

The Choice between Informal and Formal Restructuring: The Case of French Banks Facing Distressed SMEs [♦]

Régis BLAZY ¹
LARGE, University of Strasbourg
IEP Strasbourg
EM Strasbourg Business School

Jocelyn MARTEL ²
ESSEC Business School

Nirjhar NIGAM ³
Luxembourg School of Finance

Abstract

This paper investigates the determinants of the arbitration taking place after a corporate default. Two ways of resolving financial distress are conceivable: either the creditors privately renegotiate with the debtor, or a formal bankruptcy procedure is triggered. This arbitration depends on the legal context and, more specifically, on the national bankruptcy code. We use original data coming from the recovery units of five French commercial banks. Our sample gathers 735 credit lines allocated to 386 distressed companies

We test four hypotheses. Hypothesis H1 proposes that bargaining power imbalances may have more impact on the arbitration than simple coordination failures, especially under court-administered legislations. Hypothesis H2 suggests that, to initiate the process of renegotiation, a bank needs information on the project's profitability and on the managers' reliability. To reach an agreement, the bank must ensure that both the conditions have been met. Hypothesis H3 predicts that the likelihood of renegotiation increases with the bank's financial involvement. Hypothesis H4 focuses on the level of collateralization: when the bank has inclination for liquidation, collaterals may increase the occurrence of bankruptcy, provided the law facilitates such liquidation and preserves the bank's priority. For testing the hypotheses H1 to H4, we use sequential LOGIT modeling to split between the variables explaining the decision to engage (or not) renegotiation and the variables explaining the success (or the failure) of renegotiation. Regarding H1, we find that even a court-administered procedure may not be dissuasive provided that the bank's bargaining power is strong enough. Regarding H2, we show that the profitability of the project and the reliability of the managers are two essential conditions for avoiding bankruptcy. However, it takes some time to discover them. Regarding H3, our estimates show that, when the lending is bigger and/or when the debt contract is longer, then the chances of renegotiation are higher, but this does not predict such renegotiation shall be successful. Last, regarding H4, we do not find any evidence that the level of collateralization influences the arbitration between renegotiation and bankruptcy.

JEL classification: G33; K22.

Keywords: Bankruptcy, Renegotiation; Banks, SME, Sequential LOGIT.

[♦]This study was financed by *S&P Risk Solution* and *Fond National de la Recherche* (Luxembourg). The authors thank, for their comments, help, and advice, Julian Franks, Seigei Davydenko, Arnaud de Servigny, Michael Baker, Christophe Godlewski, and the three anonymous banks for having granted us the access to their data. For their hard work, we thank all the students involved in collecting data. Any remaining errors are ours.

¹ E-mail : regis.blazy@unistra.fr

² E-mail : martel@essec.fr

³ E-mail : nirjhar.nigam@uni.lu

Introduction

Previous works of La Porta *et al* (1997) (1998) established the fact that bankruptcy procedures vary from one country to the other. These differences are likely to impact the default process that precedes bankruptcy. Default (or, equivalently financial distress) can be viewed as a double-step mechanism: first, the firm does not repay (or delays the repayments), and, second, the stakeholders trigger formal bankruptcy if they cannot (or do not wish to) privately renegotiate.

As demonstrated earlier by Haugen and Senbet (1978) (1988), a default can be resolved privately, because informal renegotiation is a convenient way of saving bankruptcy costs. Such an internalization process is derived from the well-known Coasian approach of disputes. According to their belief, the parties should embrace the most cost effective way of resolving default, thereby avoiding any unnecessary bankruptcy costs. However, the increasing number of bankruptcy procedures all over Europe shows that internalizing bankruptcy costs through negotiation is not always feasible. The conditions under which debtors and creditors fail to renegotiate, and consequently choose costlier ways of resolving default, need to be studied further in detail.. Recent works suggest that the tradeoff between the private and the court solutions is not a straightforward process and depends on a set of variables that go beyond simple cost-benefit arbitration. These variables are numerous: they encompass the common pool problem, the nature of the banking relationship, the national specificities of the bankruptcy law, the asymmetries of information, the debt contract design, (etc.). All are determinants of the way default is, or should be, resolved.

Several authors have studied the variables that influence the strategies of creditors and debtors evolving just after default. Two such recent studies were conducted in United Kingdom (Franks and Sussman (2005)) and Germany (Jostarndt and Sautner (2010)). Their studies cover two of the most important European legal systems: the Common Law and the German Civil Law. Both systems radically differ from each other, especially regarding the way the bankruptcy codes are designed. Surprisingly enough, no study has been performed, until now, on the French Civil Law. Yet, this legal system has inspired other important legislations in continental Europe such as in Belgium or in Luxembourg (a country which has demonstrated its capacity of attracting most of the European Investment funds owing to its attractive legal environment including bankruptcy law). From this perspective, until now, academic research has offered an incomplete view of the post-default arbitrages that practically prevail in contemporary Europe.

Our research contributes deeper insights into the process of post-default arbitrage by analyzing original and unique data coming from five major French commercial banks located in Paris, Nanterre, Reims, and Marseilles. Under the supervision of *Standard & Poor's Risk Solution*⁴, the data was manually collected from these banks' recovery units: the sample gathers 735 credit lines allocated to 386 distressed companies (233 of them are used in our econometric regressions). Following the Basel II criteria, we that consider a firm defaults as soon as the repayment is delayed by 90 days. Our variables consist of, first, the profile of the company (age, sector, group, legal form, size – number of employees, turnover, and total of assets), second, the origin(s) of the default (with a specific focus on faulty management), third, the nature of the credit relationship (length, creditors' concentration, rating), fourth, the type of borrowings (each credit line is aggregated for every debtor: collateralization, duration, authorized amount, recovery rate).

Understanding the post-default arbitration between the private and the court solutions is quite a complex task. We test four hypotheses in this article. The first hypothesis (H1) accounts for coordination and bargaining issues: precisely, we suggest there may be a tradeoff between the arguments based on coordination issues and the counterarguments based on the stakeholders' bargaining power. Such tradeoff is not independent of the legal environment. We suggest bargaining power imbalances may have more impact on the arbitration than simple coordination failures, especially under court-administered legislations, as in France. The second hypothesis (H2) highlights a tradeoff based on the bank's information: to initiate the process of renegotiation, a bank needs information about the profitability of the project (adverse selection) and the reliability of the managers (moral hazard). To reach an agreement the bank must ensure that both the conditions are likely to be met. The third hypothesis (H3) suggests that the likelihood of renegotiation (or at least an attempt to renegotiate) increases with the bank's financial involvement (high authorized amount and/or old banking relationship). The fourth hypothesis (H4) predicts that the level of collateralization should increase the occurrence of bankruptcy, provided, first, the bank prefers liquidation and the law facilitates such liquidation, second, the renegotiation process cannot fully replicate the legal absolute priority order, and third, the bankruptcy procedure does not decrease the bank's priority over junior claims. In

⁴ This database is the French part of a wider database (France, United-Kingdom, and Germany) that was studied by Davydenko and Franks (2008).

France, these conditions are partially invalidated as liquidation is viewed as a secondary objective, and the social claims outrank the secured ones.

Contrary to the previous works, which considered default resolution as a static process (simple LOGIT or simple PROBIT approaches), we model the arbitration between the private and the legal solutions as a dynamic process which consists of the following steps:

- ‡ First step: the creditor and/or the debtor arbitrate between either embracing bankruptcy, or initiating an informal process of renegotiation.
- ‡ Second step: Based on the fact that renegotiation was opted for in the first step, debtors and creditors are left with two options: to opt for an informal workout (private agreement) or adopt a formal bankruptcy procedure.

Following that perspective, we run a sequential LOGIT model (Tutz (1991)) that explicitly considers two transitional steps: a separate LOGIT regression is run for each transition (Buis (2007) (2008)). The first transition consists of an alternative between “direct bankruptcy” and “renegotiation attempt”. The second transition consists of an alternative between “failed renegotiation” (hence, bankruptcy) and “successful renegotiation” (hence, private agreement) for those cases that have selected the alternative “renegotiation attempt” during the first transition.

The article is organized as follows: section 1 presents the theoretical arguments that are debated in the literature. Section 2 proposes a set of four hypotheses on the arbitration’s motives. Section 3 presents the sample, the data, and the descriptive statistics. Section 4 discusses our hypotheses based on the results of the sequential LOGIT model. Finally, section 5 concludes the paper.

Section 1. The theoretical arguments

The default stems from the debtors inability to respect the current charges deriving from previous commitments. In a practical view, and following the Basel II criteria, a company “defaults” as soon as the repayment schedule is delayed for more than 90 days. Such default may destroy trust that had been established with the financiers, and consequently, puts at risk the future debtor’s investment opportunities, as trust is the angular stone of any contractual relationship. From this perspective, depending on the future prospects, the resolution of default should facilitate either the debtor’s reorganization or the debtor’s termination. An efficient way to resolve financial distress should facilitate reorganization (respectively liquidation) when the debtor’s continuation

value is more (resp. less) than the liquidation value. Yet, such arbitration strongly depends on the way the default resolution is done: default can be resolved in two alternative ways, either by exploring informal solutions (private agreement), or by delegating this work to a Court (formal bankruptcy). A set of traditional arguments and counterarguments have been proposed by the literature to describe the pros and the cons of both ways of resolving default. On one hand, informal agreements are relatively fast, cheap and preserve confidentiality while, on the other hand, formal bankruptcy procedures can solve coordination issues, disclose public information, and preserve the debtor's value. These arguments are described in further detail below.

The arbitration between private agreement and formal bankruptcy is directly related to the Coasian approach of litigation. Haugen and Senbet (1978) (1988) studied the various ways to restructure the debt efficiently in a market solution so that the litigation costs accruing from formal processes can be avoided. Roe (1983) also presented similar arguments. The informal workouts are considered to be less costly than the formal resolution procedures. Indeed, formal procedures involve direct (accruing out of the legal process for instance legal fees) and indirect costs (arising out of foregone investment opportunities, loss of sale) which eventually have to be borne by the already distressed company and thus can shrink the overall recoveries. Consequently, the creditors should always choose a method which increases their recoveries at the minimum cost (Gilson (1997), Gilson *et al.* (1990), Wruck (1990)). Following similar arguments, Jensen (1989) (1991) states that if the private workouts are more cost efficient than formal process, it always pays to choose them. To measure the direct costs of informal workouts is difficult as this process is carried out with confidentiality. However, some researchers have been able to document these costs for the restructuring of public debt via a formal exchange offer. Gilson, John and Lang (1990) examine the exchange cost for 18 offers which averaged at 0.6 % of the book value of assets. Betkar (1997) demonstrates that for 29 exchange offers, a cost with a mean of 2.5% of pre-exchanged assets (median 2%) was incurred. It has been also found that out of court restructurings are faster than the judicial process like Chapter 11.

However, the arbitration between the informal and formal ways of resolving default cannot be reduced to a simple cost comparison. The literature has provided additional arguments in favor of the private solution. These are mainly related to confidentiality and control. First, workouts preserve the confidentiality of the financial distress surrounding the company, keep the creditors' confidence alive, and also prevent bad reputation effects. Preserving confidentiality is likely to

generate value: focusing on the U.S. case, Chatterjee, Dhillon, and Ramirez (1995) show less negative abnormal returns for announcement of workout than Chapter 11 filings. Gilson, John, and Lang (1990) further add that stocks returns are more negative for firms that subsequently file for Chapter 11. Second, workouts may be preferred over bankruptcy because they avoid the conflicts that may arise between the legal representatives and the company's agents, as often the latter lose control in hands of legal administrator (Franks and Nyborg (1996)).

Overall, the approach initiated by Haugen and Senbet (1978) (1988), systematically favoring the market solution and providing different manners to carry it out efficiently, questions the very existence of collective procedures in bankruptcy. It is thus necessary to have an insight on some impediments that might deter this approach. Indeed, despite the advantages of the private solution, recent empirical studies have found a decline in the number of firms restructuring out of court. The reason could be that a large proportion of firms fail to successfully renegotiate out of court. Gilson, John, and Lang (1990) examine 169 financially distress firms, out of these 53 percent (89 firms) fail to restructure privately. Franks and Torous (1994) find the similar proportions of firms failing to restructure privately. Jensen (1991) explains the reason for the decline of private workouts relative to formal procedures. He draws attention towards legal ruling that discourage workouts. An apt example is the LTV Corp. bankruptcy case, where the court held that the debtholders who participated initially in out of court restructurings, could only claim for the new reduced principal amount whereas holdout claimants received the original amount of money. The decision had a severe impact on the creditors who were now apprehensive of out of court restructurings.

Thus, in particular cases, collective procedures may be the most effective way to resolve financial distress. The most quoted reasons are related to the failure of renegotiation: lack of coordination, contract incompleteness, and asymmetries of information. Some additional reasons are related to the nature of the banking relationship and to the structure of the debtor's balance sheet.

We consider the following obstacles to private renegotiation. The first one is concerned with the coordination issues that may arise when the number of creditors increases (Franks and Torous (1991), Gertner and Scharfstein (1991), Roe (1987)). Firstly, each creditor has the incentive to individually enforce liquidation in order to guarantee full recovery: Baird (1986) predicts such "common pool problem" results in an anarchic creditors' race that finally reduces the debtor's value. By freezing the payments and suspending the creditor's rights (stay of claims), bankruptcy

procedures provide some time for fixing the liability, for the preservation of the debtor's assets, and for conducting a search for potential buyers. Therefore, seeking courts intervention may resolve the vicious common pool problem. Secondly, some creditors having low priority as compared to others may block negotiation in the hope of getting better recovery through formal procedure (Grossman and Hart (1981)). Such "free riding problem" may be reduced if the bankruptcy law allows for deviations from the absolute priority order of repayments (Blazy and Chopard (2004)). Naturally, such deviations may be also internalized via renegotiation (Frierman and Viswanath (1994))⁵.

The second obstacle to private renegotiation stems from the incompleteness of the contracts and from the asymmetries of information. Firstly, the debt contracts specify how the terms and conditions should be carried out in case of default, and how the proceeds should be distributed and realized. However, these contracts by nature are incomplete. For instance the contracts contingent on cash flows are difficult to enforce as their value keeps on changing and is difficult to assess for outsiders and court. The managers can take advantage of their position to divert these cash flows according to their own will and personal incentives. Secondly, it would be possible to renegotiate debt informally if the market was perfect and the information available to parties was symmetrical. Webb (1987) and Brown (1989) confirm the supremacy of informal process in the presence of symmetric information. In practice, however, insiders (the debtors) may benefit from better information than the outsiders (the creditors). Insiders have better knowledge about the assets and liabilities, the ongoing firm value, and the liquidation value of the company. They can use this information to their advantage. Giammarino (1989) and Mooradian (1994) proclaim that creditors might be inclined to opt for a costly bankruptcy procedure if they observe asymmetries of information and do not trust the insiders. In the same perspective, Carepeto (2005) asserts that presence of information asymmetry can lead to extended bargaining, requiring several plans before any agreement could be reached. The existence of uncertainty of credible information on the part of creditor's urge them to opt for costly bankruptcy procedure, so that true picture of company and its business can be made available to them without them being tricked by the insiders.

⁵ Weiss (1990) shows that in a small sample of 37 U.S. companies, 29 cases were distinguished by violations of priority, the latter occurring mainly among the unsecured creditors and shareholders (the rights of secured creditors being more frequently observed). Similarly, Franks and Torous (1989) (1991) confirm the importance of violations of absolute priority in the context of the renegotiations with private partners.

Additionally, several other reasons explain the occurrence of costly bankruptcy procedures. These reasons are attached to the nature of the banking relationship and to the structure of the debtor's balance sheet. On the one hand, they are a reflection of the debtor's financing constraints and capital structure while, on the other hand, they reflect the debtor's investing opportunities. Regarding the former argument, Gilson, John and Lang (1990) show that there are more chances of private renegotiation if the firm has close relationship with the bank and reduced pool of banks as creditors. Similar results were found by Kashyap and Scharfstein (1990) in their study about Japanese industrial firms that had privileged relationship with the bank and hence enjoyed the ease of private renegotiation. Regarding the structure of the balance sheet (assets side), Gilson, John, and Lang (1990) find that the firms having greater proportion of intangible assets in their asset structure, would prefer to opt for private workouts as the chances of decline in their value is maximum in bankruptcy process. From the point of view of liabilities, Chatterjee, Dhillon, and Ramirez (1995) show the choice of restructuring out of court depend on the firm's level of debt, its short term liquidity, and chances of coordination problems arising among the creditors. In the same view, Gilson John, and Lang (1990) suggest that the presence of fewer categories of debts (out of which a higher proportion belonging to long term debts mainly accruing from banks) can help in resolving problems related to conflicts of interests: less number of distinct debts means more manageable is the private workout. Moreover, banks in comparison to common debts (trade debts or public debts) are better informed as such they can play a pivotal role in restructuring and in internalizing some of the restructuring costs⁶. James (1995) and Asquith, Gertner, and Scharfstein (1994) symmetrically find that the presence of public debts may hinder the process of private renegotiation.

As shown before, the literature provides different arguments showing, first, the arbitration between private renegotiation and costly bankruptcy process is not neutral, and second, the former solution is not always superior to the latter. As shown before, the literature has raised several motives that drive such arbitration (impediments to coordination, informational structure, shape of the debt contracts, nature of the assets, etc). In the next section, we consider more recent empirical findings and gather the motives of the arbitration in a set of four hypotheses that we aim to test empirically.

⁶ Franks and Torous (1994) find the firms opting for private workouts are more solvent and liquid having less negative stock returns just prior to the negotiation process. They however, did not find greater proportion of bank debt in the firms. The reason could be the firms are large and have large number of banks as debtors.

Section 2. The hypotheses on the arbitration's motives

This section gathers the previous theoretical arguments and considers more recent empirical findings in order to propose four hypotheses (H1 to H4) on the motives that are expected to drive the arbitration between private renegotiation and formal bankruptcy. Each developed hypothesis does not lead to a definitive prediction, of course, but rather highlight a balance between the main variables that may influence the way of resolving default. Hypothesis H1 focuses on the number of creditors, and suggests a balance between coordination and arbitration issues. We show that such a balance directly stems from the legal environment of bankruptcy. The second hypothesis focuses on the bank's information relative to the debtor's quality, which depends on the profitability of the project (H2a) and on the manager's honesty and competency (H2b). Both elements are essential to make the renegotiation process successful (in the perspective of an extension of the banking relationship). Hypothesis H3 focuses on the debt contract design. Such contract is multidimensional and covers (among other factors) the maximum authorized amount, the required collaterals, and the length of the lending relationship. Last, hypothesis H4 focuses on the structure of the debt, *i.e.* the legal protection of the creditors, which directly stems from the absolute priority rule prevailing under bankruptcy.

2.1. Hypothesis H1: coordination vs. bargaining power

The most common view is that formal bankruptcy can solve coordination problems arising during renegotiation. This argumentation was developed in numerous papers and relies on the simple idea that finding an agreement leading to reorganization is more complex to attain when creditor with conflicting interests are numerous. For instance, under specific circumstances (detailed by Blazy and Chopard (2010)), secured creditors are inclined to prevent the debtor to reorganize, contrary to unsecured creditors (Bergström *et al.* (2002), Morrison (2007)). In fact, even creditors having the same rank in the APO may face coordination issues, when they compete together while the aggregated value of their claim exceeds the residual value of the debtor's assets.

Thus, a private agreement is all the more difficult to reach when the number of creditors is high. The lack of coordination increases even more when the creditors have different rankings in the APO. Contrary to the private solution, bankruptcy procedures provide legal mechanisms that help

the creditors to coordinate. Depending on the code, such mechanisms rely on vote procedures (United-Kingdom, Germany, France since 2005, Chapter11 in the U.S.) or on the discretionary decision of a judge (France before 2005). In addition, in most countries, the “stay of claims” and the legal obligation to appoint a creditors’ representative are measures that both help in increasing coordination.

Thus, following the “coordination” argument, the probability of triggering bankruptcy should increase with the number of creditors. Yet, recent works provide counterarguments suggesting the relation may be reversed due to imbalances in the respective bargaining powers of the creditor(s) and of the debtor (“bargaining power” counterargument). We detail below these counterarguments predicting a negative relation between the number of creditors and the probability of triggering bankruptcy.

A first explanation is raised by Dewaelheyns and Van Hulle (2009) in their empirical work on Belgium. The author takes into consideration a debtor having one sole creditor (a bank). Two mechanisms arise from this situation: (1) the bank does not have to compete with other potential creditors under bankruptcy, so that private renegotiation and formal bankruptcy present similar advantages (coordination is not an issue anymore), and (2), as quoted by the authors: “*the bank may be less supportive (...) if the chances that substantial value may be lost in the future are high. In the practice, reorganization is unfeasible without bank support*”. Let us transpose this argument to the arbitration between renegotiation and bankruptcy. Suppose first, the decision to liquidate or to reorganize under bankruptcy relies in the hands of a court (as in France) and second, the debtor’s main bank has some preference for liquidation. As the debtor cannot survive without the bank’s support, the bank has no fear to enter bankruptcy, as it anticipates the court will have no other choice than liquidating (there is no risk that another creditor provides the needed funds to finance continuation). Here, as the bank is the main creditor, (1) there is low risk of sharing repayments under bankruptcy, and (2) the bank reasonably anticipates liquidation, as continuation is unlikely to be decided without its financial support.

Another counterargument would be worth mentioning even though it might be weaker than the first one. Suppose the chances of recovery of a distressed company depend on one sole creditor’s willingness to renew the loan. The bargaining power of the main creditor is relatively high

compared to the debtor's one: the creditor may ask for (too) high renegotiation amounts, so that the debtor has no choice other than turning to bankruptcy. This is all the more likely to happen when the bankruptcy code is debtor friendly (as in France). Of course, one can object that such imbalanced situations (in terms of bargaining powers) can always be internalized through renegotiation. This is true, but, bankruptcy may not be avoided anyway if the creditor (respectively the debtor) overestimates (resp. underestimates) its bargaining power during the renegotiation process.

To sum up, hypothesis H1 shows that the impact of the creditors' dispersion on the way of resolving default is complex: obviously, there is a balance between the arguments based on coordination and the counterarguments based on the stakeholders' respective bargaining power. As suggested above, such balance may not be independent from the legal context. We predict the latter arguments may over-compensate the former ones if the legislation is debtor friendly and gives the decision power to a court, as it was the case in France until the French reform in 2005.

2.2. Hypothesis H2: sequential information gathering

Most theoretical works in banking economics rely on the assumption that the banks are under-informed. Such situation generates serious issues related to adverse selection and to moral hazard. Adverse selection stems from the bank's inability to observe the quality of the project to be financed: most of the time, "high-quality" means a safer project and/or a higher expected profitability. When information is asymmetric, "high quality" borrowers have incentives to provide information to the bank using a reliable signal (i.e. a signal that can not be provided by "low-quality" borrowers). Collaterals are such a signal, as they are more costly for "low-quality" borrowers having a higher risk of default and hence the risk of losing their collateral (Bester (1985), Besanko and Thakor (1987)). Consequently, collaterals act as signaling devices conveying valuable information to the bank. Moral Hazard is associated to the debtor's strategic opportunism. Namely, once the funds are granted to the company, the debtor may not provide the optimal level of effort or switch to riskier investments. Again the bank can align the borrower's interest with its own, using collaterals, as it imposes a greater loss on the borrower in case of financial distress. It is all the more true in the case of outside collaterals that extend limited liability to some external assets (Boot, Thakor and Udell (1991), Hainz (2003)).

Yet, one may not follow the argument stating the banks are under-informed. According to Berger and Udell (1990) and Jimenez and Saurina (2004), the banks have sufficient information to sort adequately their borrowers (financial reports, movements on the bank account, random audits...). Practically, credit scoring is a powerful tool that helps the bank in screening the debtors and to assess their probability of default (provided the macroeconomic environment does not change too much). This argument is known as the “risk-observed” hypothesis.

To summarize, hypothesis H2 highlights a balance relying on the quality of the bank’s information: *is the bank well-informed on the debtor’s project?* The probability that a bank can reach an agreement with its debtor mechanically depends on the quality of such information. More precisely, to support renegotiation, a bank needs to get informed on (1) the profitability of the project that was financed before default (adverse selection issue), and on (2) the reliability of the managers to run a reorganization (moral hazard issue). To be executable, the private agreement requires that the bank has strong beliefs that both conditions are met. In other terms, a bank accepts to renegotiate provided, first, the firm’s project is profitable in the long run (hypothesis H2a), and, second, the managers are honest and competent (hypothesis H2b). Without both elements, there is no room for supporting reorganization through renegotiation, so that liquidation through bankruptcy is preferable (keeping in mind the previous works of Blazy, Delannay, Petey and Weill (2008), which pointed out that most bankruptcy procedures lead to liquidation in Europe).

To test hypothesis H2a, one needs information either on the forecast accounts, or on the debtor’s individual ratings. Both sources of information provide useful elements to assess the expected profitability of the project to restructure. Testing for hypothesis H2b is trickier as the assessment of the managers’ reliability is more subjective. At least, one needs reliable information on their implication in the default process.

Last, collecting information on the distressed company is likely to follow *a sequential process*. At the early stages of default, it is likely the bank only has information on the profitability (through the ratings). On the contrary, discovering faulty management takes additional time and deep audit of the company. Thus, if we consider the default management as a sequential process, information gathering follows a double step dynamics: first, the bank, owning information on profitability, decides to attempt a renegotiation or to opt directly for bankruptcy. Second, in case of a renegotiation attempt, the bank receives additional information on the reliability of the

managers (owing to the meetings that take place in the recovery units, and to the audits engaged by them). If the managers appear to be faulty, the chances to reach an agreement are lower (how to internalize bankruptcy costs in that condition?), and finally going to bankruptcy is preferable (especially given the fact that the court may sanction faulty managers, leading to additional recoveries for the bank).

2.3. Hypothesis H3: financial involvement

Ceteris paribus, a bank has stronger incentives to privately renegotiate when its financial involvement in the debtor's financing is higher. Indeed, when the financial stakes are huge, it is unlikely that the bank accepts to share the fate of the debtor's patrimony with other rival creditors (this is even more likely to happen when the decision to liquidate lies in the hands of the court, as is the common trend in France). Financial involvement mainly depends on three basic characteristics: (1) the length of the financial relationship, (2) the maximum authorized amount (i.e. the maximum amount that can be contractually borrowed by the debtor), and (3) the level of collateralization.

Let us consider, first the length of the credit relationship: the longer the bank is involved in a commercial relationship with the debtor, the more informed a bank is supposed to be (see above, hypothesis H2). *Ceteris paribus*, the access of adequate information eases the process of renegotiation: The need to trigger bankruptcy is significantly reduced thereby avoiding the additional costs associated with discovering information. This was aptly pointed out by Webb (1987) who highlights the fact that bankruptcy costs are essentially revelation costs. In addition, trust and reputation amongst the involved parties is often strengthened over the period of time thereby resulting in a lasting financial relationship. Triggering bankruptcy may destroy such accumulated value, due to a loss of reputation and/or of bilateral trust.

Let us consider now the maximum authorized amount and the degree of collateralization. Both are related to the "expected loss" (EL⁷), as it is defined by the Basel 2 agreement (pillar 1). The maximum authorized amount is related to the "exposure at default" (i.e. the due amounts when the default occurs). The expected recovery rate (or, equivalently, one minus the "loss given default" (LGD)) depends on the level of collateralization.

⁷ According the 1st pillar of the Basel 2 agreement, the expected loss is the combined product of three elements: probability of default, exposure at default, and loss given default.

First, a bank is not expected to behave in a similar manner for all the due amounts. If the amount is high, the bank has strong incentives to invest time and money to know more about the debtor: it may choose renegotiation as this is a more convenient way to adapt the default resolution to the specificities of the debtor. Contrastingly, if the amounts are low, why should one waste time and energy in implementing the process of renegotiation? It is probably easier and more profitable to delegate this work to a bankruptcy practitioner. From this perspective, bankruptcy procedures are considered to be a standard way of resolving default irrespective of the size of the company. Whereas, private renegotiations are more feasible in case of big and complex companies. This is confirmed by the European statistics showing that the bulk of bankrupt firms are SMEs (Armour, Hsu and Walters (2006), Blazy and Chopard (2010)).

Second, one can hardly predict the impact of collaterals on the arbitration between renegotiation and bankruptcy. Certainly, the use of collaterals has multiple justifications: (1) increase of recoveries, (2) reduction of moral hazard (via a better control of the debtor's assets), and (3) resolution of adverse-selection (via a screening of safe and risky borrowers: see Bester (1985)). These three justifications have veritably an impact on recoveries but do they significantly influence on the way of resolving default? This may be possible, but not certain. Above all, the impact of these three effects of collateral is hard to predict, as their effects can be direct or indirect. On one hand, the owned collaterals have a direct influence on the bank's decision to trigger bankruptcy, as their recovery power depends on the absolute priority order prevailing under bankruptcy. For instance, Davydenko and Franks (2008) have shown that secured claims are not well protected under the French legislation, which is more in favor of social claims. On the other hand, the owned collaterals have an indirect influence on the way of resolving default: they may provide additional information on the quality of the borrower (cf. adverse selection issue) and/or change the debtor's strategies before the default (cf. moral hazard issue). The combination of all these (direct and indirect) effects certainly influences the decision to trigger (or not) bankruptcy, but it is nearly impossible to predict in which direction.

To sum up, following hypothesis H3, one can expect a higher probability of renegotiation (or at least an attempt to renegotiate) when the financial relation is older, and when the lending is higher. On the contrary, the global impact of the collaterals is hard to predict, as it mainly depends on the priority order that prevails under bankruptcy (see below: hypothesis H4).

2.4. Hypothesis H4: protection of the secured claims and liquidation bias

Financial distress generally implies that all the creditors cannot be repaid in full. Among them, the secured creditors are those who are likely to have the highest bias in favor of liquidation. Several theoretical and empirical works pointed out this bias. Blazy and Chopard (2010) identify the circumstances under which the secured creditors prefer liquidation over reorganization: such circumstances depend on (1) the level of collateralization, (2) the absolute priority rule, (3) the structure of capital, and (4) the beliefs about the firm's reorganization value. Other recent empirical works confirm the likelihood of reorganizing the debtor is negatively correlated with the level of creditors' seniority (Ayotte and Morrison (2009), Bergström, Eisenberg, and Sundgren (2002)). As a consequence, secured creditors may reduce the collective effort to maintain distressed firms' operations (Frouté (2007)). Considering a secured bank having a preference for liquidation, the design of bankruptcy law is thus expected to influence its inclination to privately renegotiate in order to avoid the procedure. In such context, the orientation of the legislation is determinant: if the bankruptcy code favors (directly or not) liquidation more than continuation (as in Germany⁸), the secured bank may have more incentives to trigger bankruptcy. This is more likely to happen when the absolute priority order (APO) adequately protects the senior claims⁹. While, other bankruptcy codes allow for deviations from the APO (for example, under the French legislation, the recent unpaid wages have a higher position than the secured claims under bankruptcy). From the bank's point of view, such deviations may reduce the attractiveness of bankruptcy procedures.

To sum up, hypothesis H4 predicts the level of collateralization should increase the probability of bankruptcy, provided (1) the bank prefers liquidation *and* the law facilitates such liquidation, (2) the renegotiation process cannot fully replicate the legal absolute priority order (APO), (3) the bankruptcy procedure does not decrease the bank's priority over junior claims (i.e. there are not deviations from the APO). Under the French legislation (before and after 2005), these conditions

⁸ The German 1999 reform has introduced the possibility to elaborate a continuation plan (*Insolvenzplan*) allowing for partial debt forgiveness and violation(s) from the absolute priority rule. Yet, continuation, despite being one of the main objectives of this reform, remains a rare option (continuation plans account for less than 1% of bankruptcy files, which is significantly lower than in France).

⁹ As pointed out by Haugen and Senbet (1978) and (1988), such protection may be internalized through renegotiation... Unless the renegotiation process gets complicated by other factors (asymmetries of information, heterogeneous beliefs, etc.).

are partially invalidated: first, the law explicitly prioritizes continuation over liquidation, and second, the social claims¹⁰ outrank the secured ones.

Section 3. Sample, data, and descriptive statistics

Data comes from five major French commercial banks, and was hand-collected from their recovery units (located in Paris, Nanterre, Reims, and Marseilles). Our sample gathers 735 credit lines allocated to 386 French distressed firms (excluding agricultural and financial companies). After we dropped observations with missing or incoherent data, we keep 282 and 233 companies for the descriptive statistics and econometrics respectively. The concerned debtors have a debt exposure superior to 100 thousand euros. We thus focus on SMEs but exclude micro borrowers. The default year lies between 1993 and 2003 while the loans were granted from 1984 to 2001. The sample comes from a larger database we built between 2004 and 2005 under the supervision of *Standard & Poor's Risk Solution*. The event of “default” follows the Basel II criteria: a firm defaults as soon as the delays on its financial commitments exceed 90 days. The list of all variables is described in Appendix A1: they cover (1) the profile of the company (age, sector, group, legal form, size – number of employees, turnover, and total of assets), (2) the origin of the default (with a specific focus on faulty management), (3) the nature of the credit relationship (length, creditors’ concentration, rating) (4) the type of borrowings (each credit line is aggregated for every debtor: collateralization¹¹, duration, maximum authorized amount, recovery rate).

Table 1 provides averages and frequencies computed on our dataset. Three paths are identified. Each corresponds to the three possible ways of resolving the default: (1) direct bankruptcy, (2) failed renegotiation leading to bankruptcy, and (3) successful renegotiation leading to private agreement. The turnover and the loan size are in thousand of euros. The length of the banking relationship is in years. The other variables are in percentage.

¹⁰ In France, the recent unpaid wages (less than two months) benefit from a “super-privilege”.

¹¹ We classify collaterals into six types. Two types are outside collaterals: guarantees from individuals, and guarantees from companies. The four other types are inside collaterals: mortgage, long-term assets other than mortgage, short-term assets, and other kinds of collateral.

Table 1. Structure of the sample

	Direct bankruptcy	Failed renegotiation	Successful renegotiation
<i>Sample size :</i>	183	45	54
Nb. of employees (median)	21.5 (45)	11.0 (13)	27.5 (38)
Turnover (median, in K€)	3 118 (90)	1 517 (22)	2 302 (17)
Total of assets (median, in K€)	2 037 (90)	1 856 (22)	2 448 (17)
Commerce	36%	44%	26%
Industry	31%	20%	19%
Services & others	33%	36%	56%
Limited liability	92%	87%	78%
The firm belongs to a group	45%	40%	39%
Age (years)	15.0	16.6	17.3
Length of the credit relationship	6.7	7.5	7.3
Faulty management	20%	27%	13%
Bad rating at default time	40%	42%	46%
Bank is the main creditor	57% (18)	59% (1)	47% (5)
Length of the default resolution (years)	1.0	2.1	1.0
Max. authorized amount (mean/median, K€)	436 / 275 (14)	827 / 305 (5)	1270 / 594 (3)
Recovery rate (mean / median, in %)	44% / 30%	48% / 51%	78% / 86%
Collateralization rate (coll. value / EAD)	172%	108%	101%
Part of long term credits (% of tot. credits)	35% (18)	48% (6)	78% (3)

Note: The table shows the average values (or the medians, when specified). The figures in parenthesis are the number of missing observations, depending on the considered variable.

Several descriptive statistics are of interest. We first consider the variables on the firm's characteristics.

The bulk of the distressed debtors are private limited companies (more than 78%), which is slightly higher than the national figures on bankruptcies. It is essential to stress that national statistics are available on bankrupt companies only, while bankruptcy is a narrower concept than default (indeed, the “default” covers bankruptcy – direct or not – and private renegotiation). According to the national statistics issued by BODACC in 2009¹², 68% of the French bankrupt firms benefit from limited liability (mainly: “*sociétés anonymes*”, “*sociétés à risqué limité*”). In our sample (default companies), the highest proportion of LTD companies is found within direct bankruptcies (92%). This may reflect (directly or not) that the shareholders who benefit from limited liability have incentives to take more risks than the others, so that the chances to

¹² Bulletin National des Annonces Civiles et Commerciales: <http://www.bodacc.fr/>

renegotiate are finally lower. The French national statistics on corporate bankruptcies show a repartition by sectors of 22% for the commerce, 47% for the industry and 30% for the services. Turning to our sample, and considering default instead of bankruptcy, these proportions lie between 26% to 36% (commerce), 19% to 31% (industry), and 30% to 56% (services).

We additionally consider the age of the company and the length of the credit relationship. Interestingly enough, we do not find big differences between the three ways of resolving the default. The average age lies between 15 and 17 years, which is roughly twice the average length of the credit relationship (around 7 years). Hence, the banks in our sample have been supporting the debtor's activity for half of the life span. Symmetrically, this result suggests these banks have started lending to companies that were not start-ups as their average age was found to be 7. There are two main explanations for this. First, the age is related to the loan size. As explained before, we consider the firms having more than 100 thousand euros of loans, as we wish to exclude micro-lending from the analysis. Second, in France, the start-ups of less than 2 or 5 years are mainly financed by specialized financiers rather than traditional bankers. Precisely, a significant part of the French start-ups are financed by a public financial institution named OSEO¹³ and/or benefit from tax shields during their first years of existence.

We finally consider the size of the companies¹⁴. The sample respectively shows medians¹⁵ lying between 11 and 27 (employees), 1 517 € and 3 118 € (turnover), and 1 856 € and 2 448 € (total of assets). The smallest values are observed on the outcomes that lead to bankruptcy ("failed renegotiations" and "direct bankruptcy")¹⁶.

Second, we consider the variables on the default resolution.

Half of the population (whatever the outcome) has one single bank, as the main source of financing. This partially reflects the bank-oriented French market system (see La Porta *et al* (1997) (1998)), where the SMEs have imperfect access to the financial markets, and where the banking sector is quite concentrated.

We also consider "faulty management". Access to such information was made possible only through the internal reports available at the recovery units of the banks. Most of the time, these

¹³ The OSEO's website is: <http://www.oseo.fr/>

¹⁴ Note that fewer observations have available data on their size.

¹⁵ Our sample contains two bigger companies on the outcome "successful renegotiation", so that the averages are slightly higher than the medians. Yet, the econometrics is unchanged with or without these two observations.

¹⁶ The smaller the firm is, the lower the associated costs are. Indeed, in France, the bankruptcy costs are given by a legal formula that explicitly links the size of the debtor and the practitioners' fees.

reports contain a literal description of the origin(s) of the default. We classify this information into 49 codes. This allows a systematic identification of the defaults attributable to faulty management. Namely, we classify these cases into six codes: “asset substitution”, “voluntary excessive risk taking”, “private abuse of the company’s assets”, “tricky behavior and swindle”, “accounts falsification”, and “financial fraud”. The complete list of our codes is displayed in Appendix A.2. Table 1 shows the cases of “faulty management” appears in different frequencies: 13% for successful renegotiations, 20% for direct bankruptcies, and 27% for failed renegotiations. At this stage of the analysis, we have to be very cautious, as we are analyzing one-dimensional statistics only (multivariate econometrics is more reliable as it takes into account combined effects and control variables). Nevertheless, these first results suggest faulty management may be an obstacle to renegotiation as the aborted renegotiations show a higher percentage of faulty managers¹⁷.

Renegotiation and/or bankruptcy are both time-consuming processes: interestingly, it exactly takes the same duration¹⁸ to implement a bankruptcy procedure than to successfully renegotiate (one year). In fact, only the failed renegotiation attempts (finally leading to bankruptcy) take more time (twice more on average). If we consider the time spent on resolving the default as an indirect cost (Wruck (1990)), this result suggests that the arbitration between formal bankruptcy and private renegotiation is equivalent in terms of consumed time, whereas the most expensive outcome is *the failure* of renegotiation. In other terms, the bank may privately renegotiate or go to court, but it has to be sure that its choice leads to a successful outcome.

Third, we consider the variables on the debtor’s financial situation.

Whatever the considered indicators (average or mean) the highest authorized amounts and the long term debt contracts concentrate onto successful renegotiations. This may suggest a positive correlation between the financial stakes and the probability to renegotiate, and even more to successfully renegotiate. This finding must be explored further via econometric modeling (see

¹⁷ Even if we need econometrics to provide more definitive answers, this may reflect the bank’s beliefs are updated during the renegotiation process: first, the bank may try to renegotiate before discovering any faulty management (such discovery needs additional time). Second, once the bank discovers the management is faulty, it aborts renegotiation and turns to the legal output (bankruptcy) as there is no trustful person to renegotiate with.

¹⁸ The considered duration covers the period from the date of entry into the recovery unit until the date when a definitive solution is found (private agreement or liquidation / sale / reorganization under bankruptcy). Consequently, it does not include the extra time that is needed to definitively close the file (i.e. when all the proceeds are recovered).

infra). If such a positive relation is confirmed (hypothesis H3), we are allowed to say that arbitration between the private and the court solutions is not independent from scale effects.

For illustration purpose, Table 1 provides additional information on the bank recovery rates¹⁹ for each possible outcome. Whatever the considered indicator (mean or median), they are higher on successful renegotiations (close to 80%) than on the other outcomes (less than 50%). This result is confirmed when looking at the estimated density functions (see appendix A4): the individual recovery rates are closer to one for successful renegotiations than for the other outcomes. Several works have focused on the determinants of such bank recovery rates. Yet, these complementary studies go beyond the main purpose of the current research²⁰. Nevertheless, let us propose two elements of answers explaining why the private solution should lead to higher recoveries: (1) some companies are illiquid only at the time of default, or even more not in financial distress (in the legal sense²¹), so that they are not eligible for formal bankruptcy. Thus, it is not surprising to find higher recoveries on successful renegotiations. (2) The private solution may avoid bankruptcy costs: the resulting recoveries should be higher, even if the expected bankruptcy costs may be internalized and captured by the debtor during the renegotiation process (see Blazy, Umbhauer, and Weill (2008)).

Last, we find higher collateralization rates²² on direct bankruptcies than on the other outcomes. This may suggest that the bank turns more easily to bankruptcy when it feels more secured. Yet, to be acceptable, we have to control other variables that may influence the arbitration. Indeed the process of arbitration also depends on (1) how well secured the other creditors are, (2) the deviations from the absolute priority order that prevail under bankruptcy, (3) the probability that the company is liquidated or reorganized at the end of the bankruptcy procedure. In the next section, we shall see that there is no clear evidence of a significant relation between collateralization and the way default is resolved.

¹⁹ The recovery rate is built using both actual recovered amounts and discounted expected amounts: the discount rate varies with the maturity and date of lending. Expectations use probabilities of recovery which take into account qualitative information (written remarks from the recovery unit regarding the client) and the nature of the assets pledged as collaterals.

²⁰ The Dadydenko and Franks' paper (2008) uses the same data as ours on France, and compare them with data on the U.K. and on Germany. Their study suggests the French banks require more collateral when they lend credit. In addition, they may rely on special collateral forms which minimize the risk of dilution during the court-administered bankruptcy procedure.

²¹ See in France, the criteria of "*cessation des paiements*".

²² The collateralization rate equals the value of the collaterals out of the exposure at default.

Section 4. Modeling the arbitration: econometric results

Several researchers have studied the determinants of the resolution of financial distress. Two such recent studies were conducted in United Kingdom (Franks and Sussman (2005)) and Germany (Jostarndt and Sautner (2010)). These studies covered the two most important legal systems prevailing in Europe: the Common Law and the German Civil Law. Unfortunately, until now, no study has been done on the French Civil Law that has already inspired other important legal systems in continental Europe (Belgium, Luxembourg...). This leaves us with an incomplete view of the process of default resolution in Europe.

For the U.K., Franks and Sussman (2008) study a sample of 542 distressed SMEs. They analyze the links between the debtor's financial structure and the way of resolving default. They show that the liquidation rights are largely concentrated in the hands of the main banks, which give them a dominant position in liquidating or restructuring their debtors. One of the likely effects is that banks may become lazy as they rely too much on the value of their collaterals. Overall, their study does not find any evidence of coordination failures and/or creditors' runs. A similar study was interestingly completed by Jostarndt and Sautner (2010) who conducted a similar research on a set of 116 listed German companies. The authors find that about half of their sample, succeed in restructuring the debt contracts while the others file for bankruptcy²³. Overall, their results suggest the probability of reaching a private agreement is greater for (1) highly leveraged companies and for (2) companies exhibiting higher going concern value. At the opposite, formal bankruptcy is more likely to occur for those cases which exhibit a lack of lenders coordination and/or high fraction of collateralized debts.

Both studies are of high interest as they rely on unique datasets which have no equivalent in Europe. Frank and Sussman's data has an advantage as it covers the whole default resolution process from its beginning to its end. More specifically, once the default firm enters the bank's "Business Support Unit", three possible outcomes are described: (1) the firm is successfully rescued (so that the firm returns to branch), (2) the firm is transferred to the "Debt Recovery

²³ In this study, we may suspect a sample bias as it focuses on the German distressed companies for which the assets' value is high enough to cover the expected bankruptcy costs, so that a formal bankruptcy procedure can be triggered (the sample on bankruptcy is restricted to "opened files" only).

Unit” (where formal bankruptcy procedure starts), (3) the firm repays the loan and “re-banks” with another lender. The authors run a PROBIT regression to model the probability of triggering bankruptcy (outcome (1)) vs. the probability of escaping bankruptcy (outcomes (2) and (3)). The Jostarndt and Sautner’s paper adopts a similar approach: they focus on companies having earnings before interests and taxes (EBIT) inferior to the interest charges for more than two consecutive years. Using a PROBIT regression, they model the probability of reaching a successful workout. According to the authors, the approach is robust and is not subject to potential endogeneity bias²⁴.

Yet, despite their valuable contribution to the literature, one may raise some concerns about the methodology of both approaches that use simple PROBIT (or, equivalently, LOGIT) to model the different outcomes of default (in a short: workout against bankruptcy). By doing this, they implicitly postulate such outcomes stem from static choices, in the sense they do not follow any dynamic process. In reality, most of the attempts to reach an agreement are sequential: in a first step, the creditor and/or the debtor arbitrate between going directly to bankruptcy and trying to renegotiate. In a second step, based upon the fact that renegotiation was explored first, the parties may fail in finding an agreement (so that bankruptcy cannot be avoided) or may succeed (so that a private agreement is reached). The two methodologies are illustrated in figure 1 that considers three possible outcomes: (1) direct bankruptcy, (2) failed renegotiation leading to bankruptcy, and (3) private agreement. Figure 1a) illustrates the simple multinomial LOGIT approach where the choice between the three rival outcomes is made within a one-step process. Figure 1b) shows how the decision process is changed within the framework of a sequential LOGIT model: here, this process consists of two transitional steps, so that a separate LOGIT regression is run for each decision. These decisions are called “transitions”. As quoted by Buis (2007) (2008), this approach is known under several names: “continuation ratio LOGIT” (Agresti (2002)), “model for nested dichotomies” (Fox (1997)), “sequential response model” (Maddala (1983)), or “sequential LOGIT model” (Tutz (1991)). In such models, the first transition consists of an

²⁴ As pointed out by the authors: “The exogeneity assumption can be justified by the actual process of a debt-restructuring: firms choose a certain debt structure first and then, upon a default, renegotiate the pre-determined terms. However, borrowing arrangements could also be determined endogenously *ex ante* by claimants' expectations about a firm's restructuring prospects in case of a future default. In this case, the coefficients in the above regressions would provide us with correlations but do not allow for a causal interpretation of the link between the borrowing characteristics and the workout probability of a firm” (quoted from Jostarndt and Sautner (2010)).

alternative between “direct bankruptcy” and “renegotiation attempt”. The second transition consists of an alternative between “failed renegotiation” (hence, bankruptcy) and “successful renegotiation” (hence, private agreement) for those cases that have selected the alternative “renegotiation attempt” during the first transition.

Figures 1a and 1b. Three ways of resolving default

Figure 1a: Static approach (simple LOGIT)

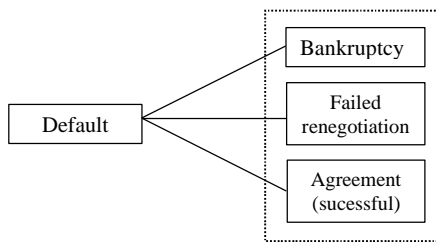
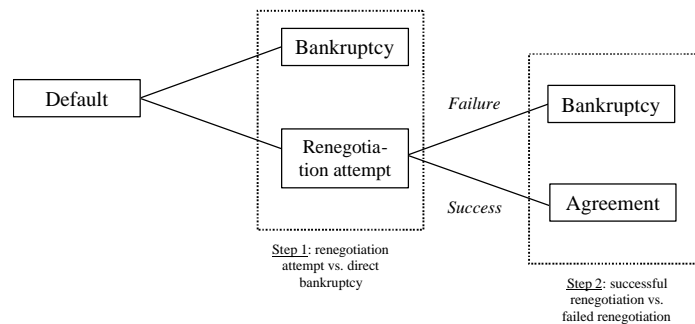


Figure 1b: Dynamic approach (sequential LOGIT)



In our view, it might be misleading to consider the arbitration between renegotiation and bankruptcy as a static choice. On the contrary, our data on France clearly distinguishes between direct bankruptcies, failed renegotiations leading to bankruptcy, and successful agreements. This allows us to account for the accumulation of information over time. Precisely, the probability of reaching an agreement is conditional to the fact that bankruptcy was not decided first, so that the stakeholders tried to explore the private solution. In other words, the understanding of the default process requires to split between (1) the variables that explain the decision to engage (or not) renegotiation and (2) the variables that explain the success (or the failure) of renegotiation.

Our explanatory variables are split between the *test variables* and the *control variables*. The test variables aim at checking the validity of assumptions H1 to H4. Appendix A3 provides the correlation matrix on our variables.

We first consider the dummy variable named “Bank is the Company’s main creditor”. The variable is related to hypothesis H1 as it reflects the creditors’ dispersion. When it equals one, the debtor’s main (and/or exclusive) sources of financing rely in the hands of one single bank (the one in charge of the recovery process). Of course, the company may be financed by other banks

(and/or other trade creditors), but these other financing opportunities are marginal compared to the main one.

Second, we consider hypothesis H2 that states that the collection of information is sequential: at the early stage of the default, the bank owns information on profitability only, whereas discovering faulty management takes more time. To account for both effects, we consider four variables. The first one is related to “faulty management”, which was identified by the bank’s recovery unit (cf. *supra*). Following the literature on moral hazard, faulty management includes underinvestment, asset substitution and weak managerial efforts. Since such managerial behaviors are sanctioned by the French bankruptcy code²⁵, we consider them as moral hazard cases. The second variable (“bad rating at default time”) and the third variable (“length of the banking relationship”²⁶) deal with the bank’s information about the debtor’s profitability. On the one side, the rating (either good or bad) accounts for the debtor’s individual risk as it is assessed by the bank. On the other side, the length of the banking relationship is commonly considered as a good proxy of the bank’s individual information. The fourth variable multiplies two effects: the (faulty) management and the (bad) rating. When the combined variable equals one, the bank has two complementary pieces of information that predict an agreement is hardly reachable: first, the debtor’s management is faulty and second, the debtor’s individual risk is high.

Third, we consider a set of variables that account for the bank’s financial involvement (see hypothesis H3). The first variable is the maximum authorized amounts: it is the maximum amount of money that can be borrowed by the debtor. Such limit is contractually defined at the beginning of the credit relation. The second variable is the “percentage of long term credit lines”: the longer the debt contract is, the higher is the bank’s financial involvement, as it is engaged in a more lasting relation with the debtor.

Fourth, we consider hypothesis H4 that focuses on the level of collateralization. We have information on the type and the amount of collaterals that were granted to the bank during the

²⁵ Since 1985 (Code n°85-98, 25th of January 1985, Title V, Art. 180 to 182), the French courts may punish managers if the administrator’s report reveals faulty management. The “fault” covers asset substitution, tricky behavior, and, more generally, any action that might have worsened the financial situation of the firm. Sanctions are either criminal and/or pecuniary. The latter makes the manager pay for the firm’s debt using his own personal wealth.

²⁶ The variable equals the logarithm of the duration (in years) of the banking relationship.

credit relation, before the debtor defaults. We split between inside and outside collaterals. Inside collaterals cover the securities whose value relies on the debtor's own assets. We isolate four types of internal collaterals: (1) mortgage, (2) long-term assets other than mortgage, (3) short-term assets, and (4) other inside collaterals. Outside collaterals extend the bank's priority to other patrimonies. These are of two types: (1) guarantees from individuals, and (2) guarantees from companies.

Last, we control for other variables that may impact on the post-default arbitration. More precisely, we consider (1) the legal form of the debtor ("limited liability"), (2) the sector of activity (commerce, industry, relatively to the services), (3) the economic organization ("does the company belongs to a group"²⁷), and (4) the macroeconomic context (the GDP growth corresponding to the year of default).

Table 2: The determinants of the arbitration between renegotiation and bankruptcy

Variables:	Endogenous variable: Way of resolving financial distress 233 distressed companies							
	MODEL I: Simple Logit				MODEL II: Sequential Logit			
	Failed renegotiation (ref. direct bankruptcy)		Successful renegotiation (ref. direct bankruptcy)		Step 1: Renegotiation attempt vs. direct bankruptcy		Step 2: Successful renegotiation vs. failed renegotiation	
	Estimation	Prob. > χ^2	Estimation	Prob. > χ^2	Estimation	Prob. > z	Estimation	Prob. > z
Constant	-3.2410**	0.016	-5.9475***	<.0001	-2.2137**	0.049	1.4809	0.422
Origin of default: faulty management	-0.0795	0.800	0.1363	0.639	0.0531	0.91	0.7472	0.361
Faulty management x Bad rating at default time	0.6671	0.164	-0.5536	0.396	0.4569	0.571	-2.8897*	0.072
In (length of the banking relationship, in years)	0.1595	0.550	0.2338	0.383	0.2097	0.317	0.4005	0.306
Bank is the company's main creditor	-0.0387	0.854	-0.5180**	0.014	-0.5417*	0.094	-1.5516**	0.013
Bad rating at default time	-0.1251	0.582	0.1397	0.516	0.0325	0.925	0.4307	0.471
In (authorized amount, K€)	0.2806	0.170	0.4946**	0.016	0.3751**	0.022	0.0603	0.793
% of long term credit lines (due amounts, K€)	0.5140	0.255	0.9828**	0.029	0.7477**	0.034	0.0119	0.986
In (internal collaterals, K€)	0.0270	0.708	-0.0479	0.495	-0.0089	0.872	-0.0802	0.394
In (external collaterals, K€)	0.0068	0.922	0.0167	0.807	0.0085	0.875	-0.0246	0.796
Limited liability	-0.1157	0.704	-0.4492*	0.088	-0.5956	0.186	-1.1625	0.125
The company belongs to a group	-0.2553	0.209	-0.4358**	0.035	-0.7001**	0.029	-0.5656	0.315
Commerce	-0.0658	0.779	-0.4248*	0.078	-0.5134	0.169	-1.3376*	0.056
Industry	-0.3008	0.246	-0.6243**	0.016	-0.9381**	0.019	-0.8632	0.236
GDP growth	-1.2791	0.928	22.9320	0.133	10.2872	0.368	23.8933	0.232
Likelihood Ratio	Stat. -210.16		Pr > Khi 2 -		Stat. -185.39		Pr > Khi 2 -	
Score	44.11**		0.027					
Wald	37.87		0.101					
Chi²					49.54***		0.0073	

²⁷ In France, the bankruptcy procedure can be extended to other companies if, first, they belong to the same group of the debtor, and second, the respective patrimonies are mingled together.

Table 2 shows the results of two regression models explaining the three ways of resolving default. Model I is simple multinomial LOGIT model: the explained variable is the probability that renegotiation either fails (model I, column 1) or succeeds (model I, column 2), against the reference alternative (direct bankruptcy). Model II is a sequential LOGIT model. In model II, the first column contains the estimates for the first step of the arbitration: i.e. how the explanatory variables impact the probability of a renegotiation attempt against direct bankruptcy. The second column (model II) contains the estimates for the second step of the arbitration: i.e. how the explanatory variables impact the probability of a successful renegotiation, given that direct bankruptcy was not chosen at first.

The simple LOGIT approach shows few significant variables. Consequently, the Wald test rejects the global significance of the model (the p-value is just above 10%). The Score test is significant (below 3%) but it is less strict than the Wald test. The first column does not show significant variables but the intercept, so that we cannot identify any variables explaining the occurrence of failed renegotiation attempts. Turning to column two, several variables explain successful renegotiations, but most of them are control variables (limited liability, group membership, and sector). Regarding the test variables, three of them are significant. First, the two variables accounting for hypothesis H3 (financial involvement) are significant at the 5% level: the authorized amount (in log) and the part of the long term credits (in percent) both increase the probability of a successful renegotiation. Can we conclude that the chances of avoiding bankruptcy (directly or not) depend on the bank's financial involvement? Certainly not. Such result may be an artifact as the failed and successful renegotiations are considered as simple alternatives to direct bankruptcy. In fact, the probability that renegotiation succeeds is conditional to the fact that bankruptcy was avoided at first. In our view, following hypothesis H2, it is more likely that the bank *attempts* to renegotiate when the financial stakes are high, but we expect neither the authorized amounts nor the long term credits, to influence the chances of success. The last significant test variable is the proxy of bank concentration (see hypothesis H1). The estimated sign is negative, so that a private agreement has less chance to be reached when the bank is the main creditor. This last result suggests that the “bargaining power counterargument” described in H1 overcompensates the “coordination argument”. This result is in accordance with the findings of Dewaelheyns and Van Hulle (2009), but needs confirmation. We now turn to the

sequential LOGIT (columns 3 and 4) to check if this result is still valid when default resolution is modeled as a dynamic process.

The sequential LOGIT estimates are shown in column 3 (step 1: renegotiation attempt *vs.* direct bankruptcy) and in column 4 (step 2: successful renegotiation *vs.* failed attempt leading to bankruptcy). As for the simple LOGIT approach, the control variables accounting for the sector and for the group structure influence the post-default arbitration. Turning over to the test variables, our estimates provide useful evidences to check hypotheses H1 to H4.

Regarding hypothesis H1, as for the simple LOGIT approach, the dummy variable accounting for bank concentration is always significant and negative: when bank is the debtor's main creditor, there is less chance that both parts explore the private solution and that such attempt succeeds. This result suggests that the "coordination argument" is of secondary importance as compared to the "bargaining power counterargument". According to the latter, whatever the coordination issues, a major bank may not wish to renegotiate because (1) the competition with the other minor creditors is expected to be weak under bankruptcy, and/or because (2) the debtor cannot survive without the main bank's financial support, so that the output of bankruptcy is likely to be the one as desired by the bank. Consequently, even a court-administered procedure (as in France) may not have dissuasive effects, provided the bank's bargaining power is strong enough. On the contrary, such procedure may attract the bank (or, symmetrically discourage the firm) whenever nothing can be renegotiated or reorganized without its support. This is all the more likely to happen in a country where substitutes to credit financing are scarce (in France the SMEs have limited access to the capital markets and rely more on intermediated financing). This first result appears relatively strong as it is confirmed whatever the way of modeling the arbitration (simple and sequential LOGIT models). In the contrasting situation (i.e. when the bank is not the firm's main creditor), a balanced pool of creditors may have strong incentives to overcome the coordination issue, and consequently to agree together, as they may fear losing their decision making power in a procedure where the final decision powers lie in the hands of the court.

According to hypothesis H2, renegotiation is reachable provided the bank has information on (1) the project's profitability (adverse selection issue: H2a), and on (2) the managers' reliability (moral hazard issue: H2b). The bank's internal rating is a proxy of the first issue (see dummy

variable “bad rating at default time”). The information on faulty management is a proxy of the second issue (see dummy variable “origin of default: faulty management”). The sequential LOGIT does not show any *direct effect* on the way of resolving default. Yet, when we consider the combined effect of both sources of information, we find a negative (-2.89) and significant (7% level) impact of variable “faulty management \times bad rating” on the arbitration taking place in step 2. Thus, when the bank knows that (1) the project’s rating is bad, and (2) the managers are faulty, the chances of signing a private agreement are reduced. This result is all the more validated when one recalls that the information gathering process can be viewed as *sequential* (see above: H2). At the early stage of financial distress, suppose the bank owns information on bad profitability (through the ratings): yet, this piece of information is insufficient to decisively leave an impact on the way of resolving default. The profitability issue can be overcome if the managers are competent, reactive, and (above all) honest. Yet, discovering the managers’ capacity to restructure the firm’s project takes additional time. Our findings suggest that if this second condition is missing, a private agreement has lower chances to be executed. To sum up, profitability *and* reliability are two essential conditions to escape bankruptcy, but it needs time to discover them. Consequently, the first step of the arbitration (renegotiation attempt *vs.* direct bankruptcy) does not depend on these conditions. But, if bankruptcy was avoided at first, both of them are needed to increase the chances to successfully renegotiate.

The variables accounting for the bank’s financial involvement (see hypothesis H3) play a significant role, but it is limited to the first step of the arbitration. The authorized amounts and the part of the long term credits both increase the chances of a renegotiation attempt (whatever the outcome of such attempt). This result differs from the simple LOGIT that optimistically suggested that the bank’s financial involvement was a key element for successful renegotiation. The sequential LOGIT moderates such result: when the amounts at stake are bigger and/or when the debt contracts are longer, the chance of undertaking renegotiation is higher, but this does not predict that such renegotiation shall be successful, as we do not find any significant impact on the probability of successful renegotiation. From a normative perspective, we can expect the small borrowers to enter bankruptcy more easily and more quickly. For the bigger ones, our results suggest that their chances to escape bankruptcy mainly depend on other factors than the size and the term structure of the loan. Reiterating the hypotheses H1 and H2, we find that the creditors’ dispersion, the quality of the project, and the reliability of the management are important factors

for success. To sum up, hypothesis H3 is partially confirmed: our results suggest that the arbitration between the private and the court solutions is not independent from scale effects. Yet, we do not find any empirical evidence that these effects influence the chances of success of renegotiation attempts.

Last, let us consider hypothesis H4 that predicts that collateralization may increase the probability of triggering bankruptcy, provided three conditions prevail: (1) the bank prefers liquidation *and* the law facilitates such liquidation, (2) the renegotiation process cannot fully replicate the APO prevailing under bankruptcy, (3) there are no deviation from the APO under bankruptcy. We do not find any evidence of a positive or negative impact of collateralization on the way the default is resolved. Indeed, whatever the type of the collaterals (inside or outside ones), there is no clear link with the arbitration. What can we conclude? Either there is no effect at all (i.e. the arguments behind H4 do not even play a role compared to the others related to hypotheses H1 to H3), or the arguments behind H4 compensate each others. In our view, the latter seems the most convincing explanation. Indeed, the French legislation presents conflicting characteristics that compensate each others. On the one hand, the French legislation prioritizes continuation over liquidation²⁸, and grants the social claims a higher rank in the APO than the secured ones. On the other hand, the French procedures mostly end up into liquidation (90% of the cases²⁹), and provide a complete and rather sophisticated framework dedicated to the sale as a going concern (which is, *in fine*, an integrated way to liquidate the debtor's assets). In such a context, the French banks have to consider the pros and the cons of the French legal framework that mix liquidation and continuation biases and that provides only a limited protection of their secured claims. Overall, in France, it is not guaranteed that secured claims generate more money inside or outside bankruptcy.

Section 5. Conclusion

The paper investigates the determinants of the post-default arbitration between private reorganization and formal bankruptcy. Both ways of resolving the default are not economically equivalent in terms of cost, coordination, and information. By using original data on France, we provide useful complementary material to the previous studies. Nothing has been done until now

²⁸ See the 1st article of the 1994 French bankruptcy code, whose inclination to continuation was extended in 2005.

²⁹ See Blazy, Delannay, Petey, and Weill (2008).

on the French civil law systems. In addition, the previous researches considered the post-default arbitration as a static process, whereas information accumulates sequentially over a period of time. By extracting data from the recovery units of five French banks, we are able to distinguish between, first, direct bankruptcies, second, failed renegotiations leading to bankruptcy, and third, successful renegotiations leading to private agreement. We split between the variables that explain the decision to engage (or not) renegotiation and the variables that explain the success (or the failure) of renegotiation.

We test four hypotheses (H1: renegotiation *vs.* bargaining; H2: information gathering; H3: financial involvement; H4: collateralization). Our main results follow. Regarding H1, the “coordination argument” is of secondary importance compared to the “bargaining power counterargument”. Indeed, whatever the coordination issues, a major bank may not wish to renegotiate simply because the competition with the other minor creditors is expected to be weak under bankruptcy, and/or because the debtor cannot survive without the bank’s financial support. Consequently, even a court-administered procedure (as in France) may not have dissuasive effects provided the bank’s bargaining power is strong enough. Regarding H2, we find that the projects profitability and the managers’ reliability are two essential conditions to escape bankruptcy, but it needs time to discover them. Consequently, the first step of the arbitration (i.e. renegotiation attempt *vs.* direct bankruptcy) does not depend on these conditions. But, if renegotiation is explored, both of them are needed to increase the chances to successfully renegotiate. Regarding H3, our results suggest that, when the lending is bigger and/or when the debt contract is longer, the chance of undertaking renegotiation is higher, but this does not predict the success of such renegotiation. From a normative perspective, we can expect the small borrowers to enter bankruptcy more easily and more quickly. For the bigger ones, our results suggest their chances to escape bankruptcy mainly depend on other factors than the size and the term structure of the loan. Last, regarding H4, we do not find any clear evidence that the level of collateralization significantly influences the tradeoff between informal renegotiation and formal bankruptcy.

Numerous theoretical papers on corporate bankruptcy have provided convincing arguments to explain the arbitration between private and the court solutions. Yet, empirical evidence has to be explored further. The next step is to study the influence of such arbitration on efficiency, and more specifically on the observed recovery rates.

Appendixes

A1. Variables and codifications

The following table provides the list of our explanatory variables, with the complete description.

Name of the variable	Description
Origin of default: faulty management	Equals 1 if one (or more) cause(s) of the default is related to faulty management (conscious acceptance of non-profitable markets, overinvestment, underinvestment, excessive speculation, private benefits, fraud)
Faulty management x Bad rating at default time	Equals 1 if the one (or more) cause(s) of the default is related to faulty management <i>and</i> the debtor's last known rating was bad (negative Z value).
ln (length of the banking relationship, in years)	log of the duration of the banking relationship, from the first lending date up to the date of default (in years).
Bank is the company's main creditor	Dummy variable, equal to 1 if the bank is the company's main creditor (based on the list of all the creditors).
Bad rating at default time	Dummy variable, equal to 1 if the debtor's last known rating was bad (negative Z value).
ln (authorized amount, K€)	log of the maximum amount of authorized credits (as defined in the debt contract).
% of long term credit lines (due amounts, K€)	Percentage of long term lending (more than 1 year) out of the total lending.
ln (internal collaterals, K€)	log of the amount of internal collaterals (mortgage, long-term assets other than mortgage, short-term assets, other inside collaterals).
ln (external collaterals, K€)	log of the amount of external collaterals (guarantees from individuals, guarantees from companies).
Limited liability	Dummy variable, equal to 1 if the debtor benefits from limited liability (LTD).
The company belongs to a group	Dummy variable, equal to 1 if the debtor belongs to a group.
Commerce	Dummy variable, equal to 1 if the sector is 'commerce'.
Industry	Dummy variable, equal to 1 if the sector is industry'.
GDP growth	Increase annual rate of the GDP of the year of default.

The following table provides our codifications on the cause(s) of default. The items in bold are related to faulty management.

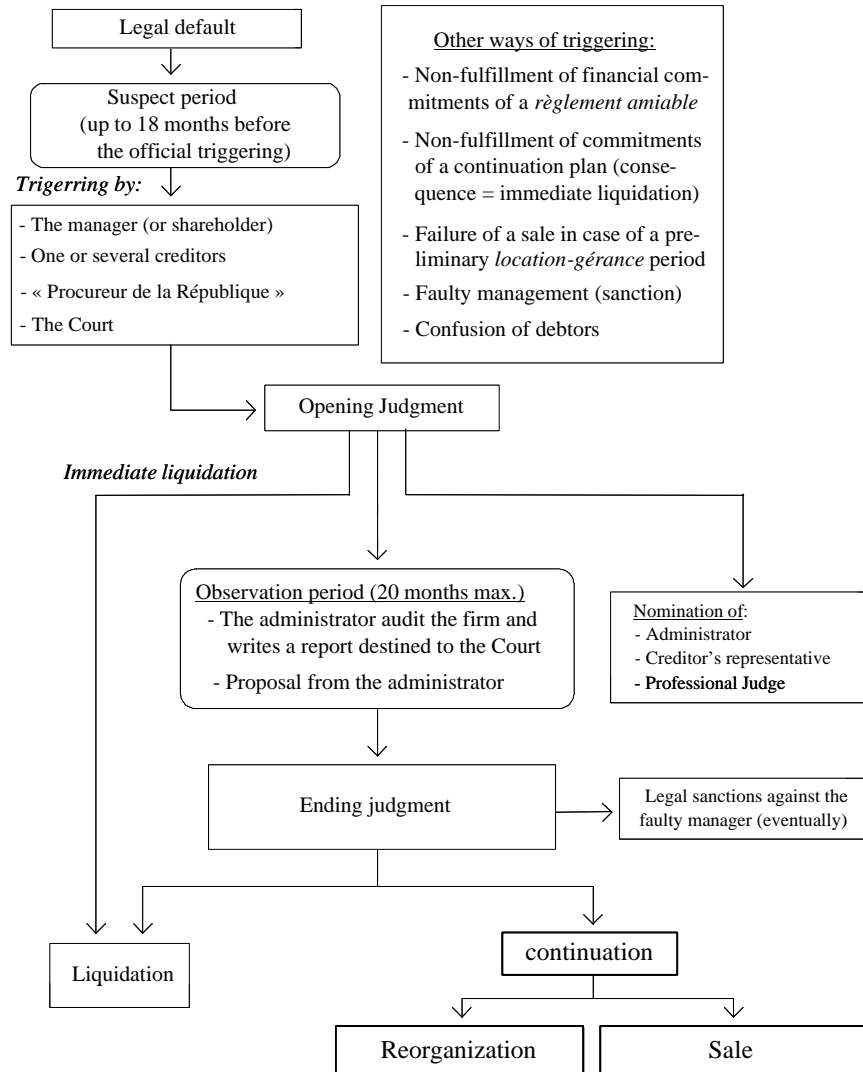
	Origin of the default (codifications)
Outlets	[1] Brutal disappearance of customers; [2] Customer(s) in default; [3] Product(s) too expensive (selling price is too high); [4] Bad evaluation of the market; [5] Product(s) too cheap (selling price is too low); [6] Unsuitable products; [7] Obsolete products; [8] Loss of market shares (regular fall of the firm's demand).
Strategy	[1] Youth of the company (inexperience); [2] Voluntary dissolution of the activity; [3] Failure of important projects (partnerships, investments, reorganizations); [4] Voluntary acceptance of little profitable markets (dumping...).
Production	[1] Production capacity was too strong, overinvestment ; [2] Depreciation of the assets; [3] Operating costs were too high (other than wages: external expenses, raw materials...); [4] Wages expenses were too high; [5] Brutal disappearance of suppliers; [6] Unsuitable process of production (obsolete); [7] Underinvestment .
Finance	[1] Longer delays on accounts receivable; [2] Contagion / reported losses from subsidiaries; [3] Shorter delays on accounts payable; [4] Excessive speculation of the company ; [5] end of the financial support from the head office / holding; [6] Lack of equity (compared to leverage/liabilities); [7] Loan refusal to the company; [8] end/reduction of the subventions to the company; [9] Contractual interest rates are too high.
Management	[1] Weak accounts reporting / informational system is deficient ; [2] Problems of competence ; [3] Disagreements among the directors / managers; [4] Excessive takings from the managers ; [5] Insufficient provisions ; [6] Lack of knowledge on the real level of costs of returns (causing too weak selling) ; [7] Bad evaluation of inventory ; [8] Problems of transmission of the company / difficulties in restructuring.
Accident	[1] Swindle / embezzlements affecting the company ; [2] Another insolvency procedure (for other companies) is extended to the firm (same patrimonies); [3] Disputes with public partners (fiscal inquiry); [4] Disputes with private partners; [5] Death / disease / disappearance of the manager; [6] Disaster; [7] Social problems within the company.
External environment	[1] Unfavorable fluctuation of the exchange rates; [2] Increase of the competition; [3] Decreasing demand to the sector; [4] "Force majeure" (war, natural catastrophe, industrial crisis, politics, bad price evolution); [5] Public policy less favorable to the sector; [6] Period of credit crunch; [7] The general level of interest rates is too high; [8] Macroeconomic increase of operating costs (raw materials, GMW...).

A2. The French bankruptcy law

Since the bankruptcy law reforms of 01/25/1985 and 06/10/1994, the French collective system involves two complementary court administered procedures. The first aims at continuing business, either through a reorganization plan or a sale as a going concern ("*redressement judiciaire*"). The second is a standard liquidation procedure of a firm's assets ("*liquidation judiciaire*")³⁰. The French law was recently reformed in 2006 and 2008: among other changes, an additional procedure ("*procédure de sauvegarde*") was added to solve the first difficulties of companies that are not in default yet.

³⁰ In the shadow of the process, there also exists an out-of-court settlement ("*règlement amiable*" or "*conciliation*"): the manager, with the help of an officer, negotiates with some of the creditors the payment of outstanding debts.

1985 and 1996 legal framework of the French bankruptcy code



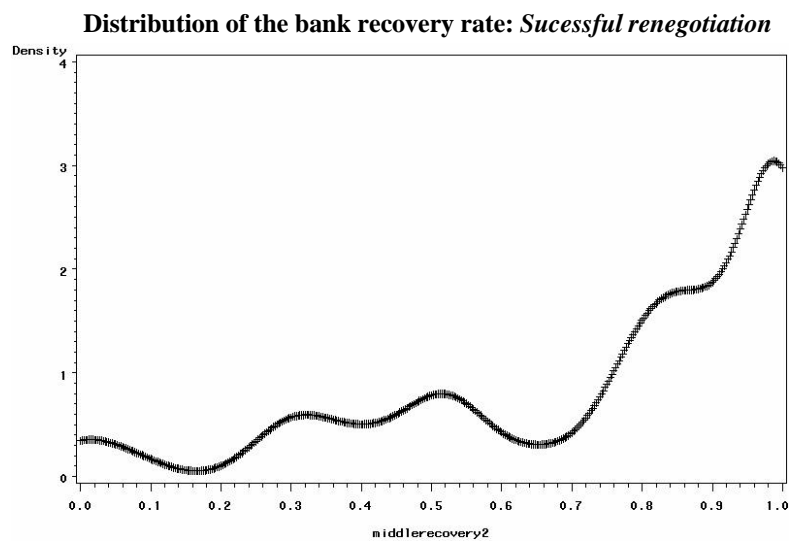
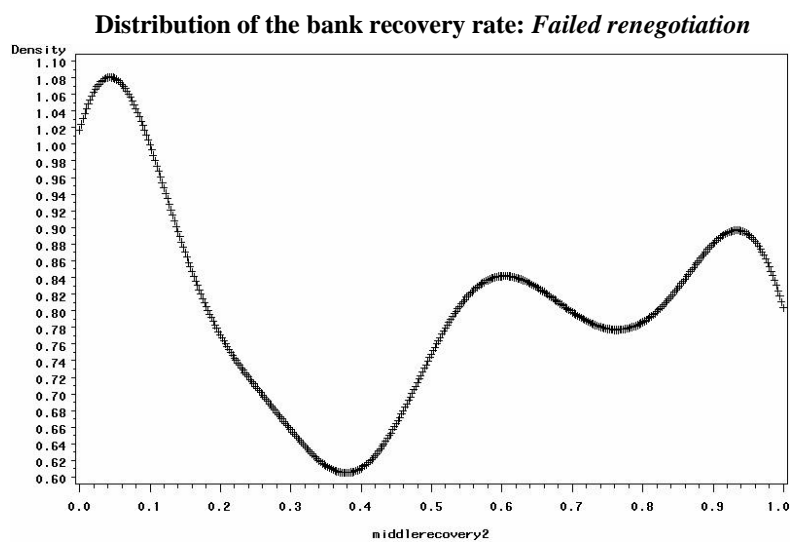
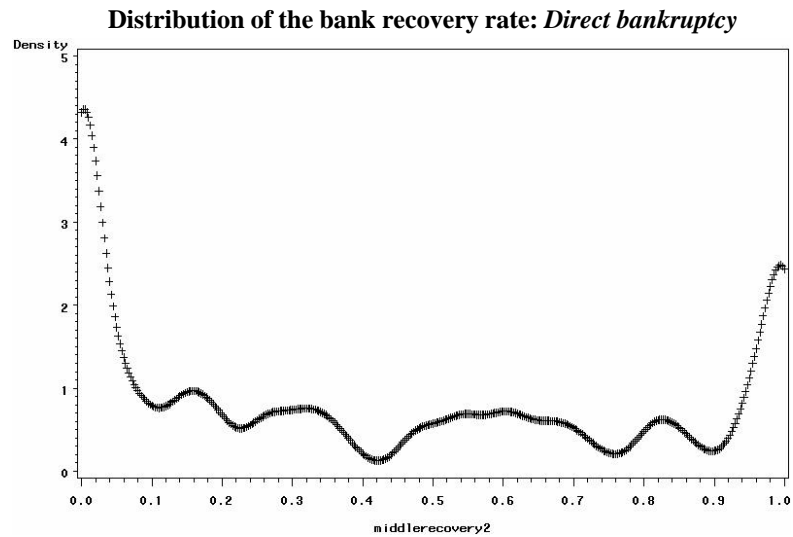
At triggering, the court checks whether the debtor is financially distressed, and examines the pre-default contracts which appear irregular, in the sense that they might have voluntarily caused a reduction of the firm's value prior to bankruptcy (this covers the so-called "*période suspecte*"). Then, the debtor's chances of recovery are assessed during an observation period ("*période d'observation*") that may last up to 20 months. The new claims arising after the triggering date are "new money" claims, whose priority is superior to the other claims (with exceptions

regarding some secured claims, in case of liquidation). During the observation period, a legal administrator is appointed by the court: it may help or replace the manager, depending on his ability to run the firm. The administrator engages several measures (firing, wages modifications, investments...) that may help the firm to recover. Each measure must be approved by the court. At the same time, the administrator audits the debtor, and finally proposes a solution to the court (continuation, through a reorganization plan or a sale, or liquidation). The commercial court holds the authority to choose between possible outcomes and in the process may or may not follow administrator's recommendation.

The 1994 legislation is very similar to the previous 1985 code. The main innovations in 1994 are: (1) a change in the absolute priority rule in case of liquidation (secured claims are now paid before new money claims), (2) the court may sue agents who buy bankrupt firms in order to sell them piecemeal once bankruptcy process is closed; and (3) the court can immediately liquidate the debtor if the chances of recovery are null, even under the protection of the law (immediate liquidations used to happen before 1994 but they were not explicitly allowed by the law). These changes in the legislation did not crucially modify the practice of commercial courts.

In January 2006, French bankruptcy law was reformed to allow for easier bankruptcy filings. These may now be initiated voluntarily by managers, creditors or the court, even if the financially distressed firm is not "*en cessation des paiements*". In the previous bankruptcy system, financially distressed firms had to be largely unable to pay debts before they could file for bankruptcy. Since 2006, all firms that face the possibility of going bankrupt in the future may initiate a bankruptcy filing. However, adequate data is still not available to cover this last reform.

A3. Density functions of the bank recovery rates



A4. Correlation matrix

	Origin of default: faulty management	Faulty management x Bad rating at default time	ln (length of the banking relationship, in years)	Bank is the company's main creditor	Bad rating at default time	ln (due amount,K€)	Part of long term credit lines (%)	ln (internal collaterals)	ln (external collaterals)	Limited liability	The company belongs to a group	Commerce	Industry	GDP growth
Origin of default: faulty management	1													
Faulty management x Bad rating at default time	0.52044 <.0001	1												
ln (length of the banking relationship, in years)	-0.03696 0.5365	0.12824 0.0313	1											
Bank is the company's main creditor	-0.00316 0.9597	0.03659 0.5585	0.04115 0.5105	1										
Bad rating at default time	-0.09885 0.0976	0.30078 <.0001	0.21976 0.0002	-0.08399 0.1787	1									
ln (due amount,K€)	-0.02858 0.6328	-0.06182 0.3009	0.13888 0.0196	-0.10422 0.0948	-0.07124 0.233	1								
Part of long term credit lines (%)	-0.00773 0.9022	-0.00209 0.9735	-0.07156 0.2549	0.21034 0.0012	-0.08632 0.1694	0.10191 0.1045	1							
ln (internal collaterals)	-0.04582 0.4434	-0.0515 0.3889	0.13159 0.0271	0.09611 0.1236	0.06035 0.3125	0.29941 <.0001	0.17041 0.0064	1						
ln (external collaterals)	0.02512 0.6745	0.13346 0.025	0.04384 0.4633	0.08123 0.1934	0.10881 0.0681	0.07491 0.2098	0.0315 0.6166	0.08627 0.1485	1					
Limited liability	0.00363 0.9516	0.09062 0.129	0.00285 0.9621	-0.1955 0.0016	0.02897 0.6281	-0.08747 0.1429	-0.1963 0.0016	-0.12007 0.0439	0.02384 0.6902	1				
The company belongs to a group	0.0298 0.6182	0.01941 0.7456	0.1431 0.0162	-0.12854 0.0391	-0.00896 0.8809	0.16116 0.0067	0.06884 0.2735	0.00478 0.9363	-0.10883 0.068	-0.02609 0.6627	1			
Commerce	0.05371 0.3689	0.09255 0.121	-0.0816 0.1718	-0.04871 0.4359	0.09795 0.1007	-0.08854 0.138	-0.1248 0.0465	-0.09551 0.1095	0.0808 0.176	0.12497 0.0359	-0.13858 0.0199	1		
Industry	-0.03155 0.5978	0.04763 0.4256	0.15642 0.0085	-0.11092 0.0753	0.04003 0.5031	0.07329 0.2198	-0.17522 0.005	0.02007 0.7372	-0.08109 0.1745	0.16691 0.005	0.03421 0.5673	-0.45023 <.0001	1	
GDP growth	-0.03555 0.5522	0.07046 0.2382	0.08756 0.1424	-0.03331 0.5943	0.13791 0.0205	-0.00169 0.9775	-0.03358 0.5935	0.05888 0.3245	0.04418 0.4599	-0.01038 0.8622	-0.04264 0.4757	-0.02012 0.7366	0.10082 0.091	1

Note: The Table shows the Pearson correlation indexes for the variables that are considered in our regressions. The small figure that is displayed below each correlation index is the p-value for the null hypothesis (a p-value less than 10% means the null hypothesis can be rejected so that the correlation index is significantly different from zero).

References

- Agresti A. [2002]. "Categorical Data Analysis". Wiley-Interscience, Hoboken, NJ, 2nd edition.
- Armour J., A. Hsu, A.J. Walters, [2008]. "Corporate Insolvency in the United Kingdom: the Impact of the Enterprise Act 2002", *European Company and Financial Law Review*, 5(2), 148–171.
- Asquith P., R. Gertner, D. Scharfstein [1994]. "Anatomy of Financial Distress: An Examination of Junk Bond Issuers," *Quarterly Journal of Economics*, 109, 625–658.
- Ayotte K.M., E.R. Morrison [2009]. "Creditor control and conflict in Chapter 11". *The Journal of Legal Analysis*, 1(2), 511-551, summer.
- Baird D.G. [1986]. "The Uneasy Case for Corporate Reorganization," *Journal of Legal Studies*, 15, 127-147.
- Berger A.N., G.F. Udell [1990]. "Collateral, Loan Quality, and Bank Risk", *Journal of Monetary Economics* 25, 21-42.
- Bergström, C., T. Eisenberg, S. Sundgren [2002] "Secured Debt and the Likelihood of Reorganization", *International Review of Law and Economics*, vol. 21(4), pp. 359-372.
- Besanko D., A.V. Thakor [1987]. "Collateral and Rationing: Sorting Equilibria in Monopolistic and Competitive Credit Markets," *International Economic Review*, 28(3), 671- 689.
- Bester H. [1985]. "Screening vs. Rationing in Credit Markets with Imperfect Information", *American Economic review*," 75(4), 850-855.
- Blazy R., B. Chopard [2004]. "Ex Post Efficiency of Bankruptcy Procedures: a General Normative Framework", *International Review of Law and Finance*, 24/4, 447-471.
- Blazy R., B. Chopard [2010]. "(Un)secured Debt and the Likelihood of Court Supervised Reorganization", *European Journal of Law and Economics* (forthcoming).
- Blazy R., A-F. Delannay, J. Petey, L. Weill [2008]. "Une analyse comparative des procédures de faillite : France, Allemagne, Royaume-Uni", *Regards sur les PME*, n°16, OSEO.
- Blazy R., G. Umbhauer, L. Weill [2008]. "How Bankruptcy Punishment Influences the Ex-Ante Design of Debt Contracts," *LSF Research Working Paper Series 08-04*, university of Luxembourg.
- Boot A., A.V. Thakor, G.F. Udell [1991]. "Secured Lending and Default Risk: Equilibrium Analysis, Policy Implications and Empirical Results", *Economic Journal*, Royal Economy Society, 101(406), 458-472.
- Brown, D.T. [1989]. "Claimholder Incentive Conflicts in Reorganization: The Role of Bankruptcy Law", *Review of Financial Studies*, 2, 109–123.
- Buis M.L. [2007]. "Seqlogit: Stata module to fit a sequential logit model". Working paper available at: <http://econpapers.repec.org/software/bocbocode/S456843.htm>
- Buis M.L. [2008]. "Trends in educational inequality in the Netherlands: A replication and critique". Working paper available at: http://www.maartenbuis.ln/dissertation/chap_2.pdf
- Chatterjee S., U.S. Dhillon, G.G. Ramirez [1995] "Coercive Tender and Exchange Offers in Distressed High-yield Debt Restructurings: An Empirical Analysis", *Journal of Financial Economics*, 38, 333–360.
- Davydenko S.A., J.R. Franks [2008]. "Do Bankruptcy Codes Matter? A Study of Defaults in France, Germany, and the UK", *Journal of Finance*, 63 (2), 565-608.
- Dewaelheyns N, C. Van Hulle [2009]. "Filtering Speed in a continental European reorganization procedure", *International review of law and economics*, 29(4), pp. 375 - 387.
- Fox J. [1997]. "Applied Regression Analysis, Linear Models, and Related Methods", Sage, Thousand Oaks.
- Franks J.R., W.N. Torous [1991] "How firms fare in workouts and Chapter 11 reorganizations", Working Paper, UCLA.
- Franks J.R., O. Sussman [2005]. "Financial Distress and Bank Restructuring of Small to Medium Size UK Companies", *Review of Finance*, 9, 65-96.
- Franks J.R., W. Torous [1989]. "An Empirical Investigation of U.S. Firms in Reorganization", *Journal of Finance*, 44, 747–769.
- Franks J.R., W.N. Torous [1994]. "A Comparison of Financial Recontracting in Distressed Exchanges and Chapter 11 Reorganizations", *Journal of Financial Economics*, 35, 349–370.
- Franks J.R., K.G. Nyborg [1996] "A Comparison of US, UK, and German Insolvency Codes", *Financial Management*, 25, 19–30.
- Frierman M., P.V. Viswanath [1994]. "Agency Problems of Debt, Convertible Securities, and Deviations from the Absolute Priority in Bankruptcy", *The Journal of Law and Economics*, Vol. 37, No. 2.

- Frouté P. [2007]. “Theoretical foundation for a debtor friendly bankruptcy law in favour of creditors”, *European Journal of Law and Economics*, vol. 24, p 201-214.
- Gertner R., D. Scharfstein [1991]. “A Theory of Workouts and the Effects of Reorganization Law”, *Journal of Finance*, 46, 1189–1222.
- Giammarino R.M. [1989]. “The Resolution of Financial Distress”, *Review of Financial Studies*, 2, 25–47.
- Gilson S.C. [1990] “Bankruptcy, Boards, Banks, and Blockholders: Evidence on Changes in Corporate Ownership and Control When Firms Default”, *Journal of Financial Economics*, 26, 355–387.
- Gilson S.C. [1997] “Transactions Costs and Capital Structure Choice: Evidence from Financially Distressed Firms”, *Journal of Finance*, 52, 161–196.
- Gilson S.C., K. John, L.H.P. Lang [1990]. “Troubled Debt Restructurings: An Empirical Study Private Reorganization of Firms in Default”, *Journal of Financial Economics*, 27, 315-353.
- Grossman S.J., O.D. Hart [1981]. “The Allocational Role of Takeover Bids in Situations of Asymmetric Information (in the Allocation Role of the Stock Market)”, *Journal of Finance*, 36, 253–270.
- Hainz C. [2003]. “Bank Competition and Credit Markets in Transition Economies”, *Journal of Comparative Economics* 31, 223-245.
- Haugen R.A., L.W. Senbet [1978]. “The Insignificance of Bankruptcy Costs to the Theory of Optimal Capital Structure”, *Journal of Finance*, Vol. 33, 383-393.
- Haugen R.A., L.W. Senbet [1988]. “Bankruptcy and Agency Costs: The Significance to the Theory of Optimum Capital Structure”, *Journal of Financial and Quantitative Analysis*, Vol. 23, 27-38
- Hoshi T., A. Kashyap, D. Scharfstein [1990]. “The Role of Banks in Reducing the Costs of Financial Distress in Japan”, *Journal of Financial Economics*, 27, 67-88.
- James C. [1995]. “When Do Banks Take Equity in Debt Restructurings?”, *Review of Financial Studies*, 8, 1209–1234.
- Jensen M.C. [1989] “Active Investors, LBOs, and the Privatization of Bankruptcy”, *Journal of Applied Corporate Finance*, 2, 35–44.
- Jensen M.C. [1991] “Corporate Control and the Politics of Finance”, *Journal of Applied Corporate Finance*, 4, 13–33.
- Jiménez G., V. Salas, J. Saurina [2004]. “Determinants of Collateral”. Working Paper no. 0420, Banco de España.
- Jostarndt P., Z. Sautner [2010]. “Out-of-Court Restructuring Versus Formal Bankruptcy in a Non-Interventionist Bankruptcy Setting”, *Review of Finance*, Forthcoming.
- La Porta R., F. Lopez-de-Silanes, A. Schleifer, R.W. Vishny [1997]. “Legal Determinants of External Finance.” *The Journal of Finance*, Papers and Proceedings Fifty-Seventh Annual Meeting of the American Finance Association, 52(3), 1131–1150.
- La Porta R., F. Lopez-de-Silanes, A. Schleifer, R.W. Vishny [1998]. “Law and Finance”, *Journal of Political Economy*, 106, 6, 1113–1155.
- Maddala G. [1983]. “Limited Dependent and Qualitative Variables in Econometrics”, Cambridge University Press, Cambridge.
- Mooradian R.M. [1994]. “The Effect of Bankruptcy Protection on Investment: Chapter 11 as a Screening Device”, *Journal of Finance*, 49, 1403–1430.
- Morrison E.R., 2007, “Bankruptcy Decision making: An Empirical Study of Continuation Bias in Chapter 11”, *Journal of Law and Economics*, 50(2), 381-419.
- Roe M.J. [1983]. “Bankruptcy and Debt: A New Model for Corporate Reorganization”, *Columbia Law Review*, 83, 527.
- Roe M.J. [1987]. “The Voting Prohibition in Bond Workouts”, *Yale Review Journal*, 97, 232-279.
- Tutz G. [1991]. “Sequential models in categorical regression”, *Computational Statistics and Data Analysis* 11(3), 275–295.
- Webb D.C. [1987]. “The Importance of Incomplete Information in Explaining the Existence of Costly Bankruptcy”, *Economica*, august, 54, 279-288.
- Wruck K.H. [1990]. “Financial Distress, Reorganization, and Organizational Efficiency”, *Journal of Financial Economics*, 27, 419–444.