*" governed by the *Ley de Hipoteca mobiliaria y prenda sin desplazamiento*[52] (thus out of the Spanish Civil Code). Also potentially similar concepts exist in French Law, such as the "*gage*" and the "*nantissement*".[53]

As a result, "*hipoteca*" and "mortgage" are not directly interchangeable terms. "Mortgage" in English law would idenfity a set of guarantees/securities on goods that could be, roughly, the "derechos reales" in continental law (Spanish and French Law). To avoid confusion, in this paper we identify what we call "hipoteca" in Spain as "mortgage over land and buildings[54]" (for brevity of exposition, just "mortgage"), i.e., the first type of fixed charge discussed in this section.

A.3.b Floating charge

Unlike the "fixed charge" (and its specificities), the "floating charge" has no strict equivalent in Spanish or French law. The Civil Code in both countries requires that the secured assets must be clearly identifiable. However, one would talk about some similarities in the case of the "*prenda sin desplazamiento*" of the Spanish law.[55]

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[51] Article 1863 *et seq* of the Spanish Civil Code.

[52] *Ley de hipoteca mobiliaria y prenda sin desplazamiento* of December 16, 1954.

[53] Articles 2333 *et seq* of the French Civil Code in the first case and 2355 and subsequent articles in the second case.

[54] These "buildings" may also include the entrepreneur's home. We do not use the concept "real estate" directly to avoid confusion, since it is sometimes (mistakenly) used as a synonym for residential buildings, excluding commercial buildings. Following the Black's Law Dictionary, "Real estate" is defined as "Land and anything permanently affixed to the land, such as buildings (…) The term is generally synonymous with real property".

[55] In other Spanish-speaking or French-speaking legal systems and with evident influence of both continental and Anglo-Saxon Law, we could find legal figures such as the "*charge flottante*" ("*nantissement flottante*") of the Canadian Law and the "*prenda flotante*" which exists in some American legal systems.

A floating charge is a security interest over a fund of changing assets[56] of a firm that "floats" until it "crystallises" (converts) into a fixed charge, at which point the charge attaches to specific assets. The crystallisation can be triggered by a number of events, being one of them the borrower's default. In other words, the "floating charge" is public and takes effect only when the company has failed to fulfil its obligations. The main difference of the floating charge relative to other security interests such as the fixed charge is that, because the security "floats", the firm remains free to purchase and sell assets. That is, the company remains in possession of the property and can dispose of it in the normal course of business.

Unlike traditional collateral (*Derechos reales,* as explained above) in Civil Law, the floating charge covers not only present property but also the future property of the debtor, while giving the debtor the right to dispose of it. At the time of the crystallization, the "floating" charge is fixed and the beneficiary may then exercise its rights over it.[57] The "floating charge" is based on property that has not already been specifically mortgaged or pledged.

In summary, compared to the flexibility of the floating charge (that is not related to any good in particular until there is a crystallization as a result of the insolvency of the debtor), the "*derechos reales*" (*hipotecas*, *prendas*, etc) in Spain are "specific" in nature. The "*hipoteca*" for example, is a security that gives its holder an immediate and direct right over immovable property (mainly land and buildings, including homes obviously) that can be exercised and made effective against any other creditor. The "*prenda*", meanwhile, is a security that gives the holder a right over movable property.

A.4 Administrative receivership

Although, as noted, this procedure is no longer available, there are still some active cases. That is why this paper refers to that procedure. In the "receivership", the holder of a "floating charge" could take control of the whole company. That is, in the case of default, the holder of the "floating charge" had the right to appoint an administrative receiver, who assumed all the powers of the company's board of directors. The objective of the administrative receiver was simply to realize sufficient funds to repay the debt of the holder of the floating charge (Franks and Sussman, 2005, Davydenko and Franks, 2008).

Naturally, this procedure did not prevent other creditors exercise their right to judicial oversight of the insolvency of the debtor. However, the floating charge holder had the ability to veto other procedures, particularly the "administration", if he appointed an administrative receiver. As it was noted, after the disappearance of the administrative receivership procedure (after September 15, 2003), judicial supervision (through the process of "administration") has become the standard way to proceed in UK Law.

[56] For this reason, this legal figure may be "translated" in Spanish, not into Spanish law, as "prenda rotativa".

[57] The crystallization has the effect of designating the property referred to and make it enforceable against third parties.

A.5. Foreclosures, *ejecuciones prendarias* and related procedures.

As it was introduced above, in Spain a creditor may secure a loan, among other options, through a contract of "*prenda*" (over movable property), a "*hipoteca*" (on immovable assets) and other legal figures with characteristics of one or the other (*hipoteca mobiliaria, prenda sin desplazamiento*). All these contracts are forms of "Real Rights" (*derechos reales*) as the good is well identified (in all these cases we would be talking about "mortgages" under UK Law, included under the category of "fixed charges").

Both the "*prenda*" as the "*hipoteca*" must appear in a public document that facilitates execution (if needed). Moreover, in the case of the *hipoteca*, the Spanish Law also requires to be registered in the land registry. The creditor, in the event of loan default by the debtor, may proceed to execute its right over the property (the "*acción hipotecaria*" if there was a "*hipoteca*" contract and "*acción prendaria o pignoraticia*" if there was a "*prenda*"). In Spain, in both cases the creditor may recourse to a judicial enforcement (if performed by a judge) or an out of court enforcement (if performed by a notary).

The judicial enforcement[58], both in the case of *prendas* and *hipotecas*, is regulated by the Civil Procedural Law and establishes an auction with various guarantees to the parties. The extrajudicial execution[59], whether in either case, is done before a notary also by auction (with citation of the debtor and the owner of the *prenda* where applicable).

In the U.K. there is the so-called "foreclosure", which could be defined as a debt enforcement procedure aimed at recovering money owed to "secured" creditors (Djankov *et al*. 2008). Derived from the above definition we must directly rule out a direct legal equivalence between "*foreclosure*" and "*ejecución* or *acción hipotecaria*". That is, we must be very specific when using these terms. Therefore, we should "translate" "*ejecución de un bien mueble pignorado*" (*acción pignoraticia*) as a "foreclose on a pledged movable asset" under UK Law. Then, if the property is an immovable asset (e.g. a building, a plant, the home of the entrepreneur), we could use the term "land and building mortgage foreclosure" in the case of an execution (*acción hipotecaria* in Spain). In the main text, as explained in the introduction, we simplify the terminology and, for brevity of exposition, we use the term "mortgage foreclosure".

Alongside the Spanish case, in France we can find a "*droit réel de gage*" or "*nantissement*" on (tangible or intangible) movable property (the closest Spanish legal concept is therefore the "*prenda*") and a "*hypothèque*" on immovable property (the closest Spanish figure, as it was discussed, would be the "*hipoteca*"). The French enforcement procedure in the case of immovable property ("*saisie immobilière*") differs with respect to that in Spain, in the fact that judicial intervention is always needed. The judicial intervention will take place either via a *huissier* (bailiff) or the enforcement judge directly "*juge d'exécution*". Like in Spain, the execution of fixed charge/security over a movable property (*mise à exécution d´un gage ou d´un nantissement*) can be either judicial or extrajudicial.[60]

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[58] Regulated in the article 681 *et seq* of the Civil Procedural Law of Spain. Law 1/2000, of January 7, *de Enjuiciamiento Civil*.

[59] Governed by article 1872 of the Spanish Civil Code in the case of movable property and article 222 et seq of the Reglamento para la Ejecución de la Ley Hipotecaria (Decree of February 14, 1947) if the property was secured by a "*hipoteca*".

[60] Articles 2347 and 2355 of the French Civil Code respectively.

The specific rules governing the executions of fixed charges over immovable property assets can be found in the "*Code des procédures civiles d'exécution*"[61] and its regulations. The execution (*procédure of saisie immobilière*) takes place after the proper formal notifications to the debtor. In this procedure, as in Spain, there may be a forced sale of the (immovable/land, buildings, etc) mortgaged property ("*vente forcée"*) by auction ("*vente aux enchères"*) if it was not possible to do it in another way ("*vente amiable"*).

A.6. Recent developments in Spanish Law.

Until very recently, in Spain the insolvency procedures available for self-employed individuals and entrepreneurs (i.e., managers/owners of small firms) were governed by the same rules than in the case of large businesses such as a limited liability companies. In September 2013 the Spanish Parliament has approved a law that will create some sort of special bankruptcy regime for them[62]. The law contemplates introducing some limitation of the liability of the entrepreneur / self-employed individual through the new figure of "Entrepreneur with Limited Liability". This figure will allow that part of the assets of the entrepreneur will be exempted in case of insolvency, namely EUR 300,000 invested in its primary residence. The law also introduces a partial "fresh start": the entrepreneur will be discharged of her pre-bankruptcy debts as longs as she pays in full the preferential, secured and privileged credit and at least a 25% of the ordinary credit[63]. Finally, the law establishes a new insolvency procedure, the *acuerdo extrajudicial de pagos*, an extrajudicial debt workout coordinated by a public mediator. If no agreement is reached between the debtor and her creditors, a judicial bankruptcy procedure (*concurso de acreedores*) will follow, but the negotiation attempt will increase the fresh start: no ordinary credit will have to be reimbursed.

We must keep in mind that in Spain, as a general rule, it is not possible to apply a principle of limited liability to the debtor (that is, legally release the debtor from its debts, fully or partially, when it cannot pay). This is the so-called "principle of universal liability" (article 1911 of the Civil Code)[64] that states that the debtor responds with all present and future assets to the fulfilment of its obligations.

The process of *ejecución hipotecaria* has also undergone some reforms very recently (2013) which we should summarise here but do not affect the results of this paper. In parallel to the debate on the judgment "Aziz vs CatalunyaCaixa"[65], the Law 1/2013 opens avenues to override clauses that impose "excessive" interest rates to the debtor,

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[61] The specific rules in these cases can be found in the " Code des procédures civiles d'exécution " (Title II, Articles L.311-1 to L.322-14 and Title III) and its regulations.

[62] *Ley de apoyo a los emprendedores y su internacionalización.*

[63] Preferential credit (*créditos contra la masa*) comprises salaries for the last month of activity, the costs of the procedure itself, including compensation for the insolvency administrators, plus the new debt incurred by the firm in its activities after the insolvency declaration. Privileged credit (*créditos con privilegio general*) mainly comprises other labour credits, tax debts and social security contributions.

[64] Also articles 605 to 607 of the Civil Procedural Law.

[65] Judgment in Case C-415/11of the Court of Justice of the European Union.

through a reform of the *Ley Hipotecaria*[66]. The reform also increases from one to three the minimum number of payments that must be missed before the foreclosure process can be started and it allows suspending for two years the evictions of debtors when they are considered to be especially vulnerable. It also reformed the auction process by amending the Civil Procedure Act. Specifically, it has lowered the security required to tenderers.

APPENDIX B: ESTIMATIONS WITH IV PROBIT

In the main text we have reported the IV estimations via Two-Stage Least Squares (2SLS) because that estimator relies on weaker assumptions than its non-linear counterpart, the IV probit[67]. In this appendix, as a robustness check, we show the results using the latter on the unweighted sample[68]. The conclusions are the same: Tangibility has a negative impact on the probability of bankruptcy of Spanish micro firms, no robust effect for Spanish non-micro firms and a positive one in French and British companies, regardless of their size. In the case of Spanish micro firms, a 1% increase in Tangibility decreases the probability of filing for bankruptcy by around 0.03% in the most complete specification (4). Comparing the marginal effects of tables 7 (2SLS) and B1 (IV Probit) we can see that the impact of Tangibility is somewhat stronger when estimated by IV Probit.

An advantage of the IV probit is that allows us to directly test for the endogeneity of our regressor. It basically tests whether there is correlation between the error terms of the structural equation and those of the reduced-form equation for the endogenous regressor. Moreover, this test, unlike the IV probit itself, is valid without assuming conditional normality of the endogenous regressor or homoskedasticity. The results of the test, which are shown in the last row of each country in Table B1 and Table B2, generally reject the null hypothesis of exogeneity, suggesting that we need to instrument the variable Tangibility, as we already did.

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66 Article 3 of Law 1/2013, of May 14, *de medidas para reforzar la protección a los deudores hipotecarios, reestructuración de deuda y alquiler social*.

67 The IV probit can be estimated via a two-step procedure or via Maximum Likelihood. We use the latter because, although computationally more expensive and difficult to converge, it is more efficient (Wooldridge, 2002).

68 Although sampling weights can be applied to the Maximum Likelihood version of the IV probit, its algorithm often fails to converge, as it happened in several of our regressions.

Table B1: average marginal effects (%) for the probability of bankruptcy in micro firms (IV Probit)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**-0.012*****	**-0.014*****	**-0.018*****	**-0.033*****
	(0.003)	(0.003)	(0.004)	(0.006)
Age		0.838***	0.763***	0.845***
		(0.163)	(0.168)	(0.205)
Size			1.400***	1.388***
			(0.133)	(0.154)
Industry dummies	NO	NO	NO	YES
N	47,710	47,679	47,679	47,679
Exogeneity test	0.08	0.02	1.95	13.14***
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.192*****	**0.189*****	**0.183*****	**0.105*****
	(0.005)	(0.005)	(0.005)	(0.009)
Age		1.536***	1.488***	1.960***
		(0.204)	(0.204)	(0.215)
Size			1.635***	1.477***
			(0.219)	(0.221)
Industry dummies	NO	NO	NO	YES
N	47,861	47,858	47,858	47,858
Exogeneity test	1016.11***	959.32***	854.95***	121.15***
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.206*****	**0.207*****	**0.142*****	**0.127***
	(0.031)	(0.032)	(0.052)	(0.065)
Age		-9.385***	-8.056***	-8.416***
		(1.183)	(1.443)	(1.522)
Size			17.531***	15.521***
			(3.328)	(3.322)
Industry dummies	NO	NO	NO	YES
N	2,387	2,387	2,387	2,382
Exogeneity test	9.50***	8.54***	1.69	0.76

Dependent variable: Bankruptcy. Baseline probabilities=3.6% (Spain), 10.5% (France), 31.6% (U.K.). All regressions include a constant. Estimator: IV probit. Standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level. The exogeneity test is a Wald test that follows a chi-squared with one degree of freedom under the null hypothesis of exogeneity, i.e., no correlation between the error terms of the structural equation and those of the reduced-form equation for the endogenous regressor.

Table B2: average marginal effects (%) for the probability of bankruptcy in non-micro firms (IV Probit)

	SPAIN			
	(1)	(2)	(3)	(4)
Tangibility	**0.053*****	**0.045*****	**0.047*****	**0.007**
	(0.011)	(0.011)	(0.011)	(0.017)
Age		2.390***	1.957***	0.925*
		(0.536)	(0.544)	(0.555)
Size			2.583***	2.616***
			(0.404)	(0.408)
Industry dummies	NO	NO	NO	YES
N	11,477	11,462	11,462	11,462
Exogeneity test	65.74***	50.40***	52.01***	5.17**
	FRANCE			
	(1)	(2)	(3)	(4)
Tangibility	**0.235*****	**0.238*****	**0.237*****	**0.168*****
	(0.004)	(0.005)	(0.005)	(0.011)
Age		-0.788**	-0.253	-0.246
		(0.340)	(0.345)	(0.377)
Size			-3.607***	-3.923***
			(0.335)	(0.371)
Industry dummies	NO	NO	NO	YES
N	16,339	16,339	16,339	16,339
Exogeneity test	961.54***	901.09***	890.74***	155.14***
	U.K.			
	(1)	(2)	(3)	(4)
Tangibility	**0.176*****	**0.186*****	**0.176*****	**0.117*****
	(0.014)	(0.014)	(0.015)	(0.026)
Age		-8.211***	-6.422***	-7.402***
		(0.541)	(0.553)	(0.647)
Size			-5.711***	-6.200***
			(0.539)	(0.587)
Industry dummies	NO	NO	NO	YES
N	8,829	8,829	8,829	8,829
Exogeneity test	33.03***	36.40***	31.90***	3.65*

Dependent variable: Bankruptcy. Dependent variable: Bankruptcy. Baseline probabilities=12.5% (Spain), 18.4% (France), 44.7% (U.K.). All regressions include a constant. Estimator: IV Probit. Standard errors in parentheses. *, **, and ***, significant at 10, 5, and 1 % level. The exogeneity test is a Wald test that follows a chi-squared with one degree of freedom under the null hypothesis of exogeneity, i.e., no correlation between the error terms of the structural equation and those of the reduced-form equation for the endogenous regressor.

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