

THE SPANISH CORPORATE BANKRUPTCY PUZZLE AND THE CRISIS‡

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Abstract

Spain has the world's lowest recorded bankruptcy rate (number of formal bankruptcies divided by number of firms). We document this fact, analyze the Spanish institutional framework and compare it with those of other European countries. We argue that to organize the documented evidence it is necessary to keep into account both the ex-post and the ex-ante efficiency repercussions of the Spanish institutional framework. We propose a view that is based on the idea that the institutional framework has repercussions on firms' capital structures and asset structures and on the level of risk that they take and that these in turn have an impact on the frequency of formal bankruptcy. We argue that this view allows to organize the available evidence and analyze its implications. We conclude with a description of recent developments in bankruptcies and bankruptcy legislation in Spain and with a brief discussion of policy implications.

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1. Introduction

The ways in which corporate financial distress is dealt in relatively similar countries, such as developed countries with similar income levels, are surprisingly diverse. Countries differ in terms of the probabilities of firms being involved in bankruptcy or other insolvency proceedings, as well as in the final results of these proceedings, e.g., judicial agreements with the creditors, or liquidation of the company.

Our primary goal in this paper is to make sense of the way in which corporate financial distress is dealt in Spain as compared to other developed countries paying special attention to the role played by the legal framework. As a secondary goal, we will also try to draw some policy implications from the analysis.

As a first approximation to the analysis, Figure 1 plots corporate bankruptcy rates (number of bankruptcies per 10,000 firms) and average per capita GDP levels for 2006 for most Western European countries. In Figures 2 and 3 we plot instead average corporate bankruptcy rates (number of bankruptcies per 10,000 firms) and average corporate conditional bankruptcy rates (number of bankruptcies divided by number of firms going out of business), against per capita GDP for a smaller selection of Western European countries and for the period 2004-2006.

It is important to clarify that this paper does not attempt to provide a complete explanation for the positive relations exhibited in Figures 1-3. Figures 1-3 constitute instead a graphical representation of the *observation* that motivates this work and of the *reason* why we believe it is important to explain this observation. The *observation* is that Spain is an obvious outlier in terms of corporate bankruptcy rates. The *reason* why we think it is important to explain it is that low bankruptcy rates may indicate that the legal environment may discourage risk-taking with obvious repercussions on growth and on the riskier components of its drivers, such as innovation.

The extremely low Spanish corporate bankruptcy rates have been noted before. But given that there is no accepted explanation for these low rates, we refer to them as the *Spanish corporate bankruptcy puzzle*. In this paper we intend to document this puzzle and to present our first approximation to it.

There is ample literature, both within and outside economics, arguing that the institutional framework dealing with the creditor-debtor relationships and the insolvency of firms is very relevant for economic outcomes.

The ways in which legal systems distribute claims against assets of insolvent firms to debtors and creditors and assign the rights to control these assets to creditors, debtors or third parties (such as judges or insolvency practitioners) obviously influence ex-post outcomes, i.e., the allocation of resources after the insolvency proceeding has been initiated. But legal provisions for insolvent

firms also have important ex-ante effects, because they affect productive activities and their financing and also because they ultimately influence the probability that firms become insolvent.

In this paper we propose the idea that, in order to explain the Spanish corporate bankruptcy puzzle, it is necessary to keep into account both the ex-ante and the ex-post repercussions of the Spanish bankruptcy law. The view that we propose in this paper can be summarized as follows: (1) Creditor/debtor orientation and (2) efficiency of bankruptcy proceedings have an impact on (3) the choice of capital structure and (4) business decisions on asset purchases and the level of risk-taking; (3) and (4) have an impact on (5) the probability of financial distress and on (6) the probability that a financially distressed firm ends up in a formal bankruptcy procedure.

Having spelled out the elements of our thought model, we can now relate our work to the existing literature.

Many authors have already stressed the importance of how and how efficiently bankruptcy code splits claims and control rights on the assets of financially distressed firms or in other words of (1) the creditor/debtor orientation and (2) the efficiency of bankruptcy proceedings. For instance, La Porta, Lopez de Silanes, Shleifer and Vishny (1997 and 1998) have made international comparisons of insolvency procedures constructing indices of their propensities to allocate these claims and control rights to creditors.¹ La Porta, Lopez de Silanes, Shleifer and Vishny (1997) also use indices of the “efficiency of the judicial system,” the “rule of law” and “corruption” elaborated by the Business International Corporation and the International Country Risk Guide. Djankov, Hart, McLiesh, Shleifer (2008) have designed a survey to provide a quantitative measure of the losses in debt enforcement around the world and of the causes of these losses, e.g., what part is due to legal costs, duration, or inefficient decisions relative to the liquidation of an insolvent firm.

Many authors have concentrated on the ex-ante implications of bankruptcy codes and in particular on (3) firms’ capital structures. La Porta, Lopez de Silanes, Shleifer and Vishny (1997), find that shareholder protection encourages the development of equity markets, and to a lesser extent that creditor protection encourages the development of credit markets. Qian and Strahan (2007) study how creditor protection rules affect price and non-price terms (such as debt maturity) in bank loans in a sample of 60 different countries. In their international comparisons of capital structures, Rajan and Zingales (1995) suggest that bankruptcy laws may be one of the important reasons why firms in different countries have different capital structures and conjecture that the creditor friendliness of the bankruptcy code may be a determinant. Giannetti (2003) finds that institutions that favor creditor rights are associated with higher leverage and greater availability of long-term debt. Davydenko and Franks (2008) compare the capital structure of firms that defaulted on their bank debt

¹ See also the independent classification of Lopez, Garcia and Torre (2009).

in France (which has a creditor unfriendly code) and Germany and the United Kingdom (whose bankruptcy laws are much more creditor friendly). Acharia, Sundaram, and John (2008) propose a model in which optimal leverage depends on the creditor friendliness of the bankruptcy code but also on the anticipated liquidation value of the firm. They find support for the model's implication that the difference in leverage between the debtor friendly code (US) and the creditor friendly code (UK) is a decreasing function of the anticipated liquidation value. Gennaioli and Rossi (2008) propose a model that implies that stronger creditor protection leads to a capital structure with floating charge financing.

The idea that the choice of capital structure is inherently linked to (4) business decisions such as asset choices and the degree of risk-taking is of course an old hand in the corporate finance literature. Jensen and Meckling (1976) for instance maintain that the shareholders of a levered firm have incentives to inefficiently increase risk, because debt makes their payoff convex. Grossman and Hart (1982) point out that if bankruptcy is costly to managers (e.g., because of a reputational loss they suffer) debt can align the incentives of managers and shareholders. Kim and Maksimovic (1990) suggest that firms' creditors can link the availability of financing to the use of productive assets that are more easily monitored and that retain more value in liquidation.

Other authors have also suggested that the legal treatment of involuntary creditors under insolvency also affects (3) and (4), because it affects the choice of asset levels and the firms' standards of behavior with respect to many kinds of laws and regulations (Shavell, 1986; Ganuza and Gomez, 2009). Firms, for instance, may engage in several strategies leading to material undercapitalization that will determine its inability to face the liabilities or monetary penalties resulting from its activities: divest activities in poorly capitalized subsidiaries, or in purely instrumental limited liability entities; externalize risky portions of the activity to small-sized contractors; choose an excessive amount of senior or secured debt that will be preferred to the claims of tort victims for damages, or to the claims of the Government for penalties, all of these leading to distortions with respect to optimal behaviour in externality-creating activities.

Claessens and Klapper (2005) is one of very few papers to point out that it is important to also analyze (5) times (6), i.e., the frequency with which formal bankruptcy regimes are used (as opposed to informal workouts), because it is a way to understand the effective importance of specific creditor rights. They find that the rule of law increases bankruptcy usage and that the aggregate credit protection score proposed by La Porta, Lopez de Silanes, Shleifer and Vishny (1997) is not significant. But they also find that two of the components of the aggregate index have significant impacts with opposite signs. In particular they find that usage rates are increased by (creditor oriented) restrictive reorganization rules (requiring, for instance, creditors' consent for reorganization) but also by (debtor oriented) provisions of automatic stay of creditors' rights during insolvency proceedings.

Given that the main preoccupation of this paper is to explain the low usage rate of formal bankruptcy proceedings in Spain, one may think that Claessens and Klapper (2007) may provide a useful off-the-shelf explanation for it—so that the Spanish corporate bankruptcy puzzle would not be a puzzle after all. Unfortunately, this is not the case. Claessens and Klapper's (2007) empirical work has an ambitious goal of providing an explanation of usage rates for a large cross section of developed and developing countries. But their results (that high judicial efficiency, the ability of creditors to restrict reorganization processes and the existence of automatic stays of creditors during bankruptcy) indicate that Spain should have very high usage rates. In other words, while the work of Claessens and Klapper (2007) may be useful to understand usage rates in many countries around the world, it is totally useless to make sense of the low usage rates in Spain.

By contrast, in this paper we choose a much easier but hopefully more realistic goal: To look closely at the Spanish bankruptcy code, compare it to the bankruptcy codes of a few developed countries and try to make sense of it.

In section 2 we start by describing the Spanish corporate bankruptcy legal procedure and we compare it with the ones of France, Germany, Italy and the UK. In section 3 we expose our view of the Spanish experience. In section 4 we turn to evidence in support of our view and compare the capital structure of Spanish nonfinancial firms with that of nonfinancial firms in France, Germany, Italy and the UK. In section 5 we present the recent developments in bankruptcy proceedings and the recent changes in the Spanish bankruptcy law. In section 6 we conclude and provide a brief discussion of the policy implications of our view. The Appendix contains details on the sources of the data that we use in the paper.

2. Spanish Insolvency Law in context

The current Spanish insolvency law dates from 2003, though its entry into force was delayed until September 1 2004. Prior to that, the Spanish regime was notoriously chaotic and inefficient (Cerdá and Sancho, 2000). It was sharply divided in two different procedures. One of them (*quiebra*) could be initiated by both the insolvent debtor and the creditors, and implied that the firm's management was taken over by creditor-appointed representatives who were essentially in charge of liquidating assets and paying creditors in due order, although an agreed restructuring was also possible. The rules were very rough on the debtor and archaic –mostly in the 1885 Commercial Code, but also in an earlier Commercial Code from 1829. The procedure was complex and lengthy - 25 years was not unheard of- and the ex-post efficiency in terms of asset realization was meagre to say the best. The other was essentially –because it could also end up in liquidation eventually- a restructuring procedure

(*suspensión de pagos*) which could be initiated solely by the debtor, who typically would retain control of the firm. The procedure, though substantially simplified from that of the *quiebra*, was still cumbersome, and the occasions for debtor and creditor opportunism were plenty.

Various attempts to radically reshape Spanish insolvency Law failed, until the 2003 Bankruptcy Act (*Ley concursal*, LC in what follows). The old arrangements probably were an important explanatory factor behind the observation that Spain had an astonishingly low rate of bankruptcy proceedings taking into account the number of firms. In Claessens and Klapper (2005) out of 35 countries in Europe, America and Asia, Spain had the lowest formal bankruptcy rate, of 0.02%, only close to Peru (roughly double the Spanish rate) and Portugal (about four times the Spanish rate).

The new insolvency regime applied by Spanish courts since 2004 may be summarily described by the following features:

1. It is a unified procedure, eliminating the previous two avenues to channel firm insolvency. It is also unified in the sense that it serves both firms and individuals, though there is a simplified procedure when the estimate of its liabilities does not exceed €10,000,000,² and the firm has simplified accounts and no audited books.
2. Both the debtor and the creditors may initiate the proceedings. In practice, since 2004, more than 85% have been so-called voluntary filings, on the debtor's initiative. The debtor and the firm managers are encouraged to file early through different means: first, they may file even when no actual insolvency exists, as long as the inability to face payments is imminent; second, the debtor and firm management are under a legal duty to file in two months from actual insolvency, and this will be presumed after 3 months of default in tax and social security contributions, or salaries. If they do not file in the prescribed time, there will be a presumption that insolvency is not without fault, which may imply serious personal liabilities for management; third, the filing is simplified, because only the accounts, a list of creditors and assets, and a brief explanation of the situation of the firm is required for filing being complete; fourth, if they do not file, but the creditors do, the rule is that firm management will be taken over by court-appointed representatives. In 2009 the LC has been modified to coordinate early filing with incentives for debt renegotiation: if the debtor is negotiating a proposal for restructuring agreement (*convenio anticipado*), it may avoid the obligation to file for insolvency by notifying the court that it is in such negotiation process. Then, a window of 3 months opens for such a

² This figure was raised from the initial €1,000,000 foreseen in 2003 by the changes introduced in the LC earlier in 2009 (Real Decreto-Ley 3/2009, of urgent measures in tax, financial, and insolvency matters, in the face of the evolution of the economic situation), as a result of the greatly increased workload for the Mercantile courts due to the crisis.

process, with an additional 1 month to file if renegotiation fails, in which no procedures may be initiated by creditors.

3. Once the petition for bankruptcy has been formalized, the courts – Mercantile courts, specialized in commercial matters- will start the procedure (*sección primera*) and decide whether to accept or reject the petition. Courts should do so summarily – the LC, very optimistically, foresees that this will happen in one day in case of petition by the debtor. Roughly 20% of petitions are rejected, to a higher degree when the petition is not voluntary on the debtor’s side. In case of creditor’s initiative, opposed by the debtor, typically because insolvency is not convincingly shown. In the case of debtor’s initiative, it is essentially because some of the formal requirements are missing or defective, possibly on purpose, when the debtor may try to hastily fulfil the duty to file, or get a head start in petition over creditors.
4. The second section of the procedure deals with the court-appointed administrators. The general rule is that there will be three of them (in the simplified procedure, just one), all designated by the court, but from a different pool. One has to be a practising lawyer selected by the court from the list provided by the Bar Association. The second, an auditor, economist or commercial expert (*titulado mercantil*) also from the lists provided by the relevant professional bodies. The third will be a creditor, either ordinary or privileged –but not with secured credit on a valuable asset. They will be compensated over the debtor’s assets, on a variable basis depending essentially on the value of the assets and the volume of credit. As many criticisms were raised against excessive compensation, the LC was changed earlier in the year to fix a cap on the level of compensation. No performance incentives (neither in restructuring nor in liquidation) are built into this compensation scheme.

The insolvency administrators take over management when the court so decides –more commonly in creditors’ initiated procedures- and in the remaining cases they oversee current management, and have to authorize all transactions outside day to day business of the firm. They also draw the list of assets and creditors, have to give an opinion on all restructuring plans that may be presented, and are in charge of drafting the liquidation plan of the firm’s assets, unless the debtor himself has presented an early liquidation plan that has obtained court approval.

5. The court declaration of insolvency that starts the formal procedure determines an automatic stay in all unsecured credits until the end of the procedure, and interest cease to accrue, with very limited exceptions. Secured creditors over assets that are integrated in the debtor’s production process are also affected by the stay, for the minimum of 1 year or the date in which a re-structuring plan that does not affect their rights is approved.

6. The insolvency administrators produce a list of all the debtor's assets (*sección tercera*) and credits against the insolvent debtor (*sección cuarta*). Credits are subject to the following ordering: (i) preferential credit (*créditos contra la masa*) will be the first to be paid, and comprise 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. This means that new funds for the on-going operation of the firm, even new financial debt, will enjoy priority over old secured debt; (ii) secured credit of all kinds over specific assets of the firm (*créditos con privilegio especial*); (iii) privileged credit (*créditos con privilegio general*) such as other labour credits, and public and tort creditors up to a certain amount; (iv) ordinary credits (*créditos ordinarios*) as the residual category: all credits that do not belong to any other type; (v) subordinated credit (*créditos subordinados*) which includes those of closely related parties (managers, shareholders, etc.) and some other kinds, such as interest, sanctions and fines, etc.
7. The LC provides for some claw-back actions and procedures aimed at redressing the assets of the debtor –now, presumably, with the creditors as residual claimants- of the harmful consequences of actions that took place prior to the insolvency declaration. Thus, advanced payments and transactions with related parties –managers, shareholders- may be clawed-back at the initiative of the administrators or the creditors, and the proceeds will increase the debtor's assets. The possibility of claw-back also affects the grant of secured status to credits replacing existing credit. In some –but very few indeed- cases, some Spanish courts decided to eliminate the securities granted to banks having re-financed the existing debt. This created huge alarm in the financial sector, and led to a change in the LC in order to exempt re-finance transactions from claw-back, if some conditions are met: the re-finance plan is agreed by 3/5 of existing credit, and the plan is ok-ed by an independent expert appointed by the Commercial Registry (*Registro Mercantil*).
8. After the list of assets and creditors is approved by the court, the common phase of the procedure ends, and we may have reorganization or liquidation. A re-structuring or reorganization plan may be proposed both by the debtor and by the creditors. Data shows that in virtually all cases –nearly 97%- it is the debtor who has the initiative of the plan. The debtor may also make use of the opportunity to present an anticipated plan, together with the petition for bankruptcy (with the support of at least 10% of outstanding credit) or at any time till 1 month has elapsed since the court declaration of insolvency (with the support of at least 20% of outstanding credit). Anticipated plans have been popular in terms of

presentation, but they have been approved much less frequently than ordinary plans³.

The plan has to be informed by the insolvency administrators, approved by a majority of ordinary creditors, and finally authorized by the court. Secured and privileged creditors will not be affected by the plan and will keep in full their rights against the insolvent firm, unless they vote in favour of the plan. The plan may not –except in extraordinary cases that need to be justified by the court- imply a loss for ordinary creditors beyond 50% of their nominal value, nor a delay in payment of more than 5 years.

9. If no plan is presented or reaches approval⁴, or if the approved plan fails, the insolvency administrators submit a liquidation plan to the court, in order to sell the assets and pay the creditors in the order summarized above.⁵

10. The LC mandates that the court should examine the potential liabilities of the debtor –the firm’s management in the case of a company- when there is liquidation of the firm, or when the reorganization plan implies a serious loss to creditors: a hair-cut of more than 33%, and a delay in payment of more than 3 years. The LC contains some presumptions of fault on the part of the debtor or its managers, and taking them into account, and considering the evidence presented, the court may declare the bankruptcy to be fortuitous (*concurso fortuito*) or guilty (*concurso culpable*). A finding of guilt may imply a judgement against the individual manager involving incapacitation to run a company from 2 to 15 years, payment of damages to the firm or to creditors, and even, in case of liquidation, the obligation to face the unpaid sums in favour of the creditors. These liabilities are independent of the criminal liabilities that may apply if a criminal behavior –fraud, embezzlement- is found and proven.

How similar or different is the current Spanish insolvency law from those of other developed economies? Most commentators, both in economics and in law, tend to ascribe an insolvency regime to one or the other of two ideal types of regime. There are creditor-friendly regimes, essentially driven by creditors and focused upon maximizing the net recovery of their credit. Debtor-friendly regimes, on the other hand, are mostly concerned about keeping the firm as a running enterprise, and allow space for the debtor to

³ Although anticipated plans have accounted for a 23% of all the proposed reorganisation plans, they have only accounted for a 14% of the approved plans, while the remaining 86% have been ordinary plans.

⁴ Only in 11% of the total bankruptcy filings a reorganisation plan was presented, and only in 5% of these filings a plan was approved.

⁵ The debtor may also present a liquidation plan to the court, with the petition for bankruptcy or at any time 15 days later than the list of assets and creditors has been produced.

reorganize and be back in business, while at the same time keeping an eye on safeguarding the interests of other stakeholders, particularly employees.

The UK⁶ is typically considered to possess a clear creditor-oriented system, although this orientation may have probably weakened following legislative changes earlier in this decade, although their full effects may not yet be entirely perceptible. Although various insolvency procedures co-exist in the UK, the most important regimes for corporate insolvency are summarized here. Prior to the Enterprise Act (2002), secured creditors were almost entirely in charge of bankruptcy under an administrative receivership scheme. Holders of a floating charge on the business –commonly one bank providing the bulk of finance to the company: there seems to be evidence that financing of each individual firm is more concentrated in UK firms than in other European markets (Davydenko and Franks, 2008)- 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 bank. Of course, this normally did not imply piecemeal liquidation of the assets, but the sale of the business to a new entrepreneur. Floating charges agreed after the enactment of the Enterprise Act do not give rise to such power. The bank may, however, 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 procedure may be initiated by the secured creditor even without court order and proof of insolvency. The company management is entirely replaced, and the administrator is supervised by the court, and by a committee of creditors. The administration implies a stay for non-secured creditors, but the individual enforcement of secured credit needs to be authorized by the administrator or the court. As for liability of management following an insolvency procedure, it is mainly criminal, and based on a finding of fraudulent trading that may be attributed to the actions or decisions of the managers.

France is commonly placed at the opposite end of the spectrum, essentially due to the ample powers of the insolvency courts, at the service of the goal of preserving the company and employment. Among the different procedures, the *redressement judiciaire* seems to be by far the most important insolvency regime for companies. To initiate the procedure, the inability of the firm to meet current liabilities with liquid assets needs to be ascertained. The request may come from the debtor himself –who is under the duty to file in a period of 15 days after having ceased payment, the breach of which may imply severe sanctions-, the creditors, the public prosecutor and the court itself.

After the procedure is formally opened, typically the debtor remains in possession and control of assets, and the management remains in place, although they will be subject to authorisation by a special judge (*juge*

⁶ The main source for insolvency Laws in Europe is McBryde, Flessner, and Kortmann (2003).

commissaire). In rare cases, the management will be replaced by an administrator, who also needs to report to the special judge. The procedure determines a stay both for unsecured and secured creditors, with the exception of employees, for certain amounts. Reorganisation plans play a major role in the proceeding, although it may also end up in liquidation of firm assets, and orderly payment to creditors. Reorganisation plans are divided in continuation and transfer plans, depending on whether the current debtor will still be in control of the business. All players may have the initiative to present a plan, though the court is solely responsible, after hearing all affected parties, to decide about its approval, and the other players hold no veto power. In fact, the court may use certain sticks –a long moratorium upon creditors, imposition of liabilities- to guide the goal and content of the plan in the desired direction. Finally, managers of the insolvent firm may be found liable if they have, with fault, caused the insolvency situation. A finding of liability leads to monetary sanctions –up to full payment of unpaid debt- and incapacitation.

Germany has also experienced a process similar to the UK. It was considered a very creditor-friendly country, but in 1999 the new regime (*Insolvenzordnung*) softened that character. The procedure may be initiated by the debtor himself or by the creditors, when inability to pay current debt can be shown. The debtor has to file for insolvency within 3 weeks of finding its own inability to pay. Also potential insolvency, as in the Spanish LC, may allow filing. The court does not only verify the factual insolvency, but also runs a level of assets test. If the assets are unlikely to be able to cover the costs of the procedure, the court will reject the filing.

As soon as the procedure is formally started, the court appoints an administrator who would replace current management. Creditors may change the administrator in the first creditors' meeting, though this happens only in exceptional cases, mostly of very large insolvent debtors. The administrator is overseen both by the court and by the creditors, who could replace him. Less commonly, the court may authorize the debtor to remain in control in which case the court will appoint a supervisor to oversee management. Non-secured credits are stayed after formal insolvency is declared. Secured creditors over movable assets are stayed up to the first creditors' meeting. Secured creditors over real estate are not automatically stayed, but the court may stay individual enforcement at the request of the administrator, if it is deemed to prevent adequate reorganisation.

If the creditors do not decide in favour of preserving the company, and no plan has been presented, the administrator must proceed to liquidate assets and pay creditors in an orderly fashion. Reorganisation plans may be presented by the debtor or by the administrator, and they have to be approved by a majority –number and value- of affected creditors. Those who are not affected by the plan are not entitled to vote. The plan has to be then assented by the debtor, and confirmed by the court, which can refuse confirmation only under specific grounds. Liability imposed on

management of the insolvent firm seems not to play a large role, although the violation of the duty to file may trigger liabilities *vis-à-vis* creditors under general principles of tort Law.

Italy knows a wide array of insolvency procedures (*fallimento, concordato preventivo, amministrazione controllata, liquidazione coatta amministrativa, amministrazione straordinaria delle grandi imprese insolventi*), but one of them – *fallimento* – stands out, by far, as the most widely used scheme. The triggering event is again the inability to regularly meet current liabilities. The debtor, creditors, the public prosecutor and the court itself may initiate the procedures. Data show that many filings are brought by creditors. In such cases, the debtor has to be heard and may oppose the insolvency declaration. This explains the relatively high rate of rejected filings in the Italian system.

Once the procedure is formally opened, the debtor is dispossessed of the company, and a court appointed administrator (*curatore fallimentare*) takes over, under the supervision of the court. The procedure implies an automatic stay of non-secured claims. Secured creditors may separately and individually enforce their rights, albeit only after the statement of debtor's liabilities has been prepared and approved, which in practice implies a temporary stay of variable length. Liquidation of assets and orderly payment of creditors seems to be the normal course of events of the procedure, unless a reorganization plan is drafted and approved. Only the debtor may have the initiative to present a plan. Approval from 2/3 of non-secured creditors, and confirmation by the court –it may be denied on the merits of the plan itself– are both required for it being effective. Liabilities of existing management do not appear to play a major role, although the administrator, on behalf of creditors, may sue the managers for damages accrued to the assets due to faulty behavior.

3. The Spanish case: From bankruptcy codes, to capital structure, to risk-taking and back to bankruptcy?

One way of describing bankruptcy laws is by characterizing their ability to promote ex-ante and ex-post efficiency. One would normally think that ex-post efficiency simply requires the maximization of the expected value of the assets of the firm, conditional on the firm having entered a bankruptcy proceeding. The reason is that control rights should be assigned in such a way as to maximize the value of the assets and financial claims on the assets could then be assigned in any way that promotes ex-ante efficiency.⁷ In a similar way, it

⁷ For this to be the appropriate notion of efficiency, one needs to assume that preferences are quasi-linear in wealth, that no party is cash constrained, and that the only assets which are involved in the bankruptcy proceeding are the assets of the firm. This may not be the case, for instance, when the manager/entrepreneur's reputation also depends on the final outcome of bankruptcy, when workers have firm-specific human capital, or when the losses to creditors may precipitate them in insolvency.

seems relatively natural to identify ex-ante efficiency with the maximization of the expected value of a firm.⁸

If it were really possible to assign control rights and financial claims on the assets independently of one another, it would then follow that ex-post efficiency would be a necessary condition for ex-ante efficiency. But there are a number of reasons to think that this is not true in practice and that a sizable trade-off between ex-ante and ex-post efficiency exists.

First of all, bankruptcy procedures have substantial legal and administrative costs. This means that a bankruptcy law with lower ex-post efficiency but that induces a lower probability of reaching an insolvency state may be preferable.

What's probably more important is that several individuals involved in the bankruptcy procedure are likely to be cash-constrained (first and foremost the debtor). This implies that not all transfers are possible and that the assignment of control rights and of financial claims are not independent of each other. To give an example, think about a situation in which the maximization of the value of assets requires assigning control rights to the debtor who would keep the firm as a going concern. Imagine, however, that ensuring the availability of credit that promotes ex-ante efficiency required assigning substantial financial claims to the creditor. If the debtor were not cash constrained, all that would be needed would be for the debtor to make a transfer to the creditor. But, given that the debtor is likely to be cash constrained, this is not possible. In this situation ex-ante efficiency may therefore require assigning control right to the creditors. But because creditors are inherently biased towards liquidation (as the nature of their claims implies that they don't fully reap the gains of upside potential) an ex-post efficiency loss would arise.

A paper that examines in detail the trade-off between ex-ante and ex-post efficiency is Ayotte and Yun (2007) and because we think that it is especially suited to analyze the Spanish case we want to summarize some of its arguments and conclusions.

Ayotte and Yun (2007) start from the observation that bankruptcy laws either allocate significant control rights to third parties, such as judges or insolvency practitioners (IP) or allow them to mediate in the allocation of these rights to debtors and creditors. The reason why such an arrangement may be superior for debtors and creditors is that third parties can act on "soft" information (e.g., recent evolution of cash flows) that is difficult to describe and that is therefore not contractible. In other words, the discretion of judges or IP's can enhance the efficiency of ex-ante contracts between debtors and creditors.

It is important to notice that the assumption is not that judges or IP's have superior information. What's important is that judges or IP's provide a

⁸ It may be important to determine whether one should think about the maximization of the value of a potential firm that has not been set up yet, or the maximization of the value of the existing firms. But because, we will not discuss this issue we prefer to ignore it.

technology to include soft information in contractual agreements. But Ayotte and Yun (2007) do recognize that the ability and the expertise of judges and IP's is important because the ex-post efficiency gains are increasing in their ability of telling apart viable firms, which should be kept as going concerns, from unviable firms, which should be liquidated piecemeal. It is important to stress that Ayotte and Yun (2007) refer more to the abilities of judges and IP's to make sound *business* judgments than to their knowledge of the law.

As an alternative the bankruptcy law could assign the control rights in a more mechanical way that foregoes the potential gains of judicial and IP's discretion. But in this case, the bankruptcy law should focus on the ex-ante perspective and should assign control rights to creditors to promote the ex-ante availability of credit by maximizing the recovery of credit upon bankruptcy and by reducing the probability that a state of insolvency prevails.

Based on the previous premises, Ayotte and Yun's (2007) point is that to a certain extent laws should be best responses to the abilities of its enforcers, more than the other way around. The reason is that it is simpler and more economical to adjust a bankruptcy law to the existing distribution of professional skills than to wait for a decade or so for an appropriate professional elite to emerge with the appropriate competencies to provide the enforcement envisioned by the law.⁹

Ayotte and Yun's (2007) conclusion is that the optimal trade off between ex-post efficiency and ex-ante efficiency depends on the ability of the third parties that may be assigned control rights in bankruptcy. If judges and IP's have high abilities in separating out viable from nonviable firms, the bankruptcy law should make use of these abilities to promote ex-post efficiency. But if judges and IP's have low abilities in discerning viable from nonviable firms, the ex-post gains of discretion are lower and the law should be more creditor oriented in the sense that it should assign ample control rights and financial claims to creditors. This implies that in the first case there would be a bias towards reorganization in the sense that, for any exogenously given distribution of firms that reach bankruptcy, there would be more reorganizations in the first case than in the second. This does not imply, however, that more reorganizations would *take place* in the first case than in the second, because the distribution of firms in the economy and therefore the distribution of firms that reach bankruptcy would also depend on the choice of the bankruptcy law.

What's more important is that Ayotte and Yun (2007) also ask the following question: What would happen if, in the face of a low ability of bankruptcy judges and IP's, the legal system failed to optimally respond with a creditor oriented bankruptcy code? This question is interesting for the Spanish case, because, as the discussion of the previous section should have clarified, the Spanish bankruptcy code is relatively debtor oriented and yet makes use of

⁹ Ayotte and Yun (2007) mention that the Bankruptcy and Composition Act of the Slovak Republic has been amended 14 times in 10 years.

judges and IP's who probably know the law well, but who have no special skills, nor clear incentives to make appropriate business decisions regarding the continuation of the firm. The answer to the question provided by Ayotte and Yun (2007) is that "[w]here the bankruptcy code does not provide enough creditor protection to make lending feasible, our model predicts that credit contracts will be written so that distress is resolved outside of bankruptcy, thus reducing bankruptcy usage rates."¹⁰

In the rest of this section we will try to demonstrate that a view similar to the one described above is broadly consistent with the available empirical evidence.

Following Ayotte and Yun (2007) in this paper we propose a view that can be summarized as follows: (1) The Spanish bankruptcy code of 2003 is relatively debtor oriented, but (2) the judges and the IP's lack business training and/or incentives to make sound business decisions. These two features: (3) affect the capital structure of firms (lowering their leverage, tilting their asset structure towards nonspecific assets that have higher liquidation value) (4) bias purchases of assets towards tangible assets (that can be used more easily as collateral) and induce firms to choose projects that are either not risky or are such that the cost of early termination is low; (3) and (4) in turn lower (5) times (6) i.e., the frequency with which a firm ends up in a formal bankruptcy procedure.

As is obvious, in the introduction we have already documented that (5) times (6) is especially low and the comparative analysis of section 2 is our way of claiming that premises (1) and (2) hold. Therefore to convince the reader that our view is broadly consistent with the available empirical evidence, we need to produce evidence on comparisons of (3) leverages and secured debt of firms and (4) tangible and nonspecific assets of firms. We have no direct way of documenting that the projects chosen by Spanish firms are comparatively less risky or have a lower cost of early liquidation, but we will try to clarify what makes us think that this is likely to be the case.

4. The empirical evidence

In this section we compare leverage and assets of Spanish firms with those of firms in France, Germany, Italy using data on balance sheets of nonfinancial firms available from the Bank for the Accounts of Companies Harmonized (BACH). We have restricted to these countries because these are the countries in BACH for which we have also reported bankruptcy rates. The Appendix contains a description of the firms contained in BACH for each country. In table 1 we summarize the balance sheets of the firms included in BACH for the year 2006.

Given that the countries that we consider have different sectoral compositions and different size distributions, to make the comparisons as meaningful as

¹⁰ Ayotte and Yun (2007), page 5.

possible we will look separately at the most important sectors in the 1-digit Nace classifications (D-K) and we will also distinguish among small firms (with a turnover lower than 10 million €), medium firms (with a turnover between 10 and 50 million €), and large firms (with a turnover over 50 million €).

4.1 Leverage and secured debt: From bankruptcy codes to capital structure

To document the extent of leverage, we follow Rajan and Zingales (1995) and consider four different measures, Nonequity Liabilities/Total Assets, Debt/Total Assets, Debt/Net Assets, and Debt/Capital. We prefer not to discuss the relative merits of each measure of leverage and we refer the reader to the discussion in Rajan and Zingales (1995). In Tables 2-5 we report each of these measures for Spain, France, Germany, and Italy.

In terms of Nonequity Liabilities/Total Assets (Table 2) Spanish firms exhibit substantially lower leverage ratios than those of the remaining countries. In aggregate terms, both small and medium firms have a difference of 12 points, but large firms only 4. Spanish firms have the lowest leverage for 15 of the 21 cases (3 class sizes times 7 sectors) and the second lowest in the remaining 6. The only cases in which the leverage of Spanish firms are higher than the mean of the other 3 countries are medium firms in sector H (Hotels and restaurants) and large firms in sectors D (Manufacturing) and F (Construction).

The main difference that emerges from the analysis of Debt/Total Assets (Table 3), is that firms of Spain, Italy and France have lower leverages than German firms. German small firms have leverages of approximately 15 points more. Among medium sized firms the difference goes down to 8 points and among large firms to approximately 4.

From the analysis of Debt/Net Assets (Table 4), the main difference that emerges is that Spanish and French small and medium sized firms have somewhat lower leverages than their German and Italian counterparts, with differences of 5-13 points among small firms and 4-6 points for medium sized firms.

In terms of Debt/Capital (Table 5) Spanish and French firms exhibit substantially lower leverages than German and Italian firms. Among small firms the differences are of the order of 8 points (with Italy) and 20 points (with Germany). Among medium firms the differences are of the order of 9-13 points. Among large firms the differences are of the order of only 3-7 points.

The previous comparisons indicate that nonfinancial firms of countries with bankruptcy codes which are not creditor oriented (Spain, France, and Italy) have substantially lower leverage than the firms of the country with higher creditor orientation (Germany). Spanish firms in particular can be singled out for their low leverage, and especially small and medium sized firms.

Just as it seems reasonable to think that private contracting responds optimally to the existing bankruptcy code and to the way it is implemented, lowering leverage when creditor protection is limited or poorly enforced, it seems natural to think that in these situations firms will choose an asset structure that guarantees higher liquidation values. A proxy that is often used for liquidation value is the ratio of nonspecific assets to total assets. Nonspecific assets are assets that are not specific to the firm or the industry and are therefore likely to have a high liquidation value, even in the event of a sectoral downturn. In Table 6 we report the ratios of nonspecific assets to total assets computed from BACH. Non-specific assets include cash at bank and in hand, land, buildings, accounts receivable, payments on account, prepayments and accrued income and shares in affiliated undertakings and participating interests. The picture that emerges from Table 6 is that Spanish, French and Italian firms have a higher percentage of nonspecific assets than German firms. In particular, Spanish firms, have higher ratios than the mean of the other three countries for almost all individual sectors among small and medium sized firms.

The previous evidence is broadly consistent with the idea that the creditor orientation of the bankruptcy code has an impact on firms' leverage and that this is especially true for small and medium firms.¹¹ Because high levels of leverage are normally associated with higher probabilities of bankruptcy, the evidence also contributes to explaining the low rates of Spanish corporate bankruptcies. But we should also acknowledge that, while French and Italian firms have leverages similar to Spanish firms, the usage rates of the formal bankruptcy systems in France and Italy are much higher. The next two subsections try to account for these differences.

4.2 Tangible assets: From bankruptcy codes to collateral? Or is it mortgage collateral efficiency?

If institutions and in particular the bankruptcy code do not protect creditor rights, a possible response for a firm that attempts to obtain credit is to choose an asset structure that makes it easy to secure its debt. If this is true, one would expect to observe a negative relationship between the creditor orientation of the bankruptcy code and the ratio of tangible assets to total assets, given that tangible assets can be more readily employed as collateral. We analyze these ratios in Table 7.

The result that emerges from Table 7 is that Spanish and German firms generally have substantially higher ratios than their French or Italian counterparts. In particular, of the total of 21 cases (3 classes of firm sizes times 7 sectors), Spain has the highest ratio in 11 cases and the second highest in 4 cases. Of the remaining cases, the ratio of Spanish firms is higher than the arithmetic mean of the remaining countries in 2 cases out of 6. The only cases in

¹¹ Large firms are often believed to be less dependent on the local institutions for creditor protection because they have easier to equity financing and to credit from foreign sources.

which Spanish firms have a lower ratio than the mean of the remaining countries are sector E (Electricity, gas and water supply) for medium firms, sector F (Construction) for large firms, and sector K (Real estate, renting and business activities) for both medium and large firms.

The evidence on Spanish firms is consistent with the idea that high ratios of tangible assets are a response to a bankruptcy code with little creditor protection. But the evidence on the remaining countries suggests that there must be some other important determinant of these ratios, given that creditor protection is high in Germany and low in France and Italy.

A possible explanation is that mortgage collateral is known to be very efficient in Spain and Germany, but not in France and Italy. According to a survey of the European Mortgage Federation (2007), for instance, the usual interval between mortgage foreclosure and the actual distribution of the proceeds of the sale is 7 to 9 months in Spain, 12 months in Germany, 15-25 months in France and a whopping 5 to 7 years in Italy. For France it should also be kept into account that French bankruptcy code does not protect much mortgage holders and it is therefore not surprising that French firms substitute tangible assets with accounts receivables to secure their debt (see Davydenko and Franks (2007)).

The previous analysis suggests that the Spanish legal system (a debtor oriented bankruptcy code together with an efficient implementation of mortgage foreclosures) may explain why Spanish firms have low leverage and high levels of tangibility of assets despite the positive relation between tangibility of assets and leverage that has normally been documented (see, e.g., Titman and Wessels (1988) and Rajan and Zingales (1995)).

3.3 How to explain the difference between Spain and France? Early termination vs. Refinancing

The arguments proposed and the evidence exhibited so far have shown several similarities between Spain and France (debtor friendly code, inefficient business decisions in case of reorganization, low leverage, high ratio of nonspecific assets) but also two important differences, in ratios of tangible assets and usage rates. We now try to explain how to accommodate these two differences in our view of the problem.

The efficiency of mortgage collateral in Spain implies that secured creditors are unlikely to be held up by a debtor. By contrast in France a secured creditor knows that the recovery rate of its secured debt in bankruptcy may be low for two reasons. First, it takes longer for the proceeds of the sale to be distributed to secured creditors. Second, secured creditors may suffer a loss if the judge decides to sell the firm as a going concern to a buyer who commits to maintaining employment in exchange for a low economic offer. This implies that even a secured creditor may have incentives to give extra credit in case of financial distress with an eye to increasing the probability of recovery of its existing credit.

This in turn implies that a situation of financial distress is more unattractive for a Spanish manager/entrepreneur because in such an event he has almost no bargaining power with creditors and for this reason he is more likely to prefer a project with low risk and/or a low cost from early termination and will therefore reach a formal bankruptcy proceeding with smaller probability.

To support this interpretation we would ideally want to produce direct evidence on the level of risk of firms in different countries. At this stage we don't have this direct evidence. But a simple observation on firms that go bankrupt in different countries gives some support to our view. We refer to the fact that a comparison of the final outcomes of bankruptcy proceedings can give a sense of the insolvency test to which financially distressed firms are subject to in different countries. In the following we will try to convince the reader that given that the distribution over final outcomes are not very different, the insolvency tests implicit in different bankruptcy codes are similar and that low bankruptcy rates can only be explained by the fact that firms take on little risk.

Between 2004 and 2008 out of a total of 6,371 bankruptcy filings in Spain, there have been a total of 316 reorganization plans approvals, or only 5% of the filings. To assess the likelihood of a bankruptcy proceeding to lead to a reorganization, however, one would need to make two corrections, one that would tend to increase the total, and the other that would decrease it. The upward correction would be needed because there have been some bankruptcy cases that started sufficiently late that there was no possibility for a reorganization plan to be approved. On the other hand, not all reorganization plans succeed and there are a few cases in which after the approval the plan fails and the firm is subsequently liquidated. Because neither correction is likely to be large, approximately 5% of Spanish firms filing for bankruptcy are successfully reorganized.

In the UK in the same period 98% of the total of 102,677 filings, consisted of liquidations (compulsory liquidations, creditors' voluntary liquidations, self-employed bankruptcies) and only 2% were successful reorganizations (company voluntary arrangements).¹² Italian data for 2004-2007 show that 96% of the total of 51,794 filings ended with liquidations and only 4% led to reorganizations. In France out of 218,093 filings, 191,019 or 88% were liquidations. The remaining 27,074, or 12% were reorganization in the sense of firm continuity, or sale of the firm as a going concern. But the figure also includes cases whose final outcome is not known yet. For the case of France there seems to be a somewhat higher chance of reorganization, but one should not infer that French firms are better, given that the French bankruptcy code

¹² In these computations we have chosen to ignore administrative receiverships and simple receiverships, since they can lead to assets liquidation or the sale of the firm as a going concern. However, due to the Enterprise Act of 2002, their weight in the period 2004-2008 is negligible.

prescribes that employment maintenance may advise the continuation of the firm even if it does not maximize creditors' recovery or the value of the firm.

We should also point out that another difference between the French and the Spanish legislation may help explain the wildly different formal bankruptcy usage rates. The French legislation includes sanctions for debtors who do not file for bankruptcy in time. But the possibility of sanctions or liabilities conditional on having filed in time is remote. This means that French company administrators know that a filing, provided it is timely, reduces the probability of a sanction to practically 0. By contrast the Spanish legislation includes sanctions for late filing (in this case guilt is presumed) but also for guilt (*culpa grave*) that includes having "caused or aggravated the insolvency." This means that even a timely filing does not drive to 0 the probability of a guilty finding. As a consequence, administrators may prefer not to file at all. But this in turn means that they prefer not to find themselves in the condition of having to file and to avoid such a situation they may choose projects with low levels of risk and with a possibility of an early liquidation without large losses.

5. Recent developments

The current crisis has had very different repercussions on formal bankruptcy proceedings in different countries. In Figure 4 we report the bankruptcy rates for several European countries. Most countries (the Netherlands, Denmark, the UK, Finland, Sweden) have experienced increases in a range of 40-100% between the beginning of 2007 and the first or the second quarter of 2009. The only two exceptions are Germany and Spain. Germany has been fairly stable.¹³ Spain, on the other hand, while it still has remarkably low bankruptcy rates, has experienced an increase of approximately 600% between the first quarter of 2007 and the second quarter of 2009. This is seen more clearly in Figure 5 and should be a reason for concern, because unless sufficient resources are deployed, the judicial jams are likely to increase very substantially the duration of bankruptcy proceedings.

Figure 6 and 7 give some additional detail about Spanish bankruptcy filings. Figure 6 shows that the normal pattern of bankruptcy rates has not been altered by the crisis: bankruptcy rates are lowest for micro firms (with 0-9 employees) higher for small firms (10-49 employees), still higher for large firms (200 employees or more), and highest for medium firms (50-199 employees). Not surprisingly, Figure 8 shows that the effect of the crisis has been largest on the construction sector. But it also shows that even now the bankruptcy rates in the construction sector are lower than in manufacturing and energy. Figure 8 finally shows that the growth rates of bankruptcy rates for companies and self-employed have been similar, although the current bankruptcy rate for self-employed is still 20 times lower than the corresponding rate for firms.

¹³ This may be a consequence of the provision of the German bankruptcy code that does not allow a bankruptcy to be filed if the firm does not have assets sufficient to cover the legal costs.

The onset of the crisis and the spectacular increase in bankruptcy filing in Spain has led to a modification of the Spanish bankruptcy law. Chapter III of Real Decreto-ley 3/2009, of March 27 has introduced a number of significant modifications. Some of these (the availability of the simplified procedure for firms with up to € 10 million in debt, the changes in the compensation of insolvency administrator) were already mentioned in section 2. Here we want to mention one change that has stirred some debate and that deserves some comments.

The change has to do with the provision of collateral for refinancing purposes in the two years prior to filing for bankruptcy. The LC allowed the provision of collateral to be clawed back at the discretion of the judge. This was possible not only when there was evidence that the refinancing was meant to favor one creditor in detriment of the rest, but also if the judge believed that the refinancing did not help the firm. If the collateral provision was clawed back, moreover, the creditor's priority was lowered to subordinated credit.

In the hasty debate that preceded the Real Decreto, a concern was aired that this provision would make it very difficult for firms to refinance their debt with banks and that creditors' demand for legal security required an intervention that would ultimately reverberate in the interest of firms in financial distress. What was not mentioned in the debate is that there had been a total of 5 cases in which the collateral was clawed back from the onset of the law, on September 1, 2004. In other words, even though the wording of the law was generic enough to justify a concern, this concern should have not survived the test of available evidence.

While the effects of the modification of the law are not known yet, in our view there are at least two reasons for being concerned about it.

The first is that the new law may turn into a Catch 22 for firms. The reasons are the following. A possible judicial interpretation is that the absence of a formal approval of creditors representing 3/5 of debt and of a report of an independent auditor justifies it to presume that the refinancing was not in the interest of the firms and its current creditors. On the other hand, there are reasons to believe that a firm that is considering refinancing its debt would not want to alarm its current creditors requesting their approval because this may indicate that (i) a situation of insolvency is imminent and (ii) without their approval there may be reasons for a judge to think that the refinancing is not in the interest of the firm or its current creditors.

The second reason to be concerned about the modification of the LC is that it may have an anticompetitive effect because the approval of 3/5 of existing creditors gives an advantage to incumbent creditors over potential competitors and may therefore make it more costly for firms to obtain financing.

One more observation about the recent development is useful. As was mentioned in section 2, the LC mandates that the court should examine the

potential liabilities of the debtor. The rate of fortuitous findings over all findings on this matter from the onset of the law until the end of 2007 has been of 80.39%, but for 2008 it goes down to 73.43%. In other words, contrary to what one would expect, judges are more inclined to finding debtors guilty (to have caused or aggravated the insolvency) despite of the fact that the crisis makes insolvency much more likely.

5. Discussion

Before concluding we want to mention that in this work we have ignored two factors that could help explain the Spanish corporate bankruptcy rate. The first is that labor regulations may interact with corporate financial distress and bankruptcies. The second is that there may be reasons to think that there is some degree of hysteresis in bankruptcy rates and that the Spanish corporate bankruptcy puzzle may be due in part to the fact that the new law enters into force in substitution of a chaotic and archaic procedure for which there was no demand.

The view that we have proposed of the Spanish bankruptcy code and its interaction with economic and financial decisions can be summarized in the following terms.

- The Spanish bankruptcy code endows the debtor sufficient leeway to attempt the continuity of firm, but does not guarantee that the continuation decision is made efficiently. In other words it sacrifices the protection of creditor rights without achieving sizable gains in ex-post efficiency.
- The efficiency of mortgage collateral in Spain provides a source of corporate financing that is secure for the creditor and leads to little renegotiation in case of financial distress.
- The possible sanctions that a company administrator faces in case of bankruptcy, make bankruptcy a very unattractive option.
- All the factors above lead to a choice of projects with little risk and low cost of early terminations, assets with high liquidation values and that can be used as collateral, and a capital structure with little leverage.
- This has two important consequences. The first is a symptom: the low usage rate of formal bankruptcy systems. The second is the real malady: the choice of projects with low risk and low returns.

In this paper we have attempted to provide some evidence that is broadly consistent with this view. As we mentioned at the start, this is our first approximation to the problem, but we think that the evidence we have presented is sufficient to encourage further research on this issue.

If we were to venture some policy implications at this stage, we would propose to eliminate what we have identified as the causes of the Spanish corporate bankruptcy puzzle. We would support a bankruptcy code with more protection of creditor rights (e.g., making it easier for a creditor to propose the liquidation

or a reorganization plan), more possibilities to direct the appointment of professional insolvency practitioners (and probably actively involving creditors in the appointment in the lines of the German or the English systems), and less concern for company administrators that an external party may impose sanctions on them on the basis of an idea as vague and elusive as business negligence.

Appendix: The data

The main data sources this paper uses are the Bank for the Accounts of Companies Harmonized (BACH), Eurostat's business demography statistics and several national sources.

Bank for the Accounts of Companies Harmonized (BACH)

BACH is a database containing harmonized annual accounts statistics of non-financial enterprises for 11 European countries, Japan and the United States, broken down by major activity sector and by size. It is the result of the cooperation between the European Commission and the European Committee of Central Balance-sheet data offices (ECCB), whose members are several European central banks. Its main goal is the harmonization of the data to make them comparable across countries. However, perfect comparability has not been fully achieved yet, due to the special characteristics of the national accounting methodologies; but several documents, elaborated by the ECCB and the national central banks, help the researcher determine which comparisons can be made. More information on BACH can be found in European Commission and European Committee of Central Balance Sheet Offices (2006) and in Cano (1997).

This paper uses BACH data on 5 European countries -Spain, France, Germany, Italy and Netherlands- and on the following productive sectors:

D-Manufacturing
E-Electricity, gas and water supply
F-Construction
G-Wholesale and retail trade
H-Hotels and restaurants
I-Transport, storage and communication
K-Real estate, renting and business activities

Firms are also classified by size, according to the following criterion:

Size class	Turnover
Small	<10 Million €
Medium	Between 10 & 50 Million €
Large	>50 Million €

The distribution of firms by size for 2006, the relevant countries and the relevant sectors is shown in the table below:

	Spain	France	Germany	Italy	Netherlands
Small	60	86	65	41	96
Medium	25	11	24	47	3
Large	15	3	11	11	1
Total number of firms	8,540	182,157	41121	39,390	106,811

In analogous fashion, the distribution of employees for 2006 is:

	Spain	France	Germany	Italy	Netherlands
Small	7	31	8	12	n.a.
Medium	14	21	18	31	n.a.
Large	79	48	74	57	n.a.
Total number of employees	2,208,409	8,713,318	5579064	4,235,148	n.a.

Another important aspect of the database is its coverage ratio, i.e. how large are the samples relative to their population sizes, where this ratio may be computed using number of employees or turnover (the so-called coverage base). The tables below summarize this information:

	Spain	France	Germany	Italy	Netherlands
Small	23	n.a.	n.a.	n.a.	61
Medium	23	n.a.	n.a.	n.a.	63
Large	23	n.a.	n.a.	n.a.	100
Total	23	72	73	74	85

Country	Variable
Spain	Employees
France	Employees
Germany	Turnover
Italy	Turnover
Netherlands	Turnover

Finally, another important issue is whether the companies' accounts are consolidated or not, since firms with unconsolidated balance sheets may appear to have lower leverage than otherwise identical firms who report consolidated balance sheets (Rajan and Zingales, 1995)

Country	Consolidated data?
Spain	Non-consolidated
France	Non-consolidated
Germany	Non-consolidated
Italy	Non-consolidated
Netherlands	Consolidated data for medium and large companies

Eurostat's business demography statistics

This paper uses the Eurostat's business demography statistics to obtain the stock of firms and the firm deaths in a certain country and year. The stock of firms is the population of enterprises that were active at any time in the year, even for a limited time. Deaths relate to real enterprise deaths, so that they do not include neither exits from the population due to mergers, take-overs, breakups and restructuring of a set of enterprises nor exits from a sub-population resulting only from a change of activity. Moreover, deaths are not confirmed until after two years to exclude the possibility of a firm reactivating.

National Sources

National Sources are mainly the National Central Banks and the National Institutes of Statistics. They are used to obtain bankruptcy figures and data on loans to corporations and self-employed.

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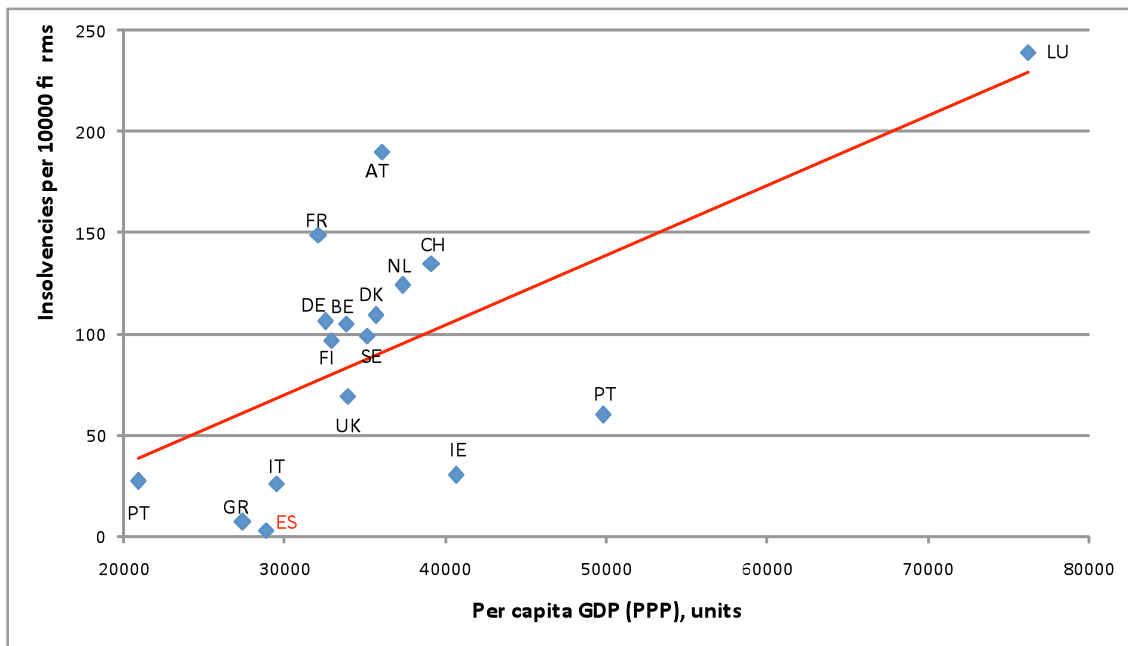
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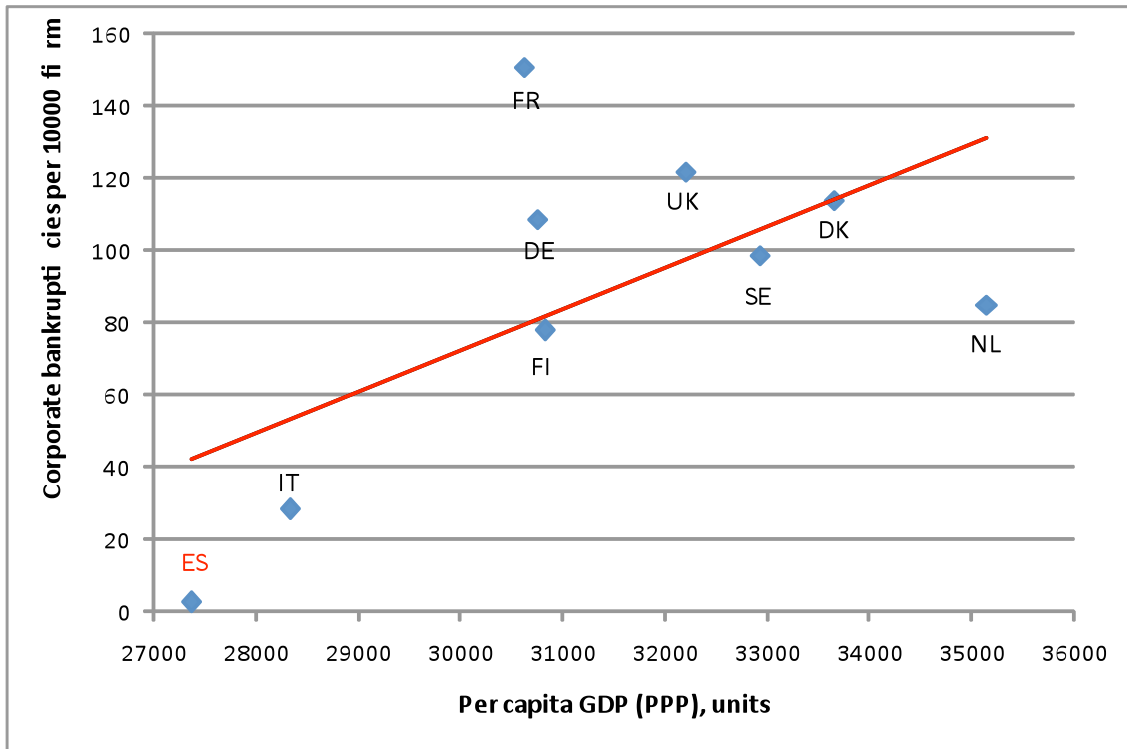
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Figure 1: Insolvency rates and GDP, 2006



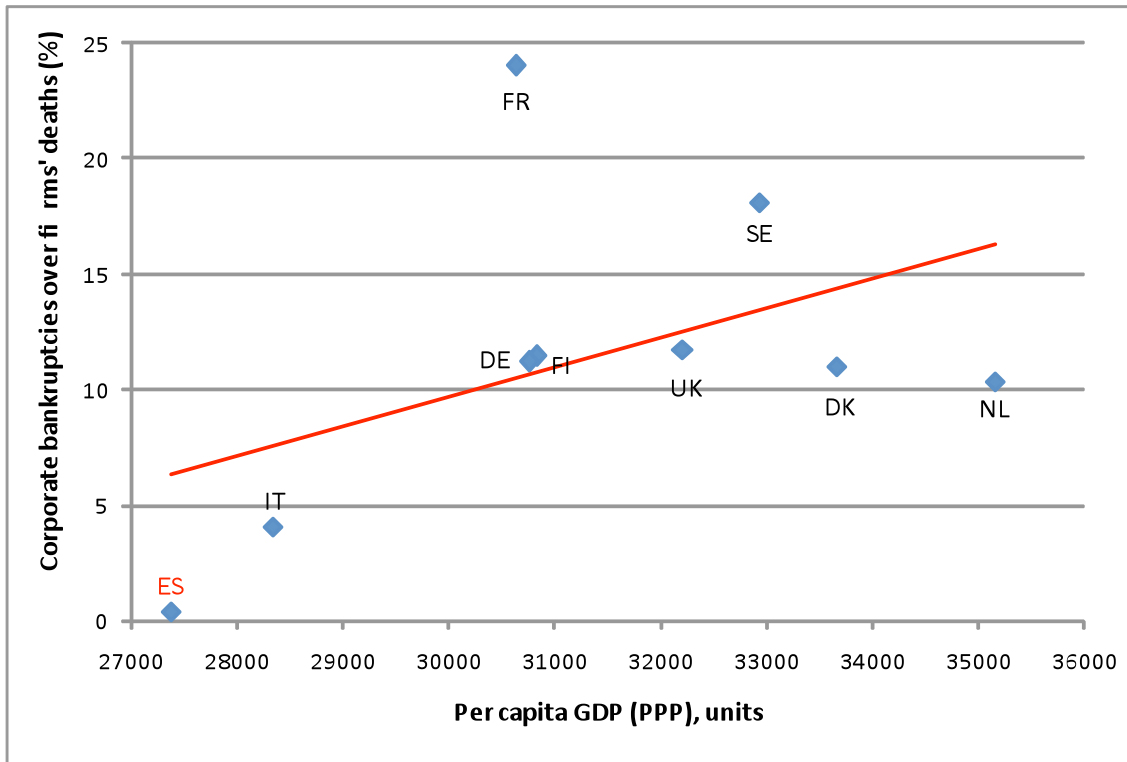
Source: Authors' calculations on CreditReform Economic Research Unit (2007) and World Economic Outlook data

Figure 2: Bankruptcy rates and GDP, 2004-06



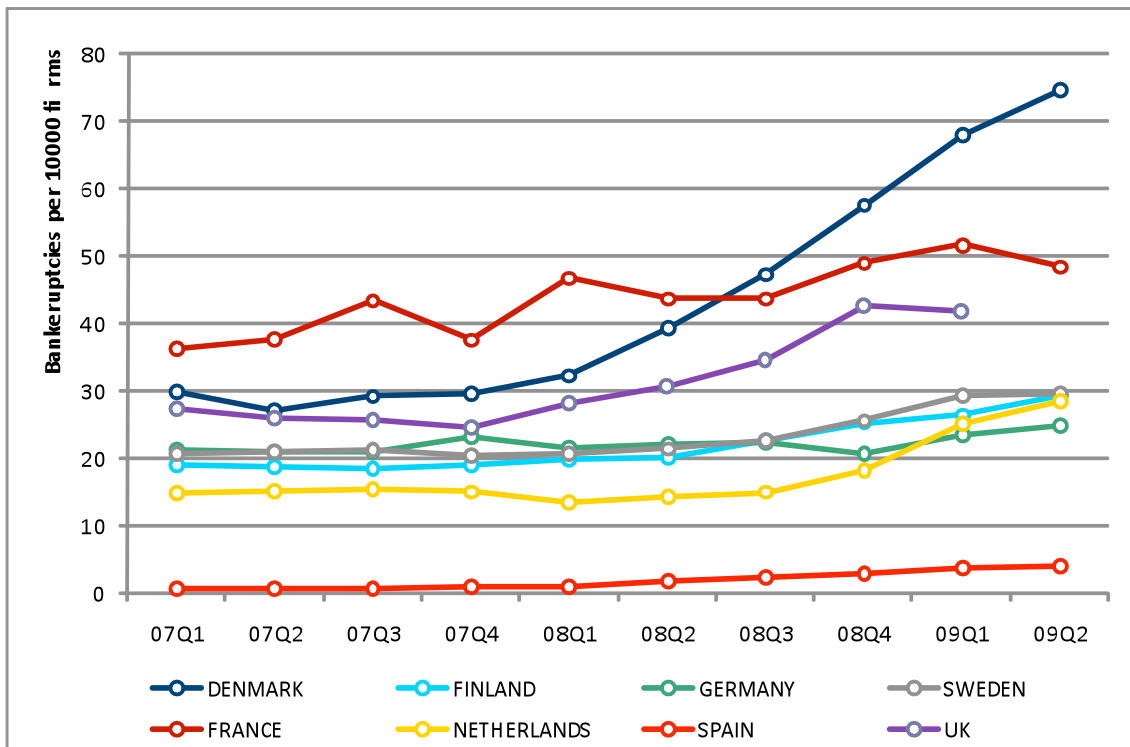
Source: Authors' calculations on data from Eurostat, World Economic Outlook and various National Sources

Figure 3: Conditional Bankruptcy rates and GDP, 2004-06



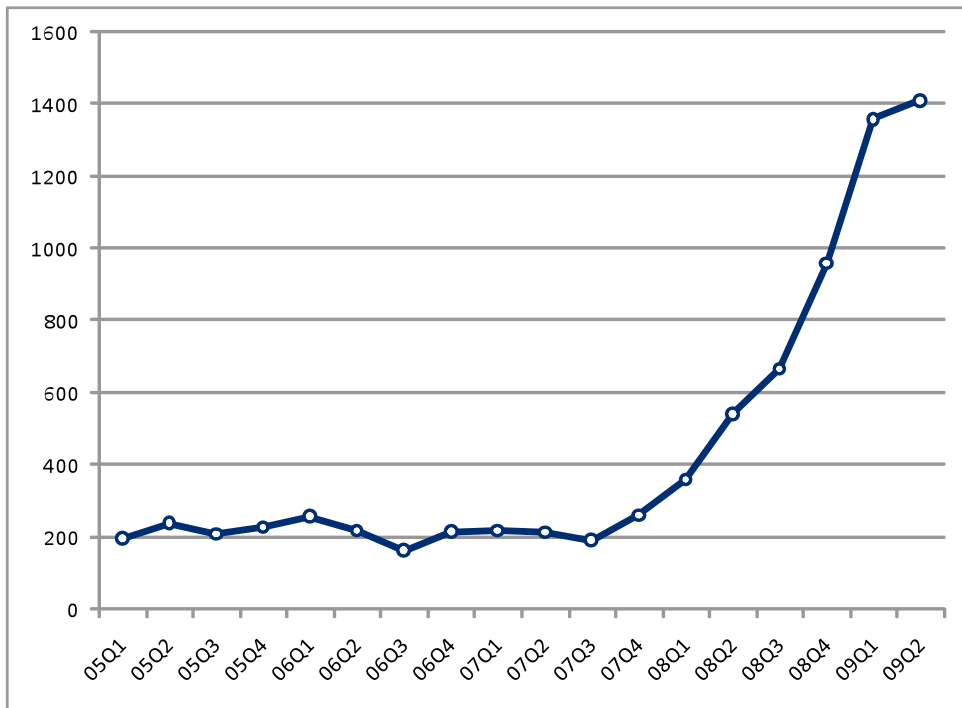
Source: authors' calculations on data from Eurostat, World Economic Outlook and various National Sources

Figure 4: Bankruptcy rates, 2007-2009



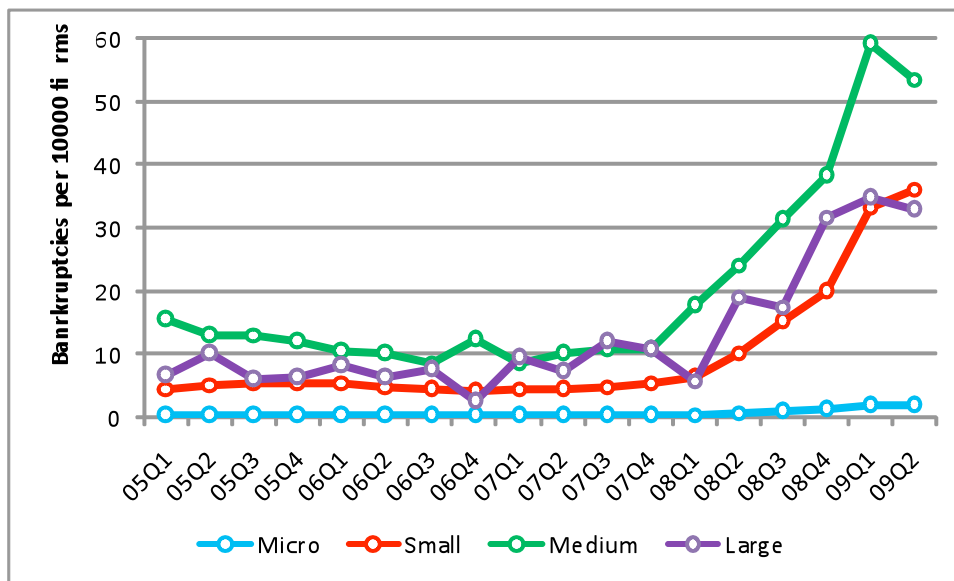
Source: Authors' calculations on data from Eurostat and various National Sources

Figure 5: Total bankruptcies in Spain (firms & self-employed)



Source: Authors' calculations on data from the National Statistics Institute

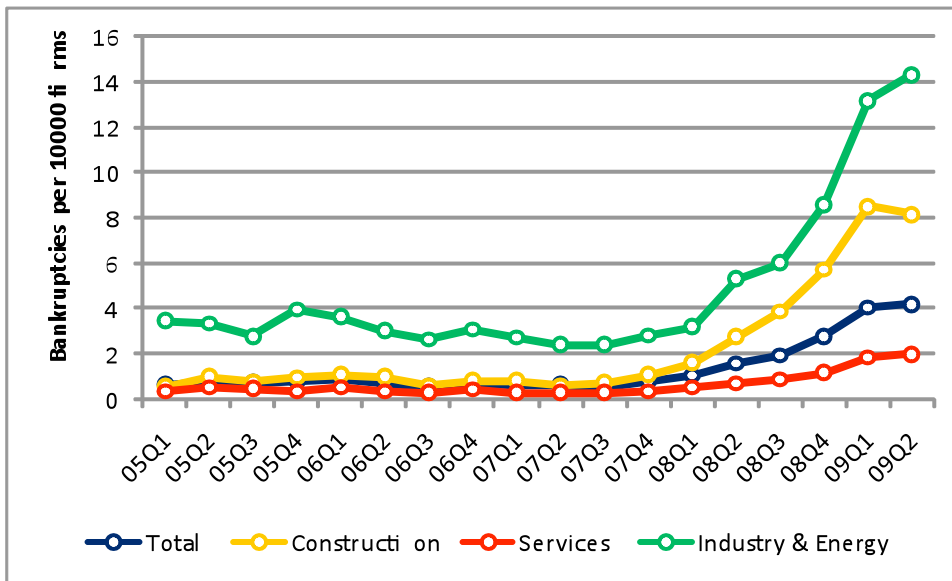
Figure 6: Bankruptcy rates by size (Spain)



Source: Authors' calculations on data from Instituto Nacional de Estadística

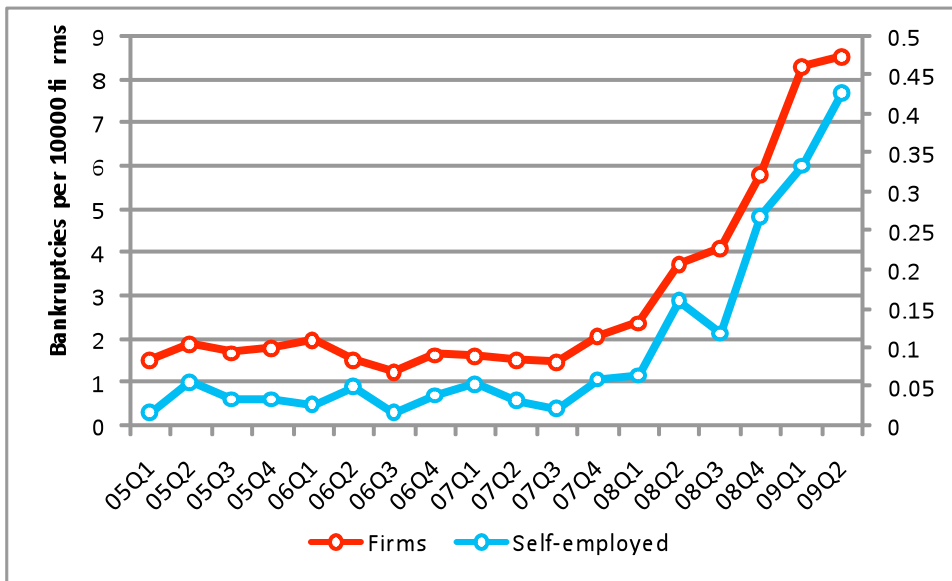
Size	Number Employees
Micro	[0,9]
Small	[10,49]
Medium	[50, 199]
Large	>=200

Figure 7: Bankruptcy rates by sector (Spain)



Source: Authors' calculations on data from Instituto Nacional de Estadística

Figure 8: Bankruptcy rates for companies and self-employed (Spain)



Source: Authors' calculations on data from Instituto Nacional de Estadística. The left axis shows the scale for firms, the right axis the scale for self-employed.

Table 1: Balance Sheets
(each item as % of total assets)

	Spain	France	Germany	Italy
ASSETS				
Current assets	47.5	51.6	55.0	62.9
Cash and current investments	5.2	8.8	7.9	6.0
Accounts receivable/other debtors	30.9	31.5	31.7	41.2
Inventories	11.4	11.3	15.5	15.7
Fixed assets	52.3	47.5	44.5	36.3
Intangible fixed assets	3.2	5.0	1.7	6.1
Tangible fixed assets	21.0	17.7	22.0	20.2
Financial fixed assets	28.1	24.9	20.7	10.0
Assets-other	0.2	0.9	0.5	0.8
Total assets	100	100	100	100
LIABILITIES				
Current liabilities	41.1	35.9	39.2	51.0
Amounts owed to credit institutions	5.0	2.2	4.4	11.1
Accounts payable/other creditors	33.4	31.0	31.0	38.5
Payments received on accounts of orders	2.7	2.7	3.8	1.4
Long-term liabilities	21.5	22.9	11.0	12.8
Amounts owed to credit institutions	10.7	7.5	6.3	6.5
Accounts payable/other creditors	10.5	11.5	4.0	5.3
Debenture loans	0.3	3.9	0.7	1.0
Liabilities-other	2.9	6.0	20.6	7.7
Capital and reserves	34.5	35.2	29.2	28.4
Total liabilities, capital and reserves	100	100	100	100

Source: Authors' calculations on BACH data.

Table 2: Non-equity liabilities to total assets (%), 2006

SMALL FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	56	59	72	74	68
E-Electricity, gas and water supply	55	71	65	52	62
F-Construction	73	70	81	80	77
G-Wholesale and retail trade	61	67	75	66	69
H-Hotels and restaurants	52	72	81	71	75
I-Transport, storage and communication	57	67	76	75	73
K-Real estate, renting and business activities	56	48	71	71	64
AVERAGE	58	65	74	70	70
MEDIUM FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	54	62	65	71	66
E-Electricity, gas and water supply	49	77	59	58	65
F-Construction	70	80	82	80	81
G-Wholesale and retail trade	62	69	71	79	73
H-Hotels and restaurants	70	54	74	73	67
I-Transport, storage and communication	36	65	68	73	68
K-Real estate, renting and business activities	55	58	70	75	67
AVERAGE	57	66	70	73	70
LARGE FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	63	63	70	67	66
E-Electricity, gas and water supply	60	76	70	60	69
F-Construction	83	85	84	76	81
G-Wholesale and retail trade	62	70	73	78	74
H-Hotels and restaurants	60	67	69	74	70
I-Transport, storage and communication	55	79	58	71	69
K-Real estate, renting and business activities	66	52	79	75	69
AVERAGE	64	70	72	71	71

Source: Authors' calculations on BACH data. Non-equity liabilities are both short-term and long-term financial debt, accounts payable, provisions, accruals and deferred income. Last column, arithmetic mean of France, Germany and Italy. When the Spanish figure is lower than the arithmetic mean of the last column, it is reported in red. Last row for each firm size, arithmetic mean of the sectors.

Table 3: Debt to total assets (%), 2006

SMALL FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	28	19	40	32	30
E-Electricity, gas and water supply	30	32	47	25	35
F-Construction	33	14	32	37	27
G-Wholesale and retail trade	28	23	41	20	28
H-Hotels and restaurants	37	47	55	47	50
I-Transport, storage and communication	30	29	48	31	36
K-Real estate, renting and business activities	37	39	56	37	44
AVERAGE	32	29	46	33	36
MEDIUM FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	27	20	34	31	28
E-Electricity, gas and water supply	26	39	38	25	34
F-Construction	32	13	23	34	23
G-Wholesale and retail trade	26	20	40	32	31
H-Hotels and restaurants	48	39	37	45	40
I-Transport, storage and communication	21	22	36	28	29
K-Real estate, renting and business activities	37	43	55	25	41
AVERAGE	31	28	38	31	32
LARGE FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	30	19	33	27	27
E-Electricity, gas and water supply	38	34	27	25	29
F-Construction	18	19	18	28	22
G-Wholesale and retail trade	21	18	43	31	31
H-Hotels and restaurants	41	27	33	30	30
I-Transport, storage and communication	30	45	36	43	42
K-Real estate, renting and business activities	54	38	51	22	37
AVERAGE	33	29	35	30	31

Source: Authors' calculations on BACH data. Debt is both short-term and long-term financial debt, i.e., non-financial liabilities such as accounts payable are excluded. Last column, arithmetic mean of France, Germany and Italy. When the Spanish figure is lower than the arithmetic mean of the last column, it is reported in red. Last row for each firm size, arithmetic mean of the sectors.

Table 4: Debt to Net Assets (%), 2006

SMALL FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	38	30	49	48	42
E-Electricity, gas and water supply	37	43	49	31	41
F-Construction	53	28	49	60	46
G-Wholesale and retail trade	41	40	54	35	43
H-Hotels and restaurants	43	62	63	57	61
I-Transport, storage and communication	40	45	57	44	49
K-Real estate, renting and business activities	45	42	61	50	51
AVERAGE	42	41	54	47	47
MEDIUM FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	36	32	40	46	40
E-Electricity, gas and water supply	32	53	40	33	42
F-Construction	51	32	39	58	43
G-Wholesale and retail trade	40	38	50	55	48
H-Hotels and restaurants	61	45	42	56	48
I-Transport, storage and communication	24	35	42	42	40
K-Real estate, renting and business activities	44	49	60	40	50
AVERAGE	41	41	45	47	44
LARGE FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	41	30	37	40	35
E-Electricity, gas and water supply	45	39	29	33	34
F-Construction	49	40	34	50	41
G-Wholesale and retail trade	35	35	51	53	46
H-Hotels and restaurants	50	42	39	45	42
I-Transport, storage and communication	36	57	38	49	48
K-Real estate, renting and business activities	59	42	54	38	45
AVERAGE	45	41	40	44	42

Source: Authors' calculations on BACH data. Debt is both short-term and long-term financial debt, i.e. non-financial liabilities such as accounts payable are excluded. Net assets are total assets less accounts payable and other non-financial liabilities. Last column, arithmetic mean of France, Germany and Italy. When the Spanish figure is lower than the arithmetic mean of the last column, it is reported in red. Last row for each firm size, arithmetic mean of the sectors.

Table 5: Debt to Capital (%), 2006

SMALL FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	39	31	59	55	48
E-Electricity, gas and water supply	39	52	57	34	48
F-Construction	54	31	62	65	53
G-Wholesale and retail trade	42	41	63	37	47
H-Hotels and restaurants	43	63	74	62	66
I-Transport, storage and communication	42	46	67	55	56
K-Real estate, renting and business activities	45	43	66	57	55
AVERAGE	44	44	64	52	53
MEDIUM FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	37	35	50	52	45
E-Electricity, gas and water supply	34	63	48	37	49
F-Construction	52	40	55	63	53
G-Wholesale and retail trade	41	40	59	60	53
H-Hotels and restaurants	62	46	58	63	56
I-Transport, storage and communication	25	39	53	51	47
K-Real estate, renting and business activities	45	51	65	50	55
AVERAGE	42	45	55	54	51
LARGE FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	45	34	52	45	44
E-Electricity, gas and water supply	48	59	47	39	48
F-Construction	51	55	53	54	54
G-Wholesale and retail trade	36	38	61	58	53
H-Hotels and restaurants	51	45	51	54	50
I-Transport, storage and communication	40	68	46	60	58
K-Real estate, renting and business activities	61	44	71	47	54
AVERAGE	48	49	55	51	51

Source: Authors' calculations on BACH data. Debt is both short-term and long-term financial debt, i.e. non-financial liabilities such as accounts payable are excluded. Capital is debt, equity and reserves. Last column, arithmetic mean of France, Germany and Italy. When the Spanish figure is lower than the arithmetic mean of the last column, it is reported in red. Last row for each firm size, arithmetic mean of the sectors.

Table 6: Non-specific assets to total assets (%), 2006

SMALL FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	54	52	43	58	51
E-Electricity, gas and water supply	54	41	33	32	35
F-Construction	49	61	47	51	53
G-Wholesale and retail trade	56	43	43	74	53
H-Hotels and restaurants	60	45	52	69	55
I-Transport, storage and communication	63	64	47	58	56
K-Real estate, renting and business activities	46	64	73	72	69
AVERAGE	55	53	48	59	53
MEDIUM FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	58	48	40	59	49
E-Electricity, gas and water supply	33	27	32	39	33
F-Construction	56	55	42	55	51
G-Wholesale and retail trade	55	48	45	60	51
H-Hotels and restaurants	69	76	49	66	64
I-Transport, storage and communication	62	52	50	55	52
K-Real estate, renting and business activities	55	69	80	68	72
AVERAGE	56	54	48	58	53
LARGE FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	56	48	45	56	50
E-Electricity, gas and water supply	28	37	30	40	36
F-Construction	61	59	31	59	50
G-Wholesale and retail trade	53	49	45	53	49
H-Hotels and restaurants	68	46	40	62	49
I-Transport, storage and communication	39	49	60	38	49
K-Real estate, renting and business activities	70	71	47	62	60
AVERAGE	54	51	43	53	49

Source: Authors' calculations on BACH data. Nonspecific assets are cash at bank and in hand, land, buildings, accounts receivable, payments on account, prepayments and accrued income and shares in affiliated undertakings and participating interests. Last column, arithmetic mean of France, Germany and Italy. When the Spanish figure is higher than the arithmetic mean of the last column, it is reported in red. Last row for each firm size, arithmetic mean of the sectors.

Table 7: Tangible assets to total assets (%), 2006

SMALL FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	32	15	26	23	21
E-Electricity, gas and water supply	56	35	67	59	54
F-Construction	15	9	16	16	13
G-Wholesale and retail trade	27	10	15	9	11
H-Hotels and restaurants	63	39	42	58	47
I-Transport, storage and communication	40	19	46	35	33
K-Real estate, renting and business activities	27	4	59	18	27
AVERAGE	37	19	39	31	30
MEDIUM FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	27	17	25	20	21
E-Electricity, gas and water supply	47	52	67	50	56
F-Construction	15	6	12	12	10
G-Wholesale and retail trade	19	10	14	12	12
H-Hotels and restaurants	55	17	48	49	38
I-Transport, storage and communication	61	30	42	38	37
K-Real estate, renting and business activities	16	17	72	15	35
AVERAGE	34	21	40	28	30
LARGE FIRMS	Spain	France	Germany	Italy	AVERAGE
D-Manufacturing	20	15	13	18	15
E-Electricity, gas and water supply	48	45	33	50	43
F-Construction	4	6	8	6	6
G-Wholesale and retail trade	29	9	12	13	11
H-Hotels and restaurants	35	23	33	20	26
I-Transport, storage and communication	54	59	30	41	43
K-Real estate, renting and business activities	4	13	63	19	32
AVERAGE	28	24	27	24	25

Source: Authors' calculations on BACH data. Tangible fixed assets are land and buildings, plant and machinery, payments on account and assets in construction and other fixtures. Last column, arithmetic mean of France, Germany and Italy. When the Spanish figure is higher than the arithmetic mean of the last column, it is reported in red. Last row for each firm size, arithmetic mean of the sectors.