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Rachid Achbah, Marc Fréchet

► To cite this version:

Rachid Achbah, Marc Fréchet. Fostering SME survival through insolvency proceedings: a legitimacy perspective on retrenchment, age, and firm-specific distress. *Small Business Economics*, 2024, 10.1007/s11187-024-00874-7. hal-04480487

HAL Id: hal-04480487

<https://hal.science/hal-04480487>

Submitted on 27 Feb 2024

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Fostering SME Survival through Insolvency Proceedings: A Legitimacy Perspective on Retrenchment, Age, and Firm-Specific Distress

R. Achbah (*)

University, Lyon 2, France
rachid.achbah@univ-lyon2.fr

M. Fréchet

University Jean Monnet, France
marc.frechet@univ-st-etienne.fr

Abstract

This study examines the interaction between insolvency proceedings and strategic variables and their relationship with firm survival. Unlike previous research, this study considers the firm's legal status, including insolvency proceedings, and fills a gap in the literature by considering legal considerations in business studies. Adopting a legitimacy perspective, we employ a Cox proportional hazards model to construct a survival model based on a theoretical framework encompassing insolvency proceedings retrenchment, firm age, and causes of financial distress. Our sample consists of French SMEs facing financial difficulties. The findings reveal that initiating insolvency proceedings is negatively associated with firm survival. However, retrenchment of employees or assets during insolvency proceedings is associated with a higher likelihood of survival. Contrary to expectations, firm age showed a negative association with firm survival during the insolvency proceedings. Moreover, the study revealed a positive association between insolvency proceedings and firm survival in cases of firm-specific financial distress. This research provides new insights into the relationship between insolvency proceedings and firm survival.

Plain English Summary

What are the conditions for an SME to survive insolvency proceedings? This study addresses this question by investigating the interaction between insolvency proceedings and the various factors that influence a firm's ability to survive. It fills a gap in the literature by considering the firm's legal situation, which offers a new context for action in the case of insolvency. The study finds that starting insolvency proceedings negatively affects a firm's survival, but retrenchment of employees or assets during proceedings can improve the chances of survival. Surprisingly, the study finds that firm age negatively impacts firm survival during proceedings. However, insolvency proceedings have a more favorable effect on firm survival in cases of firm-specific financial distress. The findings have practical implications for executives and boards as the outcome of a retrenchment strategy may vary based on whether it is executed in or outside of court, and insolvency proceedings can provide legitimacy for specific strategies.

Keywords SMEs. Insolvency proceedings. Legitimacy. Retrenchment. Firm Survival

JEL Classifications G33. K22. L25. L26

1. INTRODUCTION

Due to limited access to financial markets (Motta, 2020) and fewer opportunities to diversify risks (De la Torre et al., 2010), small and medium-sized enterprises (SMEs) are less robust to financial difficulties compared to larger firms (Laitinen, 2013). In the face of financial distress, SMEs must consider all available resources and options for implementing a successful turnaround (Schmitt & Raisch, 2013), which refers to the process of overcoming difficulties and restoring performance levels to pre-decline levels (Tangpong et al., 2015). The literature has thoroughly examined a range of strategic factors that have the potential to support the survival of troubled firms. To begin with, retrenchment – understood as a voluntary reduction of a firm's operational capacity in terms of assets or employees – has been widely recognized as one of the most commonly employed strategies in such cases (Schmitt & Raisch, 2013; Trahms et al., 2013). By reducing assets or the human workforce, a firm intends to restore its performance by decreasing its scope and exerting greater control over its operations. The literature has devoted extensive efforts to identifying the factors influencing retrenchment success (Barbero et al., 2017). Simultaneously, researchers have highlighted the disparity in maturity levels among SMEs in dealing with turnover challenges (Decker, 2018). Some firms have established sufficient legitimacy, whereas others are still in their formative stages and have not yet attained the necessary maturity level (Zimmerman & Zeitz, 2002; Fisher et al., 2016). Finally, prior studies have thoroughly investigated the origins of financial problems experienced by firms (Amankwah-Amoah, 2016). They have established that the source of a company's financial distress, whether internal or external, has a significant impact on predicting the probability of a successful turnaround (Kücher & Feldbauer-Durstmüller, 2019).

Surprisingly, the expanding literature on distressed firms' strategy has mainly developed independently from studies on insolvency proceedings. Insolvency proceedings are judicial procedures designed to ensure a distressed firm's continuity until a court decides whether it can be saved or must be definitively liquidated. From the initiation of the procedure, the court supervises the firm's activity, although many legal traditions allow the firm to remain in control of its managerial decisions (Blazy et al., 2014; Lee et al., 2007). Scholars have engaged in extensive research regarding the impact of insolvency proceedings regulation on firms' ability to achieve successful turnarounds. Empirical studies have focused on the role of insolvency laws in enabling firms to overcome financial difficulties and prevent the downward spiral of failure (Adriaanse & Van Der Rest, 2017; Zemis & Demil, 2020).

These studies have emphasized the importance of reducing the negative signals conveyed by insolvency proceedings and restoring trust among stakeholders (Xia et al., 2015; Arora, 2018), whose support is crucial for a firm's fate (Jindal, 2020). The literature has also explored the concept of "entrepreneur-friendly" laws designed to facilitate reorganizations (Armour & Cumming, 2008; Peng et al., 2010), focusing on the design of these laws to favor the prospects of a successful turnaround for entrepreneurs. Despite this substantial body of literature, there remains a gap in understanding the intersection of insolvency proceedings and the distress-related variables of retrenchment, age, and origins of distress. This constitutes a significant shortcoming of the existing literature, as both research streams focus on the same phenomenon, that is, distressed firms facing challenges to their legitimacy and relationships with stakeholders (e.g., Decker, 2018). Consequently, there is limited insight into how firms may respond, with their unique choices and characteristics, to insolvency proceedings and increase their chances of survival.

The present study aims to bridge the gap between the two fields of SME financial distress and insolvency proceedings. We propose to investigate the factors that influence the impact of insolvency proceedings on SME survival. Adopting a legitimacy perspective, the study posits that the purpose of insolvency proceedings is to determine the fate of struggling firms. This perspective is particularly relevant as previous research has shown that legitimacy plays a crucial role in the survival of small businesses (Fisher et al., 2017). The legitimacy of small firms is often challenged due to their small size, which makes them appear unreliable to stakeholders (Decker, 2018; Überbacher, 2014). However, with the implementation of effective strategies, these firms can overcome this challenge over time (Zimmerman & Zeitz, 2002). In insolvency proceedings, the firm's legitimacy is directly questioned as the court assesses its viability and decides whether it should continue its operations or be liquidated. This process raises questions about the firm's right to exist and considers factors such as retrenchments, age, and the origins of financial distress in its assessment.

In this paper, our approach to the concept of legitimacy takes a dual perspective. First, we examine the traditional legitimacy considerations attached to firm characteristics and decisions, such as the disapproval of retrenchments and the legitimacy acquired by older firms. Second, we propose that insolvency proceedings induce a shift in the legitimacy landscape, leading to different stakeholder reactions (e.g., Arora, 2018). Consequently, insolvency proceedings may improve the perceived legitimacy of retrenchment strategies among stakeholders. The improved legitimacy can facilitate greater stakeholder involvement

and acceptance of the retrenchment process, leading to improved efficiency. Following the same line of reasoning, we hypothesize that the age of the organization is a source of legitimacy and can impact the turnaround's success. Age is already a significant variable associated with the chances of survival in regular times; it becomes an essential element for survival in insolvency proceedings. Furthermore, internal causes of financial distress, particularly those stemming from poor management decisions, offer substantial room for performance improvement. The rationale behind this lies in the fact that internal challenges often attract criticism, which can lead to more profound shifts in stakeholders' perceptions when corrective actions are taken. In such cases, changes triggered by insolvency proceedings are more likely to favor firm survival.

We empirically examine our hypotheses using a sample of 27,749 French SMEs from the Auvergne-Rhône-Alpes region. Consistent with our expectations, our results support the hypothesis that initiating insolvency proceedings negatively impacts firm survival. Conversely, our findings indicate that retrenchment strategies, both in terms of employee and asset reduction, have a positive effect on a firm's survival during insolvency proceedings, with in-court retrenchment exhibiting a stronger positive impact than out-of-court retrenchment. Surprisingly, the results show that insolvency proceedings weaken the positive relationship between age and firm survival. Furthermore, our results support the hypothesis that firm-specific financial distress leads to a more favorable outcome in insolvency proceedings for the firm's survival. The paper is structured into four sections. The first section outlines our hypotheses regarding the effects of insolvency proceedings in interaction with retrenchment, age, and the source of financial distress. The second section provides an overview of the data and presents descriptive statistics. The third section presents our empirical findings, while the fourth discusses the results and provides conclusions.

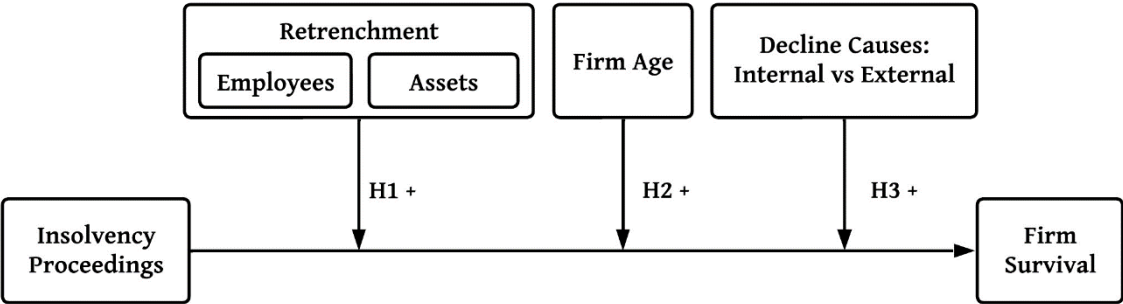
2. Theoretical background and hypotheses

Legitimacy is a controversial concept with myriad interpretations and evaluations. In a strategic context, it may be defined as "*a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions*" (Suchman, 1995, p. 574). Legitimacy has received considerable attention from scholars, given that the existence of an organization appears to be heavily dependent on legitimacy judgments (Whelan et al., 2019). To survive, organizations must ensure the acceptability of their practices in the eyes of various audiences and stakeholders. Conversely, unacceptable actions or organizational features jeopardize firm

survival due to reprobation, conflicts, and resource withdrawal (Love & Kraatz, 2009). Legitimacy arises through the interactions among various actors who defend different visions of organizational practices (Suddaby et al., 2017). To develop legitimacy, organizations may rely on discursive strategies, institutions, and even material artifacts (Reihlen et al., 2022). The institutional environment, understood as what is taken for granted by the relevant actors, provides a reference framework for gauging the actions and choices of organizations. Undoubtedly, actors can question institutions, but this strategy may be time-consuming due to the defensive actions implemented to protect the institutional status quo (Peton & Blanc, 2021). Among institutions, the law is of primary importance. Formal, written rules are a natural part of institutions and affect managers' opportunities and barriers (Assenova, 2021). However, the law also has a more profound effect on actors' perceptions and assessments. It is acknowledged that it "*plays a central role in the social construction of reality [...], with legal definitions reified and institutionalized as taken-for-granted components of the way the world work*" (Edelman & Suchman, 1997, p. 503). As a common standard, the law connects multiple stakeholders' expectations and reduces uncertainty or confusion among them (Segrestin et al., 2022). Therefore, legitimacy is based not only on the firm's specific features but also on the insolvency law's symbols, meanings, and expectations.

In the following sections, we develop a series of hypotheses grounded in a legitimacy perspective. These hypotheses are summarized in Figure 1.

Figure.1. Conceptual model



2.1. Insolvency Proceedings: A Threat to Legitimacy

Most legal systems involve insolvency proceedings whereby distressed firms can obtain court protection and support (Adriaanse & Van Der Rest, 2017). The details vary

following different legal traditions. However, such procedures share many common traits, especially in European countries, where significant efforts have been devoted to promoting the convergence of insolvency law (Damaraju et al., 2021). A firm becomes eligible for insolvency proceedings when it is unable to meet its payment obligations or when it cannot overcome its financial difficulties alone. When the distressed firm appears before the court—given its eligibility—the initial stage consists of assessing its chances of recovery. If there is no possibility of a successful turnaround, the court immediately liquidates the firm. However, when a turnaround appears to be possible, the firm is placed under the supervision of the court. The court rules, in this case, to initiate an observation period. This period exhibits three notable traits. (1) The firm remains in control of its decisions and strategy even though the court, the representatives of creditors, and potentially, an administrator oversee the process. (2) The procedure triggers the protection of the bankrupt firm's assets via the "automatic stay" rule, which is considered to be a cornerstone of insolvency law (Lee et al., 2007). The "automatic stay" effect grants an insolvent firm legal protection that temporarily prevents creditors from taking action to collect debts, allowing the firm to continue working with its main partners without immediate repayment. However, this protection is only temporary, and the firm must address its financial difficulties to regain the confidence of stakeholders. (3) The decision is public, whereas related debates remain private. Overall, the current bankruptcy regime does not necessarily imply the end of the business insofar as most systems now incorporate the objective of firm rescue (Bernardo et al., 2016). At the end of this period, the distressed firm must present a reorganization plan. If the court approves the plan, the firm continues its activity; otherwise, it is liquidated. To aid the court's decision, creditors play a significant role (Jindal, 2020), which in the French context occurs through their representatives.

As the insolvent firm retains control, certain research studies suggest that troubled firms can leverage the safeguards offered by bankruptcy laws (Stef, 2022). The firm can rebuild its financial resources by not paying its creditors during the restructuring process (the court fixes period). However, the protection provided by the court has significant downsides. As the initiation of the insolvency procedure is publicly disclosed, the firm becomes exposed to negative reputational consequences that can endanger its relationships with stakeholders and stigmatize the manager (Sutton & Callahan, 1987; Cardon, Stevens, and Potter, 2011). From a legitimacy perspective, we maintain that the firm receives negative reliability judgments from the business sphere, which uses insolvency as a heuristic to identify firms'

legitimacy (Suddaby et al., 2017). One possibility for circumventing these downsides would be using alternate sources of signals to stakeholders (Xia et al., 2015). However, research shows that the damage is long-lasting and can even negatively affect managers who desire to initiate a fresh start in a new business (Cusin et al., 2022). Consequently, a firm undergoing insolvency proceedings is particularly exposed to the risk of stakeholder withdrawal. Additionally, insolvency proceedings entail specific direct and indirect costs that distressed firms may find difficult to bear (Hotchkiss et al., 2008; Davydenko et al., 2012).

2.2. Retrenchment Legitimacy in the Context of Insolvency Proceedings

While the prevailing expectation is that insolvency proceedings tend to have a detrimental impact on a firm's ability to survive, we have identified three specific factors that can potentially mitigate this effect: retrenchment, age, and the underlying causes of financial distress.

In instances where a firm's performance experiences a sharp decline, the conventional approach suggests that the firm is expected to implement corrective actions to achieve a quick turnaround. However, the literature reports that the options for distressed firms are limited due to a lack of resources. Distressed firms cannot deploy growth strategies (McKinley et al., 2014), and their main option lies in using retrenchment strategies that would allow an efficient reallocation of resources (Kolev, 2016; Tangpong et al., 2015).

Retrenchment occurs in various forms, among which asset and employee reductions are the most frequently studied (Mann & Byun, 2017; Tangpong et al., 2015). Asset retrenchment occurs through the sale of assets and the permanent cessation of their use (Denis & Shome, 2005). Employee retrenchment involves permanently reducing the workforce through layoffs and voluntary departures. Retrenchment actions are implemented to halt the decline, stabilize financial conditions, and alleviate organizational stress to prevent declining firms from entering a downward spiral. It has been shown that retrenchment is a prevalent strategic choice when a firm's survival is threatened, especially during economic downturns (Mann & Byun, 2017). Small firms seem to be especially sensitive to such conditions, as cost and personnel reductions are among the most common options to reverse a decline (Zemis & Demil, 2020). However, even when a firm's survival is not threatened, retrenchment strategies are closely associated with strategy correction, as they aim to reallocate resources more efficiently (Berry, 2010).

Despite the frequency of retrenchment in practice, scholars report equivocal findings concerning its impact on firm performance (Cascio et al., 2021). Researchers highlight that retrenchment is a double-edged sword (Santana et al., 2017; Zorn et al., 2017). On the one hand, it will likely alleviate cost concerns and help the firm abandon nonviable activities. On the other hand, it may accelerate the disorganization of resources and precipitate a firm's downfall. Primarily, it appears that retrenchment frequently suffers from disapproval on the part of various audiences, among which disapproval from members of the organization and public opinion is the most obvious (Flanagan & O'Shaughnessy, 2005; Love & Kraatz, 2009; Zyglidopoulos, 2005).

Legitimacy considerations prove to be relevant in explaining the outcome of retrenchment efforts. Observers frequently refer to a firm that sells its assets as declining (Kolev, 2016; Tangpong et al., 2015). The situation of a distressed firm is more likely to be questioned, resulting in greater reluctance from stakeholders to provide support. A firm's financial distress may elicit negative reactions from stakeholders, which can further exacerbate its financial difficulties and impede its ability to recover. Specifically, stakeholders may question the situation of the distressed firm, resulting in resistance to providing support. One potential reaction is that stakeholders may withdraw their support by refusing to provide additional funding or demanding cash payments. Stakeholders may also seek to protect their interests by demanding guarantees or renegotiating contracts. These increased levels of scrutiny can make it more difficult for the firm to take actions that may be necessary to recover from its financial difficulties. To regain the confidence of stakeholders, firms in financial distress may take necessary steps such as retrenchment to improve their financial performance and restore stakeholder confidence in their ability to achieve long-term success.

Several studies emphasize that retrenchment procedures usually come at a high price (Flanagan & O'Shaughnessy, 2005). In particular, employee retrenchment (layoffs or even voluntary departures) tends to deteriorate the social climate, provoke stress and anxiety among members of the organization, and is often publicly condemned (Guthrie & Datta, 2008). For example, union workers and the public press commonly criticize this strategic choice as unfair and inadequate. The rejection of human resource retrenchments can negatively impact a firm's reputation and relationship with stakeholders, resulting in decreased legitimacy and disputed decisions (Flanagan & O'Shaughnessy, 2005). In extreme cases, employee retrenchment can even be legally challenged, with labor law disputes commonly arising during dismissals, reflecting the contentious nature of retrenchments (Rico

et al., 2021; Cascio et al., 2021; Suchman, 1995). This situation is perilous for the firm's survival, as a financially distressed firm requires as much support from stakeholders as possible (Decker, 2018).

Our position is that the rules are different during insolvency proceedings. While insolvency proceedings challenge distressed firms, they also offer specific opportunities to increase their chances of survival. The main argument in this context is that initiating insolvency proceedings induces a significant shift in legitimacy assessments. At the inception of the proceedings, a court legally rules that the firm cannot cope with its difficulties. This official statement leaves little room for differing interpretations regarding the firm's critical situation. The court and the law enact the social reality that the firm has failed concerning conventional practices (Edelman & Suchman, 1997). Insolvency, therefore, paves the way for radical actions that managers would otherwise be reluctant to undertake. As Arora (2018) notes, the firm facing insolvency proceedings is no longer in a period of normalcy. It follows that retrenchment decisions are interpreted according to a different perspective. Retrenchment decisions may seem more appropriate when the firm's difficulties are no longer in doubt.

Moreover, the court process plays a central role in legitimizing the firm's choices. A firm that intends to reemerge from insolvency must defend a plan before the court: thus, relevant strategic decisions are discussed among the judges, the legal administrator, the creditor's representatives, and the employees' representatives. All parties are invited to express their points of view to reach a common diagnosis and, when possible, a joint proposal for firm reorganization. Processes of this nature reduce the risk of silent disagreement and help facilitate consensus (e.g., Haack et al., 2021). If the plan is approved, the court judges at the end of the observation period. As authorities, judges act as validating institutions and constitute an essential source of legitimacy (Bitektine & Haack, 2015). The resulting legitimacy improves the firm's chances of acquiring resources and increases the acceptability of the restructuring decision (e.g., retrenchment) (Zimmerman & Zeitz, 2002).

The phenomenon is particularly obvious with human resource retrenchment. Human resource retrenchment is subject to the strongest disapproval in times of normalcy. In particular, union workers and public opinion are hostile to out-of-court personnel retrenchment. However, when a court recognizes that a firm is on the edge of downfall, a new discursive field emerges in which retrenchment becomes tolerable. Several real-life examples support this argument. Table 1 provides a sample of statements reported in press releases issued by union representatives regarding cases of firm restructuring involving personal

retrenchments. Table 1 distinguishes between firms that are not undergoing insolvency proceedings (Table 1, Column A) and those that have undergone such proceedings (Table 1, Column B). For firms that implement retrenchments in out-of-court contexts (Column A, Table 1), we observe that union representatives sharply criticize the implementation of retrenchment as unfitting or exaggerated. In typical statements, such representatives describe retrenchments as "absurd" (example #A1), "disproportionate" (example #A2), and "brutal and planned like a military operation"(example #A3). They note that the union will "not accept forced layoffs" (example #A4). Such statements are somewhat different when the firm is under insolvency procedure. Union representatives dispute several topics, including the skills of the top management team (example #B1), the strategic mistakes that have been made (example #B2), waste on the part of managers (example #B3), or the need for new financial resources to initiate turnaround (example #B4). However, at no moment do the union representatives criticize the decision to implement human resource retrenchments even though they maintain that the announcements of these layoffs were "violent" (example #B4). Their negative judgments concerning top management's strategic errors even demonstrate that they endorse a diagnosis of severe firm decline.

While such quotations provide only anecdotal evidence, they illustrate how the initiation of insolvency proceedings modifies the rules regarding what can and cannot be disputed. It is worth noting that the only empirical study to measure the impact of personnel retrenchment on firm survival, Rico et al. (2021), found such impact to be negative. In contrast, it had been hypothesized to be positive. However, those authors included no observations from outside the insolvency proceedings or before their initiation, thus limiting any comparability between that study and our framework. In summary, we argue that retrenchment under the supervision of the court is likely to be perceived as more legitimate than out-of-court retrenchment, thus improving stakeholders' acceptance and, ultimately, firm survival.

H1a. Retrenchments (employees and assets) during insolvency proceedings are positively associated with firm survival.

H1b. The positive association of retrenchments (employees and assets) with firm survival is stronger when such retrenchments occur during insolvency proceedings (as opposed to out-of-court retrenchments).

Table 1. Statements of union representatives concerning firms' restructuring decision

Retrenchments apart from insolvency proceedings	Retrenchments during insolvency proceedings
<p># A1 Company: Nokia France Source: Libération Published: September 20, 2020 Situation: A retrenchment plan that affects 83% of jobs.</p> <p><i>"It is absurd and suicidal. It is going to help the competition's business; Ericsson in the lead, unlike Nokia and just like Huawei, opens sites and recruits in France," said a staff representative.</i></p> <p><i>"This is the worst of what we can experience today in the industrial world," reacted Laurent Beger, general secretary of the CFDT, in an unusual tone when the plan was announced.</i></p>	<p># B1 Company: Camaïeu Source: Les Echos Published: August 17, 2020 Situation: Dismissing 2,659 employees out of 3,100.</p> <p><i>"There is less damage," says Omar Rahni, CGT representative on the CSE. "And then, how can we support a management team that sinks the company, puts it in turnaround, benefits from state support, wipes the slate clean, and takes advantage of it to close stores and lay off employees?"</i></p>
<p># A2 Company: H&M Source: Figaro Published: April 06, 2021 Situation: Closure of 30 stores and a retrenchment plan affecting 1000 employees.</p> <p><i>"H&M goes from short-time work to layoffs in an unjustified and disproportionate manner," denounced the representative of the employees. "While it is true that there may have been a change in consumer habits, this in no way justifies such a level of layoffs, especially since H&M benefited from the new conditions for financing short-time work introduced by the government during the pandemic," continued the employees' representative.</i></p>	<p># B2 Company: PICWICTOYS Source: La voix du nord Published: May 23, 2022 Situation: Closure of 23 out of 63 stores, resulting in the layoff of 447 employees.</p> <p><i>According to the CFDT (principal syndicate) of PicWicToys, "the company makes only bad strategic choices. In addition, the war in Ukraine and its inflationary consequences have deepened the hole [...]. The economic crisis has aggravated the situation, denouncing successive management errors and some strategic choices made in the wake of the takeover."</i></p>
<p># A3 Company: P&O Source: SUD Ouest Published: March 17, 2022 Situation: 786 seamen laid off</p> <p><i>The managers behaved "like gangsters," said the employee representative.</i></p> <p><i>"We learned we had to bring the boats back to the dock and wait for an announcement. Colleagues told me they saw security guards on the dock, and I told them not to let them on [...]. At 11 a.m., a human resources manager announced to the teams that they had five minutes to leave the ship. The security personnel was aggressive, and they had handcuffs. It was brutal and planned like a military operation. I was shocked and outraged," says Philip Lees, one of the leading syndicate members.</i></p>	<p># B3 Company: CADDIE Source: Le Parisien Published: January 4, 2022 Situation: 26 employees were laid off</p> <p><i>"I hope Mr. Cochez will have strong shoulders and the resources to fulfill his ambitions."</i></p> <p><i>"The difficulties are not due to the economic crisis, but to poor management by successive managers [...]. They wasted and indebted the company with shareholders' agreement, including the State [...]. The latter has allowed this to happen despite the warnings of the unions, says one of the leading unions.</i></p>
<p># A4 Company: Renault Source: Le monde Published: September 17, 2021 Situation: Departure of 2,000 employees and hire 2,500 people for the firm's electric transformation.</p> <p><i>"For the moment, we do not know how the departures</i></p>	<p># B4 Company: La Halle Source: Figaro Published: May 26, 2020 Situation: Taking over 607 out of 830 stores, consequently laying off 1770 employees.</p>

will be made," said Mariette Rih, delegate of the employees, hoping there will be "no forced departure."

The CFDT "will not accept any forced layoffs," warned the union. Jean-François Nanda, CFDT delegate. "Disguised and deferred layoffs. They talk to us about the risks of Covid, hand washing, and masks, but at the same time, they let the big bosses destroy our lives. I live badly because I feel like a mess since the beginning of all this."

For Claire Vigouroux, delegate of the employees, "these are violent announcements," especially as no offer has been made to take over the two logistics centers of the company, which employ more than 500 people in the Indre region. "It is necessary that the current shareholders, who had gorged themselves when there was cash, put their hands in their pockets to support the thousands of employees and their families, who will be left out in the cold." A hope that Puy has already brushed aside: "the PSE will not be very generous because we do not have the resources to be generous."

2.3. Age of the organization

According to prior research (Überbacher, 2014; Zimmerman & Zeitz, 2002), new ventures must establish legitimacy from the early stages of their development. Additionally, the cultivation and its maintenance is an ongoing process that an organization must undertake throughout its various life cycles (Fisher et al., 2016). Therefore, time is considered a crucial element in building legitimacy, as the organization must form a diverse array of relationships with key stakeholders (e.g., Suddaby, Bitektine, & Haack, 2017; Tracey et al., 2018). As part of this process, the organization employs strategies to align with its stakeholders' institutional expectations and norms (Drori & Honig, 2013; Fisher et al., 2017). The effective implementation of these strategies leads to an improvement in the organization's reputation among stakeholders, which in turn, enhances its legitimacy (Miotto et al., 2020). As a result, it can be inferred that older organizations, which have had more time to develop relationships and establish a positive reputation, are likely to be perceived as more desirable and tolerable, assuming all other factors are held constant.

A notable feature of legitimacy is that it provides organizations with resilience in the face of challenges threatening their survival. Poor performance in legitimate organizations is more easily believed to be reversible (Desai, 2008). Based on this logic, it is expected that stakeholders will provide support to organizations in financial distress if they perceive them to remain legitimate. Empirical studies have confirmed the importance of preserving positive relationships with financial stakeholders in initiating successful turnarounds (Decker, 2018). In this context, Fisher et al. (2016) have argued that legitimacy can act as a buffer for organizations, providing protection in some circumstances and being transferable in others.

In the context of insolvency proceedings, the resilience provided by legitimacy is of paramount importance. The court has to issue a decision about the firm's survival, and as part

of this process, the managers must present a well-structured and convincing plan for the firm's long-term viability. The voices of stakeholders are also considered through notes, memos, or representatives, such as creditors or employees. In this sense, insolvency proceedings can be seen as an ultimate test of a firm's legitimacy. Consequently, the proceedings amplify legitimacy concerns as they determine whether the firm is entitled to survive. The court has a strong incentive to comply with the support that seems to be prevalent among stakeholders. If an illegitimate firm were to survive, the lack of resources from stakeholders would hasten the organization's demise soon after. As a result, older firms, who have had more time to establish and maintain legitimacy, are more likely to pass this test and be deemed viable for continuation. In contrast, young firms have not had the opportunity to accumulate sufficient legitimacy over time. This is especially true if we consider that legitimacy has some tipping point effects. To survive, firms must reach some "legitimacy threshold" (Zimmerman & Zeitz, 2002), understood as levels of legitimacy under which the firm is destined to decline. Young firms have lower chances of reaching this threshold, which the proceedings undoubtedly would bring to light.

In conclusion, it is expected that SMEs with a more extended existence will likely gain advantages from insolvency proceedings. As SMEs age, they have more opportunities to build legitimacy as a resource, giving them a greater capacity to benefit from insolvency proceedings.

H2: The positive association of insolvency proceedings with firm survival is more positive as the firm's age increases.

2.4. Internal versus external causes of distress

In the traditional view, the causes of a firm's decline can be classified as internal or external (Trahms et al., 2013). External factors refer to environmental influences that contribute to the firm's decline, such as competitive dynamics or technological changes. On the other hand, internal factors are specific to the organization, including lack of management foresight or insufficient resources (Amankwah-Amoah, 2016). Financial distress often arises from a mismatch between internal characteristics and external factors. In such cases, dynamic capabilities are crucial to initiate a successful turnaround, especially in dynamic environments (Barbero et al., 2017). However, when the causes of distress are mainly internal, it is unlikely that the firm can initiate sufficient corrective actions. In these cases, the lack of foresight or management skills that led to the decline poses a cognitive challenge for the managers, who

should admit the inadequacy of their previous decisions (Trahms et al., 2013). In some cases, the entrepreneur may refute any shortcomings in their strategic choices regarding venture development (Khelil, 2016). The distressed firm is then threatened with psychological rigidities, preventing the decline from being addressed promptly. Additionally, managers tend to delay failure, even as the costs associated with it increase over time (Shepherd, 2009). Consequently, a reassessment of strategic leadership is deemed essential for a successful turnaround when the failure is attributed to internal factors.

Insolvency proceedings provide a unique opportunity to address internal deficiencies that led the firm to the edge of downfall. The court's presence and the proceedings' bodies reduce managerial discretion over strategy formulation and implementation. The court supervision obliges the managers to articulate a diagnosis and confront external observers' assessment. Third parties are also brought into the debate about the causes of distress, for instance, through audit reports, which may have anticipated the potential failure of the firm (Muñoz-Izquierdo et al., 2019). The insolvency proceedings thus act as a jolt that forces discussions beyond rigidity or myopia factors. As such, insolvency proceedings can be a significant event with far-reaching consequences that may facilitate transformational learning (e.g., Lampel et al., 2009). The discussions surrounding the causes of decline can be contentious, and the validity of managerial choices may be heavily scrutinized. Accordingly, the organization may be under pressure to learn from past mistakes and develop a new strategy to reach its full potential. This is particularly true when the causes of distress are firm-specific, as addressing internal barriers can enable a firm to improve its performance and achieve a level closer to industry averages. This idea is supported by the findings of Decker (2018), who found that banks considered that turnaround attempts were more successful in restoring the ability to repay the debt when financial distress was specific to the firm.

In contrast, the support from the court has limited impact when the causes of financial distress are external. Unfavorable environmental conditions may be perceived as having poor growth prospects, leading observers to conclude that a firm operating in an unattractive sector is not worth saving (Soublière & Gehman, 2020). The insolvency proceedings may help address firm-specific issues but cannot alter the competitive environment. In summary, the professionals appointed by the court may provide a fresh perspective on the firm's situation and may help to remedy organizational inertia. Still, their management expertise is not a substitute for the management team. Therefore, court intervention may effectively address internal causes of distress, particularly in cases of dysfunction but be less beneficial in

situations where the causes of decline are external.

H3: The positive association of insolvency proceedings with firm survival is more positive when the causes of distress are firm-specific.

3. Methodology

3.1. Empirical context: the French bankruptcy procedure

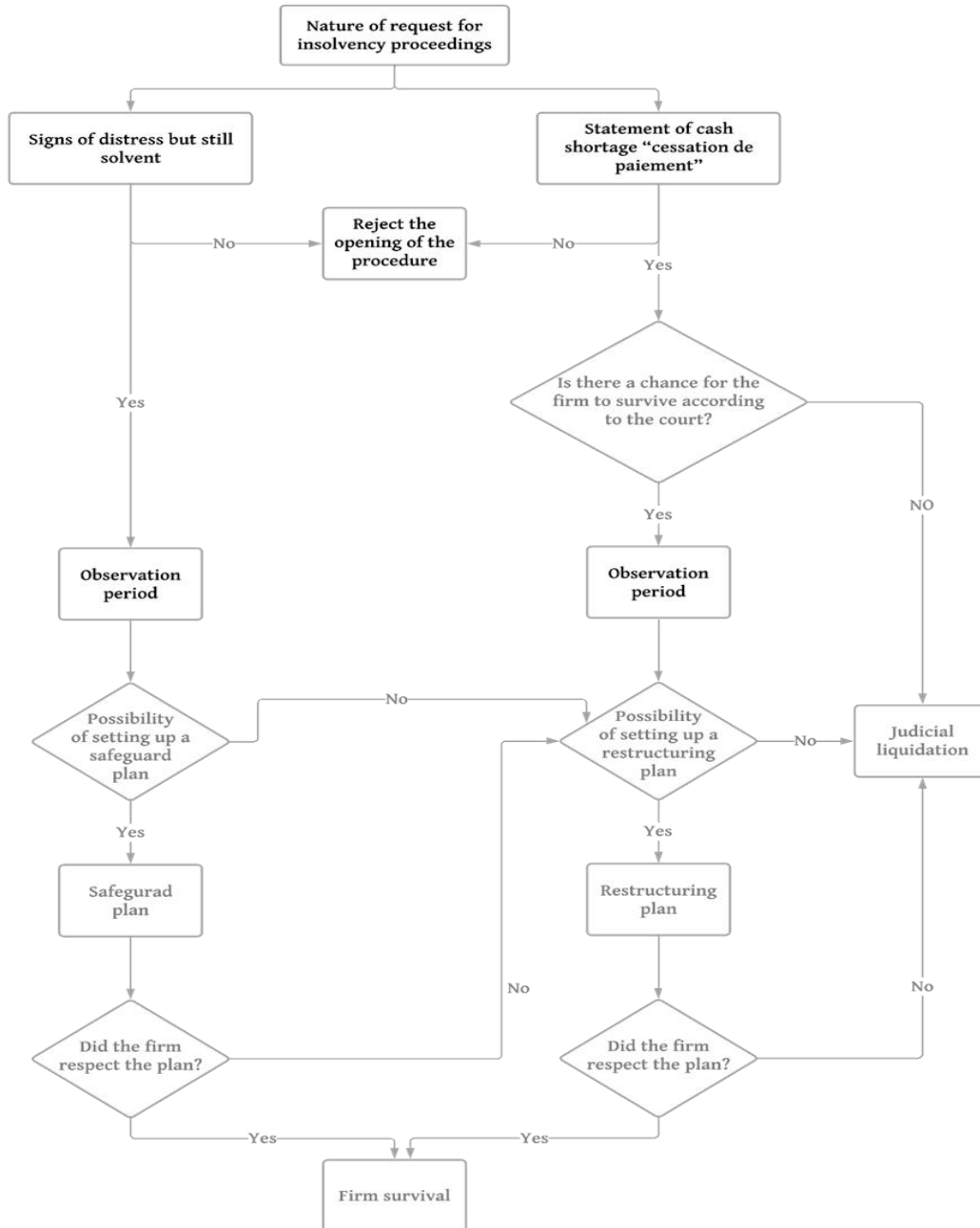
French commercial law provides a standard court-supervised procedure, "Procédure Collective," for resolving financial difficulties. The process applies a set of rules designed to facilitate the firm's debt restructuring and, ultimately, its turnaround. This system has inspired those of other countries in continental Europe, notably Belgium and Luxembourg (Blazy et al., 2014). The law of insolvency proceedings allows for two cases in which this procedure can be initiated. First, insolvency can occur when the firm cannot meet its payment obligations that are not covered by its liquid assets, which means that the firm is officially insolvent. In this case, the firm has an obligation to file for a turnaround procedure, "Procédure de Redressement," within 45 days to initiate a debt restructuring. The Redressement procedure begins at the request of the debtor, the court itself, or the firm's creditors if they believe the debtor is procrastinating concerning its decision. Second, this situation can occur when the firm itself reports difficulties it cannot overcome even when it is not currently insolvent. In this case, the debtor has the right — but not the obligation — to signal its financial distress to the court. A preventive safeguard procedure called "Procédure de Sauvegarde" is implemented if the court allows the request. The Sauvegarde procedure can be rejected if the firm is already insolvent (thereby initiating a Redressement procedure) or, on the contrary, if the court finds that the firm's financial situation does not necessarily require debt restructuring. Despite their differences, the two procedures ("Sauvegarde" and "Redressement") are broadly similar in terms of their legal regimes. A significant difference between the two procedures is that the firm does not have access to a loan from the insurance plan to pay wages in a Sauvegarde procedure.

Upon implementing an observation period or even before that time, the court delivers a judgment that can take two forms. First, the immediate liquidation of the firm or "judicial liquidation" — aims to liquidate the insolvent firm's assets. This procedure occurs if there is no chance for the firm to continue its activities. Second is the beginning of an observation period (up to 6 months, renewable twice), during which the court assesses the firm's chances of continuation. At the end of this observation period, the court decides on one of two

possible reorganization procedures, a safeguard procedure (*Sauvegarde*) or a turnaround procedure (*Redressement*). The *Sauvegarde* procedure may fail and lead to a *Redressement* procedure, which may ultimately fail and lead to a Liquidation procedure.

An essential part of this process is the observation period. During this period, the court protects the firm and applies specific rules. First, according to the "automatic stay" rule, the firm is allowed not to repay its creditors. Consistent with this rule, all creditors offering new credit have priority over previous creditors. Second, the firm's manager remains under the bankruptcy judge's authority and can be replaced in some cases. Third, in cases in which firms exceed specific thresholds (more than 50 employees and more than 3 million euros in turnover), a legal administrator is appointed to produce an economic and social balance sheet for the firm. Defined by the commercial court as part of the initial judgment, the mission of the legal administrator is more consequential during a *Redressement* procedure than during a *Sauvegarde* procedure. Indeed, in the case of a *Sauvegarde* procedure, the judicial administrator supervises and assists the manager. In the case of a *Redressement* procedure, the mission of the legal administrator can even entail the total or partial control of the firm. The judicial administrator replaces the firm's manager either totally or partially. When the supervision period has elapsed, the commercial court decides whether to reorganize the firm according to a reorganization plan, to sell the firm as a going concern, or to liquidate the firm. Figure 2 summarizes the insolvency proceedings in the French bankruptcy system.

Figure 2. Stylized insolvency proceedings according to the legal texts.



3.2. Data sources and sample

This study focuses on a sample of 27, 749 firms facing financial difficulties in the Rhône-Alpes region of France from 2009 to 2015. To collect this sample, we relied on two sources. The first source was the Bureau Van Dijk DIANE database, which includes general financial information on unlisted French firms. The second source was the Bodacc database (Official Bulletin of Civil and Commercial Announcements), which lists several events affecting firms, including insolvency judgments.

We selected firms from the Rhône-Alpes region for which complete accounting data from 2005 to 2015 was available. Additionally, we specifically focus on selecting small and medium-sized enterprises (SMEs), following the definition provided by the European Commission (2003), which considers SMEs as businesses with a maximum of 250 employees. Then, we merged the DIANE and Bodacc databases to obtain historical information concerning insolvency among firms. However, data before 2009 were unavailable in Bodacc, so we restricted our study period to 2009-2015. Several key factors drove the selection of the Rhône-Alpes region. Firstly, France's second-largest economic region holds substantial significance within the country's economy and offers a wide range of businesses and activities, making it a compelling choice for our study. Additionally, the region's notable number of annual insolvency proceedings, ranking second only to the Île-de-France region and accounting for approximately 15% of total proceedings (Altares, 2021), presents a good opportunity to examine the dynamics and challenges faced by financially struggling firms.

To construct our sample, we selected firms that were facing financial difficulties. To identify these firms, we used the Altman Z-score for the year 2009 (Altman et al., 2017). The Z-score index allows for the classification of firms into three categories: (a) not bankrupt (Z-score > 2.99), (b) in the grey area ($1.81 < \text{Z-score} < 2.99$), or (c) likely to go bankrupt (Z-score < 1.81). For the purpose of this study, we retained only firms with a score below 1.81, per the criteria established by Altman et al. (2017). This resulted in a final sample of 27,749 firms. Among firms that may potentially be in default, some will initiate insolvency proceedings, while others will not. This study aims to analyze the effect of insolvency proceedings and their interaction with retrenchment strategies, firm age, and causes of decline concerning a firm's chances of survival.

3.3. Variables and measurements

3.3.1 Dependent variable

The firms in our sample can either survive or be liquidated during our study period (2009 – 2015). Our dependent variable is the survival duration of firms ranging from 1 to 6 years. Firms that survive after 2015 are considered left-censored. We determined the liquidation events according to two different identification strategies. We used the Court's judgment from the Bodacc database for firms that went through in-court insolvency procedures. Court decisions were unavailable for firms that did not go through the in-court insolvency procedure. Hence, we relied on annual turnover declarations in the Diane database.

If a firm failed to declare turnover for five years, we considered that it ceased its operational activities and was thus liquidated without going through insolvency proceedings. To do so, we mobilized the data from 2005 to 2015 from the DIANE database to obtain information concerning the turnover declaration.

3.3.2 Independent variables

Insolvency_proceedings is a dummy variable, which equals 1 if the firm went through a (safeguard or turnaround) insolvency proceedings during the study period and 0 otherwise. In this study, 2,713 of firms-initiated insolvency proceedings out of a total sample of 27,749 (9.78%).

Employee retrenchment is a dummy variable, which equals 1 if the firm has implemented a retrenchment strategy within the sample period and 0 otherwise. Following existing literature on SME retrenchment strategies, we adopted a threshold¹ of a 20%² reduction in the number of employees to identify the presence of employee retrenchment (Guthrie & Datta, 2008). Moreover, we developed two dummy variables identifying whether a given firm implemented an employee retrenchment strategy before/out (*Employee_retrenchment_before*) or during (*Employee_retrenchment_during*) the year of insolvency proceedings. We observed that 12.5% of firms proceeded to an employee retrenchment before insolvency proceedings were initiated, and 21.3% did so during insolvency proceedings (see Table 2).

Asset retrenchment is a binary variable equal to one if the firm reduced its total assets by more than 20% before or during insolvency proceedings and 0 otherwise. As for employee retrenchment, we distinguished asset retrenchment before and during the insolvency procedure. We found that 40% of the firms in the sample engaged in asset retrenchment before insolvency proceedings were initiated, and 34.7% did so during the insolvency proceedings (see Table 2).

Firm age has been widely recognized as a critical variable in the study of turnaround and insolvency proceedings. Research consistently demonstrates that younger firms are more susceptible to failure due to a lack of experience (Thornhill & Amit, 2003). In this study, we measured firm age as the difference between 2009 and the year of the firm's foundation.

¹ Studies of large firms usually reference the threshold of a 5% decrease in assets or employees (Durand & Vergne, 2015).

² Tables A.2 and A.3 in Appendices which display the thresholds of 10% and 30%, respectively. The findings remain constant.

Internal versus external causes of decline (Int. vs. Ext. Causes of Decline): In this study, we aimed to identify the causes of decline in firm performance. We classified these causes as internal if the firm's performance was below the average performance of its industry. To measure firm performance, we utilized the variable of return on sales (ROS) as it has been commonly used in turnaround research and is a reliable indicator of firm performance level (Schilke, 2014). Additionally, we avoided using return on assets (ROA) and return on investment (ROI) as they are highly correlated with asset retrenchment, which is one of our independent variables and may not accurately reflect the actual performance level of the firm (Barbero et al., 2017; Trahms et al., 2013). To determine the internal causes of the decline in firm performance, we created a continuous variable by subtracting the firm's ROS from the average ROS of its industry. This provided a standardized and consistent measure of the extent to which the firm's performance deviated from the industry average, thus indicating whether the causes of decline were internal.

3.3.3 Control variables

This study included a set of control variables. Following existing literature, we used the turnover to measure business size. Profitability represents a key and critical financial ratio measured in net profits over total assets. In addition, two essential control variables, liquidity (current assets to current liabilities) and cash, were used to control the availability of liquid or near-liquid resources to cover short-term obligations.

Moreover, we included the ratio of trade receivables over turnover; supplier liabilities are also an important control variable since supplier liabilities can impact a firm's strategic decisions in cases of financial difficulties significantly (Kochhar & Hitt, 1998). Firms facing difficulty are expected to reduce their liabilities to suppliers, investments, and loans to regain their economic strength. Thus, we controlled for the debt ratio, defined as financial debts over total assets. At last, previous research shows that the success of turnaround strategies differs across sectors (Morrow et al., 2004). Thus, we included industry-fixed effects (Thornhill & Amit, 2003). Detailed descriptions of variables used in this study are provided in Table 8 in the Appendices.

3.4. Descriptive statistics and correlations

Before constructing the models, we explored the data based on descriptive statistics and correlations. Table 2 displays the descriptive statistics, and Table 3 presents the correlations and the VIF values for the variables in our study.

Table 2. Descriptive statistics for all variables

Variable	Mean	Std.Dev.	Min	Max
Lifetime	5.566	0.922	1	6
Insolvency_proceedings	0.0978	0.123	0	1
Employee_retrenchment_before/out	0.125	.331	0	1
Employee_retrenchment_during	0.213	.409	0	1
Asset_retrenchment_before/out	0.4	.49	0	1
Asset_retrenchment_during	0.347	.476	0	1
Turnover_2009	3044.782	9120.425	0	842872
Financial debts/Assets_2009	183.341	1442.561	0	121945
Trade receivables/Turnover_2009	25.074	525.435	0	46700
Cash_2009	182.953	713.528	0	51437
Liquidity_2009	2.132	3.359	0.01	98.69
Supplier liabilities_2009	423.336	1536.459	0	143245
Profitability_2009	-26.219	2951.073	-451746.15	1460.78
Age	23.679	13.364	8	99
Int. vs. Ext. Causes of Decline	0	8.128	-824.841	295.909
Industries:	N.		%.	
Real estate activities	1010		3.64%	
Public administration and health	757		2.73%	
Other services	790		2.85%	
Retail	7987		28.78%	
Construction	4465		16.09%	
Hotels and restaurants	1947		7.02%	
Manufacturing and distribution	5016		18.08%	

Transport and logistics	1167	4.21%
Communication	810	2.92%
Administrative and scientific services	3800	13.69%

Based on the correlations presented in Table 3, we found no evidence of multicollinearity, except for the correlation between the firm's turnover and supplier liabilities. To address this issue in our tests, we omitted supplier liabilities, and the results remained unchanged. We also observed that the firm's lifetime negatively correlates with insolvency proceedings and each form of retrenchment strategy. To assess the potential issue of multicollinearity, we used variance inflation factors (VIFs). Fortunately, the observed correlations and VIFs among the variables are within acceptable limits and do not raise any notable concerns for our multivariate analysis.

Table 3. Descriptive statistics and correlations among the research variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	VIF
(1) Lifetime	1.000														-
(2) Insolvency_proceedings	-0.112***	1.000													1.023
(3) Employee_ret_before/out	-0.082***	0.085***	1.000												1.041
(4) Employee_ret_during	-0.111***	0.084***	0.097***	1.000											1.069
(5) Asset_ret_before/out	-0.001	-0.006	0.078***	0.113***	1.000										1.028
(6) Asset_ret_during	0.021***	-0.049***	0.012**	0.003	0.047***	1.000									1.009
(7) Turnover_2009	0.078***	-0.015**	-0.064***	-0.077***	0.010*	0.014**	1.000								2.797
(8) FD/Assets_2009	0.012**	-0.005	-0.007	-0.019***	0.015**	0.020***	0.180***	1.000							2.469
(9) TR/Turnover_2009	0.012*	-0.005	-0.006	-0.005	-0.001	-0.001	0.071***	0.096***	1.000						1.521
(10) Cash_2009	0.055***	-0.017***	-0.043***	-0.051***	0.011*	-0.004	0.507***	0.104***	0.090***	1.000					1.245
(11) Liquidity_2009	0.046***	-0.034***	0.001	-0.016***	-0.019***	-0.008	-0.031***	0.024***	0.014**	0.045***	1.000				1.217
(12) Supplier_liabili_2009	0.052***	-0.005	-0.050***	-0.061***	0.028***	0.019***	0.791***	0.183***	0.101***	0.500***	-0.041***	1.000			1.038
(13) Profitability_2009	0.025***	0.001	-0.015**	0.000	-0.007	0.002	0.003	0.000	0.000	0.001	0.000	0.000	1.000		1.093
(14) Age	0.403***	-0.030***	-0.077***	-0.077***	0.025***	0.023***	0.150***	0.027***	0.018***	0.113***	0.082***	0.117***	0.009	1.000	1.151
(15) Int. vs. Ext. Causes of D.	0.015**	-0.022***	-0.077***	-0.041***	-0.047***	-0.025***	0.005	-0.009	0.014**	0.024***	-0.007	-0.007	-0.078***	-0.029***	1.158

*** p<0.01, ** p<0.05, * p<0.1

4. Hypothesis testing

4.1. Modeling strategy

Survival analysis is a general term used to analyze the occurrence of an event over time in the presence of censored data. In this paper, the event was firm liquidation or exit without insolvency proceedings. To analyze this phenomenon, we followed the traditional approach of using the Cox model, which studies the relationship between an event's time of occurrence and a set of explanatory variables in the presence of censored data. In this study, the time to event or survival time was the number of years between the start year (2009) and the year of liquidation or exit without insolvency proceedings (2015).

The Cox model is a multivariate model that expresses the relationship between the instantaneous risk of the occurrence of the event under study (instantaneous incidence rate) $h(t)$ and the explanatory risk factors expressed as quantitative variables X , according to the following formula:

$$h_i(t) = h_0(t) \exp(x_i B)$$

Similarly, this formula can be written as follows:

$$h_i(t) = h_0(t) \exp\left(\beta_1 x_{i1} + \beta_2 x_{i2} + \dots + \beta_k x_{ik}\right).$$

Where x_{ik} represents the value of covariate k for the individual i and β_k is the coefficient for x_k .

Specific attention was given to the risk of confounding effects. In our case, a treatment variable — insolvency proceedings — was likely to be influenced by the same variables as the dependent variable. The firms involved in insolvency proceedings were also expected to have the shortest lifespans. We employed the inverse probability weighting (IPW) technique to address this problem in estimating most of our models. The use of IPW allowed us to manage causal inference by neutralizing confounders (Nagle, 2019). We followed Nagle (2019) and employed a probit model to determine the likelihood of insolvency proceedings. Every observation in the sample was then associated with a predicted probability of experiencing insolvency proceedings. Subsequently, we applied the Cox model by using the inverse of these probabilities as weights in insolvency proceedings and the inverse of the complementary likelihood in the absence of insolvency proceedings.

This correction allowed us to make causal interpretations of the coefficient associated with opening insolvency proceedings.

4.2. Models and results

The Cox model is a well-suited approach for conducting a firm's survival analysis. It considers the baseline hazard, which represents the death rate at each time step and incorporates explanatory variables that modify this baseline hazard. The model is estimated using maximum-likelihood methods. When studying life expectancy, the Cox survival model offers distinct advantages over linear regression models. Firstly, it accurately considers the curvilinear relationship between time and life expectancy by accounting for a product of rates in determining the likelihood of survival at each period. Secondly, the Cox model effectively handles censored observations, allowing for the estimation of the likelihood of survival beyond a specified time threshold. This is particularly useful when analyzing firms' life expectancy. Therefore, Cox techniques have been extensively employed in investigating firm longevity. For example, Cepec and Grazl (2020) comprehensively implement Cox regression analysis specifically in post-bankruptcy situations involving debt-to-equity conversion."

We run a series of Cox models to test our hypotheses. The first step consisted of estimating our model without the IPW correction to provide a reference basis for comparison. In Table 4, we provide results from these initial estimations. However, these models should be regarded as a basis for comparison with later models, given that it is estimated without IPW correction.

Table 4. Cox regression results without IPW³

	Model 1	Model 2	Model 3
Turnover_2009(log)	-0.362*** (.041)	-0.326*** (.043)	-0.361*** (.043)
Profitability_2009	-0.225*** (.026)	-0.296*** (.026)	-0.268*** (.026)
FD/Assets_2009	-0.026 (.018)	-0.02 (.017)	-0.025 (.018)
TR/Turnover_2009	-0.194*** (.068)	-0.188*** (.067)	-0.179*** (.068)
Cash_2009(log)	-0.212*** (.02)	-0.181*** (.02)	-0.155*** (.02)
Suppl_liab_2009(log)	.213*** (.037)	.216*** (.038)	.211*** (.037)
Liquidity_2009	-1.017*** (.118)	-0.922*** (.116)	-0.784*** (.116)
Age	-0.049*** (.004)	-0.045*** (.004)	-0.045*** (.004)
Int. vs. Ext. Causes of D.		-0.914*** (.086)	-0.812*** (.087)
Asset_retrench_before/out		-0.264*** (.066)	-0.286*** (.067)
Asset_retrench_during		-0.501*** (.073)	-0.421*** (.073)
Emplo_retrench_before/out		.576*** (.068)	.475*** (.068)
Emplo_retrench_during		.757*** (.066)	.705*** (.067)
Insolvency_proceeding			2.138*** (.1)
Real estate activities	-0.299 (.231)	-0.241 (.229)	-0.259 (.229)
Public administration and health	-0.801*** (.282)	-0.745*** (.282)	-0.857*** (.282)
Other services	.112 (.182)	.16 (.182)	.157 (.182)
Retail	-0.237** (.113)	-0.23** (.114)	-0.218* (.114)
Construction	.53*** (.105)	.492*** (.106)	.445*** (.106)
Hotels and restaurants	-0.526*** (.163)	-0.473*** (.163)	-0.524*** (.163)
Manufacturing and distribution	.007	.028	-.033

³ Table 4 includes basic model including only control variables (Model 1), then regressions in which retrenchment strategies are included (Model 2). Model 3 is also estimated without IPW and introduces the influence of insolvency proceedings.

	(.124)	(.124)	(.124)	
Transport and logistics	-.192	-.125	-.136	
	(.19)	(.189)	(.189)	
Communication	-.382*	-.285	-.28	
	(.231)	(.231)	(.231)	
Pseudo R2	.053	.077	.093	Standard errors are in parentheses

*** p<.01, ** p<.05, *

p<.1

Table 5. Cox regression results with IPW⁴

	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Turnover_2009(log)	-.326***	-.277***	-.275***	-.294***	-.297***	-.304***	-.315***	-.275***
	(.018)	(.019)	(.019)	(.019)	(.019)	(.019)	(.019)	(.019)
Profitability_2009	-.227***	-.152***	-.147***	-.159***	-.149***	-.217***	-.215***	-.141***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
FD/Assets_2009	.016***	-.018***	-.018***	-.02***	-.024***	.023***	.02***	-.025***
	(.005)	(.005)	(.005)	(.005)	(.005)	(.005)	(.005)	(.005)
TR/Turnover_2009	.178***	.177***	.171***	.194***	.199***	.153***	.166***	.187***
	(.008)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)	(.009)
Cash_2009(log)	-.079***	-.096***	-.095***	-.092***	-.093***	-.08***	-.08***	-.098***
	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)
Suppl_liab_2009(log)	.264***	.26***	.26***	.254***	.257***	.272***	.274***	.255***
	(.014)	(.014)	(.014)	(.014)	(.014)	(.014)	(.014)	(.014)
Liquidity_2009	.423***	.414***	.404***	.429***	.445***	.385***	.407***	.421***
	(.034)	(.034)	(.034)	(.034)	(.034)	(.034)	(.035)	(.034)
Age	-.023***	-.072***	-.023***	-.023***	-.076***	-.023***	-.069***	-.069***
	(.001)	(.005)	(.001)	(.001)	(.005)	(.001)	(.005)	(.005)
Int. vs. Ext. Causes of D.	-1.372***	-1.242***	-.786***	-1.284***	-.785***	-1.365***	-.684***	-.611***
	(.043)	(.043)	(.086)	(.043)	(.086)	(.043)	(.087)	(.087)
Insolvency_proceeding	2.925***	1.781***	2.883***	2.927***	2.187***	2.779***	2.396***	2.655***
	(.038)	(.096)	(.044)	(.039)	(.103)	(.04)	(.108)	(.113)
Asset_retrench_before/out		-.319***	-.322***	-.248***	.011			-.177**
		(.021)	(.021)	(.02)	(.071)			(.072)
Asset_retrench_during		-.925***	-.925***	-.949***	-.309***			-.333***
		(.03)	(.03)	(.029)	(.078)			(.078)
Emplo_retrench_before/out		.105***	.111***			.214***	.612***	.655***
		(.024)	(.024)			(.023)	(.082)	(.083)
Emplo_retrench_during		.276***	.284***			.244***	1.056***	1.099***
		(.024)	(.024)			(.022)	(.071)	(.072)
IP#Age		.051***			.054***		.048***	.047***
		(.005)			(.005)		(.005)	(.005)
IP# Int. vs. Ext. Causes of D.			-.601***		-.619***		-.818***	-.774***
			(.1)		(.1)		(.101)	(.101)
IP#Asset_retre_before/out					-.273***			-.142*
					(.074)			(.076)
IP#Asset_retre_during					-.728***			-.694***
					(.085)			(.085)

⁴ Model 7 with IPW adds asset retrenchment choices both apart from (or before) and during insolvency proceedings. Model 8 includes the corresponding interaction terms with insolvency proceedings. Additionally, Models 9 and 10 replicate the same analysis for employee retrenchment. Finally, all variables are combined in Model 11.

IP#Employee_Retre_before/out							-0.461***	-0.643***
							(.086)	(.086)
IP#Employee_Retre_during							-0.909***	-0.937***
							(.075)	(.076)
Real estate activities	-0.312***	-0.369***	-0.388***	-0.445***	-0.449***	-0.296***	-0.308***	-0.412***
	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)
Public administration and health	-0.276***	-0.509***	-0.486***	-0.571***	-0.571***	-0.235***	-0.243***	-0.528***
	(.087)	(.088)	(.088)	(.088)	(.088)	(.088)	(.088)	(.088)
Other services	.499***	.472***	.496***	.355***	.319***	.608***	.553***	.396***
	(.058)	(.059)	(.059)	(.058)	(.058)	(.058)	(.058)	(.06)
Retail	.223***	.232***	.242***	.194***	.188***	.252***	.246***	.218***
	(.042)	(.043)	(.042)	(.042)	(.042)	(.042)	(.042)	(.043)
Construction	.283***	.222***	.225***	.233***	.223***	.262***	.266***	.226***
	(.041)	(.041)	(.041)	(.041)	(.041)	(.041)	(.041)	(.041)
Hotels and restaurants	.163***	.032	.056	-.005	-.018	.221***	.208***	-.002
	(.058)	(.058)	(.058)	(.058)	(.058)	(.058)	(.058)	(.058)
Manufacturing and distribution	.024	.052	.057	.038	.027	.042	.034	.045
	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)
Transport and logistics	-.636***	-.587***	-.581***	-.673***	-.66***	-.569***	-.569***	-.612***
	(.08)	(.081)	(.081)	(.08)	(.08)	(.08)	(.08)	(.081)
Communication	.654***	.499***	.496***	.424***	.401***	.667***	.643***	.472***
	(.06)	(.063)	(.063)	(.061)	(.061)	(.062)	(.062)	(.063)
Pseudo R2	.078	.084	.084	.083	.084	.079	.08	.085

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Our second step consisted in estimating COX regressions, including the IPW specification. In Table 5, we present our results. Model 4 is a Cox regression estimated via IPW, thus allowing for more confidence in interpreting the influence of insolvency proceedings. It is noteworthy that our results indicate that insolvency proceedings generally reduced the chances of firm survival ($b=2.925$, $p < 0.01$), this result is consistent in all our models. Hypothesis H1a presumed a positive interaction between retrenchment (regarding employees and assets) and insolvency proceedings. The interaction term in Models 8, 10, and 11 indicates the positive effect of retrenchments during insolvency proceedings for both assets ($b = -0.728$, $p < 0.01$; Model 8) and employees retrenchment ($b = -0.909$, $p < 0.01$; Model 10). Consequently, H1a is validated for asset and employee retrenchment, indicating that retrenchment during insolvency proceedings positively affects firm survival.

Hypothesis H1b compares the effect of retrenchment (in terms of employees and assets) on firm survival when performed apart from (before) relative to retrenchment performed during insolvency proceedings. We used a Wald test to compare coefficients. In Model 8, the coefficient for asset retrenchment during insolvency proceedings ($b = -0.728$, $p < 0.01$) is higher than the coefficient for asset retrenchment before/out of insolvency

proceedings ($b = -0.273$, $p < 0.01$). This result is supported by the Wald test ($\chi^2 = 47.31$, $p < 0.01$). The same result is found for employee retrenchment, given that the coefficient during insolvency proceedings ($b = -0.909$, $p < 0.01$) is higher than the coefficient for asset retrenchment before insolvency proceedings ($b = -0.461$, $p < 0.01$) in Model 10. The Wald test supports this result ($\chi^2 = 27.43$, $p < 0.01$). Hence, hypothesis H1b is confirmed. Both retrenchment strategies in employees and assets have a more positive impact on firm survival when practiced during insolvency proceedings than when practiced independently from insolvency proceedings.

Hypothesis H2 posited that firm age would be a positive moderator of the relationship between insolvency proceedings and firm survival. However, the results of our analysis, as presented in Model 5 and replicated in Models 8, 10 and 11, indicate that firm age negatively moderates this relationship ($b = 0.051$, $p < 0.01$, Model 5). Specifically, older firms appear to benefit to a lesser extent from insolvency proceedings. These findings contradict our initial hypothesis (H2) and suggest that further research is needed to fully understand the moderating effect of firm age on the relationship between insolvency proceedings and firm survival.

Our hypothesis (H3) predicted that the impact of insolvency proceedings on firm survival is more favorable when the causes of distress are firm-specific. Empirical analysis supports this hypothesis as presented in Model 6 and replicated in Models 8, 10, and 11. The results indicate that internal causes of the decline have a positive moderating effect on the relationship between insolvency proceedings and firm survival ($b = -0.601$, $p < 0.01$, Model 6). Specifically, when the causes of decline are internal, the impact of insolvency proceedings on firm survival is more favorable. These findings provide strong support for our hypothesis (H3).

To simplify the interpretation of the results, we analyzed the marginal effects of the interaction between insolvency proceedings and retrenchment strategies (see Tables 6 and 7). In addition, Figures 3 and 4 provide a graphical display of margins for closer examination. From the results concerning the marginal effect, the chances of firm survival are significantly better for employee retrenchment during insolvency proceedings (predicted hazard ratio = 1.513, $p < 0.01$, Table 7) than for asset retrenchment during insolvency proceedings (predicted hazard ratio = 5.567, $p < 0.01$, Table 6).

Table 6. Predictive margins of the effect of the interaction between insolvency proceedings and asset retrenchment

	Margin	Std.Err.	Z	P>z	[95%Conf.	Interval]
IP#Asset_retre-during						
0 0	0.218	0.014	14.380	0.000	0.178	0.239
0 1	0.367	0.049	7.780	0.000	0.278	0.478
1 0	7.159	0.547	12.850	0.000	6.061	8.262
1 1	5.567	0.466	12.240	0.000	4.678	6.489

Figure 3. Average marginal effects of the interaction between insolvency proceedings and asset retrenchment

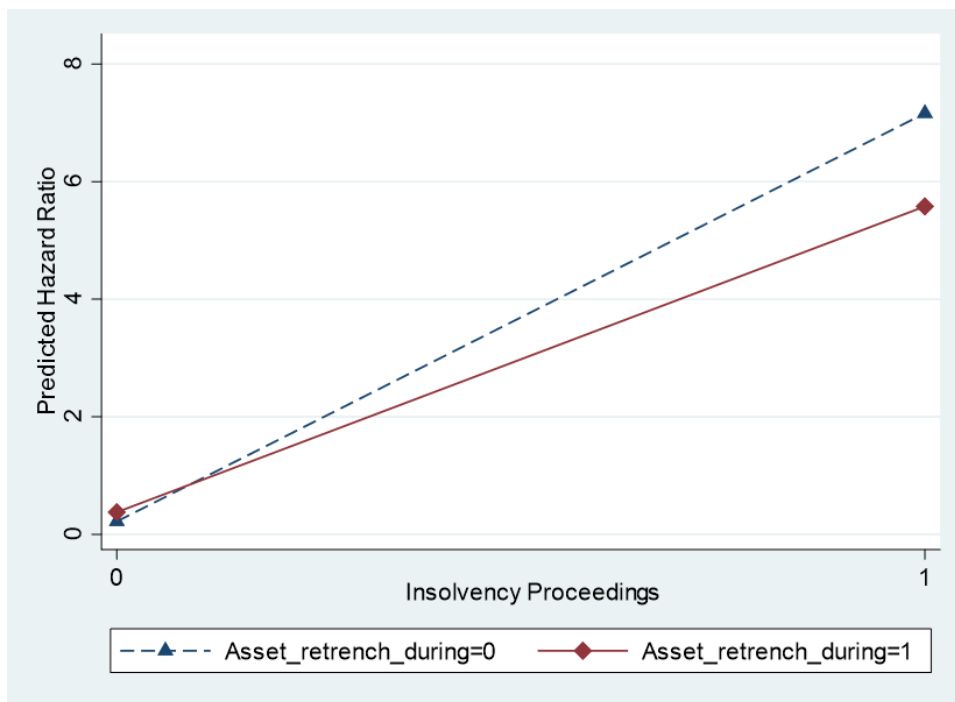
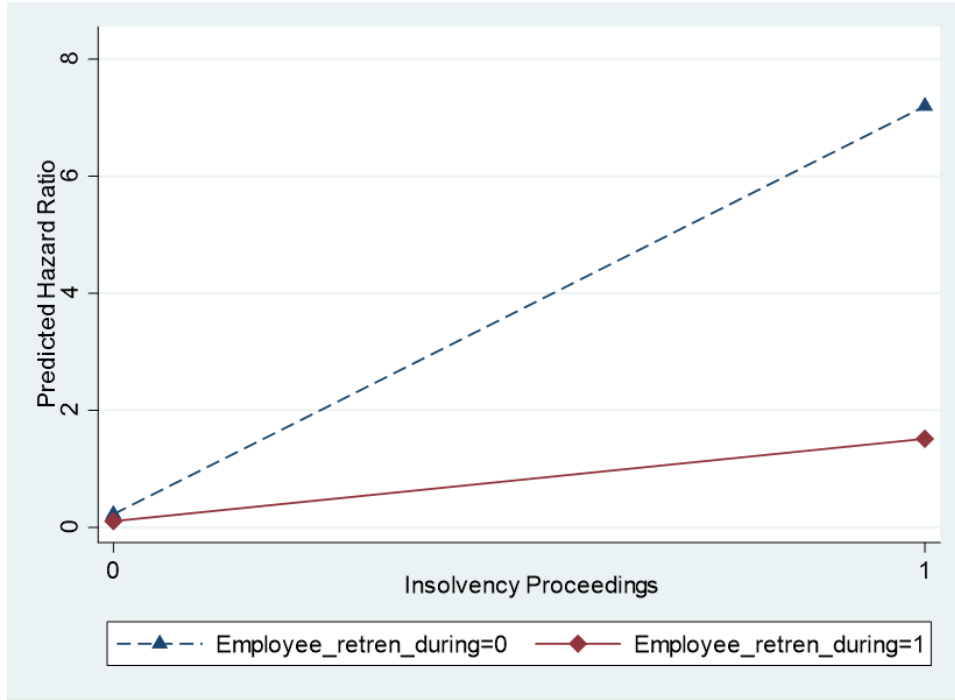


Table 7. Predictive margins of the effect of the interaction between insolvency proceedings and employee retrenchment

	Margin	Std.Err.	z	P>z	[95%Conf.	Interval]
IP#employee_retre-during						
0 0	0.223	0.015	14.370	0.000	0.194	0.254
0 1	0.107	0.023	4.460	0.000	0.049	0.155

1 0	7.180	0.549	12.870	0.000	6.112	8.296
1 1	1.513	0.179	8.020	0.000	1.143	1.884

Figure 4. Average marginal effects of the interaction between insolvency proceedings and employee retrenchment



5. DISCUSSION AND CONCLUSIONS

5.1. Research implications

Recently, some studies have emerged examining the link between insolvency proceedings and the use of strategic restructuring mechanisms by insolvent firms (Rico et al., 2021; Zemis & Demil, 2020). These studies adopt the perspective that insolvent firms can use strategic mechanisms to restructure their situation. Our research aligns with this new perspective, responding to the lack of legal considerations in business studies (Kücher & Feldbauer-Durstmüller, 2019). Specifically, our study compares retrenchment strategies used in and outside insolvency proceedings. It investigates the moderating effect of age and internal/external causes of financial distress on the relationship between insolvency proceedings and firm survival. Adopting a legitimacy perspective, we have developed a theoretical framework that combines the effects of retrenchment, age, and distress causes, which we test on a sample of French SMEs. Our study found that initiating insolvency proceedings significantly and negatively affects firm survival. Retrenchment of employees or

assets is positively related to firm survival during insolvency proceedings. Additionally, retrenchment (in terms of employees or assets) performed during insolvency proceedings has a stronger positive effect on firm survival than retrenchment performed outside of these proceedings. Contrary to our expectations, firm age negatively affects survival during insolvency proceedings. Finally, the results indicate that in-court proceedings have a more favorable impact on firm survival in cases of firm-specific financial distress. Our findings provide valuable insights into five key areas and contribute to the existing literature.

First, our study focuses on strategic considerations in a specific legal situation, namely, insolvency proceedings. It contributes to the emerging field of research concerning SME strategies during insolvency proceedings by emphasizing the unique strategic specificities of this legal situation. In the event of bankruptcy, a financially distressed firm is challenged to implement a turnaround strategy instead of ceasing operations. The firm must formulate a plan while navigating opposing stakeholder interests, some favoring firm's liquidation and others supporting its continuation (Jindal, 2020). The traditional strategic choices in the context of insolvency proceedings appear to be influenced by distinct mechanisms, leading to limitations in the existing body of knowledge to predict the success of a turnaround (Arora, 2018). This is also supported by Xia et al. (2015), who argues that "[pre-insolvency] conditions, while useful, are unable to shed light on the dynamic process of reorganization, given that firms in bankruptcy often undergo substantial changes." Our study aims to address this limitation by adopting and extending this perspective in two specific ways. On the one hand, our focus is on SMEs, whereas previous research has mainly examined publicly listed companies (Antill, 2022). On the other hand, we develop a theoretical framework to explain when insolvency proceedings may provide positive outcomes—furthermore, our study advocates for advancing a specialized body of knowledge about firms undergoing insolvency-court supervision.

Second, our work contributes to the debate concerning the effects of retrenchment strategies by including the firm's legal situation as a moderator. Extant literature has emphasized the divergence of empirical findings about this topic (Santana et al., 2017; Zorn et al., 2017). While generally insolvency proceedings may reduce a firm's survival chances, our findings suggest that insolvency proceedings positively moderate the retrenchment of human resources, thus increasing the firm chances of survival. Indeed, authors suggest that contextual factors play a crucial role in determining retrenchment outcomes (Barbero et al., 2017), thus paving the way for the study of moderators. A theoretical framework based on

changes in relevant legitimacy context explains how the legitimacy of certain restructuring decisions shifts in the context of insolvency proceedings. Our results support our hypotheses, showing that asset retrenchment is not moderated, while insolvency proceedings influence employee retrenchment. This conclusion regarding employee retrenchment seems to contradict the findings of Rico et al. (2021) in the Spanish bankruptcy system, who found that employee retrenchment had a negative impact on firm survival during insolvency proceedings. However, their study did not compare to out-of-court situations, preventing examination of insolvency proceedings' moderating effect or specific impact. We advocate for further analysis to reconcile these divergent findings in light of these results.

Third, this study contributes to the theoretical understanding of the complex role of insolvency proceedings on a firm's operational performance. Our findings indicate that while specific retrenchment actions may enhance the firm's chances of survival, the initiation of insolvency proceedings generally exacerbates its likelihood of failure. This finding is consistent with the theoretical expectation that the initiation of insolvency proceedings impairs a firm's legitimacy and credibility (Xia et al., 2015; Kibler et al., 2017) and that bankrupt firms are required to allocate substantial resources toward restoring their legitimacy and gaining the trust of stakeholders (Xia et al., 2015). At the same time, our findings raise serious questions regarding the efficacy of the efforts made by lawmakers in designing legal proceedings to address a firm's financial distress. Despite dedicated efforts to improve the effectiveness and efficiency of these proceedings (Dmaraju et al., 2020), our findings suggest that the French bankruptcy law, in particular, is not achieving its intended goal of improving firm survival. This is in line with the calls for a comprehensive and significant reform of French bankruptcy law (Plantin et al., 2013). The study is also consistent with the prevalent skepticism in the literature toward in-court restructuring. Balcaen et al. (2012) noted that financially distressed firms tend to choose alternative exit options over insolvency proceedings due to the high transaction costs involved. A potential avenue for future investigation would be examining the expectations of various stakeholders at varying stages to enhance our understanding of stakeholder perception of insolvent firms' legitimacy. Additionally, the present study was limited to observations of firms both apart from and during insolvency proceedings within a single institutional context. Further research could explore how variations in institutional contexts impact the legitimacy of retrenchment and, more broadly, the firm's relationships with stakeholders during financial distress. French

bankruptcy law is known to offer little protection to creditors. This is why different results could be obtained in countries such as the United States and England.

Fourth, our findings indicate that, contrary to expectation, age has a negative effect on firm survival during insolvency proceedings. It somewhat conflicts with the theory of legitimacy-building processes, suggesting that a firm's established status can provide a buffer during financial distress (Fisher et al., 2016). Two potential explanations for these results in the context of insolvency proceedings may be offered. First, it could be related to rigidity resulting from firm age. While rigidity is often associated with organizational size (Greve, 2011), it has also been suggested that firm age can have dual effects. The “liability of aging hypothesis” (Amankwah-Amoah, 2016), as an alternative to the “liability of newness” perspective, highlights the disadvantage of firm age. As firms age, they become prone to cognitive and procedural rigidity, resulting in bureaucratic behavior and decreased ability to respond to new situations. Insolvency proceedings, an event that firms rarely face, challenge their ability to learn and transform (e.g., Desai, 2008). This suggests that firm age may impede the adaptability required in these situations. The second explanation considers the complexity of legitimacy judgments in insolvency proceedings, where the firm's stakeholder judgment framework changes. Previous research has often aggregated stakeholder views on legitimacy, but not all stakeholders follow the same institutional logic (Fisher et al., 2017). In reality, a firm faces legitimacy judgments from various groups, and the legitimacy it builds with one group may not be transferable to others or different circumstances. There may also be conflicts between external and internal legitimacy assessments (Drori and Honig, 2013). In sum, insolvency proceedings could be an example of a situation where the firm's previously acquired legitimacy through age no longer serves as an asset.

Fifth, our findings support the significance of insolvency proceedings when the causes of distress are internal. Despite the literature's emphasis on a combined examination of internal and external factors, our results highlight the significance of differentiating between the two (e.g., Trahm et al., 2013). Specifically, our study sheds light on the potential to address internal causes of failure. Third parties, such as auditors in their reports, have been shown to provide reliable views of the causes of failure (Muñoz-Izquierdo et al., 2019). This external support is crucial in compensating for the lack of managerial foresight, often linked to increased failure rates (Kücher & Feldbauer-Durstmüller, 2019). Entrepreneurs, for instance, may hide their personal defeats and be inclined to self-complacency (Khelil, 2016), while social control may prevent criticism of the board's views. Third parties can thus provide

valuable dissenting insights into the firm's situation. However, the role of these interveners in initiating a turnaround is yet to be explored. Our study takes an initial step in proposing that insolvency proceedings may serve as a corrective mechanism in situations where performance deviates negatively from the industry average. The legal nature of the insolvency proceedings, with a hearing before the courts, offers an arena to challenge top management's dominant views and discourses.

5.2. Practical implications

The findings of our study have significant practical implications for executives and boards of directors. Our results indicate that the outcome of a retrenchment strategy may vary significantly depending on whether it is executed in conjunction with insolvency proceedings or outside of court. This has practical consequences for managers, who are often hesitant to pursue insolvency proceedings due to the associated reputational risk (Fedorova, 2022; Stef, 2022). Our study highlights how insolvency proceedings can also give the firm legitimacy to implement specific strategies that would be difficult to execute outside of court. Conversely, we also show that insolvency proceedings alone are insufficient for survival and that specific measures must be taken. Hence, we validate the idea, advocated by practitioners, that firms with a well-defined strategy during insolvency proceedings have drastically better chances of survival than firms that exclusively rely on the specific measures implemented within the insolvency procedure.

However, our findings call into question the notion that reputation and legitimacy can be accumulated over time. Our results suggest that legitimacy gained through age is not a valuable asset during insolvency proceedings and that managers should be aware of this limitation. Finally, our study offers an opportunity for managers, as we show that insolvency proceedings can offer better outcomes for firm-specific distress. However, a potential limitation of this approach is that managers responsible for the firm's decline may be reluctant to initiate the procedure, as it may bring their actions to light. This issue requires further investigation. It is also noteworthy that creditors and prosecutors have the legal authority to initiate insolvency proceedings in such cases.

5.3. Limitations and future research directions

Our study has some limitations, the most significant of which is the inability to distinguish between insolvency proceedings initiated by the firm and those initiated by its creditors in the data used. The literature on the strategic use of insolvency proceedings by

large companies typically assumes that these companies have the discretion to decide whether to file for insolvency proceedings. The same holds in French and European systems, where firms can either voluntarily file for insolvency or be compelled to court by creditors. To our knowledge, currently, there is a lack of research on SME bankruptcy that distinguishes between voluntary and involuntary insolvency proceedings. Despite this, it can be reasonably assumed that the distinction between voluntary and involuntary insolvency proceedings is often unclear in practice, as most managers are reluctant to file for bankruptcy, and most "voluntary" bankruptcy filings are motivated by circumstances and increasing stakeholder pressure. This raises the question of differences between procedures initiated by the firms and those initiated by creditors, which represents an important avenue for future research.

Another limitation of this study is its focus on a subset of variables, which only covers a portion of the potential strategic choices a firm might consider for a turnaround. While we consider retrenchment to be a crucial aspect, it does not provide a complete overview of the available recovery strategies. Notable options such as receiving specific support from stakeholders, diversification, changes in management, or even international expansion are examples of potentially significant choices. Despite their potential importance, they are beyond the scope of our research. Future investigations could explore the areas our data has not allowed us to delve into, thus facilitating a more comprehensive understanding of the paradox. This paradox revolves around the fact that while insolvency laws explicitly acknowledge these possibilities, courts, to the best of our knowledge, rarely employ this mechanism.

5.4. Conclusion

This study aimed to examine whether firms should strategize differently during insolvency proceedings “should firms strategize differently during insolvency proceedings?”. Despite the lack of research on the topic, the study found that the rules of legitimacy change during insolvency, as evidenced by the impact on retrenchment, firm age, and the causes of financial distress. The study represents a novel contribution to the emerging field of research concerning SME strategies during insolvency proceedings by focusing on the unique strategic considerations of this legal situation and contributing to the debate concerning the effects of retrenchment strategies. Additionally, the study contributes to advancing a specialized body of knowledge about firms undergoing insolvency-court supervision and provides insights into reconciling divergent findings. The study results are useful for practitioners, stakeholders,

and policy-makers in understanding the implications of insolvency proceedings on firm survival. Future research can undoubtedly explore a broader range of strategic choices. Indeed, understanding how SMEs can implement a successful turnaround is a crucial topic that requires further development.

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Appendices

Table 8. Definition of variables

Variable	Definition	Measure
Dependent	Lifetime	The firm's lifetime in the study period before liquidation or censoring, if the firm was still operating in 2015
Independent	Insolvency_proceeding	1 if the firm experienced insolvency proceedings (safeguard or turnaround) during the study period; otherwise, 0
Independent	Employee_retrenchment_before/out	1 if the firm reduced its number of employees before (out) the year of insolvency proceedings (a 20% reduction in the number of employees); otherwise, 0
Independent	Employee_retrenchment_during	1 if the firm reduced its number of employees during the year of insolvency proceedings (a 20% reduction in the number of employees); otherwise, 0
Independent	Asset_retrenchment_before/out	1 if the firm reduced its assets before (out) the year of insolvency proceedings (a 20% reduction in assets); otherwise, 0
Independent	Asset_retrenchment_during	1 if the firm reduced its assets during the year of insolvency proceedings (a 20% reduction in assets); otherwise, 0
Independent	IP#Asset_retre_before/out IP#Asset_retre_during	Combined dummies: Interaction effect between insolvency proceedings and asset retrenchment before/during the year of insolvency proceedings
Independent	IP#Employee_retre_before/out IP#Employee_retre_during	Combined dummies: Interaction effect between insolvency proceedings and employee retrenchment before/during the year of insolvency proceedings
Independent	IP#Age	Combined dummies: Interaction effect between insolvency proceedings and firm age
Independent	IP# Int. vs. Ext. Causes of D.	Combined dummies: Interaction effect between insolvency proceedings and causes of decline

Independent	Age	2009 less the firm's year of foundation
Independent	Int. vs. Ext. Cause of Decline	It's a continuous variable by subtracting the firm's return on assets (ROS) from the average ROS of its industry
Control	Turnover_2009	Log of turnover in thousands of euros for 2009
Control	Profitability_2009	Measured in terms of the ratio of net profits over total assets for 2009
Control	Financial debts/Assets_2009	Measured in terms of the ratio of debt over total assets for 2009
Control	Trade receivables/Turnover_2009	Measured in terms of the ratio of trade receivables over turnover for 2009
Control	Cash_2009	Log of cash (in thousands of euros) for 2009
Control	Liquidity_2009	Log of liquidity (in thousands of euros) for 2009
Control	Supplier liabilities_2009	Log of supplier liabilities (in thousands of euros) for 2009
Control	Industry	10 dummies corresponding to the following sectors: Real estate activities, Public administration and health, Retail, Construction, Hotels and restaurants, Manufacturing and distribution, Transport and logistics, Communication, Administrative and scientific services, and Other services

Robustness tests

Table 9. Cox Regression Results with IPW for Retrenchment at 10%

	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Turnover_2009(log)	-.326*** (.018)	-.265*** (.019)	-.261*** (.019)	-.289*** (.018)	-.293*** (.019)	-.32*** (.019)	-.339*** (.019)	-.267*** (.019)
Profitability_2009	-.227*** (.01)	-.159*** (.01)	-.154*** (.01)	-.163*** (.01)	-.154*** (.01)	-.222*** (.01)	-.22*** (.01)	-.148*** (.01)
FD/Assets_2009	.016*** (.005)	-.022*** (.005)	-.023*** (.005)	-.021*** (.005)	-.026*** (.005)	.022*** (.005)	.019*** (.005)	-.031*** (.005)
TR/Turnover_2009	.178*** (.008)	.191*** (.009)	.185*** (.009)	.199*** (.009)	.206*** (.009)	.174*** (.009)	.184*** (.009)	.196*** (.009)
Cash_2009(log)	-.079*** (.006)	-.101*** (.006)	-.1*** (.006)	-.094*** (.006)	-.096*** (.006)	-.079*** (.006)	-.078*** (.006)	-.101*** (.006)
Suppl_liab_2009(log)	.264*** (.014)	.236*** (.014)	.235*** (.014)	.245*** (.014)	.248*** (.014)	.262*** (.014)	.272*** (.014)	.238*** (.014)
Liquidity_2009	.423*** (.034)	.416*** (.034)	.404*** (.034)	.426*** (.034)	.442*** (.034)	.418*** (.034)	.442*** (.035)	.426*** (.034)
Age	-.023*** (.001)	-.072*** (.005)	-.023*** (.001)	-.023*** (.001)	-.075*** (.005)	-.023*** (.001)	-.072*** (.005)	-.071*** (.005)
Int. vs. Ext. Causes of D.	-1.372*** (.043)	-1.259*** (.043)	-.79*** (.086)	-1.282*** (.043)	-.783*** (.086)	-1.363*** (.043)	-.747*** (.087)	-.679*** (.087)
Insolvency_proceeding	2.925*** (.038)	1.784*** (.096)	2.904*** (.043)	2.907*** (.039)	2.177*** (.103)	2.87*** (.039)	2.498*** (.111)	2.64*** (.115)
Asset_retrench_before/out		-.393*** (.021)	-.395*** (.021)	-.295*** (.02)	-.047 (.071)			-.225*** (.072)
Asset_retrench_during		-.974*** (.029)	-.978*** (.029)	-.954*** (.029)	-.347*** (.076)			-.425*** (.077)
Emplo_retrench_before/out		.037* (.02)	.037* (.02)			.117*** (.02)	.54*** (.074)	.584*** (.075)
Emplo_retrench_during		.274*** (.023)	.278*** (.023)			.081*** (.021)	.826*** (.071)	.895*** (.071)
IP#Age		.052*** (.005)			.054*** (.005)		.051*** (.005)	.05*** (.005)
IP# Int. vs. Ext. Causes of D.			-.618*** (.1)		-.62*** (.1)		-.749*** (.1)	-.726*** (.101)
IP#Asset_retre_before/out					-.263*** (.074)			-.168** (.075)
IP#Asset_retre_during					-.696*** (.083)			-.644*** (.083)
IP#Employee_Retre_before/out							-.471*** (.077)	-.614*** (.077)
IP#Employee_Retre_during							-.829*** (.074)	-.699*** (.075)
Real estate activities	-.312*** (.084)	-.385*** (.084)	-.405*** (.084)	-.465*** (.084)	-.468*** (.084)	-.315*** (.084)	-.321*** (.084)	-.417*** (.084)
Public administration and health	-.276*** (.087)	-.547*** (.088)	-.526*** (.088)	-.599*** (.088)	-.6*** (.088)	-.298*** (.088)	-.299*** (.088)	-.544*** (.088)
Other services	.499*** (.058)	.358*** (.058)	.378*** (.058)	.343*** (.058)	.306*** (.058)	.473*** (.058)	.458*** (.058)	.342*** (.058)
Retail	.223*** (.042)	.216*** (.042)	.225*** (.042)	.189*** (.042)	.183*** (.042)	.218*** (.042)	.218*** (.042)	.21*** (.043)
Construction	.283***	.212***	.215***	.221***	.21***	.273***	.27***	.207***

	(.041)	(.041)	(.041)	(.041)	(.041)	(.041)	(.041)	(.041)
Hotels and restaurants	.163***	-.045	-.021	-.026	-.04	.172***	.17***	-.061
	(.058)	(.058)	(.058)	(.058)	(.058)	(.058)	(.058)	(.058)
Manufacturing and distribution	.024	.039	.044	.042	.031	.016	.008	.037
	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)
Transport and logistics	-.636***	-.628***	-.625***	-.685***	-.673***	-.614***	-.604***	-.652***
	(.08)	(.081)	(.081)	(.08)	(.08)	(.08)	(.08)	(.081)
Communication	.654***	.509***	.508***	.399***	.375***	.647***	.609***	.472***
	(.06)	(.062)	(.063)	(.061)	(.061)	(.062)	(.062)	(.063)
Pseudo R2	.078	.085	.084	.084	.085	.078	.079	.086

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Table 10. Cox Regression Results with IPW for Retrenchment at 30%

	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Turnover_2009(log)	-.326***	-.231***	-.23***	-.29***	-.29***	-.214***	-.226***	-.229***
	(.018)	(.019)	(.019)	(.019)	(.019)	(.019)	(.019)	(.019)
Profitability_2009	-.227***	-.094***	-.088***	-.147***	-.136***	-.135***	-.136***	-.088***
	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)
FD/Assets_2009	.016***	-.023***	-.024***	-.029***	-.035***	.01**	.01**	-.03***
	(.005)	(.005)	(.005)	(.005)	(.005)	(.005)	(.005)	(.005)
TR/Turnover_2009	.178***	.141***	.136***	.19***	.196***	.107***	.113***	.148***
	(.008)	(.009)	(.009)	(.008)	(.009)	(.009)	(.009)	(.009)
Cash_2009(log)	-.079***	-.094***	-.093***	-.091***	-.093***	-.08***	-.081***	-.096***
	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)
Suppl_liab_2009(log)	.264***	.27***	.271***	.258***	.259***	.267***	.272***	.264***
	(.014)	(.014)	(.014)	(.014)	(.014)	(.014)	(.014)	(.014)
Liquidity_2009	.423***	.411***	.401***	.475***	.498***	.257***	.278***	.428***
	(.034)	(.035)	(.035)	(.034)	(.034)	(.035)	(.035)	(.035)
Age	-.023***	-.071***	-.025***	-.025***	-.076***	-.023***	-.069***	-.069***
	(.001)	(.005)	(.001)	(.001)	(.005)	(.001)	(.005)	(.005)
Int. vs. Ext. Causes of D.	-1.372***	-1.085***	-.656***	-1.26***	-.779***	-1.27***	-.556***	-.489***
	(.043)	(.044)	(.087)	(.043)	(.086)	(.043)	(.088)	(.089)
Insolvency_proceeding	2.925***	1.658***	2.679***	2.964***	2.299***	2.484***	1.9***	2.373***
	(.038)	(.096)	(.044)	(.039)	(.103)	(.039)	(.108)	(.112)
Asset_retrench_before/out		-.508***	-.51***	-.314***	.03			-.189**
		(.022)	(.022)	(.02)	(.073)			(.074)
Asset_retrench_during		-.921***	-.919***	-1.244***	-.312***			-.303***
		(.035)	(.035)	(.033)	(.081)			(.081)
Emplo_retrench_before/out		.541***	.553***			.694***	.792***	.82***
		(.026)	(.027)			(.025)	(.089)	(.09)
Emplo_retrench_during		.84***	.852***			.889***	1.357***	1.382***
		(.026)	(.026)			(.023)	(.073)	(.073)
IP#Age		.047***			.053***		.047***	.046***
		(.005)			(.005)		(.005)	(.005)
IP# Int. vs. Ext. Causes of D.			-.566***		-.593***		-.864***	-.736***
			(.1)		(.1)		(.102)	(.102)
IP#Asset_retre_before/out					-.368***			-.328***
					(.076)			(.078)
IP#Asset_retre_during					-1.076***			-.777***
					(.089)			(.09)
IP#Employee_Retre_before/out							-.138	-.367***
							(.093)	(.094)

IP#Employee_Retre_during							-.526***	-.648***
							(.076)	(.078)
Real estate activities	-.312***	-.432***	-.453***	-.466***	-.474***	-.296***	-.301***	-.467***
	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)	(.084)
Public administration and health	-.276***	-.619***	-.596***	-.628***	-.633***	-.196**	-.189**	-.621***
	(.087)	(.089)	(.089)	(.088)	(.088)	(.088)	(.088)	(.089)
Other services	.499***	.712***	.735***	.362***	.327***	.812***	.783***	.651***
	(.058)	(.06)	(.06)	(.058)	(.058)	(.059)	(.059)	(.06)
Retail	.223***	.196***	.203***	.179***	.17***	.311***	.31***	.188***
	(.042)	(.042)	(.042)	(.042)	(.042)	(.042)	(.042)	(.043)
Construction	.283***	.148***	.148***	.217***	.205***	.322***	.316***	.146***
	(.041)	(.041)	(.041)	(.041)	(.041)	(.04)	(.041)	(.041)
Hotels and restaurants	.163***	-.062	-.038	-.097*	-.124**	.293***	.299***	-.09
	(.058)	(.06)	(.06)	(.058)	(.059)	(.059)	(.059)	(.06)
Manufacturing and distribution	.024	-.033	-.029	-.015	-.031	.104**	.095**	-.04
	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)	(.043)
Transport and logistics	-.636***	-.453***	-.446***	-.687***	-.677***	-.376***	-.374***	-.482***
	(.08)	(.081)	(.081)	(.08)	(.08)	(.081)	(.081)	(.081)
Communication	.654***	.346***	.338***	.366***	.335***	.651***	.635***	.324***
	(.06)	(.062)	(.063)	(.062)	(.062)	(.062)	(.062)	(.063)
Pseudo R2	.078	.089	.089	.085	.086	.084	.085	.09

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$