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WORKING PAPER

The Role of Firm Viability, Creditor Behavior and Judicial Discretion in the Failure of Distressed Firms under Court-supervised Restructuring: Evidence from Belgium

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The Role of Firm Viability, Creditor Behavior and Judicial Discretion in the Failure of Distressed Firms under Court-supervised Restructuring: Evidence from Belgium

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Abstract.

Unlike Chapter 11 in the U.S., the Belgian reorganization legislation requires that distressed firms remain under court-supervision during plan execution. In principle, the court-supervised post-confirmation stage takes a fixed period of 24 months. Using a unique sample of small Belgian firms, we analyze both the likelihood of failure and the time spent before transfer to bankruptcy-liquidation during this post-confirmation stage. More profitable debtors are less likely to fail. If banks are secured by collateral with high liquidation value, debtors are more likely to fail. The mandatory repayment of government debt, like unpaid taxes and social contributions, also renders the distressed firm more likely to fail. Judicial discretion sharply affects the likelihood of failure in a subsample of individual debtors seeking to preserve a sole proprietorship.

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Keywords: court-supervised reorganization; bankruptcy; insolvency legislation

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1. Introduction

The ultimate goal of a bankruptcy system is to sort viable and unviable distressed firms. Asymmetric information however prevents an errorless bankruptcy system. Type I errors occur when unviable firms are saved under court-supervised reorganization. Type II-errors occur if viable firms are shut down instead of reorganized under court-supervised reorganization (White, 1994). Many studies show that firms exiting Chapter 11 are liquidated during the post-bankruptcy period (see e.g. Hotchkiss, 1995, Bris et al., 2006; Morrison, 2007). This strongly suggests that type I errors are only revealed in the post-confirmation stage.

Using a sample of small distressed firms, we analyze failure or bankruptcy-liquidation of distressed firms during the post-confirmation stage. Unlike Chapter 11 in the U.S., the Belgian reorganization legislation temporary imposes court-supervision after plan confirmation[1]. The court-supervised post-confirmation stage takes maximum 24 months with an optional prolongation of at most 12 months. In most cases, the court-supervised post-confirmation period is simply fixed at 24 months. This court-supervised period can lead to the full execution of the plan or not. In the latter case, a creditor or the court-appointed examiner can file a request with the court to revoke the judicial composition and the post-confirmation stage. The debtor can do the same if it is clear that a full execution or any creditor-approved amendment of the plan is unfeasible. In case of revocation, the judge takes a decision to 'convert' to bankruptcy-liquidation after additional examination of the distressed firm's viability. If the judge revokes the court-supervised post-confirmation period without conversion, the case is actually 'dismissed' like in the pre-confirmation stage of Chapter 11.

Our analysis of failure is strictly limited to the court-supervised post-confirmation period. We analyze the likelihood of failure during this period, and the time spent under this court-supervised stage before transfer to bankruptcy-liquidation. We specifically test whether unviable firms are liquidated as fast as possible. The delay in the shutdown decision produces direct administrative costs and indirect resource allocation costs. The longer an unviable firm lingers under court-supervision, the greater the delay in reallocating the distressed firm's assets to a third party who can put them to a better use. Many critics of the Chapter 11 reorganization process argue that unviable firms are not liquidated in a timely manner (see e.g. Franks & Torous, 1989; Bris et al., 2006; Morrison, 2007; Denis & Rodgers, 2007).

Chang and Schoar (2006) show that judicial discretion affects company performance during the post-confirmation stage. Specifically some judges appear to rule persistently more favorably towards creditors (pro-creditor bias) and debtors (pro-debtor bias)[2]. They show that a pro-debtor judicial bias leads to increased rates of re-filing and firm shut-down as well as lower credit ratings and lower

[1] Before August 1, 1991, the Chapter 11 debtor was required to file post-confirmation reports detailing its progress toward plan consummation (see Jensen-Conklin, 1992). So, to some extent, there existed court-supervision during the post-confirmation period before August 1, 1991. After the reform, the revocation decision is left to creditors, which is the case too in Japan (Eisenberg and Tagashira, 1999).

[2] Evans (2003) analyzes the effect of discretionary actions on small firm's ability to survive Chapter 11 bankruptcy, but does not focus on the post-Chapter 11 period.

annual sales growth of firms that emerge from Chapter 11. In sum, a judge's discretionary actions during the pre-confirmation stage affect business continuation during the post-chapter 11 era.

Chang and Schoar (2006) create an aggregate index to measure bias by 8 types of motions that are filed exclusively by the debtor or the creditors, e.g. the use of cash collateral and the lifting of the automatic stay. Unfortunately, we cannot follow their approach as specific and comparable Belgian rules do not exist, or are not formalized. We instead introduce proxies for judicial activity (passivity) during the pre-confirmation stage to investigate its impact on the likelihood of transfer to bankruptcy-liquidation after plan confirmation. Our approach offers insight in another dimension of judicial behavior often implicitly refereed to in literature.

Theoretical models suggest that secured creditors may prefer liquidation to reorganization (see e.g. Bulow & Shoven, 1978; White, 1989; Kordana & Posner, 1999). Bergström et al. (2002) e.g. find that well-secured creditors oppose plan confirmation under Finnish court-supervised reorganization. In our sample of confirmed plans it seems logical not to expect secured creditor resistance after plan confirmation, since secured creditors and debtors in principle reached a compromise on the loan conditions during pre-confirmation bargaining. This intuition might be very misleading. First, judges and unsecured creditors may confirm a plan without the individual consent of secured creditors, as is actually the case in both the U.S. and Belgium. Obviously, the conflict between secured creditors and debtors remains unsettled. Moreover, and unlike in the U.S., secured creditors always regain their liquidation rights 18 months after plan confirmation, if no agreement was reached during the pre-confirmation stage. Therefore, if secured creditors are not fully repaid within those 18 months, they can freely seize and sell assets. This may lead well-secured creditors to induce bankruptcy-liquidation during the court-supervised post-confirmation stage. Next to secured debt, the debt composition of distressed firms mainly consists of unpaid government claims and trade credit. Those unsecured claims are examined and incorporated in the analysis.

Our paper contributes to the limited empirical evidence on court-supervised reorganization of small firms (see e.g. Campell, 1996; Sundgren, 1998; Bris et al., 2006; Morrison, 2007; Fisher & Martel, 2004). The total assets of our sample corporations do not exceed € 5.000.000. An additional sample of individuals seeking to preserve a sole proprietorship under the Belgian reorganization procedure is analyzed separately. Unlike in the U.S., individual debtors with a sole proprietorship cannot file a petition for a Chapter 13-like procedure in Belgium. Our research findings shed light on the identification process of type I errors after the pre-confirmation stage, on judicial discretion, and on the liquidation preference of secured banks during Belgian court-supervised reorganization.

This paper is organized as follows. Section 2 discusses the legal framework of the Belgian court-supervised reorganization. Section 3 gives an overview of the literature and formulates the hypotheses. Section 4 describes the data and defines variables. Section 5 shows the main empirical results. Using hazard regression analysis, the length of time spent in the court-supervised post-confirmation stage before transfer to bankruptcy-liquidation is analyzed in section 6. Section 7 concludes.

2. Legal framework

An insolvent firm can either liquidate or reorganize. In Belgium, liquidation and reorganization are regulated by distinct legislations. The United States Bankruptcy Code makes an equivalent distinction between Chapter 7 (bankruptcy-liquidation) and Chapter 11 (bankruptcy-reorganization) within the same legislation. The Belgian reorganization legislation was enacted in 1997, with the objective to reduce the number of bankruptcies and to preserve firms with profitable operations by means of a process of court-supervised financial restructuring. This legislation is called the Law on Judicial Composition (hereafter LJC) and came into force on January 1st 1998.

Figure 1 below illustrates the timing of the Belgian LJC in three stages. In the pre-bankruptcy period (stage I), the debtor decides to file for bankruptcy-reorganization or not. The debtor has to file with the court where the firm is registered and the register of the firm must by law be related to real activity, which largely excludes forum shopping in the Belgian context. The creditor cannot file a petition. The bankruptcy court makes an initial assessment on the viability of the distressed firm when a petition is filed. If the court accepts the petition, the debtor remains in possession and must draft and confirm a reorganization plan during a six-month exclusivity period. The court appoints an examiner who controls the debtor and assists him with drafting the plan[3]. This exclusivity period can be extended by maximum 3 months to deal with bargaining issues. In the U.S., Bris et al. (2006) refer to the bargaining period as the Chapter 11-phase 'from submission to plan confirmation'. We define stage II of the Belgian bankruptcy system as the pre-confirmation stage consisting of both phases 'from filing to plan' and 'from submission to plan confirmation'. Like in the U.S., secured creditors are subject to an automatic stay during the pre-confirmation stage.

Like in the U.S., the distressed firms can be subject to case dismissal or conversion to bankruptcy-liquidation during the pre-confirmation stage. The court can only decide to dismiss a case upon request of the appointed examiner or the debtor and on the ground that the firm is no longer viable or no longer distressed to justify the stay of the creditors[4]. In principle, a court that dismisses the case on the ground of inviability and the impossibility to reorganize should convert the case immediately to bankruptcy-liquidation according to jurisprudence of the Belgian Supreme Court.[5] In practice, there are hardly any consequences for a judge that neglects this conversion rule[6]. This rule is thus frequently

[3] See Hahn (2004) for a discussion on the appointed examiner (trustee) in the U.S.

[4] In principle, the debtor, the public prosecutor, the examiner and any party concerned can request for the revocation. Based on a thorough study of the judicial composition records, we however find that only the examiner or the debtor requests for the revocation, and certainly not the creditors and the public prosecutor. Unfortunately, we could only notify the official revocation, and not the underlying creditor-dynamics of a revocation.

[5] The court has in the past always upheld that insolvent commercial entities should be liquidated to ensure a level-playing field. A court-supervised liquidation procedure was additionally considered necessary to investigate possible malfeasance of the debtor or its management and determine their eligibility for future commercial activities. Currently this point of view only applies to economically unviable firms, whereas economically viable firm are to be reorganized.

[6] This differentiation is important from a comparative point of view as Morrison (2007) states that "judges often dismiss a case, instead of converting it to Chapter 7, if the debtor has no assets unencumbered by liens. With no assets available to unsecured creditors, there is no benefit to a Chapter 7 proceeding, which generates administrative costs". In Belgium however, the initiation of bankruptcy-liquidation is obliged for firms that have

violated, for reasons discussed below (section 4.4), leaving the court with a margin of appreciation in case of dismissal.

At the end of stage II, a meeting of the unsecured creditors votes on the debtor-proposed reorganization plan. The unsecured creditors mainly consist of trade creditors and the social security administration. A reorganization plan is approved if (i) a majority of unsecured creditors present at the meeting vote in favor of the plan, and (ii) the value of the claims voting in favor of the plan represent at least 50% of the total value of claims of unsecured creditors present at the meeting. The debts of these creditors have to be, in principal, repaid during a maximum period of 24 months, i.e. the court-supervised post-confirmation stage (see further on this stage – stage III).

Secured creditors do not vote collectively. Their individual approval is obliged when the debtor proposes an alteration to their legal entitlements. If the secured creditor and the debtor reach a new agreement on the loan repayments, the creditor cannot seize or sell assets during the post-confirmation stage as long as the debtor fully complies with this new contract. If on the other hand no agreement is reached between both parties, the Belgian legal framework provides the debtor with only one alternative, i.e. the deferral of the principal amount of the loan for a maximum of 18 months, on the condition that during this period interest is paid. As a consequence, the secured creditor will temporarily not be able to seize and sell the pledged assets, but regains his full liquidation rights after 18 months. More far-reaching legal measures comparable to the forced rescheduling of secured debt in accordance with § 1129 U.S. Bankruptcy Code are not available to Belgian debtors.

After the approval by the unsecured creditors and any arrangement with secured creditors (or forced deferral), the court confirms[7] the plan and the debtor is supposed to fully execute this plan. The plan execution takes place during a period of maximum 24 months under supervision of the judges and the appointed examiner. Our dataset clearly shows that the court-supervised period is fixed at 24 months for 98% of the cases. During this fixed period, the court and creditors can however decide to prolong the court-supervised period with a maximum of 12 months. In case of prolongation, a new plan needs to be established because the initial confirmed plan is only drafted for a period of 24 months. A prolongation of the court-supervised post-confirmation period does however not occur frequently. We refer to the period of maximum 24 months with optional prolongation of 12 months, as the court-supervised post-confirmation stage (stage III).

The court-supervised post-confirmation stage can lead to the full execution of the plan or not. In the latter case, a creditor or the appointed examiner can file a request with the court to revoke the judicial composition and the post-confirmation stage. The debtor can do the same if it is clear that a full execution or any creditor-approved amendment of the plan is unfeasible. If the court grants the request for revocation, it can again opt for the conversion of the firm to bankruptcy-liquidation.

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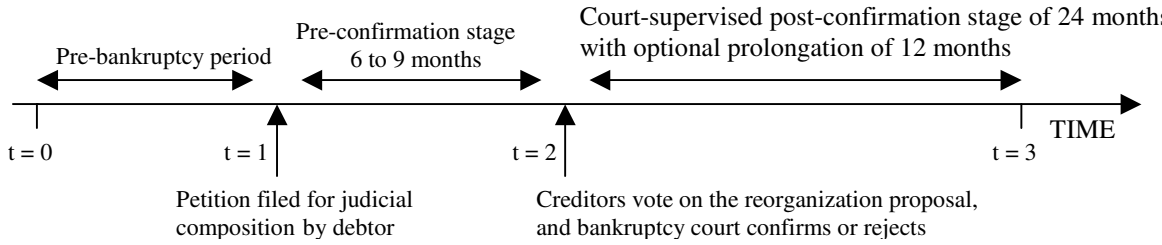
no unencumbered assets to be distributed to the unsecured creditors. In section 4.4., we show that the decision to convert to bankruptcy-liquidation during the pre-confirmation stage is discretionary.

[7] Because the L.C.J. states that the court 'can' confirm the plan, certain courts have assumed the authority to test the feasibility of the plan. We are however only aware of a few cases where the Bankruptcy Court refused to confirm the plan after unsecured creditor approval.

Figure 1: Time schedule of the judicial composition (bankruptcy-reorganization).



3. Theory and hypotheses.

Several studies show that many firms are liquidated after leaving Chapter 11 (see e.g. Jensen-Conklin, 1992; Hotchkiss, 1995, Bris et al., 2006; Morrison, 2007). This suggests that some of the Type-I errors, where unviable firms are allowed to reorganize, are revealed in the post-confirmation period.

Firms in distress typically suffer from poor operating performance in combination with a suboptimal capital structure. In line with conventional theory, we expect that more distressed firms are more likely to fail during the court-supervised post-confirmation stage, while less distressed firms are more likely to survive. Testable hypothesis 1.a. is formulated as follows:

Hypothesis 1.a: More distressed firms are more likely to fail during the court-supervised post-confirmation period.

Next to the likelihood of failure, we also analyze the time spent under the court-supervised post-confirmation stage for failing firms. We expect that more distressed firms are liquidated faster within the sample of failing firms. Testable hypothesis 1.b. reads:

Hypothesis 1.b: More distressed firms are liquidated faster during the court-supervised post-confirmation stage.

In our sample of firms with confirmed plans it seems logical not to expect creditor resistance in the post-confirmation period, since secured creditors and debtors have reached an agreement after renegotiating the loan conditions during the pre-confirmation bargaining. This may however be misguided for several reasons. Theoretical models suggest that secured creditors favor liquidation over reorganization (see White 1989; Bulow & Shoven, 1994). Also, judges and unsecured creditors may confirm a plan without the explicit agreement of secured creditors, as is the case in the US (see e.g. section 1129 of the U.S. Bankruptcy Code), leaving the conflict between secured creditors and debtors unresolved. Moreover, and unlike in the U.S., secured creditors always regain their absolute rights 18 months after plan confirmation, if no agreement was reached during the pre-confirmation stage. If secured creditors are not fully repaid within those 18 months, they can freely seize and sell assets. Therefore creditor behavior may invoke bankruptcy-liquidation during the court-supervised post-confirmation stage. We formulate hypothesis 2.a. as follows:

Hypothesis 2.a: Distressed firms that depend more on secured debt are more likely to fail during the court-supervised post-confirmation period.

Fisher & Martel (1995) argue that the mandatory repayment of prioritized government claims under the Canadian court-supervised restructuring may impose a heavy burden on the cash flows. They show that distressed firms with more government debt/total debt have a lower likelihood of plan confirmation. In Belgium, prioritized government debt is fully repaid during the court-supervised post-confirmation stage in most cases[8], while this is not the case for trade debt. This is formalized in hypothesis 2.b:

Hypothesis 2.b: Firms with more unpaid government debt have a higher likelihood to fail during the court-supervised post-confirmation period.

Recent empirical research documents large behavioral differences among judges in the U.S. (see T. Chang, A. Schoar, 2006; Bris, Welch and Zhu, 2007)[9]. Chang and Schoar show that a pro-debtor bias leads to increased rates of re-filing and firm shutdown as well as lower post-bankruptcy credit ratings and lower annual sales growth up to five years after the original bankruptcy filing. Judicial discretion clearly affects the company performance during the post-confirmation stage in their study. The Belgian bankruptcy legislation assigns an extensive screening task to the public actors during the pre-confirmation stage. Upon examination of the firm's viability and rescue prospects, the judge can dismiss the judicial composition in three ways during the pre-confirmation stage. First, the judge can reject the petition for court-supervised reorganization filed by the debtor. Second, the judge can equally dismiss the judicial composition during the pre-confirmation stage upon request of the appointed examiner or the debtor. Third, if creditors accept the plan, the judge can ultimately refuse plan confirmation resulting in dismissal of the case. The appraisal of the firm's viability and its future prospects is at best a vague guideline for the judge and the appointed examiner, leaving them with substantial discretionary power. In case of dismissal, the court can furthermore convert the distressed firm to bankruptcy-liquidation, which again leaves margin for discretionary behaviour. We therefore expect that the likelihood of bankruptcy-liquidation during the post-confirmation stage depends on the discretionary behaviour of judges and their appointed examiners during the pre-confirmation stage. Formally, we test the following hypothesis:

Hypothesis 3: Judicial discretion affects the likelihood bankruptcy-liquidation during the court-supervised post-confirmation.

[8] In an unreported analysis (available on request), we find that debt reduction on institutional debt (25% of the cases) occurs less frequently than the reduction of trade debt (70% of the cases). Moreover, the debt reductions are small and the reduced social contributions and tax claims are fully repaid within 24 months in 81% of the cases. This repayment of relatively sizeable government claims within 24 months might impose a severe burden on the cash flows. This finding is not unexpected. The Belgian bankruptcy-reorganization law (LJC) has provided the tax authorities with a strong position in the procedure, as they can veto any alteration of their legal entitlements. Furthermore, the social security administration frequently resists debt reduction, and takes this matter to court (in event to the Supreme Court)

[9] See N. Gennaioli and S. Rossi (2007) for a theoretic model on judicial discretion.

4. Data

4.1. Data sources and sampling procedure.

Our dataset consists of information on distressed firms with confirmed reorganization plans under court-supervised reorganization in Belgium. Approximately 306 plans were confirmed between January 1, 1998 and June 30, 2004 with one of the 23 regional Belgian Bankruptcy Courts. Our sample is restricted to all confirmed reorganization plans submitted to 17 of those Bankruptcy Courts. This amounts to 190 reorganization plans or 62% of the population of confirmed plans. Corporations and sole proprietorships submitted respectively 125 and 65 plans (125+65 = 190). Blocks of closely related corporations jointly submitted five out of those 125 plans[10]. The dataset is complemented with financial statement data from the Graydon-database and the Belfirst DVD's, which are delivered by the private data vendors Graydon Belgium and Bureau van Dijk respectively.

We test our hypotheses in a sample of small distressed firms that submitted a going concern plan. We exclude corporations with total assets exceeding € 5.000.000, which leaves a sample of 107 small corporations. We additionally exclude an incorporated football club and one liquidation scheme among the small corporations[11]. Sole proprietorships are small by definition. We remove four individual debtors with liquidation schemes. All those sample restrictions result in a sample of 105 small corporations and 61 sole proprietorships.

For the corporations we complement our dataset of confirmed plans with financial statement data prior to petition-filing for bankruptcy-reorganization. There are no financial statement data for sole proprietorships because they are not obliged to publish accounting data. To ensure a sufficiently high quality of the financial statement data, we do not include corporations for which the time period between the financial statement date and the filing date for bankruptcy-reorganization is longer then 18 months. This removes another 14 corporations, resulting in a sample of 91 corporations.

Since the court jointly appraises the cases of closely related corporations, the data on the financial statements should in principle be aggregated. Simple data aggregation is however not recommended because of intra-group transactions and consolidated accounts are not available. Plans submitted by closely related corporations are therefore excluded from the sample of corporations resulting in final sample of 89 corporations[12].

4.2. Sample firms.

The corporations differ by legal form. 45 corporations are non-quoted public limited liability corporations (Société Anonyme), 41 are private limited companies (Société Privée à Responsabilité

[10] Five blocks of incorporated firms file jointly a plan. Those blocks respectively consists of 9, 4, 2, 2, and 2 corporations. 139 corporations (120+9+4+2+2+2) are subsequently involved with the 125 plans.
[11] Three large corporations confirmed a liquidation scheme, but are already excluded.
[12] Three groups were already removed before because total group assets were larger than € 5.000.000.

Limitée), and 3 incorporated firms have another legal status. Table 1 gives summary statistics sorted by legal form. Like all debt variables in this paper (see further), total liabilities are measured at the initiation of the procedure, i.e. 6 to 9 months before plan confirmation. The public limited liability corporations are clearly larger than the private limited companies. The sole proprietorships are small (based on the comparison of the liabilities).

Table 1: Firm characteristics sorted by legal form.

	N	*Mean*	*Median*	*Std. Dev.*	*Min*	*Max*
Public Limited Liability Corporation						
Pre-bankruptcy total Assets (€ 1000)	45	1472	1069	1365	90	4942
Employees (No.)	45	10.22	6	10	1	37
Liabilities (€ 1000)	45	1343	1104	1142	103	4873
Private Limited Companies						
Pre-bankruptcy total Assets (€ 1000)	41	509	235	620	21	3015
Employees (No.)	41	5.05	2	7.15	0	28
Liabilities (€ 1000)	41	463	311	481	18.54	1848
Sole Proprietorships						
Employees (No.)	61	0.3934	0	0.8222	0	3
Liabilities (€ 1000)	61	199	135	175	10.46	875

Table 2: Failure (bankruptcy-liquidation) during the court-supervised post-confirmation period.

	Corporations	*Sole proprietorships*
Panel A		
Number of firms failing during the court-supervision period of maximum 24 months	**43**	**30**
Number of firms not failing during the court-supervision period of maximum 24 months	46	31
Total firms	89	61
Panel B: Number of firms not failing during the court-supervision period of at maximum 24 months . . .		
. . and with additional prolongation of maximum 12	9	7
. . and without additional prolongation of maximum 12	37	24
Total firms	46	31
Panel C		
Number of firms failing during the prolonged court-supervision period of maximum 12 months	**1**	**0**
Number of firms not failing during the prolonged court-supervision period of maximum 12 months	8	7
Total firms	9	7
Panel D: time from plan confirmation to failure in months		
Mean	11.2046	11.6633
Median	10.5667	12.4333
St. dev.	6.4988	6.2085
Min.	1.3	0.1
Max.	29.7	23.5
Total firms	44	30

The distressed firm is expected to execute the confirmed plan under court-supervision during a period of maximum 24 months. Panel A of table 2 shows that approximately 50% of the distressed firms end in bankruptcy-liquidation during this period. Those failures are so-called type I errors [marked in bold]. The court-supervised period without prolongation takes a period of 24 months for 87 out of 89 corporations and for 60 out of 61 sole proprietorships[13]. If firms survive the initial post-confirmation period of maximum 24 months, the debtor can request prolongation of maximum 12 months. In this case a new plan is established and confirmed because the initial confirmed plan is only drafted for a period of maximum 24 months. The court and the unsecured creditors need to confirm the prolongation and the modified plan. Panel B of table 2 shows that the court-supervision period is extended for 9 corporations and 7 sole proprietorships. The prolongation takes 12 months for respectively 9 corporations and 6 sole proprietorships, and 9 months for 1 sole proprietorship. Panel C shows that only 1 corporation ends in bankruptcy-liquidation during the prolonged court-supervised post-confirmation period. Type I errors are therefore limited during the prolongation. Panel D shows the time spent in the court-supervised post-confirmation stage before transfer to bankruptcy-liquidation. The average time is 11 months for both corporations and sole proprietorships. The minimal length of time spent shows that some firms fail almost immediately after plan confirmation.

Table 3 provides summary statistics on the number of confirmed plans and the number of failing firms during the court-supervised post-confirmation stage per bankruptcy court. Data are sorted by courts size in the respective subsamples. The sole proprietorships resorting under the court of Charleroi fail infrequently after plan confirmation (bold cases in table 3). Put differently, sole proprietorships with confirmed plans in Charleroi have a significant likelihood to survive after plan confirmation.

Table 3: Confirmed plans and failing firms per bankruptcy court.

Corporations			*Sole proprietorships*		
Bankruptcy court	# confirmed plans	# failing firms during court-supervised post-confirmation stage	Bankruptcy court	# confirmed plans	# failing firms during court-supervised post-confirmation stage
Court of Antwerp	15	9	**Court Charleroi**	**13**	**3**
Court Charleroi	13	7	Court Liège	12	5
Court Leuven	13	8	Court Verviers	7	4
Court Namur	7	3	Court Namur	4	3
Court Liège	6	3	Court Huy	4	3
Court Marche	5	2	Court Oudenaarde	4	2
Court Mechelen	5	3	Court Leuven	3	1
Court Verviers	4	2	Court Gent	2	1
Court Huy	4	1	Court Marche	1	0
Court Gent	4	2	Court of Antwerp	1	1
Court Oudenaarde	2	1	Court Mechelen	0	0
Other courts	11	3	Other courts	10	7
Total	89	44	Total	61	30

[13] 2 corporations are supervised for only 13 and 7 months respectively, and 1 sole proprietorship is supervised for 3 months.

4.3. Firm distress and the debt composition.

We hypothesized that more distressed firms are more likely to end in bankruptcy-liquidation during the court-supervised post-confirmation (hypothesis 1.a.). Table 4 shows summary statistics on distress for failing and non-failing firms.

Panel A reports accounting data for our sample of 89 small corporations. Our profitability variable is defined as gross operating income (EBITDA) before filing the petition scaled by total assets, which is typically used as accounting measure of post-bankruptcy performance (see e.g. Hotchkiss, 1995; Denis & Rodgers, 2007). The reorganization plans show that distressed firms critically rely on their gross operating income for their installment payments during the court-supervised post-confirmation stage. The leverage ratio is defined as total liabilities to total assets and the liquidity ratio as the quick ratio (current asset minus inventory to current liabilities). We find that the pre-bankruptcy profitability is significantly lower at the 5% level for firms ending in bankruptcy-liquidation than for non-failing firms, which does not allow us to reject hypothesis 1a. The pre-bankruptcy variables leverage and liquidity have no role to play.

Panel A of table 4 shows that failing incorporated firms have significantly more unpaid government debt and trade credit[14] outstanding at the 10% level. The finding on government debt is in line with hypothesis 2b. We also find that the share of secured bank debt in total debt is significantly larger for non-failed firms at the 5% level, which is seemingly in conflict with hypothesis 2.a. In this univariate analysis debt interactions are however neglected. Failing firms might have accumulated more unpaid government debt and trade credit during the pre-bankruptcy period, resulting in lower shares of secured bank debt in total debt for failed firms as compared to the non-failed firms. In the multivariate analysis in section 5, we will control for the complete debt composition. Alternatively, the liquidation effect of secured banks on the likelihood of bankruptcy-liquidation might be less pronounced in our sample of confirmed plans (see also section 5).

Panel B shows financial data reported in the confirmed plans of individual debtors attempting to reorganize their sole proprietorship. There are no significant differences between failed and non-failed sole proprietorships in terms of government debt, trade debt or secured bank debt.

[14] Creditors benefiting from retention of title clauses are most likely trade creditors, and their claims are therefore included in the trade credit. Due wages are also included in the trade debt because bankruptcy documents do not allow to distinguish them from trade claims. Social security contributions on the wages (payroll taxes) are included in the government debt. Due wages are however very small. Most distressed firms however still pay wages because 1) Belgian employees have always the outside option of welfare payments and 2) the continuation decision of distressed firms critically depends on the employees, which typically results in paying wages without paying the due social contributions. Fisher & Martel (1994) report that only 23% of Canadian plans involve some wage claims. Wage claims to total liabilities amount to 0.35% in their study.

Table 4: Distress of failed and non-failed firms during the court-supervised post-confirmation stage.

Variables on distress						
Panel A: corporations						
Accounting data	Profitability		Leverage		Liquidity	
	Mean**	Median	Mean	Median	Mean	Median
Non-failed firms (N = 45)	0.0169	0.0496	1.1845	1.0302	0.4292	0.3942
Failed firms (N = 44)	-16.10	-0.0125	1.2230	1.0914	0.4698	0.3950
Data from bankruptcy documents	Government debt/total debt		Trade credit/total debt		Secured bank debt / total debt	
	Mean*	Median	Mean*	Median	Mean**	Median
Non-failed firms (N = 44)	0.2199	0.1392	0.3471	0.3132	0.3149	0.3120
Failed firms (N = 45)	0.3031	0.2583	0.4307	0.3915	0.1992	0.1701
Panel B: sole proprietorships						
Data from bankruptcy documents	Government debt/total debt		Trade credit/total debt		Secured bank debt / total debt	
	Mean	Median	Mean	Median	Mean	Median
Non-failed firms (N = 31)	0.2698	0.2556	0.2993	0.2188	0.4195	0.4677
Failed firms (N = 30)	0.2556	0.1796	0.3830	0.2830	0.3244	0.2887

* Significant at the 10% level, two-tailed t-tests.

** Significant at the 5% level, two-tailed t-tests.

4.4. Bankruptcy courts and appointed examiners.

The screening behavior of public actors during the pre-confirmation stage affects the likelihood of failure during the court-supervised post-confirmation stage. We expect that active and intensive screening during the pre-confirmation period leads to lower failure rates in the post-confirmation stage. It is hard however to find appropriate measures for the screening behavior of the public actors. The power of the court to dismiss the case is conditional on a request thereto from another party and therefore reveals only partial information on the behavior of the court and the presiding judges. The same applies to actions from the appointed examiner since we can only observe the court files and not any underlying dynamics. A debtor's request for dismissal might be instigated by the appointed examiner or vice versa.[15] The judge, who has appointed the examiner, might instigate an appointed examiner's request for dismissal.

A less ambiguous parameter with regard to the screening behavior of the court is the court's response to a dismissal. Within the philosophy of the American Bankruptcy system, case dismissal may be justified for a variety of reasons such as the failure to file financial schedules, pay fees or hire an attorney, or the absence of assets available to unsecured creditors. Although most of the dismissed cases in the U.S. are liquidation (see Morrision, 2007), dismissal is a logical part of the U.S. system. Case dismissal is however less justified in the Belgian framework. If Belgian judges dismiss a case of an unviable firm without resorting to conversion, they leave the bankruptcy-liquidation decision to the

[15] Since the examiner controls the debtor and assists him with drafting the reorganization plan (see section 2) he usually establishes a close working relationship with the debtor. As such, the debtor might have admitted the lack of future prospects, which the examiner has formalized in a petition for dismissal. An examiner might on the other hand convince the debtor to request himself for dismissal, as this might show his good faith when his excusability or fresh start-declaration is to be appraised as part of the bankruptcy-liquidation procedure.

debtor or the creditor[16]. The frequency of case dismissals during the pre-confirmation stage, or alternatively the frequency of case conversions, might reveal an important dimension of actual screening behavior by the public actors during the pre-confirmation stage: Judges that systematically opt for dismissal instead of conversion can be labeled as passive, since they defer the filtering decision to other involved parties.

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We calculate the Conversion rate during the pre-confirmation stage for each of the 17 bankruptcy courts involved in our sample study. The variable amounts to the fraction of conversions during the pre-confirmation stage scaled by the total number of bankruptcies (after conversion or dismissal) during the pre-confirmation stage[17]. A low rate of conversion indicates that the corresponding court has passive judges that leave the decision to transfer to bankruptcy-liquidation to the market. Panel A of table 5 gives summary statistics on this judicial activity variable for the five largest courts. The courts of Charleroi and Liège are clearly more active than other courts. This might explain the low number of distressed firms ending in bankruptcy-liquidation after plan confirmation for the sole proprietorships resorting under those courts (see table 3).

As already noted, judges can only decide to convert to bankruptcy-liquidation if examiners or debtors request to dismiss the court-supervised reorganization. The Conversion rate during the pre-confirmation stage may therefore be driven by both judges and their appointed examiners (i.e. both public actors).

The educational background and the professional experience of the appointed examiner may therefore affect the screening process and indirectly the likelihood of bankruptcy-liquidation during the court-supervised post-confirmation stage. Eisenberg and Tagashira (1994) analyze examiners' valuations of the liquidation value of business assets for a sample of Japanese firms under reorganization. They find that the valuations of lawyers and certified public accountants are not abnormal, while other examiners tend to overestimate the liquidation values. They however use one dummy variable to capture both certified public accountants and lawyer, which implies that that there still might be an unidentified difference between these two categories. We distinguish four classes of educational background for examiners: lawyers, auditors, accountants, and those with other (economic) backgrounds. Lawyers, auditors, and accountants are committed to their respective professional institutes. The other examiners are often bookkeepers, which are equally committed to their professional institute. Lawyers might be less experienced in identifying viable and unviable firms because they are not trained in business economics. We do not address the question whether an accountant has better reorganizing and filtering skills than other examiners with economic background, as both auditors and bookkeepers equally need to pass exams to exercise their tasks (including these tasks of an examiner).

[16] We verified that a dismissal on initiative of a creditor does not occur frequently during the pre-confirmation stage. Example given: it occurred only one time for the court of Charleroi and never for the court of Antwerp.

[17] We used the failure data of all firms that end in bankruptcy-liquidation during the pre-confirmation stage (from January 1998 until May 2006) to construct the Conversion rate variable. The data are provided by Graydon Belgium.

Panel B shows that the educational background of the court-appointed examiners differs among courts. The judges of the courts of Charleroi and Liège appoint lawyers, while Antwerp judges appoint accountants. The examiner's professional experience is measured by the number of past and current appointments as liquidators, auditors[18] and members of the Board of Directors of Belgian firms. An appointment as liquidator might offer relevant expertise in reorganizing firms, as a liquidator sells viable business branches to a third, and liquidates remaining assets in a piecemeal way (see further). Panel C of table 5 shows that the experience of the appointed examiners varies very strongly across courts.

Table 5: Public actors: judges and appointed examiners

Panel A: Conversion rate during pre-confirmation stage						
Court of Antwerp			0.1277			
Court of Charleroi			0.6571			
Court of Leuven			0.1538			
Court of Liège			0.3750			
Court of Verviers			0.2105			
All other courts (average)			0.3581			
Panel B: Examiner Education	Auditor	Accountant	Other economic background	Lawyer	N	
Court of Antwerp	3	13	0	0	16	
Court of Charleroi	1	0	0	25	26	
Court of Leuven	3	1	0	12	16	
Court of Liège	0	0	1	17	18	
Court of Verviers	1	0	7	3	11	
All other courts	12	9	4	38	63	
N	20	23	12	95	150	
Panel C: Examiner experience	N	Mean	Median	Std. Dev.	Min	Max
Court of Antwerp	16	2.6875	1	3.2397	1	12
Court of Charleroi	26	8.0385	5	8.3113	0	32
Court of Leuven	16	9.1250	8	7.1356	3	35
Court of Liège	18	17.5	16.5	12.3824	1	37
Court of Verviers	11	14.4546	22	10.4725	1	22
All other courts (average)	63	5.1587	3	6.3353	0	30

Some examiners might be specialized in liquidations[19]. One could argue that these examiners are appointed to liquidate the distressed firm and are therefore endogenous to the survival probabilities of the firm. This is however unlikely in our sample of going concern plans (liquidation schemes were excluded from the sample). Further inspection also reveals that the correlation between the number of appointments as liquidator and board member is negligible (–0.0652)[20], suggesting that professional liquidators are not present in our sample.

[18] We only measure the number of auditor positions in personal capacity, and trivially only for auditors.

[19] In our sample of small corporations with 89 appointed examiners, 36 and 14 of these examiners have no experience as liquidator (40%) and as a member of the board of directors of Belgian firms (16%). The average number of appointments is respectively 3.94 and 3.19 (medians are 1 and 2).

[20] The correlation between the number of appointments as liquidator and board member is also around zero in our sample of sole proprietorships.

5. The likelihood of failure: distress, debt composition and judicial discretion.

5.1. Corporations.

The failure of corporations during the post-confirmation period of the Belgian court-supervised restructuring may be driven by firm distress, debt composition and judicial discretion. We model the likelihood of failure as a Probit model. Results are shown in table 6. In specification 1 of table 6 we introduce financial variables from the last annual account prior to petition filing for bankruptcy-reorganization as determinants of the likelihood of failure. Like in the univariate analysis, higher profitability (measured as EBITDA scaled by total assets) is related to lower failure rates, while leverage and liquidity do not seem to affect the likelihood of failure. In specification 2 we control for industry conditions by introducing the industry sales growth, the industry profit margin, and industry dummies[21]. The estimates of specification 1 are robust, and the variables Industry sales growth and Industry profit margin have the expected negative sign.

In specifications 3 and 4 we introduce debt composition measures in our specification. Specification 3 reveals that distressed firms with higher levels of government debt are indeed more likely to fail, which does not allow us to reject hypothesis 2.b. Specification 4 shows that firms with higher levels of secured bank debt are less likely to fail, which seems to contrast the proposition that secured creditors prefer liquidation over reorganization and hence with hypothesis 2.a. The simultaneous inclusion of Secured bank debt/total debt, Government debt/total debt and Trade credit/total debt in the estimation is troublesome because of multicollinearity concerns, since secured debt, government debt and trade credit account for the lion's share of debt for small distressed firms. In specification 5 we replace the denominator total debt by total assets and simultaneously include Secured bank debt/total assets, Government debt/total assets and Trade credit/total assets as independent variables. The leverage variable, which is very close to a linear combination of these three variables, is accordingly excluded from this and further specifications. Firms that are more reliant on government debt are robustly found more likely to fail, while the opposite is true, though not significantly, for secured bank debt.

The variable Secured bank debt/total assets could be interpreted as a loan to value ratio (LTV ratio), where total assets act as proxy for the value of assets. A higher value of the LTV ratio implies lower expected proceeds in case of liquidation; and this might lower the secured bank's incentive to liquidate. Total assets are however not the best measure of liquidation value. The bankruptcy literature usually employs more specific measures, e.g. Collateral value/secured debt (see Bergström et al., 2002; Franks & Sussman, 2005). Bergström et al. (2002) argue that secured creditors may increasingly oppose a debtor's reorganization as the collateral value approaches the amount of their claims. If the reorganization succeeds, well-secured creditors receive only part of the appreciation of the firm's value, while they bear the brunt of the depreciation of the firm's value if the reorganization fails. Bergström et al. find accordingly that highly secured creditors oppose plan confirmation under Finnish

[21] The variable Industry sales growth is the industry average of the annual sales growth over the last three fiscal years prior to petition filing (based on 3 digit-Nace codes). The Industry profit margin is the industry average of the operating profit margin for the last fiscal year prior to petition filing (equally based on 3 digit-Nace codes). Industry dummies are defined as follows: wholesale (23 cases), retail (15 cases), manufacturing (13 cases), hotels and restaurants (9 cases), construction (8 cases), other industries (21 cases). Other industries are omitted.

court-supervised reorganization. We expect that well-secured creditors may oppose reorganization resulting in a higher likelihood of failure during the court-supervised post-confirmation stage. Like Bergström et al. (2002), we use the logs of Total assets/Secured bank debt and Collateral value/secured debt[22] as proxies for secured creditor resistance. The collateral value is measured as the sum of the book values of receivables, inventory, land & buildings, machinery, furniture and vehicles. Inventories are accounted only for half of its book value because half of the inventory proceeds in bankruptcy-liquidation are allocated to other creditors[23]. The two variables are set to zero for cases without bank debt (21 cases) and with unsecured bank debt (10 cases)[24]. In specification 6 and 7 we separately add the collateral variables to the list of independent variables. We find that both variables have the expected positive sign and that Collateral value/secured debt is significant at the 5% level in specification 7[25]. These findings suggest that secured banks do not support the reorganization if their collateral values are high.

In the specifications 8 to 11, we show that judicial discretion does not heavily affect the failure of distressed corporations during the post-confirmation period. In specification 8 we enrich specification 5 with court dummies for the three largest courts in our sample of corporations (the courts of Antwerp, Charleroi and Leuven) and find that they do not contribute to the explanation of failure. In specification 9 we introduce our court activity variable (the Conversion rate during the pre-confirmation stage) which seems to play no role. In specification 10 we include our variables on examiner education and experience. We find that the likelihood of failure is lower if the appointed examiner is an auditor. This suggests that auditors are more effective screeners during the pre-confirmation stage resulting in fewer bankruptcies during the post-confirmation stage[26]. The examiner experience variable is negative but insignificant. Specification 11 shows that cases with examiners with more Board experience have a lower likelihood to fail during the post-confirmation stage, although borderline not significantly, suggesting that these examiners may be more effective screeners during the pre-confirmation stage. In unreported regressions (available on demand), we find that the examiner's experience, as liquidator has no impact on the failure decision.

In the remaining specifications, we add four entrepreneurial-related variables to baseline specification 7. First, the variable Management experience is introduced in specification 12, which amounts to all positions on boards ever held (in the board of other Belgian firms) by members of the distressed firm's board. The average number of management positions is 4.04 (median is 2 - maximum is 27). Although

[22] The estimation results are fairly robust if we do not use logarithmic transformations.
[23] Two firms did not provide a security right with respect to their real estate. The value of land & buildings is revalued to zero by construction for those two cases.
[24] The collateral value amounts to zero for one firm that provided security rights, but without assets reported in the annual account. As the bank is actually not secured, the value of Collateral value/secured debt (log) is zero.
[25] We obtain significant estimates for both measures if we restrict the sample to firms with secured debt.
[26] Critics might argue that the choice of examiner is endogenous. Specifically, judges may appoint auditors for distressed firms with a higher expected likelihood to survive, which could drive our result. We argue that our results are not driven by this possible 'examiner shopping' by judges for two reasons. First, the examiner is appointed at the initiation of the reorganization procedure when information on the rescue prospects is limited and uncertain (see Baird & Morrison on information revelation during court-supervised restructuring, 2001). Second, we find no evidence that distressed firms assisted by an appointed examiner-auditor have higher pre-bankruptcy profitability (EBITDA/Assets).

not significantly, we find that distressed firms managed by more experienced entrepreneurs have a higher likelihood to succeed in reorganization. More general, this suggests that management experience can be regarded as a proxy for organizational slack. Organizational slack acts as a buffer to protect the firm's core from environmental pressures, and may allow the firm to survive (see e.g. Scharfman et al., 1988). Bourgeois (1981) defined slack as 'that cushion of actual or potential resources that allows an organization to adapt successfully to internal pressures for adjustment or to external pressures for change in policy as well as to initiate changes in strategy with respect to external environment'.

The variable Management experience includes both past and current positions on boards ever held by members of the distressed firm's board. If the number of positions is restricted to those exercised at the moment of procedure initiation (i.e. past positions are excluded), we have a proxy for the network and business relations of the management of the distressed firm. The variable is defined as Entrepreneurial network. The larger the entrepreneurial network, the more access to resources and financial support (potential slack)[27], and the more ability to survive. The coefficient estimate of Entrepreneurial network in specification 13 is negative and significant.

The entrepreneurial-related variable Prior bankruptcy is introduced in specification 14 (see also Morrison, 2007). Our variable Prior bankruptcy counts the earlier bankruptcies in which the board of directors of the distressed firm has been involved as a director[28]. The variable Prior bankruptcy is positive as expected, but insignificant. The dummy variable D-Personal guarantee takes the value of one when the entrepreneur provided a personal guarantee, and zero otherwise, and is equally introduced in specification 14. If entrepreneurs provided a guarantee, they are likely more motivated to survive because their private wealth is on stake. Debt personally guaranteed has the expected negative estimate, and is significant[29].

[27] See Dewaelheyns and Van Hulle (2006) on the existence of an 'internal capital market', whereby subsidiaries benefit from the support by the group it belongs, especially when the firm belongs to the core of the group.
[28] If a firm goes bankrupt two years after management dismissal, we consider the dismissed manager responsible and count it as an involvement in a previous bankruptcy. In Belgium, from a legal point of view, replaced managers even remain responsible for three years after their discharge.
[29] In unreported analysis (available on demand), we noticed that the distressed firm's age has no effect on the likelihood of failure.

Table 6: The likelihood of failure during the court-supervised post-confirmation stage for small corporations.

We estimate the likelihood of transfer to bankruptcy-liquidation during the court-supervised post-confirmation stage by using a probit model. The binary dependent variable equals one if the firm ends in bankruptcy-liquidation, and zero otherwise. The values in brackets are robust t-statistics based on the Huber/White/sandwich estimator of variance; * / **/ *** significant at 10% / 5% / 1%. We refer to appendix A for a description of the explanatory variables. The estimates of specification 1 to 14 are based on our sample of 89 small corporations.

	Spec. 1	*Spec 2.*	*Spec. 3*	*Spec. 4*	*Spec. 5*	*Spec. 6*	*Spec. 7*	*Spec. 8*	*Spec. 9*	*Spec. 10*	*Spec. 11*	*Spec. 12*	*Spec. 13*	*Spec. 14*
Accounting data														
Profitability	-1.1997	-1.2518	-1.3211	-1.1031	-1.0134	-1.1585	-1.2624	-1.1159	-1.0484	-1.0242	-1.0074	-1.3712	-1.5258	-1.4494
	[-2.30]**	[-2.54]**	[-2.56]***	[-2.04]**	[-1.92]*	[-2.15]**	[-2.21]**	[-2.03]**	[-1.97]*	[-2.12]**	[-2.07]**	[-2.45]**	[-2.60]***	[-2.39]**
Leverage	-0.0474	-0.3218	-0.0791	-0.1549										
	[-0.14]	[0.88]	[-0.22]	[-0.46]										
Liquidity	0.4829	0.1258	0.4411	0.1782	0.3963	0.7213	0.7104	0.2834	0.4099	0.6800	0.7374	0.8110	0.7806	0.8419
	[1.01]	[0.25]	[0.89]	[0.35]	[0.86]	[1.56]	[1.55]	[0.58]	[0.90]	[1.39]	[1.56]	[1.74]*	[1.76]*	[1.81]*
Variables on debt composition														
Government debt/total debt			1.4655											
			[1.98]**											
Secured debt/total debt				-1.3017										
				[-1.89]*										
Government debt/total assets					1.0966	1.3456	1.3684	1.0863	1.0650	0.9632	1.0968	1.3198	1.2563	1.1236
					[1.82]*	[2.34]**	[2.32]**	[1.82]*	[1.79]*	[1.72]*	[1.97]*	[2.24]**	[2.12]**	[1.83]*
Secured bank debt/total assets					-0.7407			-0.6980	-0.7645	-0.6654	-0.7011			
					[-1.48]			[-1.39]	[-1.48]	[-1.41]	[-1.45]			
Trade debt/total assets					0.3004	0.3370	0.3272	0.2921	0.3042	0.5608	0.6187	0.3778	0.5279	0.7089
					[0.79]	[0.88]	[0.86]	[0.73]	[0.80]	[1.49]	[1.55]	[0.99]	[1.31]	[1.64]
Total assets / secured bank debt (log)						0.3209								
						[1.55]								
Collateral value/ secured bank debt (log)							0.5582					0.5794	0.5871	0.5951
							[2.44]**					[2.40]**	[2.37]**	[2.20]**
Court-level variables														
D-court of Antwerp								0.3972						
								[0.95]						
D-court of Charleroi								0.4158						
								[0.97]						
D-court of Leuven								0.5810						
								[1.35]						
Conversion rate during pre-confirmation stage									0.1734					
									[0.28]					

Continuation of table 6	*Spec. 1*	*Spec 2.*	*Spec. 3*	*Spec. 4*	*Spec. 5*	*Spec. 6*	*Spec. 7*	*Spec. 8*	*Spec. 9*	*Spec. 10*	*Spec. 11*	*Spec. 12*	*Spec. 13*	*Spec. 14*
Examiner variables														
D-auditor										-0.8025	-0.7898			
										[-1.91]*	[-1.92]*			
D-accountant										0.1613				
										[0.38]				
D-other examiner education										-0.2129				
										[-0.45]				
Examiner experience										-0.0133				
										[-0.82]				
Examiner Experience in boards of other Belgian firms											-0.0556			
											[-1.51]			
Entrepreneurial variables														
Management experience												-0.0407		
												[-1.21]		
Entrepreneurial Network													-0.1037	-0.1478
													[-1.67]*	[-2.06]**
Prior bankruptcy														0.1665
														[0.86]
Debt personally guaranteed														-0.8815
														[-1.77]*
Controls														
Total assets (log)	-0.0191	-0.0300	0.0383	0.0775	0.1443	0.0738	0.0420	0.1381	0.1354	0.1417	0.1516	0.0884	0.1257	0.2214
	[-0.18]	[-0.27]	[0.33]	[0.65]	[1.24]	[0.59]	[0.33]	[1.13]	[1.12]	[1.18]	[1.30]	[0.67]	[0.93]	[1.58]
Industry sales growth		-2.4014												
		[-0.81]												
Industry profit margin		-3.3761												
		[-1.26]												
Industry dummies	NO	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Constant	-0.1327	1.5381	-0.8258	-0.1214	-1.3975	-1.6336	-1.4260	-1.5345	-1.3953	-1.3549	-1.4198	-1.6105	-1.8502	-2.4067
	[-0.13]	[1.22]	[-0.72]	[-0.12]	[-1.47]	[-1.68]*	[-1.45]	[-1.55]	[-1.47]	[-1.41]	[-1.51]	[-1.59]	[-1.83]*	[-2.35]**
Pseudo R2	0.0634	0.1175	0.1014	0.0952	0.1248	0.1272	0.1541	0.1464	0.1255	0.1726	0.1798	0.1688	0.1770	0.2056
Number of observations	89	89	89	89	89	89	89	89	89	89	89	89	89	89

5.2. Sole proprietorships.

Financial statements are not available for sole proprietorships, which limits the analysis of the determinants of the likelihood of failure to debt composition and judicial discretion. We model the likelihood of failure of proprietorships again as a Probit model. Results are shown in table 7.

In specifications 1 and 2 we introduce Government debt/total debt and Secured bank debt/total debt respectively. We control for size by the number of employees. Government debt/total debt does clearly not affect the likelihood of failure, while natural persons that are more reliant on secured bank debt tend to have a lower probability of failure. Unfortunately we cannot verify how collateralization affects the failure rate, because of the data limitations mentioned before. Surprising is the finding that that sole proprietorships with more staff have a higher likelihood to exit the court-supervision stage as a going concern. This is a very robust finding of all specifications in table 7. This may suggest that courts are more lenient towards sole proprietorships with more employees[30]. To verify whether this is driven by local unemployment concerns, we add the unemployment rate of the judicial district during the year of plan confirmation in specification 3. The coefficient is negative as expected, but not significant, and the coefficient estimated for the number of employees remains robustly negative.

In specification 4 we enrich specification 2 with court dummies for the three largest courts in our sample of proprietorships (the courts of Charleroi, Liège and Verviers). For proprietorships judicial discretion is found to play an important role. The coefficient for the court of Charleroi dummy (D-court of Charleroi) is significant at the 5 % level, while the coefficient for the court of Liège dummy (D-court of Liège) comes very close to significance. These findings are consistent with the statistics on failure per bankruptcy court reported in table 2.

Table 5 shows that the frequency of conversions during the pre-confirmation stage varies widely across courts. If judges chose systematically not to convert cases of unviable firms, they reveal a judicial aversion to filter between viable and unviable firms. In this line of reasoning, we regard the judges of Charleroi and Liège as 'active' screeners because of their high conversion rates. In specification 5 we enrich specification 4 with the Conversion rate during the pre-confirmation stage, while in specification 6 we substitute the conversion rate for the court dummies. The results indicate that the court dummies are not longer significant after the introduction of the conversion rate, and that the conversion rate itself is strongly significant. If courts screen more actively during the pre-confirmation stage, failure rates during the post-confirmation stage are lower. In unreported robustness tests we find the coefficient estimated for conversion rate is still significant in a sample without the cases of Charleroi and Liège.

In specification 7 we enrich specification 4 with the examiner variables[31]. We find that more experienced examiners during the pre-confirmation period make for lower failure rates during the post-confirmation period. Note also that the introduction of the examiner variables strongly affect the

[30] The number of employees does not affect the likelihood of failure in our sample of small corporations.
[31] We do introduce D-auditor because only one auditor was appointed in our sample of 61 sole proprietorships.

dummy for the court of Liège, which is consistent with the earlier finding in table 5 that the judges of the court of Liège appoint more experienced examiners (see panel C of table 5). In specification 8 we omit the court dummies and find that both Examiner experience and examiner education have an effect on the likelihood of failure. In unreported robustness checks, we find that the significance of Examiner experience falters in a sample without the cases of Liège, although the sign remains negative[32].

Table 7: The likelihood of failure during the court-supervised post-confirmation stage for sole proprietorships.

We estimate the likelihood of transfer to bankruptcy-liquidation during the court-supervised post-confirmation stage in our sample of 61 sole proprietorships. We use a probit model with binary dependent variable that equals one if the firm ends in bankruptcy-liquidation, and zero otherwise. The values in brackets are robust t-statistics based on the Huber/White/sandwich estimator of variance; * / **/ *** significant at 10% / 5% / 1%. We refer to appendix A for a description of the explanatory variables.

	Spec. 1	*Spec. 2*	*Spec 3.*	*Spec. 4*	*Spec. 5*	*Spec. 6*	*Spec. 7*	*Spec. 8*	*Spec. 9*
Debt composition variables									
Government debt / total debt	0.2910								
	[0.28]								
Secured bank debt / total debt		-0.6902	-0.7470	-0.8640	-1.1707	-1.1804	-0.6725	-0.4300	-0.9620
		[-1.23]	[-1.33]	[-1.48]	[-2.00]**	[-2.01]**	[-1.09]	[-0.74]	[-1.63]
Court-level variables									
D-court of Charleroi				-1.0677	-0.4075		-1.0223		
				[-2.02]**	[-0.57]		[-1.80]*		
D-court of Liège				-0.6888	-0.5521		-0.1786		
				[-1.52]	[-1.17]		[-0.32]		
D-court of Verviers				0.1909	-0.0206		-0.0862		
				[0.31]	[-0.03]		[-0.10]		
Conversion rate during the pre-confirmation stage					-1.9403	-2.5031			-2.4725
					[-1.43]	[-2.67]***			[-2.29]**
Examiner variables									
D-accountant							-0.3070	0.0420	0.1718
							[-0.48]	[0.07]	[0.29]
D-other examiner education							1.4942	1.8040	1.3701
							[1.45]	[2.18]**	[1.86]*
Examiner experience							-0.0650	-0.0705	-0.0702
							[-2.34]**	[-3.08]***	[-2.78]***
Controls									
Number of employees	-0.6861	-0.6935	-0.6996	-0.8107	-0.7692	-0.7233	-0.8333	-0.8262	-0.7973
	[-2.84]***	[-3.01]***	[-2.94]***	[-3.30]***	[-3.13]***	[-3.04]***	[-3.15]***	[-3.57]***	[-3.12]***
Unemployment rate			-0.0387						
			[-1.34]						
Constant	0.1531	0.4586	1.0497	0.8647	1.5602	1.5654	1.0940	0.7329	1.8599
	[0.60]	[1.63]	[2.01]**	[2.36]**	[2.95]***	[3.38]***	[2.56]***	[2.19]**	[3.31]***
Pseudo R2	0.1036	0.1214	0.1434	0.2003	0.2226	0.2061	0.2580	0.2085	0.2830
Number of observations	61	61	61	61	61	61	61	61	61

In sum, more active screening by the judges and the appointment of more experienced examiners in the pre-confirmation stage leads to lower failure rates in the post-confirmation stage, although the latter effect is to some extent driven by the court of Liège. This implies that for proprietorships we

[32] In unreported analysis (available on demand), we find that sole proprietorships with an examiner specialized in liquidations have a lower likelihood to fail. This effect however disappears in a sample without the cases of Liège.

cannot reject hypothesis 3 that judicial discretion affects firm failure. In addition we find that proprietorships with more employees are very robustly more likely to survive during the post-confirmation period.

6. The length of time spent in the court-supervised post-confirmation stage before transfer to bankruptcy-liquidation.

The literature argues that the time spent in bankruptcy is a proxy for indirect bankruptcy costs (see e.g. Franks & Torous, 1989; Bris et al., 2006; Morrison, 2007). Bris et al. (2006) argue that the bankruptcy's adverse impact on product and capital markets increases with the time spent in bankruptcy. Morrison (2007) more specifically refers to the delay in reallocating the distressed firm's assets to a third party who can put them to a better use. Next to indirect costs, direct administrative costs also increase with case duration under bankruptcy. Bankruptcy costs equally increase with the time spent in the Belgian court-supervised post-confirmation stage for firms that ultimately end in bankruptcy-liquidation. In an efficient system, those failing firms should be identified and liquidated as soon as possible to minimize costs. Therefore, we hypothesized that more distressed firms are liquidated faster during the court-supervised post-confirmation stage (hypothesis 1.b). This hypothesis of filtering efficiency is tested using our sample of 44 small failed corporations[33][34].

We use an accelerated failure-time regression model to analyze the time spent in the court-supervised post-confirmation stage before being transferred to bankruptcy-liquidation. The dependent variable is the natural logarithm of the duration time until failure expressed as a linear function of covariates. This yields the linear model $\ln t_j = x_j \beta + z_j$, where x_j is a vector of covariates, β is a vector of regression coefficients, and z_j is the error with density f(). The distributional form of the error term z_j determines the regression model. Following Denis & Rodgers (2007), we assume that the error term follows the extreme-value (Gumbel) distribution resulting in an accelerated failure-time regression Weibull model. In table 8 we present coefficient estimates of β, with a positive β indicating a longer period spent in the post-confirmation stage.

In specification 1 of table 8 we include accounting variables as determinants of the time spent in the post-confirmation period. We find a positive and significant estimate for profitability (measured as EBITDA scaled by total assets) that turns out to be robust in all specifications: less distressed firms spent more time in the court-supervised post-confirmation stage, while more distressed firms are liquidated faster. This suggests that the system is relatively efficient. The time spent in the pre-confirmation stage[35], leverage and liquidity do not affect the time spent in the post-confirmation period. In specification 2 we control for industry conditions, but none of the industry variables contributes to the explanation. The negative sign for industry sales growth, that turns significant in

[33] The size of Morrison's sample varies across models and specifications, but consists of approx. 55 distressed small firms.
[34] See appendix F for a survival analysis including also the 45 non-failed cases.
[35] As a robustness check, we did add the time spent in the pre-confirmation stage to our dependent variable (the time spent in the court-supervised post-confirmation stage before failure) and re-estimated all specifications of table 8. We noted that our results and conclusions are robust.

some specifications, may be driven by higher liquidation values of sector-specific assets because of higher demand in industries with high sales growth, which leads to faster liquidations.

Table 8: Determinants of time spent in the court-supervised post-confirmation stage before transfer to bankruptcy-liquidation

We use an accelerated failure-time Weibull regression model to analyze the time spent in the court-supervised post-confirmation stage before transfer to bankruptcy-liquidation. A positive coefficient estimate indicates a longer period spent in the post-confirmation stage. The estimates are based on a subsample of 44 (out of 89) small corporations. The values in brackets are robust t-statistics; * / **/ *** significant at 10% / 5% / 1%. We refer to appendix A for a description of the explanatory variables.

	Spec. 1	*Spec 2.*	*Spec. 3*	*Spec. 4*	*Spec. 5*	*Spec. 6*
Accounting data						
Profitability	0.5615	0.4707	0.2768	0.3203	0.3553	0.3713
	[3.03]***	[2.74]***	[1.95]*	[2.42]**	[2.01]**	[2.39]**
Leverage	0.3628	0.2448				
	[1.42]	[0.94]				
Liquidity	0.0816	-0.0072				
	[0.26]	[-0.02]				
Variables on debt composition						
Government debt/total debt			0.4768			
			[1.24]			
Secured debt/total debt				0.2313		
				[0.61]		
Government debt/total assets					0.4320	
					[1.80]*	
Secured bank debt/total assets					0.3898	
					[1.62]	
Trade debt/total assets					-0.2591	
					[-0.91]	
Collateral value/ secured bank debt (log)						-0.1972
						[-1.48]
Controls						
Total assets (log)	-0.0222	0.0217	0.0370	0.0009	0.0147	0.0066
	[-0.32]	[0.31]	[0.54]	[0.01]	[0.23]	[0.09]
Time in pre-confirmation stage	-0.0049					
	[-0.13]					
Industry sales growth		-1.9136	-2.0153	-2.0334		
		[-1.63]	[-1.73]*	[-1.91]*		
Industry profit margin		-0.3906				
		[-0.41]				
Intercept	2.2963	2.3455	2.3565	2.6726	2.3593	2.6374
	[3.30]***	[3.67]***	[5.21]***	[7.29]***	[4.45]***	[5.94]***
Scale	0.5317	0.5180	0.5196	0.5144	0.4954	0.5287
Shape	1.8808	1.9305	1.9246	1.9439	2.0187	1.8915
Log pseudolikelihood	-41.8346	-41.0599	-40.7284	-41.3248	-39.2162	-41.6106
Wald test	9.81*	21.20***	21.08***	16.37***	30.39***	9.79**
Number of observations	44	44	44	44	44	44

We drop leverage and liquidity in further specifications to avoid overspecification in a small sample. In specification 3 and 4 we add the debt composition variables Government debt/total debt and Secured bank debt/total debt. The positive coefficient of Government debt/total debt suggests that the government is not a very active actor in the filtering process: firms with more government debt linger on for a longer period of time before they are finally liquidated. This is confirmed in specification 5

where we find a significantly positive coefficient for Government debt/total assets variable. The positive coefficient for Secured bank debt/total debt is in line with our previous findings, although not significant, but we stress again that collateralization is a better measure for liquidation value.

In specification 6 we add our measure of collateralization and find an opposite negative coefficient, again in line with our previous findings. In unreported robustness checks the coefficient of Collateral value/ secured bank debt is always found to be negative, while its significance depends on the specification: if collateralization is high, creditor resistance is high, which leads to faster liquidation of unviable firms.

7. Conclusion.

Unlike Chapter 11 in the U.S., distressed firms in Belgium temporarily remain under court-supervision during plan execution. This court-supervised post-confirmation period takes a period of 24 months in most cases. Using a sample of small firms, we analyze bankruptcy-liquidation during this post-confirmation period and the time spent under it before transfer to bankruptcy-liquidation, by explicitly testing 5 hypotheses.

We find that more distressed firms are more likely to fail during the court-supervised post-confirmation and do so more quickly (hypothesis 1), which indicates that the Belgian procedure may be a relatively effective filter of viable firms.

Secured banks with higher collateral values are more likely to fail (hypothesis 2a), which is not surprising in the Belgian context. In Belgium, judges and unsecured creditors may confirm a plan without the explicit agreement of secured creditors, as is the case in the U.S., leaving the conflict between secured creditors and debtors unresolved. Moreover, and unlike in the U.S., secured creditors always regain their absolute rights 18 months after plan confirmation, if no agreement was reached during the pre-confirmation stage. Therefore, if secured creditors are not fully repaid within those 18 months, they can freely seize and sell assets. This may lead well-collateralized creditors to induce more bankruptcy-liquidation during the court-supervised post-confirmation stage.

We find also that firms with more due government debt have a higher likelihood to fail during the court-supervised post-confirmation period (hypothesis 2b), which is consistent with Canadian findings. This is not unexpected since the Belgian legal rules and reorganization practice require that prioritized government claims are fully repaid during the court-supervised post-confirmation stage.

While judicial discretion does not affect small corporations, it clearly affects the failure of sole proprietorships during the post-confirmation period (hypothesis 3). Specifically, more active screening by the judges and the appointment of more experienced examiners in the pre-confirmation stage leads to lower failure rates in the post-confirmation stage.

Appendix A: variable description.

	Description of the variable
Accounting data	Accounting data obtained from the latest annual account prior to petition filing (pre-bankruptcy information)
Profitability	Gross operating income (EBITDA) scaled by total assets
Leverage	Total liabilities/assets
Liquidity	Quick ratio (current assets –liquidity / current liabilities)
Variables on debt composition	The debt amounts at procedure initiation are reported in the bankruptcy documents
Government debt/total debt	Government debt scaled by total debt (variable measured at the start of the procedure)
Secured debt/total debt	Secured bank debt scaled by total debt (variable measured at the start of the procedure)
Government debt/total assets	Government debt at the start of the procedure scaled by pre-bankruptcy assets
Secured bank debt/total assets	Secured bank debt at the start of the procedure scaled by pre-bankruptcy assets
Trade debt/total assets	Trade credit at the start of the procedure scaled by pre-bankruptcy assets
Total assets / secured bank debt (log)	Logarithmically transformed ratio of pre-bankruptcy assets scaled by secured bank debt at the start of the procedure (collateral proxy)
Collateral value/ secured bank debt (log)	Logarithmically transformed collateral value scaled by secured bank debt at the start of the procedure (detailed collateral proxy). The collateral value is measured as the sum of the book values of receivables, inventory, land & buildings, machinery, furniture and vehicles. Inventories are accounted only for half of its book value because half of the inventory proceeds in bankruptcy-liquidation are allocated to other creditors. See paper text for further details.
Court-level variables	
D-court of Antwerpen	Dummy variable assigned the value of one if the distressed firm filed a petition with the court of Antwerpen, and zero otherwise.
D-court of Charleroi	Dummy variable assigned the value of one if the distressed firm filed a petition with the court of Charleroi, and zero otherwise.
D-court of Leuven	Dummy variable assigned the value of one if the distressed firm filed a petition with the court of Leuven, and zero otherwise.
D-court of Verviers	Dummy variable assigned the value of one if the distressed firm filed a petition with the court of Verviers, and zero otherwise.
Conversion rate during pre-confirmation stage	The variable Conversion rate during the pre-confirmation stage is calculated for each of the 17 bankruptcy courts involved in our sample study. The variable amounts to the fraction of conversions to bankruptcy-liquidation during the pre-confirmation stage scaled by the total number of bankruptcies (after conversion or dismissal) during the pre-confirmation stage[36]. A low rate of conversion suggests for a court with on average passive judges, which leave the decision to transfer to bankruptcy-liquidation to the market, i.e. to the debtor or creditors.
Examiner variables	
D-auditor	Dummy variable assigned the value of one if the appointed examiner is an auditor, and zero otherwise.
D-accountant	Dummy variable assigned the value of one if the appointed examiner is an accountant, and zero otherwise.
D-other examiner education	Dummy variable assigned the value of one if the appointed examiner has another education than auditor, accountant or lawyer; i.e. bookkeepers in most cases.
Examiner experience	The examiner's professional experience is measured by his number of past and current appointments as liquidator, auditor and member of the Board of Directors of Belgian firms. An appointment as liquidator might offer relevant expertise in reorganizing firms, as a liquidator sells viable business branches to a third, and liquidates remaining assets in a

[36] We used the failure data of all firms that end in bankruptcy-liquidation during the pre-confirmation stage from January 1998 until May 2006 to construct the Conversion rate variable (around 1000 cases). The data are provided by Graydon Belgium.

	piecemeal way.
Examiner Experience in boards of other Belgian firms	This variable measures the examiner's number of past and current appointments as member of the Board of Directors of Belgian firms.
Entrepreneurial variables	
Management experience	Management experience measures all past and current positions on boards ever held (in the board of other Belgian firms) by members of the distressed firm's board.
Entrepreneurial Network	This variable measures the positions on boards (in the board of other Belgian firms) at the moment of procedure initiation by members of the distressed firm's board. (i.e. current positions)
Prior bankruptcy	The variable Prior bankruptcy counts the earlier bankruptcies in which the board of directors of the distressed firm has been involved as a director[37].
D-Personal guarantee	This dummy variable takes the value of one when the entrepreneur provided a personal guarantee to the bank, and zero otherwise.
Controls	
Total assets (log)	The logarithmic variable of the pre-bankruptcy assets (as reported in the latest annual account prior to petition filing)
Industry sales growth	The industry sales growth is the industry average of the annual sales growth over the last three fiscal years before the distressed firm's filing for bankruptcy-reorganization (based on 3-digit Nace codes).
Industry profit margin	The industry profit margin is the operating profit margin for the last fiscal year before the distressed firm's filing for bankruptcy-reorganization (based on 3-digit Nace codes).
Number of employees	The number of employees as reported in the latest annual account prior to petition filing
Unemployment rate	The unemployment rate of the judicial district during the year of plan confirmation

[37] If a firm goes bankrupt two years after management dismissal, we consider the dismissed manager responsible and count it as an involvement in a previous bankruptcy.

Appendix B: summary statistics on the explanatory variables in table 6.

	Mean	*Median.*	*Std. Dev.*
Accounting data			
Profitability	-0.0711	0.0220	0.3479
Leverage	1.2035	1.0539	0.4709
Liquidity	0.4493	0.3950	0.3283
Variables on debt composition			
Government debt/total debt	0.2610	0.2110	0.2124
Secured debt/total debt	0.2577	0.2288	0.2510
Government debt/total assets	0.2995	0.1994	0.3028
Secured bank debt/total assets	0.2736	0.2053	0.3030
Trade debt/total assets	0.4544	0.3919	0.3954
Total assets / secured bank debt (log)	0.7115	0.5552	0.7826
Collateral value/ secured bank debt (log)	0.3829	0.1583	0.7496
Court-level variables			
D-court of Antwerp	0.1685	0	0.3765
D-court of Charleroi	0.1461	0	0.3552
D-court of Leuven	0.1461	0	0.3552
Conversion rate during pre-confirmation stage	0.3403	0.2143	0.2462
Examiner variables			
D-auditor	0.2135	0	0.4121
D-accountant	0.1910	0	0.3953
D-other examiner experience	0.0787	0	0.2707
Examiner experience	8.4607	5	9.5216
Examiner Experience in boards of other Belgian firms	3.1910	2	4.3429
Entrepreneurial variables			
Management experience	4.0449	2	5.1652
Entrepreneurial Network	1.9663	1	3.0765
Prior bankruptcy	0.5618	0	1.0220
Debt personally guaranteed	0.1461	0	0.3552
Controls			
Total assets (log)	6.1229	6.3333	1.3697
Industry sales growth	0.0753	0.0655	0.0574
Industry profit margin	0.1071	0.0681	0.0812

Appendix C: correlation matrix of variables in table 6.

	R1	*R2*	*R3*	*R4*	*R5*	*R6*	*R7*	*R8*	*R9*	*R10*	*R11*	*R12*	*R13*	*R14*	*R15*	*R16*	*R17*	*R18*	*R19*	*R20*	*R21*	*R22*
R1	1,000	-0,257	0,041	0,062	0,197	-0,232	0,232	-0,206	0,107	0,052	0,155	0,095	0,036	0,100	-0,040	-0,186	0,148	-0,038	-0,119	-0,143	-0,019	-0,085
R2	-0,257	1,000	-0,358	0,230	0,093	0,093	-0,140	-0,023	-0,265	0,124	0,081	-0,147	0,176	0,114	0,221	-0,032	-0,090	0,058	0,017	0,050	-0,103	-0,026
R3	0,041	-0,358	1,000	-0,423	0,002	-0,184	0,299	0,011	0,394	-0,016	0,001	0,012	-0,087	-0,224	-0,123	0,006	0,058	0,243	-0,145	-0,090	-0,163	0,043
R4	0,062	0,230	-0,423	1,000	0,089	-0,237	-0,074	-0,262	-0,031	-0,145	-0,045	-0,005	-0,068	0,320	-0,089	0,212	-0,174	-0,137	0,006	0,086	0,133	0,013
R5	0,197	0,093	0,002	0,089	1,000	-0,387	0,839	-0,346	-0,246	-0,126	-0,070	0,007	0,219	-0,008	0,069	-0,210	0,121	-0,006	-0,037	0,003	-0,209	0,013
R6	-0,232	0,093	-0,184	-0,237	-0,387	1,000	-0,369	0,825	-0,383	0,145	-0,012	-0,132	0,026	-0,143	0,283	-0,050	-0,089	-0,028	0,103	-0,025	-0,106	-0,214
R7	0,232	-0,140	0,299	-0,074	0,839	-0,369	1,000	-0,190	0,021	-0,271	-0,229	-0,027	0,193	-0,137	0,042	-0,122	0,061	0,136	-0,023	0,031	-0,292	-0,050
R8	-0,206	-0,023	0,011	-0,262	-0,346	0,825	-0,190	1,000	-0,143	-0,050	-0,271	-0,078	0,043	-0,149	0,213	-0,071	-0,085	0,023	0,132	0,041	-0,193	-0,237
R9	0,107	-0,265	0,394	-0,031	-0,246	-0,383	0,021	-0,143	1,000	-0,098	-0,066	0,015	-0,066	0,052	-0,214	0,148	-0,032	0,153	0,004	0,152	0,105	0,157
R10	0,052	0,124	-0,016	-0,145	-0,126	0,145	-0,271	-0,050	-0,098	1,000	0,818	0,029	0,021	0,134	0,052	-0,002	0,164	0,018	-0,013	-0,023	0,082	-0,230
R11	0,155	0,081	0,001	-0,045	-0,070	-0,012	-0,229	-0,271	-0,066	0,818	1,000	-0,073	0,043	0,168	0,066	0,022	0,071	0,057	-0,007	0,003	0,086	-0,160
R12	0,095	-0,147	0,012	-0,005	0,007	-0,132	-0,027	-0,078	0,015	0,029	-0,073	1,000	-0,186	-0,186	-0,391	-0,015	0,697	-0,132	-0,291	-0,152	0,236	-0,141
R13	0,036	0,176	-0,087	-0,068	0,219	0,026	0,193	0,043	-0,066	0,021	0,043	-0,186	1,000	-0,171	0,535	-0,138	-0,201	-0,121	0,124	-0,129	0,009	-0,052
R14	0,100	0,114	-0,224	0,320	-0,008	-0,143	-0,137	-0,149	0,052	0,134	0,168	-0,186	-0,171	1,000	-0,315	0,017	-0,120	-0,121	0,034	0,203	0,072	-0,017
R15	-0,040	0,221	-0,123	-0,089	0,069	0,283	0,042	0,213	-0,214	0,052	0,066	-0,391	0,535	-0,315	1,000	-0,174	-0,239	-0,132	0,179	-0,145	-0,077	0,004
R16	-0,186	-0,032	0,006	0,212	-0,210	-0,050	-0,122	-0,071	0,148	-0,002	0,022	-0,015	-0,138	0,017	-0,174	1,000	-0,253	-0,152	0,001	0,085	0,196	0,001
R17	0,148	-0,090	0,058	-0,174	0,121	-0,089	0,061	-0,085	-0,032	0,164	0,071	0,697	-0,201	-0,120	-0,239	-0,253	1,000	-0,142	-0,190	-0,035	0,066	-0,119
R18	-0,038	0,058	0,243	-0,137	-0,006	-0,028	0,136	0,023	0,153	0,018	0,057	-0,132	-0,121	-0,121	-0,132	-0,152	-0,142	1,000	0,189	0,490	-0,121	-0,072
R19	-0,119	0,017	-0,145	0,006	-0,037	0,103	-0,023	0,132	0,004	-0,013	-0,007	-0,291	0,124	0,034	0,179	0,001	-0,190	0,189	1,000	0,481	-0,063	-0,151
R20	-0,143	0,050	-0,090	0,086	0,003	-0,025	0,031	0,041	0,152	-0,023	0,003	-0,152	-0,129	0,203	-0,145	0,085	-0,035	0,490	0,481	1,000	0,008	-0,145
R21	-0,019	-0,103	-0,163	0,133	-0,209	-0,106	-0,292	-0,193	0,105	0,082	0,086	0,236	0,009	0,072	-0,077	0,196	0,066	-0,121	-0,063	0,008	1,000	0,297
R22	-0,085	-0,026	0,043	0,013	0,013	-0,214	-0,050	-0,237	0,157	-0,230	-0,160	-0,141	-0,052	-0,017	0,004	0,001	-0,119	-0,072	-0,151	-0,145	0,297	1,000

R1: Binary dependent variable (failure = 1)
R2: Profitability
R3: Leverage
R4: Liquidity
R5: Government debt/total debt
R6: Secured debt/total debt
R7: Government debt/total assets
R8: Secured bank debt/total assets
R9: Trade debt/total assets
R10: Total assets / secured bank debt (log)
R11: Collateral value/ secured bank debt (log)
R12: D-court of Antwerp
R13: D-court of Charleroi
R14: D-court of Leuven
R15: Conversion rate during pre-confirmation stage
R16: D-auditor
R17: D-accountant
R18: D-other examiner education
R19: Examiner experience
R20 : Total assets (log)
R21: Industry sales growth
R22: Industry profit margin

Appendix D: summary statistics and correlation table of the variables in table 7.

Summary statistics on the variables in table 7.

	Mean	*Median*	*St. dev.*
Debt composition variables			
Government debt / total debt	0.2674	0.2224	0.2407
Secured bank debt / total debt	0.3727	0.3202	0.3053
Court-level variables			
D-court of Charleroi	0.2131	0	0.4129
D-court of Liège	0.1967	0	0.4008
D-court of Verviers	0.1148	0	0.3214
Conversion rate during the pre-confirmation stage	0.3759	0.3750	0.2103
Examiner variables			
D-accountant	0.0984	0	0.3003
D-other examiner education	0.0820	0	0.2766
Examiner experience	7.2787	5	8.0356
Controls			
Number of employees	0.3934	0	0.8222
Unemployment rate (%)	14.92	15.20	6.1683

Correlation matrix of the variables in table 7.

	R1	*R2*	*R3*	*R4*	*R5*	*R6*	*R7*	*R8*	*R9*	*R10*	*R11*	*R12*
R1	1,0000	-0,0105	-0,1570	-0,2717	-0,0744	0,0573	-0,3273	0,0054	0,0647	-0,2401	-0,3540	-0,1891
R2	-0,0105	1,0000	-0,5116	0,1547	0,0849	0,1109	0,1319	-0,0428	-0,1300	-0,0172	0,1167	0,2134
R3	-0,1570	-0,5116	1,0000	-0,0122	-0,0181	-0,0658	-0,1589	-0,1300	0,0239	0,1607	0,0254	-0,0094
R4	-0,2717	0,1547	-0,0122	1,0000	-0,2575	-0,1874	0,7017	-0,1719	-0,1555	-0,1639	0,1907	0,6761
R5	-0,0744	0,0849	-0,0181	-0,2575	1,0000	-0,1782	-0,0022	-0,1635	-0,1479	0,4329	-0,1376	0,3899
R6	0,0573	0,1109	-0,0658	-0,1874	-0,1782	1,0000	-0,2855	-0,1189	0,6424	0,2649	0,1417	-0,1497
R7	-0,3273	0,1319	-0,1589	0,7017	-0,0022	-0,2855	1,0000	0,1339	-0,2018	-0,1375	0,2143	0,4802
R8	0,0054	-0,0428	-0,1300	-0,1719	-0,1635	-0,1189	0,1339	1,0000	-0,0987	-0,0254	-0,0243	-0,4056
R9	0,0647	-0,1300	0,0239	-0,1555	-0,1479	0,6424	-0,2018	-0,0987	1,0000	0,4320	0,1490	-0,1118
R10	-0,2401	-0,0172	0,1607	-0,1639	0,4329	0,2649	-0,1375	-0,0254	0,4320	1,0000	0,0714	0,1486
R11	-0,3540	0,1167	0,0254	0,1907	-0,1376	0,1417	0,2143	-0,0243	0,1490	0,0714	1,0000	0,1216
R12	-0,1891	0,2134	-0,0094	0,6761	0,3899	-0,1497	0,4802	-0,4056	-0,1118	0,1486	0,1216	1,0000

R1: Binary dependent variable (failure = 1)
R2: Government debt/total debt
R3: Secured debt/total debt
R4: D-court of Charelroi
R5: D-court of Liège
R6: D-court of Verviers
R7: Conversion rate during pre-confirmation stage
R8: D-accountant
R9: D-other examiner education
R10: Examiner experience
R11: Number of employees
R12: Unemployment rate

Appendix E: Summary statistics on quickly and slowly failing corporations in the court-supervised post-confirmation stage before transfer to bankruptcy-liquidation.

	Quick Failure (≤ median failure time)			*Slow Failure (> median failure time)*		
	Mean	Median	Std. Dev.	Mean	Median	St. Dev.
Accounting data						
Profitability	-0.2025	-0.0644	0.3771	-0.1194	0.0265	0.4156
Leverage	1.1725	1.0453	0.3986	1.2735	1.1767	0.4241
Liquidity	0.4732	0.395	0.3901	0.4664	0.4	0.2970
Variables on debt composition						
Government debt/total debt	0.2398	0.1984	0.1701	0.3663	0.3733	0.2096
Secured debt/total debt	0.1797	0.0709	0.2351	0.2187	0.1909	0.2050
Government debt/total assets	0.2652	0.2032	0.2243	0.4752	0.4287	0.3893
Secured bank debt/total assets	0.1619	0.0406	0.2055	0.2597	0.1953	0.2967
Controls						
Time in pre-confirmation stage	5.5045	5.7333	1.9803	7.3879	7.6167	2.0792
Industry sales growth	0.0893	0.0915	0.0568	0.0592	0.0500	0.0496
Industry profit margin	0.1057	0.0738	0.0674	0.0946	0.0680	0.0685

Appendix F: Robustness checks using survival analysis in our sample of small corporations.

We employ an accelerated failure-time regression Weibull[38] model to analyze the time spent in the court-supervised post-confirmation stage before transfer to bankruptcy-liquidation. Compared to our analysis in section 6 of this paper, we also include 45 distressed firms that were not transferred to bankruptcy-liquidation during the court-supervised post-confirmation stage. The time to fail is censored for these 45 firms. Censoring occurred at 24 months for 35 cases without additional prolongation of 12 months, at 36 months for 8 firms with additional prolongation of 12 months, and at respectively 13 and 7 months for two firms with a court-supervised post-confirmation period of less than 24 months.

Table 1 of appendix B : Accelerated failure-time regression Weibull model.

We refer to appendix A for a description of the explanatory variables. The values in parenthesis are robust standard errors; * / ** / *** significant at 10% / 5% / 1%.

	Spec. 1	*Spec. 2*	*Spec. 3*
Accounting data			
Profitability	0.9058	0.9150	0.9549
	[3.96]***	[3.97]***	[3.52]***
Liquidity	-0.6916	-0.5524	-0.8184
	[-1.70]*	[-1.24]	[-1.96]*
Variables on debt composition			
Government debt/total assets	-1.0144	-0.9865	-0.8162
	[-2.95]***	[-2.61]***	[-2.58]***
Trade debt/total assets	-0.4803	-0.4428	-0.6050
	[-1.62]	[-1.49]	[-2.41]**
Collateral value/ secured bank debt (log)	-0.4995	-0.4983	-0.4419
	[-4.38]***	[-3.94]***	[-4.00]***
Court-level variables			
D-court of Antwerp		-0.4373	
		[-1.20]	
D-court of Charleroi		-0.1915	
		[-0.57]	
D-court of Leuven		-0.1543	
		[-0.47]	
Conversion rate during pre-confirmation			-0.1811
stage			[-0.39]
Examiner variables			
D-auditor			0.6932
			[1.90]*
D-accountant			-0.1247
			[-0.45]
D-other examiner education			-0.0094
			[-0.02]
Examiner experience			
Controls			
Total assets (log)	-0.0774	-0.0575	-0.0338
	[-0.69]	[-0.52]	[-0.32]
Intercept	5.0866	5.0003	4.6015
	[5.54]***	[5.66]***	[5.32]***
Scale	0.2911	0.3023	0.3511
Shape	1.3379	1.3530	1.4207
Log pseudolikelihood	-94.0453	-93.1082	-89.5479
Wald test	59.74***	71.80***	90.50
Number of observations	89	89	89
Number of failures	44	44	44

[38] Other parametric survival models were tested, but the accelerated failure-time Weibull regression model is preferred to any other model because of its smallest AIC value and largest log likelihood.

Specification 1 is our baseline specification, and specification 2 and 3 respectively add court dummies and variables on judicial discretion. We find a positive and significant estimate for profitability that is very robust in all specifications. Firms with more government debt are liquidated faster, equally as those firms that provided much collateral relative to outstanding bank debt. Judicial discretion and court-driven variables in general do not affect the time to fail. Our findings based on survival analysis are consistent with our previous probit findings of section 5.1.

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