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Financial versus Social Efficiency of Corporate Bankruptcy Law: the French Dilemma?♦

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Abstract

We study the French dilemma associated with court administered resolution of corporate financial distress of firms, in which bankruptcy courts have to combine both social efficiency (maintaining employment) and *ex post* financial efficiency (determining the best issue for financial distress, proxied here by the global recovery rate). We discuss this dilemma empirically, using a large sample of decisions of French commercial courts concerning the future of bankrupt firms (reorganization, sale as a going concern or liquidation). Addressing this dilemma, we discuss the determinants of bankruptcy courts' selection between rival offers in sales as a going concern. Finally, we evaluate the financial cost of the French pro debtor system through the recovery rates of various claimants. Our main results are: (1) French commercial courts actively work to protect employment by facilitating continuation and reducing the domino effects of bankruptcy. (2) the courts' choice between rival buyout offers confirms that social considerations prevail in the arbitration of bankruptcy courts. (3) Continuations through reorganization plans generate the highest recovery rates for all classes of creditors. (4) Contrary to the expected trade-off between social and financial efficiency, courts also enact measures to increase debt recovery once continuation has been chosen. However, for sales, recovery rates are inhibited by asset illiquidity and/or by the courts' attempt to promote a firm's continuation through sales at a low price.

JEL classification: G33; K22.

Keywords: Bankruptcy, Reorganization; Liquidation; Recovery rate.

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I. INTRODUCTION

Since the work of Bebchuck (1988), and Aghion, Hart and Moore (1992)[5], the theoretical literature on bankruptcy law has had a twofold focus. First, is the bankruptcy process *ex post* efficient, maximizing the post bankruptcy value of the firm to share between all claimants? Second, is bankruptcy law *ex ante* efficient, providing for all stakeholders to have the right incentives (notably credit rationing (Longhofer (1998), Povel (1999)), over-investment (Gertner, Scharfstein (1991), Eberhart and Senbet (1993), Longhofer and Carlstrom (1995)), monitoring (Cornelli and Felli (1997)), managerial entrenchment (Bebchuk and Picker (1996))). Empirical studies dealing with bankruptcy practices in U.S. and European countries are currently booming, and the recent Doing Business reports[6] have led to many studies of the effects of national bankruptcy codes. Studies include the shutdown/continuation decision of U.S. commercial courts (Morrison (2007)), the recovery rates and the way banks react to the differences in creditor's legal protections between UK, Germany and France (Davydenko and Franks (2007)), the evaluation of secured creditor priority violation in Chapter 11 (Weiss and Capkun (2007)), the impact of regional political characteristics on Russian judicial decisions concerning the number and type of bankruptcies (Lambert-Mogiliansky, Sonin and Zhuravskaya (2006)), and the duration and costs associated with the Swedish auction bankruptcy system relative to the U.S. reorganization procedure (Thorburn (2000)).

These researches are of interest because all industrial economics tend to adjust their corporate reorganization procedure so as to make them quicker and more efficient at lower cost. Their objectives differ, however. Some promote liquidation, to ensure larger recovery rates for secured creditors and prevent competition distortion in favour of financially distressed firms, but others promote continuation in order to generate some economic value within the bankrupt firm, or to maintain employment. Recent works supervised by the World Bank, classifying countries according to their level of secured creditor's legal protection and the characteristics of their bankruptcy legislation, show large differences between European countries[7]. There are various levels of stakeholder protection (pro creditor vs. pro debtor systems) and court interventionism (private or out-of-court system vs. court administered procedures). For instance, U.K. bankruptcy rules permit secured creditors (especially those with floating charge) to sell the bankrupt firm's assets to cancel their debts, whether reorganization or liquidation is chosen. In the German system, the floating charge does not exist, but secured creditors (as in U.K. system) may veto reorganization plans, allowing them some control over the restructuring process.

French procedures are the most pro-debtor. France consequently faces certain critical comments. First, French law is explicitly intended to save bankrupt firms in order to protect employment. The first article of the 1985 bankruptcy code orders the various objectives of the law as: "safeguarding the business, maintaining the firm's operations and discharging liabilities"[8].

[5] See Hart (2000) for a review of the core literature dealing with economic analysis of bankruptcy law.

[6] These reports, edited by the World Bank, involve empirical measures of bankruptcy law, securities law and law enforcement.

[7] La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) largely developed this approach, which combines Law and Finance.

[8] Weber (2005) explores the effects of this French legal priority set on agency problems between bankrupt firms their debtholders. Weber argues that French firms have few incentives to file for bankruptcy, due to the court administered

Second, French bankruptcy process involves a major paradox: nearly 90% of French bankruptcy filings end up in liquidations[9] although the bankruptcy code promotes continuation (this figure is comparable to the U.K. case, where 90% of bankrupt firms disappear through liquidation).

In this paper, we explore a large sample of bankruptcies in order to evaluate the outcomes of French bankruptcy law., Our aim is to provide a benchmark for discussions of the relative merits/drawbacks of such a strong pro-debtor model. Our first purpose is to test whether the first article of bankruptcy law decisively influences the activities of the commercial courts, since liquidation, reorganization and sale as a going concern of bankrupt firms are wholly controlled by the court. We argue that French commercial courts must deal with a particular dilemma, and explicitly arbitrate between *financial efficiency* (choosing to maximize the value of assets and reduce type 1 and type 2 errors during the bankruptcy process[10]) and *social efficiency* (maintaining employment through the bankrupt firm's continuation). It is generally agreed that pro-debtor bankruptcy codes are more likely to allow economically inefficient firms to reorganize, whereas pro-creditor bankruptcy models are more likely to promote liquidation. Our second purpose is to evaluate the financial efficiency of the French bankruptcy process through global recovery rates for various outcomes. Here, the crucial question is whether the work of commercial courts, i.e. the court administered rescue of failing companies (to preserve employment), has a cost. In other words, does such a pro-debtor system significantly reduce the proceeds to be shared between all claimants in continuation cases? And what are the differences between the various legal outcomes of bankruptcy? Our main findings can be summarized as follows.

When we analyse the decision making of courts on the final issue of bankruptcy, it appears that French commercial courts do work to promote continuation in order to improve social efficiency. Indeed, continuation remains the best way to preserve employment and reduce domino effects on suppliers or trade creditors, who are often junior or unsecured claimants and face financial distress following the bankruptcy of their clients. We also provide empirical evidence that the protection of employment acts as a guide to discriminate between rival offers in the case of sale as a going concern. We find that courts operate under severe constraints (the financial and economic characteristics of bankrupt firms), which were reduced by the development of prevention, through the legal reform of 1994.

We also show, contrary to expectation about such a debtor friendly system, that this orientation of bankruptcy law does not imply a severe cost for stakeholders, especially in reorganization cases. This conclusion is not, however, valid for sale as a going concern, since both liquidation and sale as a going concern generate similar levels of debt recovery. Finally, for continuation cases and also for liquidation cases, we highlight the factors that influence global recovery rates, considering whether courts seek also to raise debt recoveries, especially when reorganization tends to be the final outcome.

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process (stakeholders have no role in the bankruptcy process) and the civil and criminal sanctions associated with bankruptcy.

[9] Source: Domens (2007).

[10] Type 1 errors occur when some economically inefficient failing firms are mistakenly categorized as efficient and allowed to reorganize. Type 2 errors occur when economically efficient but failing firms liquidate, though they would generate higher value by reorganizing.

Below, Section 2 summarizes the literature on empirical studies of bankruptcy legislation. Section 3 sets out the French bankruptcy code. Section 4 describes the dataset and provides summary statistics. Section 5 presents the first empirical evidence of the French dilemma, giving models of determinants of the decisions of French commercial courts about the outcome of financial distress (reorganization, sale as a going concern or liquidation), and about choices between rival offers in cases of sale as a going concern. Section 6 examines the consequences and costs of the French legislation, focusing on the levels and the determinants of global recovery rates. Section 7 presents our conclusions.

II. RELATED LITERATURE

Our first topic concerns the criteria for the choices of commercial courts between the rival approaches to financial distress. Empirical research tends to acknowledge the discrepancy between the written law and the procedures as they are enforced: for small firms under Chapter 11 procedure, Morrison (2007) demonstrates that U.S. commercial courts rarely allow failing firms to remain under their protection when their liquidation would be optimal[11]. Lambert-Mogiliansky, Sonin and Zhuravskaya (2006) prove, using a firm level database, that Russian commercial courts are largely dependent on regional governors and aim to keep some control over assets of financially distressed firms[12]. We also consider some new behavioural law and economics papers which focus on the perception bias of judges. Marinescu (2007) demonstrates that judges' decisions concerning unfair dismissals are influenced by the labour market conditions (unemployment rate) and the macro economic context[13]. Rachlinski, Guthrie and Wistrich (2007) consider whether specialized bankruptcy judges make better decisions than judges who are generalists. In particular, they test the capacity of specialized judges to resist the influence of common heuristics when making their decisions. Their main result is that they too are vulnerable to outside pressures, like non specialized judges.

A second focus of the empirical literature on corporate bankruptcy concerns the duration, cost and creditors' recovery rates involved in various ways to resolve financial distress. In this area, the most studied feature of bankruptcy law is the violation of the absolute priority rule (A.P.R.) in the U.S. reorganization process (Chapter 11). This deviation means that senior claims, such as secured creditors' ones, are not fully satisfied before junior creditors, especially equity holders, receive any payment. Recently, Weiss and Capkun (2007) suggested that the last changes in commercial courts' practice and the strengthening of secured creditor's rights in U.S. bankruptcy law may explain why violations of A.P.R. have decreased since research from the previous decade (Franks and Torous (1989), Eberhart, Moore and Roenfeldt (1990), Weiss (1990) and Betker (1995)). Weiss and Kapkun find also that bankruptcy costs increased in the period 1993-2004 because reorganization took longer (the length of the reorganization process in the U.S. is

[11] Morrison (2007) also gives statistics on the duration and cost of the US legal reorganization process, which are useful for comparison with French bankruptcy process as the two samples are quite similar.

[12] For other reasons than political strategy, Dewaelheyns and Van Hulle (2006) measure the effect of 1997 Belgian bankruptcy code reform on bankruptcy rates.

[13] Here, the bankruptcy rate (and also the unemployment rate) serves as a proxy to measure the economic conditions in which firms operate.

[15] We do not use their results on recovery rates for various stakeholders, because they test a sample of firms with assets in excess of US$100 millions to highlight deviations in favour of equity holders.

on average 465 days[15]). Another way to violate the A.P.R. described above is by debtor-in-possession financing which provides a super-priority status to post filing loans in order to encourage lenders to extend the further loans needed for continuation. Dahiya, John, Pury and Ramirez (2003) show that the over-investment problem (the expected effect of this post filing financing) is not severe in practice. Such loans also allow bankrupt firms to emerge more quickly and successfully from the reorganization process.

A further related topic is the ability of private solutions to resolve financial distress. The mechanism best suited to determine and to apportion the appropriate (or highest) value of a bankrupt firm's assets is an auction (Bebchuck (1988)). Once the firm has filed for bankruptcy, an automatic stay on creditors' claims prevents them from dismantling assets before a sale may be undertaken. According to the highest bidder (which depends largely on the demand side conditions rather than the court's decision), the financially distressed firm is either sold as a going concern, or is piecemeal liquidated allowing assets to move to their best use in the future. In Sweden, all bankrupt firms are turned over to a court-appointed official, who organizes an open cash-only auction to arbitrate between a continuation sale or a piecemeal liquidation. This situation has been studied by Thorburn (2000) and Strömberg (2000) in order to shed light on the merits of the auction relative to the classical reorganization process. Thorburn (2000) finds in practice that auctions are speedy (on average two months), have low direct bankruptcy costs, and exhibit similar levels of recovery rate to those reported by Franks and Torous (1994) for a sample of Chapter 11 cases[16]. On the other hand, Strömberg (2000) demonstrates that Swedish cash auctions, as compared to reorganizations, are immune to conflicts of interest between claimants, and that continuation, through a sale of assets to the incumbent manager, is a common way to resolve financial distress. However, such a pro-creditor bankruptcy system leads to inefficient liquidations[17].

Finally, Davydenko and Franks (2007) explore, in a cross country analysis including U.K., Germany and France, the expected effects of national bankruptcy codes on bank debt contracts (size of the loan, level and type of collateral, and interest rate). Using, as in our case[18], a sample of small and medium sized bankrupt firms, they find evidence that large differences in banks' legal rights across these countries correlate with significant differences in banking strategies and outcomes. In particular, French banks have a Coasian approach to their national pro-debtor bankruptcy code. They require more collateral than lenders in the UK or Germany. They rely also on special collateral forms which minimize the risk of dilution during the court-administered bankruptcy process. Finally, they find that bank recovery rates remain inferior in France due to the lack of creditor protection; France is ranked third in this sample. The strength of this approach is to include both bankruptcies and informal renegotiations. Yet the results obtained are restricted to bankers' claims only.

[16] Eckbo and Thorburn (2007) recently studied the issue of fire sale auctions and found that this phenomenon appears in piecemeal liquidation but not in sales as a going concern. They also study the variables which influence the bid price.

[17] In particular, these inefficient liquidations are frequently avoided through sale-backs (*i.e*. sales of assets to incumbent managers) when markets are illiquid. Market illiquidity implies that industry indebtedness is high and the firm has few non-specific assets.

[18] We prefer to focus on global recovery rates (including all stakeholders), in order to determine the *ex post* efficiency of the overall bankruptcy process.

This review of recent empirical studies shows that no previous studies have looked closely at the determinants of commercial court decisions between the competing outcomes of corporate financial distress. We oppose both pre-default variables (such as measures of financial distress, economic value of assets, or causes of default) and post-default variables (such as the measures engaged by the court) in order to better understand the factors which statistically make an impact on the future of bankrupt firms. We explore also, for the first time, how such a court administered process may discriminate between rival offers in the case of sales as a going concern. We also take into account below both financial and social efficiencies of bankruptcy law so as to study to what extent the law may, at the same time, promote continuation in order to preserve employment, and protect the interests of all other claimants. Our analysis should also be viewed as an evaluation of recovery rates for all classes of creditors, whereas previous studies dealt with fewer classes of creditors, sometimes with only secured banks. Finally, our large dataset drawn from the period 1984-2005 allows us to highlight the impact of the 1994 legal reform (which we interpret as the development of prevention among financially distressed firms) on both decision making by courts and the financial efficiency of bankruptcy law through global recoveries.

III. FRENCH BANKRUPTCY LEGISLATION

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 sale as a going concern ("redressement judiciaire"). The second is a classical liquidation procedure of a firm's assets ("liquidation"). In the shadow of the process, there also exists an out-of-court settlement ("règlement amiable") in which the manager, with the help of an officer appointed by the bankruptcy judge, negotiates with some of the claimants the payment of outstanding debts. In order to reach a settlement, this procedure is not public (not all creditors are informed that the financially distressed firm is negotiating with some of its claimants[19]) and allows the bankruptcy judge to ask for a stay of creditors' claims (in which case the procedure becomes public). In January 2006, French bankruptcy law was changed 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[20]. However, as the data are not available to cover this most recent reform, we focus on the period 1985-2005. In all regressions and descriptive statistics (cf. sections IV to VI), we split our bankruptcy cases in two sub-samples, running 1989-1994 and 1994-2005, to take into account the 1994 reform of bankruptcy law, and to evaluate the effect of this change. The main legal innovations in 1994 were: 1) a change in the absolute priority rule in case of liquidation (secured creditors are now paid before those creditors who offer credit after firms file for bankruptcy), 2) the judge may pursue agents who buy bankrupt firms in order to sell them piecemeal once bankruptcy process is closed; and, 3) the judge can immediately liquidate financially distressed firms if he considers it

[19] This confidentiality facilitates negotiation between a smaller number of creditors and reduces the risk of a fall in the firm's economic value due to the revelation of financial distress to the stakeholders.

[20] Since the earlier that firms file for bankruptcy, the less financially distressed they are, reorganization rates and recovery rates should both increase.

impossible for them to continue their operations under the protection of the law (this procedure was in practice before 1994 but was not written in the law). These changes in the law did not crucially modify the practice of commercial courts. More importantly, we expect that firms which filed for bankruptcy after the 1994 bankruptcy reform, are more likely to be worth saving, because commercial courts promote prevention among financially distressed firms in the later sample (for instance, *via* the alert procedure[21]). In other words, it is specifically the legal difference that we consider (and test) between our two samples of bankrupt firms. Over the period 1985-2005 studied in this paper, the bankruptcy process is organized as follows.

A. The liquidation

The liquidation process occurs either immediately or after an observation period[22]. Once the court has ordered liquidation, the commercial court appoints an official who liquidates all the firm's assets to clear debt in an orderly manner. The proceeds are distributed in the following order: the most recent salaries are paid first (super privilege), following by administrative expenses of the collective procedure, other salaries and claims of tax authorities (privilege). Then the liquidator cancels secured debts, which are ranked above the post default creditors[24] (protected by "article 40" of French bankruptcy law). Any remainder goes to junior claimants.

B. The continuation

Continuation prevails when the commercial court estimates that a firm might be able to reorganize or to be sold as a going concern. At this time the judge stops all creditors' pursuits in order to facilitate reorganization, because the firm's assets, collateralised or not, are essential to continuation. During this observation period (which starts when the court orders the stay on creditors' claims, for up to six months), several measures are engaged. All creditors who offer new credit (called new money) have priority over the previous creditors, except when the firm is liquidated (see above). The debtor may either stay in place under the authority of the bankruptcy judge, or be replaced. An official, appointed by the court, formulates a reorganization plan (causes of default, measures for carrying on, schedule of repayment of creditors), which is evaluated by the judge. After an examination of the interest of the various parties, the bankruptcy judge specifies whether the company should be reorganized according to the continuation plan elaborated by the outside official, or whether assets should be sold to a third party. In the latter case, the contracts, which are essential for the firm to continue as a going concern, are also transferred. In the event of continuation, the superpriority status of the last unpaid salaries still applies. These debts rank above all others, which are ordered as follows: "article 40" debts,

[21] *Via* the alert procedure, a bankruptcy court may force a company to develop some economic or financial measures to reduce the risk of bankruptcy. The court may also propose that the firm file for an out-of-court settlement such as the "règlement amiable".

[22] The objective of the observation period is to seek another way to alleviate financial distress (for more details, see paragraph B.) ***SURELY IT'S A LEARNING PROCESS?***

[24] The reform of bankruptcy law in 1994 changed this absolute priority order; before 1994, creditors protected by article 40 were paid before the secured creditors in all bankruptcy cases. The French legislators aimed, with the reform of 1994, to improve secured creditor's rights.

privileged debts (other salaries, tax authorities, and bankruptcy costs), secured debts, and finally junior claims.

C. Specifics of French bankruptcy law

Upon comparing French bankruptcy procedure with other European legislations and the U.S., we find the following differences[25], which make the French code instructive to study regarding the economics of financial distress. First, French bankruptcy law explicitly specifies the objectives of the collective process: maintaining the firm's operations in order to preserve employment ranks first, before the recovery of liabilities. Second, the commercial court has genuine enforcement power during the collective process: the bankruptcy judge decides the adoption of the reorganization plan (there is no voting procedure or veto power for stakeholders), and requires an automatic stay on creditors' claims as soon as the firm enters the observation period. Third, the French code has a specific procedure dedicated to sales as a going concern.. Fourth, creditors who offer new credit after the firm has filed for bankruptcy receive post filing priority (these loans are referred to as "article 40" debts). Finally, the court can examine all pre-default contracts which appear suspect, in the sense that they would have voluntarily caused a reduction of the firm's value prior to filing for bankruptcy (this examination covers the so-called suspect period).

IV. DATA AND SUMMARY STATISTICS

A. Data source

We assembled a large database of French corporate bankruptcy filings over the period 1995-2005. This is divided into two sub sets, to take into account the 1994 bankruptcy law reform: 716 filings under the 1985 bankruptcy law, and 288 filings under the 1994 bankruptcy law. Specifically, we collected manually information from several documents: the bankruptcy declaration form, the Court's decision and motivations, the list of claims, and the financial-economic administrator's report on the bankrupt firm[26]. The data were entered on a specific template whose general form is described in appendix 2. We looked only at Parisian courts because of ease of collection availability, quality of data, and especially the greater capacity of these Courts to develop prevention through out-of-court settlements: since the 1994 bankruptcy law reform, the Parisian courts set up prevention units ("cellules de prevention-détection") which aim to audit the firm's managers when the court receives clear signals of economic / financial difficulties. To evaluate this selection bias, we verified that the characteristics of our sample do not differ significantly from national figures, in several ways. First, the percentages of various outcomes of bankruptcies do not differ from the national averages (liquidations are more than 90% on average). Second, the sectors in which bankruptcy firms perform and the bankruptcy rates in our sample are also quite similar to the national figures. The sole difference is relative to the legal form: Paris shows slightly higher frequencies of limited responsibility firms.

[25] See White (1996) for a more detailed comparison of U.S. and European countries.

[26] The French original of these documents reads: "*déclaration de cessation des paiements, extrait Kbis, jugement d'ouverture de la procédure de redressement judiciaire, extraits des jugements modificatifs et jugement définitif sur le sort de l'entreprise, bilan économique et social (rédigé par l'administrateur judiciaire), requêtes auprès du juge commissaire ainsi que les réponses de celui-ci (ordonnances), états des créances, rapports L13"*.

The first step in constructing the database was to exclude agricultural and financial firms which depend on a specific bankruptcy code, and to keep only closed bankruptcy affairs (only closed procedures allow us to compute final creditors' recovery rates). This reduced the sample to 858 bankrupt firms (596 before 1994, 262 after 1994). We chose also to increase the proportion of continuations (i.e. reorganizations and sales) up to 40% of all procedures, in order to obtain a more balanced database compared to the national statistics, which exhibit a deep imbalance between continuations and liquidations[27].

Among continuations, we used the SIRENE database of INSEE (the French National Institute of Statistics) to identify firms whose reorganization failed and consequently ended up in liquidation; our recovery rates take into account the probability of success of reorganization plans[28]. Since these plans last for several years (7 years on average), we used the risk-free interest rate of the Treasury to discount the recovery amounts at the time of the court's decision. Finally, in France, some peculiar claims can be repaid out of the collective procedure; this is restricted to the providers of goods / merchandises, provided their contractual relations with the firm refer explicitly to such protection[29].

For each bankruptcy filing, we gathered data about the firm's economic and financial difficulties, the causes of default (51 codes; see appendix 2), the measures taken by the Courts (33 codes; see appendix 2), the outcome of the financial distress (we distinguish between reorganization, sale as a going concern, immediate liquidation, and liquidation after an observation period), the characteristics of the buyout proposals (sales), and the amounts recovered for each class of claimants according to the legal priority rule of claimants set out in section III (for details see appendix 1).

[27] When computing total statistics, we weighted the figures relative to each outcome in order to have a level of 90% of liquidations and 10% for continuations.
[28] For sale as a going concern, we did not investigate whether those firms went bankrupt again later. In such cases, all debts come due when the bankrupt firm is sold.
[29] These peculiar securities are (1) "droit de revendication" and (2) "droit de rétention".

B. Summary statistics, terminology and sample structure

The sample firms cover a large cross section of sectors (from 12% to 23% in the commercial sector, 23% to 34% in industry, and 44% to 55% for services[30]); most of the firms have limited liability. To estimate the shortage of liquid assets and to compare the market value of assets and the face value of due claims, we used two complementary variables: (1) the variable "*assets minus claims*" measures the market estimated value of total liquid assets minus the total verified due claims; (2) the variable "*coverage rate*" is the ratio of the market value of all assets – estimated at the date of triggering – to the total of all due verified claims. The length of the procedure gives the number of months between the triggering of the bankruptcy procedure and the Court's final decision[31]. Finally, since we did not collect any direct information on the level of bankruptcy costs, we estimated them from the legal remunerations of bankruptcy practitioners, defined by the French regulation n°85-1390 (Law 12/27/1985) which explicitly relates these remunerations to the size of the firm and the outcome of the bankruptcy process[32]. In Table 1, the legal outcomes (reorganizations, sales, liquidations) are compared to better identify bankrupt firms in each outcome.

TABLE 1
SUMMARY STATISTICS AND SAMPLE STRUCTURE

Averages and averages of ratios	Sale	Reorgani-zation	Immediate liquidation	Liq. after observation	ANOVA test: Fisher stat.	Sale	Reorgani-zation	Immediate liquidation	Liq. after observation	ANOVA test: Fisher stat.
	Sample: Bankruptcy Law 01/25/1985: 596 observations					Sample: Bankruptcy Law 06/10/1994: 262 observations				
Nb. of observations (sample by issues)	102	88	320	86	-	88	74	80	20	-
- Limited responsibility	91,9%	86,0%	88,2%	86,3%	-	87,5%	86,8%	96,3%	92,0%	-
- Other legal forms	8,1%	14,0%	11,8%	13,7%	-	12,5%	13,3%	3,7%	8,0%	-
- Commerce	22,6%	13,0%	23,6%	22,1%	-	21,6%	21,7%	20,7%	12,0%	-
- Industry	25,8%	34,0%	32,7%	30,5%	-	25,0%	22,9%	24,4%	32,0%	-
- Services	51,6%	53,0%	43,7%	47,4%	-	53,4%	55,4%	54,9%	56,0%	-
Nb. of employees	31,7	11.6 (2)	3.5 (28)	12.3 (6)	17.36***	37,2	11,0	7,4	30,0	4.83***
Turnover (K€)	5174 (5)	1477 (6)	512 (62)	1870 (16)	13.17***	3694 (6)	1219 (8)	519 (33)	1063 (9)	5.90***
Assets minus claims (economic values, in K€)	-3259 (63)	-975 (65)	-295 (101)	-2666 (38)	4.20***	-2022 (11)	-566 (5)	-354 (11)	-2564 (7)	4.31***
Coverage rate	36,1%	70,3%	16,3%	24,4%	45.69***	50,1%	55,1%	37,3%	46,2%	4.30***
Lenght of the procedure (months)	6,9	13.9 (1)	0.1 (25)	6.5 (4)	100.98***	8.7 (2)	15,5	0.0 (24)	9,6	64.54***
Direct bankruptcy costs / recovered amounts	3.4% (44)	19.1% (48)	2.8% (64)	3.6% (20)	5.97***	10,0%	14,3%	14,0%	9,8%	1,21

*Variables whose Fisher's stat. is significant at the 1%, 5%, and 10% levels are indicated by ***,**, and * respectively.*
Figures in parenthesis are the number of missing values.

[30] These figures are for the period 1985-1994. The percentages over the period 1994-2005 are 18.7% for the commercial sector, 27.1% for industry and 54.2% for services.

[31] We do not take into account the period, after the Court's decision, during which assets are liquidated (which may take several months).

[32] We used the ratio (direct bankruptcy cost / recovered amounts), where recovered amounts are based on the liquidation proceeds, the sale price or the schedule of repayments in reorganization cases.

Upon comparing the samples from before and after the 1994 reform, we observe a significant growth in the length of procedures and bankruptcy costs, when commercial courts increased prevention during the same period; this may be due to the effect of firm size (measured by the number of employees). Also, reorganizations take much time and generate higher bankruptcy costs. In contrast, firms which are immediately liquidated present the lowest values for turnovers and coverage rates. Moreover, the best performing bankrupt firms, according to their coverage rates, carry on through reorganizations, whereas sale as a going concern concentrates on the largest firms (measured by turnover and number of employees), probably due to their reputation. Finally, Table 1 suggests that decision making in commercial court is strongly influenced by economic and financial ratios of bankrupt firms (see Fisher statistics for ANOVA tests). During the second period there is a significant reduction in the gap between the coverage rates for each outcome of the bankruptcy process. We interpret this change as a consequence of the increase in prevention by commercial courts; after 1994, the importance of financial distress is more uniform between firms when entering the procedure.

V. How does social efficiency influence French commercial courts during the bankruptcy process?

Our main hypothesis here is that French commercial courts are biased in favour of those outcomes which better maintain activity, in order to preserve employment[33]: we study how this aim is reflected in the probability of reorganization or the probability of sale as a going concern, compared to the firm's liquidation. Initially, we determine: (1) which variables drive the bankruptcy courts' decisions about the three issues of default: reorganization, sale as a going concern, and liquidation; and (2) the constraints under which French commercial courts operate when they determine the legal outcome of bankruptcy. Then, since there may be several offers in the case of sale as a going concern, we explore the criteria used by the court to choose the winning offer. We expect that commercial courts are primarily influenced by social norms such as employment protection.

A. The choice between continuation and liquidation

We estimate a multinomial logit regression on two samples of firms which went bankrupt either under legislation 01/25/1985 (557 companies) or legislation 06/10/1994 (267 companies). The dependent variable is the probability that a firm, following the court's decision, falls into a reorganization procedure, is sold as a going concern, or is liquidated.

To describe the court's decision under constraint[35], we use a first set of *ex ante* variables, in the sense that they constrain the court's choice between continuation and liquidation. This set covers data on the causes of default (see appendix 2.), the characteristics of the bankrupt firm, and the

[33] Recall that the first article of French bankruptcy law since 1985 prioritises the safeguarding the business, then maintaining the firm's activity and employment, and finally the discharging of liabilities.

[35] For instance, the probability of sale as a going concern depends strongly on both a demand side constraint (the existence of a potential buyer for the firm's assets) and an offer side constraint (the present value of its assets).

levels[36] of various debts. We consider also a set of *ex post* variables, which specify the court's activity after bankruptcy is triggered off. These variables cover the various measures the courts may undertake or allow during the procedure. More precisely, we distinguish between "connected measures" and those which are not (see appendix 2). Connected measures are a proxy of the court's efforts to engage measures promoting continuation; they are connected with the declared causes of default. For instance, the legal administrator may have engaged measures related to outlets, while the original cause of default was (partially or not) due to a fall of outlets. By analyzing simply the number of connected and of unconnected measures (whatever their type), we reduce the risk of endogeneity between the causes of default and the measures engaged. In appendix 3, we test the risk of endogeneity between explanatory variables; in almost all cases[37], endogeneity is rejected. We also recognize a third kind of measure, called legal measures. These are specific to the French bankruptcy code and are related to the ability of courts to enforce the continuation of the firm's contracts (for instance, electricity, furniture…). Furthermore, we test the financial capacity of the firm to continue its business, through the coverage rate (i.e. the economic value of assets relative to the debts)[38]. The log of the number of employees provides a measure of the key factor that we test, i.e. the capacity and the objective of courts to maintain employment[39]. We include, as control variables, the sector in which bankrupt firms perform, their legal form, and their age. Finally, we compare various types of debt according to their level of legal protection: the absolute priority rule distinguishes between claims with super-priority status (recent unpaid wages, less than two months), claims with a general privilege status (employees, tax authorities and bankruptcy costs), claims with a special privilege status (secured claims with collateral), and junior claims. A natural question is how the structure of a bankrupt firm's liabilities affects the final decision of the commercial court.

Table 2 presents the results of the model using multivariate regression analysis. We report the coefficients for reorganization and sale as a going concern, relative to liquidation. As explained below, our hypothesis of the influence of the first article of bankruptcy law on court decisions is supported by the data. As predicted, by controlling for firm-level characteristics, commercial courts work to promote continuation in order to maintain employment. The number of both connected and unconnected measures – which are a proxy for restructuring efforts of commercial courts so as to promote continuation – have a large, positive and statistically significant effect on the probability of continuation, over the probability of liquidation[40]. Moreover, the level of unsecured claims significantly increases the probability of both bankruptcy procedures that enable continuation. Since the level of unsecured claims *a priori* is positively correlated with the risk of domino effects, this suggests that the continuation of bankrupt firms reduces domino effects. We suggest (but do not prove) that French bankruptcy courts, which are intended to preserve employment through the continuation of firms, also deliberately aim to reduce domino effects.

[36] It is more likely that courts take into account the levels of the different claims rather than their relative structure.
[37] Only "connected measures" can be considered as endogenous at the level of 5% on the earlier sample (i.e. 1985 Law). The results obtained for this variable on the first sample should therefore be considered with caution.
[38] Appendix 3 tests the risk of endogeneity for the coverage rate: endogeneity is rejected on both samples.
[39] Employees are both an *ex ante* constraint and a variable that may affect the courts' *ex post* decision
[40] The causes of financial distress (and the sector in which the firm performs) help little in explaining the court's decision. This reflects the low difference between bankrupt firms apart from their level of debt outstanding and their coverage rate.

TABLE 2

ESTIMATES OF OUTCOMES OF BANKRUPTCY PROCESS

Variables:	**Legislation 25/01/1985 (557 companies)**				**Legislation 10/06/1994 (267 companies)**			
	Output = sale as a going concern (ref. liquidation)		**Output = firm's reorganization (réf. liquidation)**		**Output = sale as a going concern (ref. liquidation)**		**Output = firm's reorganization (réf. liquidation)**	
	Estimation	Prob. > χ^2	Estimation	Prob. > χ^2	Estimation	Prob. > χ^2	Estimation	Prob. > χ^2
Constant	-7.3682***	<.0001	-9.2272***	<.0001	-3.8693***	<.0001	-2.965***	0.0027
Nb. cause(s) of defaut: outlets	-0.4589**	0.0401	-0.5513*	0.0765	0.0560	0.8648	-0.256	0.4666
Nb. cause(s) of defaut: strategy	-0.5952	0.1794	-0.4282	0.4983	0.1708	0.7522	0.2469	0.6623
Nb. cause(s) of defaut: production	0.0963	0.7304	0.8530**	0.0145	-0.0831	0.8194	-0.1341	0.7098
Nb. cause(s) of defaut: finance	0.2266	0.3046	-0.3347	0.3252	0.1875	0.6318	-0.0247	0.9537
Nb. cause(s) of defaut: management	0.1129	0.6475	0.3804	0.2253	0.4459	0.3548	-0.0595	0.9158
Nb. cause(s) of defaut: accident	-0.2697	0.3879	-0.0890	0.8372	0.5174	0.2222	0.7576*	0.0766
Nb. cause(s) defaut: external environment	-0.4422	0.1309	-0.3721	0.3589	0.2533	0.5279	0.8111**	0.0473
Nb. of connected measure(s)	0.5069**	0.0261	0.9878***	0.0005	0.1334	0.7385	0.8145**	0.0331
Nb. of unconnected measure(s)	0.9231***	0.0002	1.7598***	<.0001	1.0005**	0.0158	1.4746***	0.0004
Nb. of legal measure(s) (enforcements…)	0.8623	0.332	0.0978	0.9235	-1.8322	0.1718	-2.4100*	0.0736
Suspect period declared (cf. suspection of tricks)	-0.9121***	0.0002	-0.5624*	0.0625	0.0822	0.7421	-0.0327	0.9042
Coverage rate (economic value of assets / debts)	2.2373***	<.0001	6.1739***	<.0001	-0.0180	0.9775	0.8335	0.1949
Legal form: limited responsibility	-0.4291	0.1279	-0.4819	0.1525	-0.7823**	0.0319	-0.1029	0.7898
Sector: commercial business (ref. industry)	-0.1292	0.6242	-1.2518***	0.0017	-0.1905	0.5806	-0.3549	0.3203
Sector: services (ref. industry)	0.2981	0.1671	0.6213**	0.0491	0.3401	0.2329	0.1941	0.507
Ln(firm's age)	0.8789***	<.0001	1.2828***	<.0001	0.4936**	0.0248	0.2097	0.3626
Ln(employees)	0.5800***	0.0011	-0.1457	0.5719	0.9287***	0.0019	0.1035	0.7416
Ln(debts: "superprivilège") (=recent unpaid wages)	-0.0402	0.6841	0.0804	0.6106	-0.7465***	<.0001	-0.8737***	<.0001
Ln(debts: secured claims: collaterals)	0.1486*	0.0961	-0.1868	0.1097	0.0830	0.3851	0.1095	0.283
Ln(debts: secured claims: State & employees)	0.2751***	0.0002	0.1648	0.1095	0.1045	0.5716	0.2931	0.1135
Ln(debts: unsecured claims)	0.2549**	0.0152	0.2787**	0.0459	0.4383***	0.0009	0.2868**	0.0346
Multinonial independant LOGIT regression	**Test**	**Khi 2**	**Pr > Khi 2**		**Test**	**Khi 2**	**Pr > Khi 2**	
	Likelihood Ratio	542.82	<.0001		Likelihood Ratio	182.53	<.0001	
	Score	462.95	<.0001		Score	150.87	<.0001	
	Wald	187.29	<.0001		Wald	101.62	<.0001	

NOTE. – This table sets out the results of logit regression of the determinants of the type of continuation (either reorganization or sale as a going concern) upon the eventual decision to liquidate the firm piecemeal. We distinguish financially distressed firms which filed for bankruptcy before and since 1994. In both samples, the dependent variables are the probabilities of sale and of reorganization relative to the probability of liquidation. Coefficients significant at the 1%, 5%, and 10% levels are indicated by ***,**, and *, respectively.

Economic and financial *ex ante* constraints also play a crucial role in the court's decision making during the bankruptcy process. In other words, even if the efforts of commercial courts in favour of continuation have an effect on the outcome of bankruptcy, other factors may pre-determine the outcome. The probability of sale as a going concern depends strongly on the offer side constraint, since offers are strongly linked to the size of the firm (proxied here by the number of employees). Continuation, either by reorganization or sale, depends mainly on the bankrupt firm's characteristics: the economic value of its assets relative to its debts (see coverage rate), its age, or its capacity to pay wages (see level of claims with a super-priority status). Bankruptcy law may also have an effect on these constraints through efforts toward prevention. This may explain why, before the legal reform in 1994, only internal causes (outlets, production) affected the probability of reorganization and/or sale; whereas, for continuations taking place after 1994, only external causes (accident, external environment) positively influence the probability of reorganization.

Second, the fact that continuation is not determined after 1994 by the coverage rate implies that earlier resolution of financial distresses, due to the efforts of prevention, strengthens the value of bankrupt firms, especially those which end up in liquidation. Third, the declaration of a suspect period is a means to discourage default delaying before prevention was reinforced, lots of firms were trying to avoid bankruptcy, so that the "suspect period" dummy variable is significant only before 1994[41].

To summarize, we find strong indications that French commercial courts actively seek to promote continuation during the bankruptcy process. Yet, this action is subject to severe external constraints, which the development of prevention, initiated by the legal reform of 1994, has successfully reduced.

B. The choice between rival sales as a going concern

If commercial courts follow the implicit hierarchy established by the first article of French legislation, they should promote sale propositions which are more likely to maintain employment. To consider this effect, we focus on sales which involved two or more rival buyout proposals (respectively 169 and 123 proposals for the 01/25/1985 and 06/10/1994 samples). The explained variable is the probability for a plan to be chosen by the court. The explicative variables are the plan's characteristics (either accepted or refused), as reported by the administrator[42]. Several indexes were set up in order to standardize these characteristics. The first is the proposed price (out of debts), as a basis for *ex-post* financial efficiency: if this is taken into account by the courts, the price should positively influence their choice. The second set of variables deals with the qualities of the offer, which determine the future of the bankrupt firm and its employees with a new owner (the offer "preserves employment", the buyer is "financially strong", "experienced", or "reputable"); of course, preservation of employment is of key interest since it maintains[43] social efficiency. We use a third set of indicators for the motivation of the offer (the expected synergy, the absorption of a competitor, the diversification of business, or the increase of reputation). Following the approach of McFadden (1974), we run a conditional logit regression to model the court's choice between competing proposals. The probability is equal to one if a proposal is accepted by the court, and zero if it is refused. Table 3 presents the regression results.

[41] We evaluate the financial efficiency of the declaration of a suspect period in Section V.
[42] The administrator's report (the "*bilan économique et social*") is transferred to the court, for definitive decision.
[43] This is a commitment announced by the buyer. The buyer may not adhere to those commitments in the future (especially social ones). Such behaviour is subject to certain sanctions, especially since the 1994 reform.

TABLE 3
ESTIMATES OF CHOICE BETWEEN RIVAL OFFERS

Variables		Legislation 25/01/1985 (169 propositions)		Legislation 10/06/1994 (123 propositions)	
		Estimation	Prob. > χ^2	Estimation	Prob. > χ^2
Proposed sale price (out of owed debts)		**4.6381**	**0.1779**	**1.5782**	**0.3573**
Quality of the offer: preserve employment		**3.3980*** **	**0.0007**	**1.4821** **	**0.0202**
Quality of the offer: the buyer is financially strong		0.9664	0.1756	1.0101*	0.0836
Quality of the offer: the buyer is experimented		0.4090	0.5345	0.5952	0.3902
Quality of the offer: the buyer is reputable		0.5769	0.5463	-0.3687	0.6293
Motive for the buyout: synergy		-0.6785	0.3570	0.8334	0.2667
Motive for the buyout: absorption of a competitor		0.2600	0.7547	1.4057	0.2613
Motive for the buyout: diversification of business		1.5646*	0.0734	0.9699	0.3725
Motive for the buyout: first affair		2.4629**	0.0192	1.6003	0.1512
Motive for the buyout: increase the reputation		0.6261	0.5931	-14.5353	0.9942
Conditional LOGIT regression	**Test**	**Khi 2**	**Pr > Khi 2**	**Khi 2**	**Pr > Khi 2**
	Likelihood Ratio	41.7545	<.0001	24.4837	0.0064
	Score	33.2905	0.0002	21.4333	0.0183
	Wald	17.3933	0.0661	13.7616	0.1841

NOTE. – The table gives results of conditional logit regression of rival offers when a firm was sold as a going concern. The dependent variable equals 1 if the judge accepts the offer, and 0 if he rejects it. Coefficients significant at the 1%, 5%, and 10% levels are indicated by ***,**, and *, respectively.

The fact that an offer is likely to preserve employment does indeed have a key impact on the court's decision when several rival buyout plans compete to restructure bankrupt firms. All other variables are rarely statistically significant. We do not conclude that the proposed sale price has no effect on bankruptcy courts; rather, we suggest that commercial courts consider each bankruptcy independently and that these courts choose the proposition that will save employment at the best price. To be more accurate, we evaluate in the next section the effect of sale as a going concern on creditors' recovery rates.

VI. THE "PRICE" OF SOCIAL EFFICIENCY: EVIDENCE FROM GLOBAL RECOVERY RATES

The relation between the various options in French bankruptcy procedures detailed in section V and the global recovery rate is of interest, because it links the work of commercial courts constrained by the first article of the French code (promoting the protection of activity and employment), with the potential costs/consequences (the "price") of this policy through the recovery rate of all claimants[44]. At the same time, this variable serves as a proxy to evaluate *ex post* financial efficiency of the bankruptcy process: if the global recovery rate is sufficiently high when firms continue to operate through reorganization or sale as a going concern (relative to liquidation), it appears that commercial courts do not commit type 1 errors[45] (or very few). In contrast, the common view is that debtor friendly systems fail to eliminate bankrupt firms which are economically inefficient.

[44] We consider that bankruptcy courts maximise the joint welfare of various stakeholders.
[45] Type 1 errors occur when some economically inefficient failing firms are mistakenly categorized as efficient and are allowed to reorganize.

To consider the "price" of social efficiency, we propose two complementary approaches. First, we compute ANOVA tests on the averages of recovery rates for each possible course (immediate liquidation, liquidation after an observation period, reorganization, and sales as a going concern) in order to: (1) compare the different levels of recovery rates (averages) between courses; and (2) test whether these averages differ significantly between the courses of action. If the average recovery rates appear to be lower (resp. higher) for continuations than for liquidations, we can infer that the protection of social efficiency – through a preference for continuations – has a cost (resp. gain) in terms of *ex post* financial efficiency. Second, for each outcome (either continuation or liquidation[46]), we use a double censored tobit model to regress the global recovery rate (defined on the [0,1] interval) on a set of variables representing (1) the way default has been managed (before and after bankruptcy), (2) the firm's characteristics, and (3) the importance of financial distress. We are thereby able to isolate variables affecting the global recovery rate (i.e. *ex post* financial efficiency) for each possible outcome (liquidation or continuation). This model identifies, once social efficiency is preserved through continuation, which variables raise or reduce *ex post* financial efficiency supposing continuation takes place. We then consider the same question for liquidation cases.

A. Comparison of financial efficiency between the rival bankruptcy courses

To determine the financial efficiency of the French bankruptcy process, we show in Table 4 the structure of claims and the recovery rates for each class of creditors.

From the different classes of creditors, it appears that the higher the level of unsecured liabilities, the smaller is the global recovery rate. This seems natural, because junior claimants have lower recovery rates than other stakeholders due to their ranking under the French absolute priority rule. However, we also suggest that these losses (i.e. low recovery rates) reflect the cost induced by the reduction of bankruptcy domino effects as shown in the previous section. Last, new money (i.e. claims arising after the bankruptcy triggering) also plays a specific role: new creditors recover as much as (or more than) the average. This fact has led to severe criticism of the French law: in particular, bankers saw this highest priority of new money over anterior secured creditors as a threat to collateralization. This is why the legislator modified the law in 1994, giving higher priority to long-term securitized claims over new money (in cases of liquidation). In our opinion, this debate is of minor importance, because we find that new money is marginal when reported on the total of claims (from 0% up to 5.6%); in fact, most post default payments are paid in cash.

The crucial question is now whether the maintenance of social efficiency involves a loss of financial efficiency. This is likely to happen if recovery rates are significantly lower for continuations than for liquidations. The differences observed between global recovery rates in reorganization and liquidation cases (between 66% and 74% for continuations, and between 12% and 26% for liquidations[47]) now indicate that bankruptcy courts accurately classify firms as

[46] Here, we mix sales and reorganizations among continuations. Unlike in section V, our purpose is not to explain the trade-off between all possible issues, but to explain the recovery rates associated with the two major distinct outcomes of any bankruptcy procedure, continuation or liquidation.

[47] The figures for the later period take higher values than in the first period. Indeed, due to the development of prevention procedures to force financially distressed firms to file earlier for bankruptcy or to promote out-of-court negotiation (such as "règlement amiable"), recovery rates in reorganization and liquidation are much higher. For sales as a going concern, however, we find the opposite effect.

economically efficient *versus* inefficient when they approve continuation through reorganization. Thus, we do not find empirical evidence of a trade-off between social efficiency and financial efficiency; in fact the best way to continue the firm's operations (i.e. reorganization) exhibits also the largest average recovery rate. In contrast, the difference in recovery rates in reorganization *versus* sale as a going concern is sufficiently large (nearly 50 points) to conclude that continuation through sales achieves a lower level of *ex post* financial efficiency, but not worse than for liquidations.

TABLE 4
DESCRIPTIVE STATISTICS OF CLAIMANTS' RECOVERY RATES

Claims (structure)	Sale	Reorgani-zation	Immediate liquidation	Liq. after observation	ANOVA test: Fisher stat.	Sale	Reorgani-zation	Immediate liquidation	Liq. after observation	ANOVA test: Fisher stat.
	Sample: Bankruptcy Law 01/25/1985					Sample: Bankruptcy Law 06/10/1994				
Employ's "superprivilège"	2,4%	4,3%	3,1%	1,7%	1,62	4,1%	3,9%	15,8%	15,3%	27.57***
New money	0,0%	5,6%	0,0%	0,0%	22.10***	4,2%	0,4%	0,0%	3,2%	13.71***
State & employees	15,4%	19,7%	10,1%	9,3%	4.70***	29,6%	32,2%	42,0%	44,3%	4.84***
Collaterals	29,6%	19,3%	37,9%	35,3%	9.60***	12,3%	19,6%	8,0%	6,4%	4.05***
Unsecured	52,6%	51,1%	48,8%	53,6%	0,87	50,4%	44,0%	34,2%	30,9%	6.31***

*Variables whose Fisher's stat. is significant at the 1%, 5%, and 10% levels are indicated by ***,**, and * respectively.*

Recovery rates (average of ratios)	Sale	Reorgani-zation	Immediate liquidation	Liq. after observation	Total (weighted)	ANOVA test: Fisher stat.	Sale	Reorgani-zation	Immediate liquidation	Liq. after observation	Total (weighted)	ANOVA test: Fisher stat.
	Sample: Bankruptcy Law 01/25/1985: 596 observations						Sample: Bankruptcy Law 06/10/1994: 262 observations					
Employ.'s "superprivilège"	88,2%	89,8%	57,8%	80,4%	*60,2%*	3.92**	84,5%	91,3%	75,0%	74,2%	*75,4%*	3.44**
New money	n.s.	73,2%	n.s.	n.s.	*n.s.*	-	60,7%	n.s.	n.s.	25,0%	*n.s.*	-
Secured (all)	44,2%	64,6%	19,2%	27,1%	*20,1%*	12.90***	31,0%	73,4%	19,5%	28,8%	*21,6%*	18.31***
- State & employees	41,8%	63,0%	23,0%	25,4%	*24,1%*	13.01***	30,7%	73,7%	15,3%	28,2%	*17,8%*	22.19***
- Collaterals	42,5%	63,9%	17,7%	29,3%	*18,8%*	11.13***	35,0%	72,0%	36,0%	50,0%	*38,0%*	13.64***
Unsecured	10,5%	64,5%	5,1%	6,8%	*5,7%*	43.66***	6,2%	72,1%	2,5%	6,2%	*4,9%*	286.12***
Total	*24,0%*	*65,7%*	*12,1%*	*16,2%*	**12,9%**	16.67***	*23,9%*	*73,8%*	*23,5%*	*26,0%*	**24,9%**	65.91***

*Variables whose Fisher's stat. is significant at the 1%, 5%, and 10% levels are indicated by ***,**, and * respectively.*

n.s. = non significant figures (no enough observations: less than 1% of the total of claims - sample size).

NOTE. – The upper table gives the structure of various claims. Creditors are ordered according to their level of priority: (1) claims with a super priority status, (2) post filing priority claims, (3) claims with a privilege status, (4) secured claims, (5) junior claims. The lower table provides the recovery rates of different classes of creditor for the four possibilities: sale, reorganization, liquidation (immediate or after a period of observation). Recovery rates are given as a percentage of the claims. In both tables, ANOVA tests are shown: averages differing significantly from one possibility to another at the 1%, 5%, and 10% levels (Fisher statistic) are denoted ***,**, and *, respectively.

B. The factors of financial efficiency for each possible bankruptcy outcome

Table 5 sets out the results of double censored tobit regression of the post default global recovery rate (privileged, secured, and junior) for liquidations (immediate or not) and for continuations (sales and reorganization plans). A tobit model is appropriate, since the estimated recovery rate is between zero and one: appendix 4 gives the density functions of the recovery rates for liquidation and continuation for both samples. By construction, the tobit approach is subject to heteroscedasticity, since the variance of errors depends on the explanatory variables; thus, the hypothesis of multiplicative heteroscedasticity[48] was tested for every model, and was accepted (at

[48] For the heteroscedastic model, the test is of the form $\sigma_i^2 = \sigma_\varepsilon^2 \, exp(z_i \cdot \gamma)$, where σ_i^2 is the variance of the error for observation (i); σ_ε^2 is a constant parameter (i.e. the variance of the error if the model was homoscedastic); z_i is a

the 1% level) in almost all cases (excepted for the model on continuations under the 1994 legislation). We include only the "coverage rate" (i.e. the economic value of assets relative to debts) as a source of heteroscedasticity; indeed, this rate is expected to increase with the number of censored observations. Consequently, to model heteroscedasticity, we restrain the analysis to the subset of variables that may lead the recovery rate to its extreme values (i.e. 0 or 1). This is the case of the coverage rate, whose level is the starting point of all future recoveries (i.e. a low/high coverage rate is likely to bring about a null/100% global recovery rate). The density functions of residuals for the four regressions are given in appendix 5.

TABLE 5
ESTIMATES OF GLOBAL RECOVERY RATES

Variables:	**Endogeneous variable: Total recovery rate**							
	Legislation 25/01/1985 (545 observations)				**Legislation 10/06/1994 (251 observations)**			
	Liquidations (358 obs.)		**Sales & Reorganizations (187 obs.)**		**Liquidations (94 obs.)**		**Sales & Reorganizations (157 obs.)**	
	Estimation	Prob. > |t|	Estimation	Prob. > |t|	Estimation	Prob. > |t|	Estimation	Prob. > |t|
Constant	0.0398	0.4287	0.4506**	0.0101	-0.2187	0.2037	0.6406**	0.0159
Nb. cause(s) of defaut: outlets	0.0025	0.7907	-0.0499**	0.0466	-0.0159	0.6048	-0.0382	0.4951
Nb. cause(s) of defaut: strategy	-0.0308	0.1186	-0.0854*	0.0903	-0.0078	0.8759	-0.0240	0.7596
Nb. cause(s) of defaut: production	-0.0001	0.9931	-0.0436	0.1365	-0.0725**	0.0192	-0.0941	0.1261
Nb. cause(s) of defaut: finance	-0.0163	0.1345	-0.0604**	0.0241	-0.0236	0.5182	0.0420	0.5152
Nb. cause(s) of defaut: management	-0.0301**	0.0114	-0.0454*	0.0687	0.1733***	0.0024	-0.0364	0.6072
Nb. cause(s) of defaut: accident	0.0065	0.6215	0.0336	0.3896	0.0340	0.4497	0.1248**	0.0208
Nb. cause(s) defaut: external environment	-0.0081	0.5243	0.0303	0.3029	0.0337	0.3717	-0.0091	0.8763
Nb. of connected measure(s)	-0.0132	0.5179	0.0439***	0.0099	0.0372	0.5539	0.1438***	0.0023
Nb. of unconnected measure(s)	0.0042	0.8334	0.0148	0.4202	-0.0449	0.3341	0.0281	0.4811
Nb. of legal measure(s) (enforcements…)	0.0212	0.8195	-0.0392	0.5475	-0.2153	0.4883	0.2377	0.2561
Suspect period declared (cf. suspection of tricks)	-0.0551***	0.0005	0.0165	0.7531	0.0631	0.1847	-0.0269	0.7323
Legal form: limited responsibility	0.0310	0.1746	-0.1263*	0.0531	0.2026**	0.0326	0.0196	0.8536
Sector: commercial business (ref. industry)	-0.0130	0.5119	0.0967*	0.0787	-0.0290	0.6274	0.0089	0.9207
Sector: services (ref. industry)	0.0000	0.9987	0.0094	0.8385	-0.0687	0.1496	0.0194	0.8211
Ln(firm's age)	0.0093	0.3770	-0.0293	0.2658	0.0324*	0.0936	0.0371	0.2751
Ln(employees)	0.0146**	0.0311	-0.0286	0.1242	0.0021	0.9241	-0.1066***	<.0001
Unsecured claims / Total claims	-0.0009	0.9715	-0.1118	0.1159	-0.0605	0.4366	-0.2572**	0.0364
Current assets (excluding cash) / Total assets	-0.0139	0.4705	-0.1151*	0.0583	-0.0142	0.7822	-0.1093	0.3026
Coverage rate (economic value of assets / debts)	0.7752***	<.0001	0.6254***	<.0001	0.3588***	<.0001	0.2007**	0.0299
Variance of errors (sigma)	0.0736***	<.0001	0.1222***	<.0001	0.0914***	<.0001	0.3540***	<.0001
Multiplicative heteroscedasticity: coverage rate	4.0380***	<.0001	2.1435***	<.0001	2.4077***	<.0001	-	-
Double censored TOBIT regression (with heteroscedasticity, except for year 1994: sales & reorganizations)	**Log likelihood:** 88.13 **Heterosced. test:** 153.53 **Inferior bound:** 0 **Superior bound:** 1 **Inf. bd. (nb. obs):** 81 **Sup. bd. (nb.obs):** 8		**Log likelihood:** -34.43 **Heterosced. test:** 13.94 **Inferior bound:** 0 **Superior bound:** 1 **Inf. bd. (nb. obs):** 13 **Sup. bd. (nb.obs):** 12		**Log likelihood:** 27.50 **Heterosced. test:** 11.34 **Inferior bound:** 0 **Superior bound:** 1 **Inf. bd. (nb. obs):** 0 **Sup. bd. (nb.obs):** 2		**Log likelihood:** -75.38 **Heterosced. test:** 0.08 **Inferior bound:** 0 **Superior bound:** 1 **Inf. bd. (nb. obs):** 7 **Sup. bd. (nb.obs):** 16	

NOTE. – Table 5 sets out the results of a double censored tobit regression of the global recovery rate, either for liquidation or continuation (reorganization and sale as going concern). The endogenous variable takes a value between zero and one (see appendix 4). We use similar explanatory variables to the first regression analysis. We add a measure of the percentage of junior claims relative to the sum of all claims (*Unsecured claims/Total claims*). The variance of the errors is an output of the tobit approach (linked to the expression of conditional moments). Table 5 provides also the results of the tests for heteroscedasticity: in one case only, when homoscedasticity was accepted. Coefficients significant at the 1%, 5%, and 10% levels are respectively indicated by ***, **, and *.

The firm specific explanatory variables remain nearly the same as for the first regression analysis: the explanatory variables are (1) the origin of the default and the way it was managed,

subset of the explanatory variables (x_i); γ are the parameters influencing the variance of errors, through their effect on the z_i variables.

(2) the firm's characteristics, and (3) the importance of financial distress. We analyse their effect on the global recovery rate for each outcome: continuation, then liquidation.

Continuation (through sales or reorganization plans) is the privileged outcome from the French bankruptcy law perspective, because it is considered the best way to ensure social efficiency. Then the question becomes: once social efficiency is likely to arise through continuation, to what extent can the court increase *ex-post* financial efficiency? Analysis of some explanatory variables helps to answer this question. For continuations taking place under the 1985 legislation, several causes (outlets, strategy, finance, and management) negatively affect the global recovery rate, which is no longer true for continuations under the 1994 legislation (only accidents significantly increase the amounts recovered). The interpretation is straightforward and is directly linked to the development of prevention after 1994: before this date, the courts were facing many delayed defaults, so that *ex-post* efficiency (proxied by the global recovery rate) was mostly pre-determined by *ex-ante* factors, prior to any legal post-intervention. The increasing role of prevention after 1994 has changed matters, so that – on average – *ex-post* efficiency is no longer affected by external *ex-ante* factors[49]. In section V, the measures undertaken under the courts' supervision were positively correlated with the issue of continuations; this suggests that French courts actively prepare continuations over liquidations, and by doing this promote social efficiency. Additionally, within these continuations, some measures (the "connected" ones) are undertaken by the courts, so that the global recovery rate is also increased. This result is of prime importance, because it does not exactly confirm pure trade-off between social and financial efficiencies, but rather a hierarchy of objectives: once some measures have made continuation a promising issue, the court allows or facilitates measures that raise the creditors' recovered amounts. Yet this does not mean there is no trade-off: indeed, focusing on the effect of the number of employees on the recovery rate (which is significant and negative after the 1994 reform), the continuation seems to be less financially efficient when it applies to firms with higher employment stakes[50].
To sum-up: for continuations, the trade-off between social and financial efficiency is partially confirmed, when looking at big firms; but this does not mean that courts are unable to increase *ex-post* financial every time they can. On the contrary, the observation period also provides the opportunity to undertake measures aimed at increasing the global recovery rate.

According to the French bankruptcy view, liquidations should be the default output of the bankruptcy when social efficiency cannot be reached by other means. The question then becomes: once liquidation appears to be unavoidable, can the Courts promote at least financial efficiency? The answer depends on the context, as shown in the comparison between 1985 liquidations and post-1994 liquidations. Because of the lack of prevention, under the 1985 law, the bulk of liquidations dealt with firms having nearly zero assets, so that liquidation is more a statement than a choice. We consider also that courts can declare a "suspect period" in order to recover some previously sold assets or cancel doubtful contracts, if any. But this strategy does not achieve to increase the proceeds to share between claimants; on the contrary, the dummy variable "suspect period" has a significant negative impact on the global recovery rate. From the same perspective, the number of employees has a positive effect on the global recovery rate for the

[49] Since the triggering of bankruptcy takes place sooner when the origin of default is accidental, it is not surprising that accidents only positively affect recovery rates after 1994 (see Table 4).
[50] This takes place mainly through sales, which are the privileged mode of continuation for big firms.

1985-law sample; this reflects the case of firms with numerous employees *and* significant levels of assets, leading to higher recovery rates.
To summarize: for liquidations, whatever the period (post or prior 1994), commercial courts have no significant way to improve financial efficiency, and the firm's situation at the moment of bankruptcy filing settles the outcome. Further, under the 1985 law, the suspect period has a significant and negative impact on global recovery rates. Since the 1994 reform, the variables increasing the global recovery rate under liquidation are also out of the court's area of action; these variables are the causes of default (production and management difficulties), the legal form (limited liability), and the age of the firm.

Overall, there does not appear to be a significant area for the courts to improve financial efficiency during the bankruptcy process except for continuations, where some "connected measures" (as defined above) significantly improve the global recovery rate.

As shown in subsection VI.A, however, the large increase in various claimants' recovery rates since 1994 displays the effect of prevention on *ex ante* social and financial efficiencies.

VIII. CONCLUSION

In developed countries, the main goals of bankruptcy law are to restructure, or to close down if restructuring is impossible; and to provide claimants (tax authorities, employees, secured and unsecured creditors) with an absolute priority rule for debt recovery. In practice, however, many differences exist in the rules that govern bankrupt firms and in the objectives of national bankruptcy codes. In this area of comparative law, several of our conclusions show that French bankruptcy courts actively protect employment at the time of the choice 1) between reorganization, sale as a going concern or liquidation, and 2) between rival offers for a sale as a going concern of bankrupt firms. More precisely, the strong correlation between the probability of continuation and legal measures engaged and the level of unsecured debt of bankrupt firms demonstrate that commercial courts seek to protect employment by promoting continuation and reducing the domino effects of bankruptcy. Furthermore, the implicit rules that govern the court's choice between rival offers for the sale of bankrupt firms confirm that social considerations have an impact on the decisions of bankruptcy courts. A further key outcome of this research is the determination of the financial cost of this bias. Reorganizations generate the highest recovery rates for all classes of creditors; the fact that bankruptcy courts seek to preserve employment through continuation of bankrupt firms does not imply a severe cost for other stakeholders. Moreover, contrary to the expected trade-off between social and financial considerations, courts engage also in measures to increase debt recoveries once continuation has been chosen. However, for sale as a going concern, recovery rates are inhibited by asset illiquidity or by the court's attempt to promote the firm's continuation (and also preserve employment) through sale at a low price.

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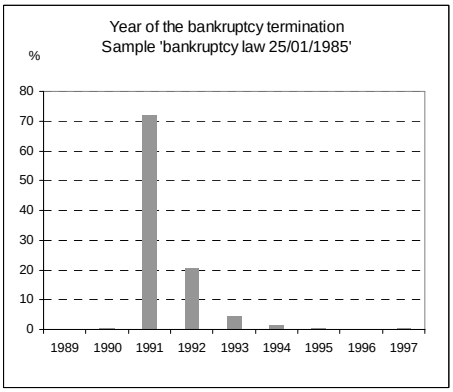
VIII. APPENDIXES

Appendix 1: Sample structure, and comparison of Parisian and French bankruptcies

Graphs A1 and A2 show the repartition of the sample over time. The first sample is for bankrupt firms under the 01/25/1985 bankruptcy code. The second sample gathers corporate bankruptcy files triggered off after the 06/10/1994 reform.

Graph A1. First Sample



Graph A2. Second Sample

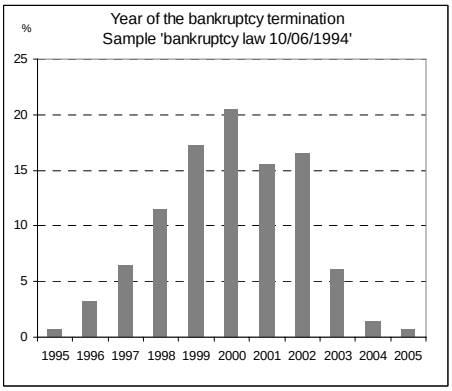


Table A1. Comparison of Parisian and National populations

Corporate bankruptcies	Paris		France	
	1994	2005	1994	2005
Limited responsibility	78.2	84.4	60.8	68.0
Other legal forms	21.8	15.7	39.3	32.0
Commerce	27.3	25.6	28.9	27.0
Industry(1)	31.9	34.0	33.7	35.2
Services(1)	40.9	40.4	37.4	37.8
Continuations (reorganizations and sales)	7.1	5.6	7.0(2)	11.0
Liquidations (immediate or not)	92.9	94.5	93.0(2)	89.0

Sources: France: INSEE; Paris: Paris Commercial Court.

(1) Agriculture, and financial services excluded.

(2) For year 1995: see J. Domens, "Les défaillances d'entreprises entre 1993et 2004", coll°. "PME/TPE en bref" n°23 (May 2007), Ministère de l'Economie, des Finances et de l'Emploi.

Appendix 2: Structure of the templates and codification of the origin of default and of engaged legal measures

Table A2 provides the general structure of our templates. The table collects 230 variables gathered into 7 different groups. Group 1 identifies the bankrupt company / group of companies. Group 2 gathers variables describing the bankruptcy process and the origin of default. Group 3a identifies the type of procedure – from triggering to final outcome. Group 3b provides financial information on assets and liabilities according to the type of claim. Group 3c codifies the measures enacted by the court during the observation period. Group 3d deals with the amounts recovered and the characteristics of buyout proposals (if any). Group 3e specifies legal sanctions against the managers (if any).

Table A2. General structure of the templates

1. Company's identification	3b. Financial information and bankruptcy costs
Matriculation number	Declared market values of assets (triggering time).
Sector (French NAF national codification)	Verified claims by levels of priority (end of the procedure)
Geographical localization	Number of creditors.
Number of employees	Bankruptcy costs individual estimation (décret 85-1390 of the 12/27/1985)
Legal form	**3c. Engaged measures / legal measures**
Creation date	Engaged measures during the bankruptcy procédure (up to 10), each of them is subject to the Court approval.
Manager(s): age, functions, nb. of administrators…	Identification of the legal practitioners
2. Process of default	**3d. Procedure outcome**
Origin of default (up to 10 cumulative causes, based on a specific codification (51 codes). The identification of causes stems from an audit engaged by the administrator.	Realized value of assets (if liquidation)
3. The bankruptcy procedure (from triggering to the final issue)	Characteristics of the buyout plan(s) (if any), in case of a sale as a going concern (price, pros and cons of the offer, as analyzed by the legal administrator)
3a Type of procedure	Characteristics of the reorganization plan (length of the plan, repayment schedule…)
Type of the legal procedure (simplified or not)	**3e. Legal sanctions against managers (if any)**
Date of triggering and of ending	Suspect period
Identity of the bankruptcy's initiator	Pecuniary sanctions
Legal issue: liquidation, sale, reorganization	Extra pecuniary sanctions
Remark: all files are closed files (with definitive recovery rates).	Type of fault

Table A3 sets out the codifications we used for the causes of default and the measures enacted. They are gathered into 8 groups: outlets, strategy, production, finance, management, accident, and external environment.

Table A3. Codification of the causes of default and the engaged measures

	Origin of the default (codifications)	Measures engaged by the administrator during the bankruptcy procedure (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).	[1] Improvement of products (extension of the range); [2] Innovation, increase of research and development; [3] Advertisement, better knowledge of the market, commercial effort; [4] Lower selling prices; [5] Reorganization of activities (abandon of unprofitable activities, development of the more profitable ones).
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...).	[1] Diversification of the economic partners; [2] Concentration on peculiar economic partners; [3] New shareholder in the capital; [4] Non renewal of peculiar contracts (non profitable markets); [5] New hiring.
Production	[1] Production capacity was too strong, overinvestment; [2] Depreciation of assets(active persons); [3] Operating costs were too high (other than wages: external expenses, raw materials...); [4] Wages expenses were too high; [5] Brutal disapearance of suppliers; [6] Unsuitable process of production (obsolete); [7] Under-investment.	[1] New investments; [2] Cancellation of projects (investments); [3] Economic reorganizations (mergers and acquisitions, partnerships, alliances); [4] Increase of selling price; [5] Decrease of operating costs; [6] Firings; [7] Decrease of wages.
Finance	[1] Longer delays on accounts receivable; [2] Contagion / reported losses from subsidiaries; [3] Shorter delays on accounts payable; [4] Speculation of the company, problems due to exchange rates fluctuation; [5] Stop of the financial support from the head office / holding; [6] Lack of equity (compared to leverage/liabilities); [7] Loan refusal to the company; [8] Stop/reduction of previous State financial subventions to the firm; [9] Contractual interest rates are too high.	[1] Obtaining public subvention(s); [2] Sale of fixed or financial assets; [3] Sale / liquidation of inventory; [4] Recovery on accounts receivable; [5] Raise of stockholders' equity; [6] Decrease of the financial risk (less speculation…); [7] Total or partial repayment to previous creditors; [8] Rescheduling of payments, remissions of a debt (private renegotiation); [9] Attempt of informal renegotiation; [10] Cash raising from new creditors; [11] New loans; [12] Claims forgiveness from the leaders / owners.
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.	[1] Improvement of the competence (training, hiring of skilled persons); [2] Appeal to outside experts; [3] Substantial change of the managerial staff; [4] Change of the rules of accounting (or of the rules of management); Management: Better knowledge of the costs of returns.
Accident	[1] Swindle / embezzlements affecting the company (whatever its origin); [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.	Non applicable
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…).	Non applicable

NOTE. – The table lists the principal origins of default and the legal measures enacted by the administrator during the bankruptcy process. We set against each other the causes of default and the measures enacted by the court in order to determine whether they are connected. We also set the exogenous origins of default (accident, external environment) against the endogenous ones (strategy, production, finance or management).

Table A4 provides the repartition of the causes of default, per outcome, and the results of ANOVA tests: averages differ significantly between outcomes at the 1%, 5%, and 10% levels when the Fisher statistic is tagged with ***,**, and *, respectively.

Table A4. Repartition of the causes of default

Causes of bankruptcy (% of affected firms)	Sale	Reorgani-zation	Immediate liquidation	Liq. after observation	Total (weighted)	ANOVA test: Fisher stat.	Sale	Reorgani-zation	Immediate liquidation	Liq. after observation	Total (weighted)	ANOVA test: Fisher stat.
	Sample: Bankruptcy Law 25/01/1985						Sample: Bankruptcy Law 10/06/1994					
Outlets	50.0	44.2	43.2	60.9	*44.0*	1.13	55.6	46.6	56.1	67.9	*56.5*	1.06
Finance	53.3	31.6	25.8	40.2	*26.7*	2.15*	24.4	26.1	23.2	25.0	*23.4*	0.56
Accident	22.1	28.4	26.5	31.5	*26.7*	0.85	24.4	33.0	19.5	25.0	*20.4*	0.64
Production	36.1	40.0	16.2	26.1	*17.0*	6.38**	28.9	25.0	14.6	35.7	*16.6*	0.97
Environment	31.1	28.4	20.6	30.4	*21.2*	0.28	41.1	45.5	12.2	46.4	*16.0*	3.07**
Strategy	19.7	11.6	11.8	21.7	*12.3*	0.88	16.7	12.5	13.4	21.4	*13.9*	0.16
Management	30.3	27.4	21.9	27.2	*22.2*	1.15	15.6	9.1	11.0	14.3	*11.2*	0.21
Nb. of causes per firm	3.2	2.8	2.0	2.9	2.1	-	2.3	2.2	1.8	2.8	1.9	-

Appendix 3: Endogeneity tests

The corporate bankruptcy process, as captured in our templates, can be summarized as follows: our *ex-ante* variables (cause of default, size, coverage rate…) can be viewed as the bankruptcy's inputs (at the date of triggering). Our *post*-default variables (the measures enacted by the court) are viewed as a part of the bankruptcy process. The process leads to a financial output, proxied here by the global recovery rate. We test the presence of any endogeneity bias between these two sets of variables, and the question becomes: regarding the obtained recovery rate, are our *post*-default variables statistically explained by our *ex-ante* variables (endogeneity), or not explained (exogenity)? The answer is not straightforward because the court's measures are not classified by function, like the causes (finance, management, production…), but by nature (connected or not with the causes, as explained above). We shall see that this peculiar definition of measures reduces the risk of endogeneity.

We use the Durbin-Wu-Hausman procedure dedicated to endogeneity testing, and model the global recovery rate as a function of both *ex-ante* and *ex-post* variables, as above. Our *ex ante* variables (cause of default, size, coverage rate…) are then taken to be exogenous, and serve as instruments. The DWH test is a two-step procedure: first, an OLS estimation is performed on the variables "connected measure" (see Table A5) and "unconnected measure" (see Table A6), using all *ex-ante* variables as explanatory variables (the complete list of these variables is given in each table, "step 1"). Second, we store the residuals obtained in step 1 and insert them – as another explanatory variable – in the OLS estimation of the global recovery rate (step 2). The value of the |t| of Student is then used to test for any endogeneity bias.

It appears that, endogeneity is always rejected, with the exception of "connected measures" on the first sample (legislation of 01/25/1985). Yet, for this variable, endogeneity cannot be accepted at the 1% level.

Table A5. DWH test on variable "connected measure"

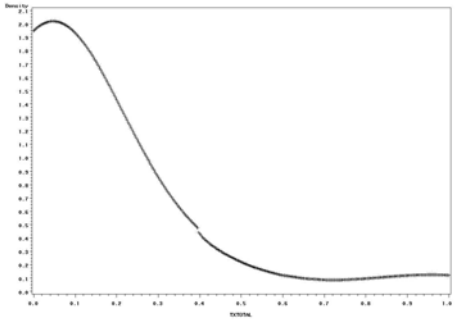
Test for endogenity bias : ***2 steps Durbin-Wu-Hausman procedure***	**Legislation 25/01/1985 (545 companies)**		**Legislation 10/06/1994 256 companies**	
Step 1 : SLS regression on the nb. of connected measures				
Explicative variables: nb. causes of defaut (outlets); nb. causes of defaut (strategy); nb. causes of defaut (production); nb. causes of defaut (finance); nb. causes of defaut (management); nb. causes of defaut (accident); nb. causes defaut (external environment) ; legal form (limited responsibility); sector (commercial); sector (services); ln(firm's age); ln(employees); ln(debts: "superprivilège"); ln(debts: collaterals); ln(debts: State & employees); ln(debts: unsecured claims).				
Step 2 : SLS on ln(recovered amounts)				
Variables	Estimation	Prob. >|t|	Estimation	Prob. >|t|
Constant	-0.8818***	0.0097	1.4330***	0.0009
Legal form: limited responsibility	0.0528	0.8317	-0.4257	0.1747
Sector: commercial business (ref. industry)	0.3864*	0.0748	0.3426	0.1931
Sector: services (ref. industry)	0.4420**	0.0133	0.1711	0.4544
Ln(firm's age)	0.3972***	0.0002	0.1855**	0.0322
Ln(employees)	0.4061***	<.0001	0.2684**	0.0216
Ln(debts: "superprivilège")	0.0350	0.4993	-0.0474	0.4088
Ln(debts: collaterals)	0.1430***	0.0006	0.1801***	<.0001
Ln(debts: State & employees)	0.1973***	<.0001	0.2689***	0.0006
Ln(debts: unsecured claims)	0.3139***	<.0001	0.1354***	0.0062
Nb. of connected measures	-0.0610***	0.7868	-0.0143	0.9715
Nb. of connected measures: residuals from step 1	**0.5159****	**0.0356**	**0.4085**	**0.3339**

Table A6. DWH test on variable "unconnected measure"

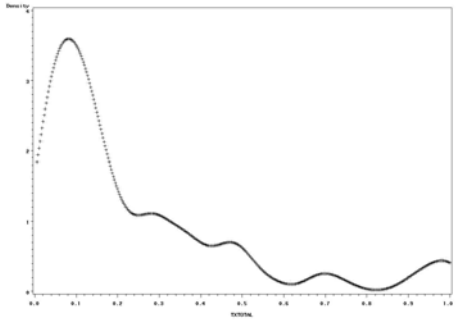
Test for endogenity bias : ***2 steps Durbin-Wu-Hausman procedure***	**Legislation 25/01/1985 (545 companies)**		**Legislation 10/06/1994 256 companies**	
Step 1 : SLS regression on the nb. of unconnected measures				
Explicative variables: nb. causes of defaut (outlets); nb. causes of defaut (strategy); nb. causes of defaut (production); nb. causes of defaut (finance); nb. causes of defaut (management); nb. causes of defaut (accident); nb. causes defaut (external environment) ; legal form (limited responsibility); sector (commercial); sector (services); ln(firm's age); ln(employees); ln(debts: "superprivilège"); ln(debts: collaterals); ln(debts: State & employees); ln(debts: unsecured claims).				
Step 2 : SLS on ln(recovered amounts)				
Variables	Estimation	Prob. >|t|	Estimation	Prob. >|t|
Constant	-0.8703***	0.0091	1.4261***	0.0008
Legal form: limited responsibility	0.0602	0.8042	-0.2223	0.5224
Sector: commercial business (ref. industry)	0.3858*	0.0708	0.2617	0.3313
Sector: services (ref. industry)	0.4383**	0.0125	0.0924	0.6765
Ln(firm's age)	0.3872***	0.0004	0.1382	0.1343
Ln(employees)	0.3899***	0.0003	0.1918	0.1073
Ln(debts: "superprivilège")	0.0347	0.4971	-0.0510	0.3577
Ln(debts: collaterals)	0.1465***	0.0002	0.1626***	<.0001
Ln(debts: State & employees)	0.1929***	<.0001	0.2913***	0.0003
Ln(debts: unsecured claims)	0.3095***	<.0001	0.1079**	0.0429
Nb. of connected measures	0.0472	0.9230	0.4926	0.2011
Nb. of unconnected measures: residuals from step 1	**0.5294**	**0.2870**	**-0.1632**	**0.6847**

Appendix 4: Density functions of the recovery rates

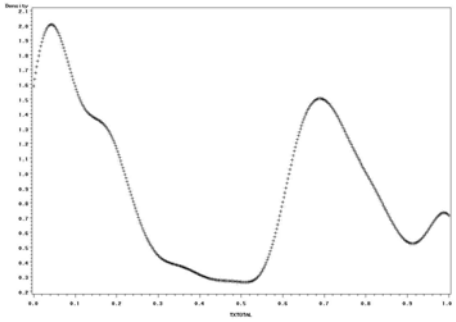
01/25/1985 legislation sample: liquidations



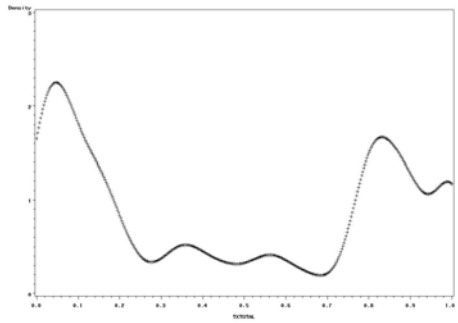
06/10/1994 legislation sample: liquidations



01/25/1985 legislation sample: continuations

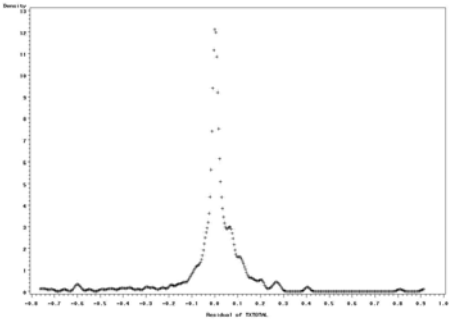


06/10/1994 legislation sample: continuations

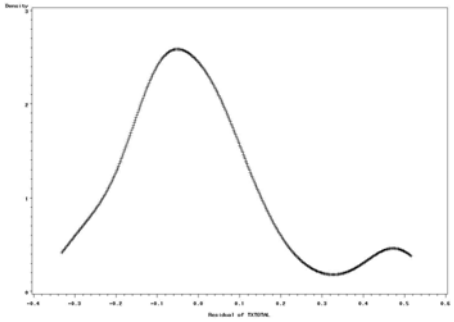


Appendix 5: Density functions of the tobit residuals (see Table 4)

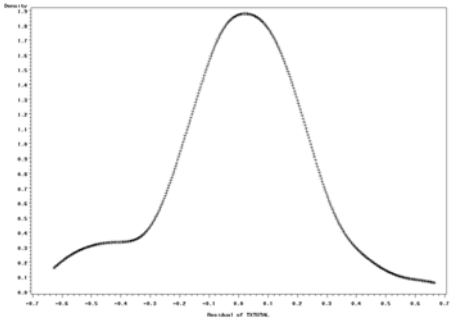
01/25/1985 legislation sample: liquidations



06/10/1994 legislation sample: liquidations



01/25/1985 legislation sample: continuations



06/10/1994 legislation sample: continuations