Causes of business failure from bankruptcy filings: empirical evidence from in-court restructuring of Italian SMEs☆

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Abstract

Using unique data onto insolvent Italian SMEs over the 2011-2016 period, we investigate how causes of business failure documented in bankruptcy filings complement accounting and industry-specific factors in explaining creditors' vote on the firm's exit path from the in-court proceeding.

Bankruptcy literature mostly focuses on the role of financial and accounting factors in guiding the debt renegotiation process. Yet, we argue that creditors also consider the causes of business failure when evaluating firm's chances for turnaround. Drivers of creditors' preferences should indeed be researched both across accounting papers and causes of firm's decline reported in legal files. We look at main acknowledged accounting and industry-specific drivers of the debt renegotiation process, posing a series of hypotheses on the moderating role of documented causes of business failure. Extracting causes of firm's decline from authentic bankruptcy filings, we implement multinomial logistic regression. Results demonstrate how the causes of business failure constitute an important element for explaining creditors' choice on the bankruptcy outcome. Overall, creditors appear able to recognize potentially attractive growth opportunities, sustaining going concern of insolvent businesses with good recovery prospects and liquidating otherwise.

We contribute to bankruptcy literature showing to what extent documented causes of business decline relate to acknowledged accounting and industry-specific factors thus determining effective chances for creditors' support to firm's going concern at the end of the in-court procedure.

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1. Introduction

This research investigates how causes of business failure together with accounting and industry-specific factors can explain creditors' choice on firm's exit route from the in-court procedure. We focus on a dataset of Italian bankrupted Small and Medium Enterprises.

The problem of small businesses failure and their rescue is of vital relevance for the strengthening of EU industrial systems. We can easily perceive the magnitude of the issue: within the EU-28 non-financial sector, Small and Medium Enterprises (SMEs) accounted for 99.8% among all businesses as of 2017, with 93.049 million people employed and producing 57% of value added.[2] In this sense, European Commission remarks as "*the availability of statutory rescue and restructuring procedures is crucial. Legal systems should provide an option to restructure*" (*Best Project on Restructuring, Bankruptcy and a Fresh Start*, September 2003, p. 7).

Not surprisingly, many European countries in the last two decades reformed their bankruptcy legislation – United Kingdom, France, Italy, Germany, Spain, Finland, Belgium, among the others – with the aim of moving the existing 19th century design, mainly centred onto a liquidation approach, toward a reorganization framework, as it is the case for the United States. Taking an historical perspective, the first insolvency regulation has been promulgated within ancient Roman law[3] and Rossi (1956) underlines that Italian ancient medieval statutes inspired the old U.K. and U.S. bankruptcy act. Italy reformed its bankruptcy framework in 2005. The 2005 bankruptcy framework moves within a major manoeuvre for the reforming of the bankruptcy law across EU countries, demanded to EU Recommendation 135/2014. Recent works attest the relevance of the Italian setting for the study of the bankruptcy issue. Rodano et al. (2016) study the impact of the 2005 reform on the Italian bank financing and firm investment; Melcarne and Ramello (2018) explore how the duration of bankruptcy procedures affects Italian firms' entry and exit rate in relation with their size and organizational structure.

Research in the bankruptcy field has been conducted both over larger companies (Gilson, 1990; 1997) and SMEs (Franks and Sussman, 2005; Lawless et al., 2015; Blazy et al., 2014). Investigation has spanned across a wide range of geographic settings, with studies run in European countries – as U.K. (Sudarsanam and Lai, 2001; Franks and Sussman, 2005), Germany (Brunner and Krahnen, 2008; Jostarndt and Sautner, 2010), France, (Blazy et al., 2014), Italy (Rodano et al., 2016; Melcarne and Ramello, 2018) – as well as in Asia – Japan (Inoue et al., 2008; Inoue et al., 2010) and China (Kam et al., 2008) – and in the U.S. (Ang et al., 1982; Franks and Torous, 1989; Denis and

[2] Data extracted from the *Annual Report on European SMEs 2016/2017*, European Commission.

[3] Around the 450 B.C., in the *partes secanto* institution, disciplined under the XII Tables.

Rodgers, 2007). The issue of debt restructuring is central within the academic bankruptcy literature. A seminal line of investigation focuses on the drivers of the debt restructuring proceeding. For instance, the financial structure of the firm (i.e. Franks and Torous, 1994; Jostarndt and Sautner, 2010), its profitability (Denis and Rodgers, 2007; Blazy et al., 2014), the entity of firm's distress (i.e. Brown et al., 1994; Chatterjee et al., 1996), or the type of assets (i.e. Gilson et al., 1990) have been addressed as important factors guiding the in-court debt renegotiation process.

When defining business failure, different authors (Haswell and Holmes, 1989; Watson and Everett, 1993; Cahill, 1980) identify in the legal bankruptcy process as its objective and evident manifestation. Yet, adopting the bankruptcy event as a proxy for business failure would exclude all those cases in which a manifestly unprofitable firm has not applied to the legal procedure. Watson and Everett (1993) and Land (1975), in fact, recognize as bankruptcy constitutes a narrow definition of business failure; the failure of the business may encompass economical, strategical, entrepreneurial, operational aspects, in addition to bankruptcy ones. Indeed, a stream of literature parallel to the bankruptcy one focuses on the causes for business failure. For instance, inaccessibility to debt (Carter and Auken, 2006), poor management (Collett et al., 2014) or macro-economic conditions (Everett and Watson, 1998) proved to detain a relevant role in guiding firm's decline. Yet, these factors have a different nature from the ones highlighted by bankruptcy literature. In fact, factors from bankruptcy literature mainly derive from firm's financial and accounting data. Differently, causes of business failure studied by the related literature rest on human expertise and have mainly a judgmental nature.[4] The focus of these two streams of literature is different. In fact, business failure literature studies the conditions impeding business good functioning that can lead the company to collapse. Bankruptcy literature instead investigates the factors, mainly related to accounting data, guiding the debt renegotiation process of the insolvent firm. In this paper we use the terms causes of business failure/decline referring to the former and accounting factors/drivers referring to the latter.

Yet, providing that the firm facing the bankruptcy procedure represents the evident manifestation of a failure of the business, we argue that when analysing chances for the insolvent company to successfully restructure in-court we should consider both drivers of the bankruptcy process and causes of business decline.

[4] Van Gestel and Baesens (2009) write as, within the credit risk context, judgmental data include market environment, assessment of management quality, economic outlook, quality of disclosure. They argue as judgmental indicators contain a subjective element, that should be limited by defining and documenting the meaning of the diverse values attached to the indicator. At this aim we apply the rigorous Gioia Methodology (Gioia and Chittipeddi, 1991; Gioia et al., 2012) for coding bankruptcy filings and extracting the causes of business failure for the firms in our dataset (see Par. 5).

Under the provisions of Italian Insolvency Law (and similarly for other countries, as U.S., U.K. and Belgium among others), the firm entering the in-court procedure must deposit a restructuring plan in which it describes how and in which measure it aims refunding creditors. Unsecured creditors vote the plan. If the majority of creditors approves the plan (by the amount of their claims), the plan is ratified by the court and realized under the supervision of a bankruptcy trustee, otherwise the company is redirected toward the full liquidation procedure. To support their voting decision, creditors are provided through bankruptcy reports the complete picture over the default issue, with information covering accounting aspects and evidence on the causes of business decline. The sustainable turnaround of the firm derives both from the severity of the financial distress and from its ability to overcome impediments to business going concern. Blazy et al. (2013) show that liquidation procedures return to creditors on average lower debt recovery rates respect procedures contemplating business restructuring. We expect that the more the company proves able to overcome the impediments to business' good functioning, the higher the estimates of cash flows through the continuation of the business will be and, consequently, the expected debt recovery rates. Higher recovery rates will increase chances for creditors' support to business' going concern as result of the bankruptcy process. Explanations for creditors' support to firm's continuation through bankruptcy therefore should be looked for both among financial and accounting data and among causes of business failure documented in bankruptcy reports. [5]

In accordance with such approach, some bankruptcy studies address alternative drivers of the debt restructuring issue in addition to firm's accounting factors (see the works of Blazy et al. (2014), Denis and Rodgers (2007)), controlling also for the causes of business decline as extracted from legal bankruptcy documents (Blazy et al. (2011) and Blazy et al. (2013)).

Our work extends prior literature studying how documented causes of business decline, along with accounting and industry-specific factors, can provide further evidence on creditors' choice for the firm's exit route from the in-court procedure – liquidation or some form of business continuation. We focus onto relevant acknowledged financial and accounting drivers of the debt renegotiation process – financial structure of the firm, profitability of the firm, entity of distress, amount of intangible assets and sectorial trend – and, deriving from prior literature, we argue how their impact is moderated by creditors' awareness on the causes of business failure.

Bankruptcy filings do not constitute easily accessible documentation. Data sources represent a relevant issue that may explain the research gap within bankruptcy literature onto causes of business

[5] The ECB itself in the *SSM Supervisory Manual* (March 2018) reports as both quantitative and qualitative measures concur for the evaluation of credit risk.

decline.[6] Yet, when successful restructuring of the firm relies onto a creditors' vote, bankruptcy reports represent a reasonable measure of the information that creditors focused on when assessing the firm. Considering the long-lasting relational ties often linking SMEs to their creditors (see Moro and Fink (2013)), we believe that creditors are aware of causes of firm's decline before the draft of the legal files. Representation of causes of business failure in the bankruptcy documents must be reliable not to incur in creditors' contestation. Moreover, bankruptcy files are drawn up by the firm under the supervision of court-administrators. As such, we believe that legal filings contain the most objective and trustworthy representation of the causes of business decline.

Thanks to a collaboration with the Venice Chamber of Commerce, we had access to reserved bankruptcy filings for the bankruptcy proceedings submitted to the seven tribunals in the Italian Veneto Region[7] for the 2011-2016 period, for a total of 688 cases. The filings collection process led us to gather 4,965 documents accurately reporting the legal proceedings.

To track all the mentioned causes of business failure, we processed legal files through a rigorous coding procedure. To increase robustness of our findings we manually analysed each document applying the widely recognized prescriptions of the Gioia Methodology (Gioia and Chittipeddi, 1991; Gioia et al., 2012). This led us in building a taxonomy of the causes of firm's decline applying to our dataset. We could extract from legal documents 39 causes of failure, grouped into 8 macro categories.

We introduce hypotheses on the moderating role of specific documented causes of business failure on the relationship between firm's accounting factors and business' exit route as emerging from creditors' vote – business' reorganization, acquisition or liquidation. The hypotheses were tested through multinomial logistic regression, which proved effective in modelling the choice among alternative bankruptcy outcomes (i.e. Chatterjee et al., 1996; Denis and Rodgers, 2007).

[6] Works on causes of business failure mainly rely onto questioners sent to court-appointed administrators (i.e. Collett et al., 2014) – so subjected to potential limitations as client favouritism or low "skin in the game" (Delany, 1995; Zollo and Meier, 2008) – or managers (i.e. Everett and Watson, 1998) – that may be biased as directly involved in business' results (Argenti, 1976). Once within the bankruptcy context legal papers may constitute a more reliable source to fully grasp the perspective of creditors voting the restructuring plan.

[7] The Veneto Region is one of the twenty Italian Regions, on the Norther-East side. The industrial strength of Italy is displaced in the Northern part of the country, which for 2016 accounts for the 55.9% respect the national GDP (22.6% was produced in the South and 21.5% in the Centre). The Veneto Region contributes to the 16.6% on the Northern production, being the third region in terms of GDP at the national level (9.3% of Italian GDP in 2016) [Data are from I.Stat Database, the online portal of Istat, the Italian National Institute of Statistics, publicly available at: *dati.istat.it/Index.aspx* (Access date: 10th September 2018)].

Our analysis is focused on the Veneto Region, where the concentration of SMEs and the industrial development are among the highest at the country level. We believe our approach can be extended to those contexts where small firms play a leading role in the economy and levels of industrial and institutional development are high. On such versants, our setting shows similarities with the settings of other bankruptcy works, as U.K. (Franks and Sussman, 2005), France (Blazy et al., 2014), Germany (Brunner and Krahnen, 2008).

Our main results can be summarized as follows. Issues on the production side or deriving from a harsh external environment limit chances for achieving creditors' support to business' continuation. This is valid even for relatively less distressed and more profitable businesses. Likelihood of creditors' agreement on business' going concern decreases also when causes of business decline affecting liquidity shortage (financial issues or unpaying clients) accompany economic distress. Creditors may perceive such causes as difficult to be solved in the short-time, preferring more certain recovery rates from liquidation. Reversely, they appear more committed in supporting business' continuation in presence of high-levered firms when default derives from strategical mistakes or unpaying clients. Moreover, when uncertainty on assets' recovery value is high (e.g., intangible assets into a hostile environment or strategic mistakes in relation with firm-specific assets), creditors seem betting onto positive future prospects (i.e. assets revaluation) instead of accepting low recovery rates through a piecemeal liquidation. Overall, these results support Kahl's (2002) arguments in that creditors appear able to liquidate firms with poor recovery prospects whereas they support continuation in presence of potentially attractive growth opportunities.

Our work adds a novel contribution to the literature studying how the bankruptcy issue is conditioned by aspects that complement firm's accounting factors. In fact, we show how creditors' preferences on the bankruptcy outcome are shaped by their awareness onto causes of business failure, in addition to firm's financial and accounting factors. We believe that delving into roots of business decline is a necessary step to fully grasp effective chances for firms facing the legal way to achieve creditors' support for business' going concern.

From a managerial perspective, our results can be highly informative for managers of bankrupted organizations on the conditions under which business' continuation through bankruptcy is more likely to occur, evincing the triggers to push for an effective turnaround to achieve creditors' support. The understanding of the bankruptcy issue at this level of analysis may advice creditors as well. In fact, Blazy et al. (2013) demonstrate as on average higher debt recovery rates are expected from the restructuring of the business respect the liquidation outcome. Our results may instruct creditors on the conditions under which continuation of the business is more probable and thus,

indirectly, recovery rates are expected to be higher. Moreover, we trust that our results can provide bankruptcy administrators worthy insights on the proper bankruptcy outcome – firm's reorganization, acquisition, liquidation – depending on firm's accounting and financial features and causes of decline. All this may facilitate the research for a shared solution to the firm's crisis, diminishing the duration and cost of the proceedings.

The rest of the paper is structured as it follows. Section 2 presents a picture of the literature studying the resolution of corporate default. Section 3 provides an overview onto the Italian institutional framework on enterprise insolvency. Section 4 presents our theoretical framework. Section 5 describes the data collection process and the coding passage adopted for the extraction of the causes of business failure from bankruptcy filings for the analysed proceedings. Section 6 declines the initial hypotheses under a series of sub-hypotheses in the light of detected causes of business decline. Section 7 presents our research method and Section 8 describes our dataset and reports results from quantitative analysis. Last section concludes, discussing our findings and illustrating the implications of the research.

2. Literature review

Financial literature explores the issue of bankruptcy from different perspectives. The seminal line of research studying the institutional aspects of bankruptcy (Franks and Torous, 1989; La Porta et al., 1997; La Porta et al., 1998; Weiss, 1990), experienced a wide growth in the last twenty years – both in terms of topics and settings – concurrently with the reform of the bankruptcy law among European countries (as United Kingdom, Italy, France, Belgium, Germany, Sweden, Finland). Along this line of inquiry recent works are the ones of Dewaelheynsa and Van Hullea (2008), Lee et al. (2011), Blazy et al. (2013), Melcarne and Ramello (2018), which study the link between the features of the bankruptcy law and some socially desirable outcomes (i.e. entrepreneurial activity, debt recovery rates, bankruptcy rates).

A second strand of research deepens at the level of the insolvent company, identifying relevant accounting and industry-specific drivers of the debt renegotiation outcome. Chatterjee et al. (1996) demonstrate that debt renegotiation decisions depend on the degree of firm's leverage, the severity of the liquidity crisis and the magnitude of the firm's economic distress. Jostarndt and Sautner (2010) observe how the probability of reaching a private agreement with creditors is greater for companies with a higher fraction of outstanding debt and for companies whose going-concern value is higher.

Franks and Torous (1994) report that firms reorganized under Chapter 11 are less solvent and liquid before restructuring than firms that informally concluded a distressed exchange of publicly traded debt. The seminal paper of Gilson et al. (1990) demonstrates that private reorganization is more likely when many of the firm's assets are intangible and when most of debt is owned to banks.

When defining measures for identifying business failure, a series of authors argue as the bankruptcy event represents its evident manifestation (Haswell and Holmes, 1989; Watson and Everett, 1993; Cahill, 1980). Still, some argue as, despite being a verifiable and objective criterion, bankruptcy constitutes a narrow definition of business failure (Watson and Everett, 1993; Land, 1975). In fact, it excludes all those firms that are barely breaking even, providing unreasonable returns to owners and investors, and still have not applied for the bankruptcy process. The issue of the decline of the business may exceed the border of the legal procedure embracing strategical, economical, entrepreneurial dimensions. Indeed, a stream of research close to ours studies the firm's restructuring process looking at the causes of business failure. Some works deepen the analysis on the SME segment. For instance, Carter and Auken (2006) find that economic climate, lack of business knowledge and inaccessibility to debt are the three conditions explaining the most serious fragilities of bankrupted firms. Collett et al. (2014), analysing the effectiveness of the Finnish insolvency law in promoting SMEs recovery, find four causes of business decline: high debt within an adverse macroeconomy, an adverse microeconomic environment, poor management and one-off causes of decline. Everett and Watson (1998) study the impact of macro-economic factors on small firm failure. Along this line of research, the works of Hall (1992), Headd (2003), Gaskill et al. (1993), among the others. Overall, these findings show how insolvency is not an instantaneous financial event (i.e. liquidity shortage), but it is the result of diversified ineffective responses – strategical, managerial, operational etc. – to threats to business' continuity. Nevertheless, results from business failure literature qualify as evidence on the causes of business decline, without further highlighting how such causes affect the debt renegotiation process through bankruptcy. However, given that bankruptcy represents an evident manifestation for business failure, we expect that factors explaining business failure may apply in the bankruptcy context as well. In line with this approach, some authors in the bankruptcy field extend the scope of their analysis to drivers of the debt renegotiation process that complement the firm's financial and accounting factors. Blazy et al. (2014), for instance, examining banks' internal reports, consider the rating of the firm, the duration of the banking relationship and management's responsibility in causing default. They show that, in addition to the size of the firm, to its profitability and to the size of the loan, the competence and reliability of firm's managers are essential elements for successful renegotiation with creditors. Denis and Rodgers (2007) examine

how the sectorial environment relates to firm's fundamental accounting indicators thus conditioning the duration and outcome of Chapter 11 filings.

Still, despite the rich and interesting perspectives adopted by prior literature, the role of causes of business failure in guiding the debt renegotiation process is a less studied area of investigation and none of previous studies investigate how creditors' awareness of such causes affects the firm's exit route from the debt renegotiation process. Difficulties in accessing data sources may provide an explanation for the scant attention of the literature toward causes of firm's decline. Bankruptcy reports should include them, but they constitute hardly collectable documents. At our best knowledge only the recent works of Blazy et al. (2011) and of Blazy et al. (2013) address causes of business failure as extracted from bankruptcy files. Thanks to legal documents collected from local courts, these works build a taxonomy of the causes of business decline applying to firms in their datasets. Blazy et al. (2011) address those causes, together with firms' financial and accounting factors too, for explaining judges' decisions concerning the safeguard of employment for bankrupted firms[8]; Blazy et al. (2013) instead adopt an institutional perspective, confronting French and U.K. insolvency procedures in terms of debt recovery rates. Our research relies on such works, but it offers a different and innovative framework for the study of creditors' preferences in bankruptcy. Specifically, we argue that creditors' awareness of causes of business failure complements accounting and financial indicators in affecting their valuations on the bankruptcy outcome. More explicitly, we investigate how documented causes of business failure moderate the relationships between some acknowledged accounting and industry-specific drivers of creditors' choice – firm's financial structure and profitability, entity of distress, amount of intangible assets, industry trend – and the firm's exit route from the in-court procedure (liquidation or business continuation).

Therefore, our study refers to those works that address complementary drivers of the debt renegotiation process in addition to financial and accounting factors (Denis and Rodgers, 2007; Blazy et al., 2011; Blazy et al., 2014) but it suggests a new and original approach where ceteris paribus the creditors' awareness of the causes of business decline may turn the tide of the firm path at the end of the legal procedure.

[8] Differently from other European countries (as Italy, U.K., Belgium, among others), in France creditors have no voting power over the restructuring plan. In fact, the decision-making process is entirely centralized: the court maintains enforcement power during the procedure, and the bankruptcy judge decides over the adoption of the reorganization plan. This makes the French case less suitable for the study of creditors' preferences under the in-court procedure.

3. The Italian Insolvency Law

Before 2005, Italian Insolvency Law was still ruled under the Royal Decree no. 267/1942. Under its provisions, debt restructuring proceedings had to fulfil a series of legal restrictions that could impede potentially viable deals (Rodano et al., 2016), resulting into an inadequate system to face the current socioeconomic reality (Danovi et al., 2017). Between 2005 and the first quarter of 2006 both the reorganization and the liquidation procedures were reformed. Other amendments then were approved, concurrently with the overall European reform process of insolvency proceedings following EU Recommendation no. 135/2014.[9]

The in force Italian bankruptcy framework embraces a debtor-oriented approach and comprises a set of diverse corporate bankruptcy procedures. Moving along a continuum (from lower to higher states of firm's distress), Italian Insolvency Law disciplines private settlements with creditors (*Piani di risanamento*). Disclosure of out-of-court arrangements is facultative, so that trace of such procedures in public archives is just partial. Firms unable to achieve such a private arrangement may apply to Troubled Debt Restructuring (*Accordo di ristrutturazione dei debiti*, hereinafter TDR) or, moving along the continuum, to Preventive Arrangement with Creditors (*Concordato preventivo*, hereinafter PACs). The TDA is a partially out-of-court restructuring procedure; the agreement with creditors on debt repayment is found outside the court and deviations from Absolute Priority Rule (APR hereinafter) are allowed. TDA represents a less expensive process with respect to the full in-court procedure, as the role of the court is limited to the ratification of the settlement, once some conditions have been verified. Especially, it must be approved by a minimum of 60% of the creditors (counted by the amount of their claims) guaranteeing full repayment for unfavourable creditors. Firms unable to settle a TDA with creditors may apply to PACs, the full in-court procedure. According to this procedure, the firm must deposit a restructuring plan respecting the APR, that undergoes a creditors' vote. The plan is ratified by the court if it is voted by more than the 50% of the creditors admitted voting (by the amount of their claims). Voting right is reserved to unsecured creditors. Since mid-2012, the company may request the access to the procedure "in advance" (a phase known as *Pre-Concordato*, Prearrangement), that is, with reserve to present the restructuring plan within a maximum time of 60 days, extendable by other 60 days following court's

[9] Italian Legislative Decree 27th June 2015, no. 83 introduces a minimum debt recovery rate of 20% that the restructuring plan must grant to unsecured creditors in case of liquidation. The firm unable to meet this requirement is redirected toward the full liquidation procedure. After the 2005 reform and till 2015 no minimum recovery rate was required. Yet, the low recovery rate often granted by PACs to unsecured creditors (sometimes even inferior to 5%), making the procedure often used for liquidation purposes, led the legislator to introduce this requirement.

order.[10] Admittance to the procedure is decided by the court; among other requirements, the company must not have applied to the same procedure in the two previous years and must prove its state of crisis. The tribunal may also order the suspension or resolution of those contracts (as leasing or loan contracts) from which, if continued, a damage to the community of all creditors may derive. The automatic stay of assets is in force.

Both for the TDA and for the PACs the decisional power over the reorganization plan is entirely reserved to creditors. Accordingly, legal documents must cover all the information needed for appropriate valuations on the plan. These comprise both present and past accounting data on the firm and a detailed description of the causes inducing the decline of the business. This makes these two procedures perfectly suitable for studying how creditors' awareness of the causes of business failure, together with firm's financial and accounting indicators, affects their decision on the restructuring outcome. The court keeps the role of surveillance, verifying the prescribed formalities to be applied and intervening on the economic merit of the plan in the case of contrasts with any norm. Firm's exit path from the legal procedure depends upon the content of the restructuring plan. The plan may have either a going concern or a liquidation content. In this sense the instrument is neutral toward one solution or the other: the general aim is the research for a shared solution to the firm's crisis, easing business' continuation – through both reorganization or acquisition – when possible and allowing for a liquidation outcome as well to avoid the judicial procedure fully centred on liquidation. The full liquidation procedure is usually longer and less favourable for creditors in terms of recovery rates (Danovi et al., 2018). The substantial difference between the restructuring plan with a liquidation aim and the full liquidation procedure is that while the first one is a contractual solution between the firm and the creditors, where the debtor remains in control of the firm throughout the execution phase, in the second one the liquidation is fully coordinated by a trustee appointed by the court.[11] *Figure 1* offers a schematization of Italian Insolvency Law.

[Insert *Figure 1* here]

[10] Within this period the firm may also deposit a TDA for its ratification in presence of a favourable agreement with the creditors. The possibility to deposit a TDA after the petition for the admission to the full legal procedure represents an extreme chance left to the company to restructure, at least partially, out-of-court.

[11] Full dispossession is provided also under Extraordinary Administration, which rules restructuring of larger enterprises following Italian Law (*Decreto Legge*) 347/2003. This procedure maintains a hybrid nature (it may be adopted either for going concern or liquidation purposes); under its provisions the enterprise is administered by one or more commissioners appointed by the Minister of Economic Development.

4. Theoretical framework and hypotheses

The aim of this paper is to assess if the causes that induced the failure of the business may interfere with the accounting and financial features of the firm, thus conditioning chances for successful business restructuring through the in-court procedure. Business failure literature highlights relevant reasons for business decline (i.e. Everett and Watson, 1998; Carter and Auken, 2006; Collett et al., 2014). For instance, difficulties in accessing the credit market, a relevant change in consumers' tastes, a turbulent sectorial environment or the lack of management skills may deeply affect on the capacity of the firm to pursue its business aim. Parallelly, bankruptcy literature demonstrated relevant accounting drivers of the debt renegotiation process, as the financial structure of the firm, its profitability, the entity of distress (i.e. Gilson et al., 1990; Chatterjee et al., 1996; Jostarndt and Sautner, 2010). We argue that, as bankruptcy represents a case of business failure, both types of factors (accounting drivers and the causes of business decline) contribute in explaining the bankruptcy outcome.

When in-court debt restructuring rests on a creditors' vote (as for the Italian case), creditors are provided through legal documents information covering both the financial situation of the firm and the causes of business decline. Full awareness on the default issue is necessary to permit accurate valuations on the restructuring plan proposed by the firm and on its chances of success. Yet, we believe creditors to be informed of causes of business decline in advance respect the presentation of the legal files. In fact, the ties between smaller companies and its creditors may have even a personal nature and endure in time (see Moro and Fink, 2013). This may make creditors to learn on firm's criticalities before the debt renegotiation process begins. Therefore, the report of causes of firm's decline in legal documents must be trustworthy as to avoid contestation by creditors. We expect so documented causes of business failure throughout legal papers to well represent creditors' awareness on firm's reasons for failure. Indeed, the two works of Blazy et al. (2011) and of Blazy et al. (2013) show how bankruptcy filings may constitute a valuable source for the extraction of causes of business decline.

We thus argue that we should investigate the role of documented causes of business failure in addition to accounting and industry-specific factors to grasp effective business' restructuring chances through bankruptcy. Companies reporting similar financial and accounting indicators (i.e. similar profitability, structure of claims, assets' type) might suffer different causes of decline, such that chances for restructuring in-court may differ. To do this, we proceed as follows. We focus on five main accounting drivers the bankruptcy literature considers guiding debt reorganizational proceedings – firm's financial structure and profitability, entity of distress, presence of intangible

assets, industry trend – investigating the moderating role of documented causes of business decline. Deriving from prior literature, we propose five hypotheses. After this, we present the rigorous coding procedure adopted for the extraction of causes of business decline from legal papers, and the emerging classification for the companies in our dataset. We decline so initial hypotheses onto sub-hypotheses on the moderating role of specific causes of business failure on the relationships between accounting and industry-specific factors and business' exit path from the debt renegotiation proceeding.

Financial structure

Bankruptcy literature highlights as the financial structure of the insolvent firm constitutes a relevant driver of the debt renegotiation outcome. A first consolidated result concerns the role of leverage on the choice between private and legal solution: high-leverage firms find more easily an out-of-court settlement (i.e. Chatterjee et al., 1996; Jostarndt and Sautner, 2010). Moreover, the legal way seems the preferred solution to solve coordination issues among creditors (Gilson et al., 1990; Chatterjee et al., 1996). Yet, companies with similar financial structure may suffer from different threats to business' going concern. As a result, chances for business continuation through bankruptcy may differ depending on the causes of firm's decline. According to this perspective, we argue that the creditors' awareness on the causes of business failure moderates the relationship between the financial structure of the firm and the bankruptcy outcome, affecting the firm's approved exit route. Thus, we state:

H1: Documented causes of business failure moderate the relationship between the financial structure of the firm and the outcome of the in-court procedure.

Entity of distress

Prior literature proved that the entity of firm's distress is a serious driver of the debt renegotiation process. Results from Chatterjee et al. (1996), Brown et al. (1994), Smith and Graves (2005), Dewaelheynsa and Van Hullea (2009) demonstrate that the lower the firm's state of distress the higher the chances for effective firm's restructuring. When the entity of distress is contained, it seems easier for the firm to turnaround and provide higher cashflows through business' continuation rather than through piecemeal liquidation. Yet, we believe that the perception that creditors have on the ability of the company to solve such a distress depends also on the specific causes of business failure. Causes for which a difficult solution can be found within a reasonable time horizon may limit chances for turnaround even for less distressed businesses. Thus, we argue that awareness on the

causes of business decline affects creditors' voting choice, moderating the relationship between the entity of firm's distress and the result of the bankruptcy process. Thus, we state:

H2: Documented causes of business failure moderate the relationship between the entity of firm's state of distress and the outcome of the in-court procedure.

Profitability

It has been proved that once in default the most profitable businesses have the highest chances to succeed in debt restructuring with creditors (Bergström et al., 2002; Denis and Rodgers, 2007; Blazy et al., 2014). Indeed, they provide the highest recovery rates to creditors through higher future cash flows than those a piecemeal liquidation can offer. At the same time, we expect that chances of turnaround for stable profitability cases depend onto the specific threats the business can deal with. Thus, we argue that the awareness on the causes of business decline affects creditors' choice on the outcome of the bankruptcy process, moderating the relationship between the firm's profitability and its exit path from the legal process. Specifically, we state:

H3: Documented causes of business failure moderate the relationship between the profitability of the firm and the outcome of the in-court procedure.

Intangible assets

Studying the drivers of the choice between private workout and U.S. Chapter 11, Gilson et al. (1990) highlight how intangible assets would face a relevant decrease of value under Chapter 11. This may induce creditors to prefer private debt restructuring for firms detaining a larger portion of intangible and firm's specific assets. We believe this reasoning may still apply in the in-court context too. In fact, a piecemeal liquidation of intangible assets could return extremely low recovery rates to creditors. This may lead them to hope in higher recovery rates from future cashflows through business' going concern. Such an option seems even more favourable for unsecured creditors, which under Italian Insolvency Law are the ones voting the plan. In fact, due to APR, in case of liquidation they would hardly recover values from intangible assets' piecemeal sale; they may thus prefer to allow for business' continuation aspiring in higher rescue rates in the future. Yet, we trust that creditors will make decisions on firm's exit path also depending on causes of firm's decline. So, we argue that awareness on the causes of business decline affects creditors' evaluation, moderating the relationship between the amount of firm's intangible assets and the outcome of the bankruptcy process. We so propose:

H4: Documented causes of business failure moderate the relationship between the amount of firm's intangible assets and the outcome of the in-court procedure.

Industry trend

The sectorial trend proved to affect the outcome of the debt renegotiation process. Results from Collett et al. (2014), Denis and Rodgers (2007), Dewaelheynsa and Van Hullea (2009) show how chances for business reorganization decrease in presence of a turbulent sectorial environment. Creditors may be reluctant to allow for business continuation, considering the long period a sectorial upturn may require and the prospect of unstable future cash flows. Yet, we believe that the creditors' awareness of causes of firm's decline as well plays a role in driving their preferences on the bankruptcy outcome. Such causes, whether directly related to the sectorial trend or totally reliant on firm's specificities, may lead to different chances for the firm to achieve creditors' support for business continuation. Thus, we argue that the creditors' awareness of causes of business failure affects their voting decision, moderating the relationship between the industry trend and the outcome of the legal process. We so pose:

H5: Documented causes of business failure moderate the relationship between the industry trend and the outcome of the in-court procedure.

5. The data

5.1 Collection process

Companies willing to be admitted to the Italian bankruptcy procedure must submit their petition to the court competent for the district in which the firm has its legal residence or, alternatively, the centre of its economic activities. Seven Courts are located in the Veneto Region – in the cities of Venice, Padua, Verona, Vicenza, Treviso, Rovigo and Belluno. The Chamber of Commerce of Venice gathers bankruptcy filings for all companies with legal residence in Veneto. We collected all the available documents at the Venice Chamber of Commerce over a time range spanning from January 2011 to September 2016. In total we gathered 4,965 documents related to 688 procedures.[12] Among the 688 analysed procedures, 651 were PACs and 37 TDRs. For every company we collected the

[12] Danovi et al. (2018) document as the Italian Ministry of Justice reports 8,090 bankruptcy procedures open at national level for the 2010-2016 period (so a period one year larger than our period of analysis); among those, 4,525 are displaced in Northern Italy's courts.

legal papers capturing each step of the procedure. Especially, we could collect the firm's petition for admission to the procedure, the restructuring plan, the minutes from creditors' vote and the final sentence of the court on the approbation or rejection of the restructuring plan. From these documents we could trace the causes of business failure and the firm's exit path from the proceeding. Companies for which causes of decline were not available have been removed from the dataset, consisting in 422 firms. Financial data were collected through the AIDA Database, by Bureau van Dijk; to avoid possible distortions while under the bankruptcy process, we used data of the year before the entrance to the legal procedure. Companies for which no financial data were available (both from AIDA Database or from the Chamber of Commerce) have been dropped from the dataset (47 firms); 2 more companies were removed as outliers[13]; for other 3 companies the procedure is still open whereas 1 company exited the procedure as the plan was not approved by creditors. Finally, 5 firms overpassed the EU dimensional requirements to be classified as SMEs[14], so had to be removed as well. Therefore, the clean dataset consists in a total of 208 companies over a time period spanning between December 2011-June 2016.[15] The 2005 bankruptcy framework applies so for all companies; for a minority of firms (29) the minimum recovery rate of 20% to unsecured creditors in case of liquidation holds, and we control for it in our robustness tests. 197 firms applied to the PACs, 11 to the TDA. Among the whole dataset, 96 firms operated in the industry sector, 61 firms in the commerce sector, 41 in the service sector and 10 in other less represented sectors.

5.2 Coding process

The causes of business failure were illustrated mainly within the debt renegotiation plan and in the petition for admission to the procedure. The company briefly retraces its history, since the origins, with an especial focus onto the last most troubled years, presenting the causes inducing its

[13] The two firms are part of the restructuring of a whole industrial group, for which data onto the other societies involved in the rescue are missing.

[14] Following EU Recommendation 2003/361, a firm is considered:

- Micro when it presents less than 10 employees and, alternatively, turnover equal or inferior to 2 m € or balance sheet total equal or inferior to 2 m €;
- Small when it presents less than 50 employees and, alternatively, turnover equal or inferior to 10 m € or balance sheet total equal or inferior to 10 m €;
- Medium when it presents less than 250 employees and, alternatively, turnover equal or inferior to 50 m € or balance sheet total equal or inferior to 43 m €.

[15] We consider the date of the firm's petition to the Court for admission to the procedure.

decline. The extraction of the causes of business failure from legal papers firmly relied onto the rigorous approach of the Gioia Methodology (Gioia and Chittipeddi, 1991; Gioia et al., 2012). Accordingly, two independent coders processed these documents. They initially manually analysed, independently, documents for the same 130 firms. The initial aim was to derive a precise taxonomy of the causes of business decline. This happened coding each single cause how it emerged from the documents – *first-order analysis* – and then classifying all of them into groups homogeneous by their nature – *second-order analysis*. We call "micro-causes" the first and "macro-causes" the latter ones. Micro-causes were tracked whenever an original cause emerged from a case; consequently, cases previously analysed were reanalysed to verify whether the new cause could apply. Once the first group of 130 firms were processed and micro causes defined, each coder grouped them into the macro-causes. After this initial step, the two taxonomies obtained by each coder were confronted. Aware of possible limitations of research methodology based on manual content analysis, we computed intercoder agreement measurement.[16] Estimated value is 0.84, well above accepted threshold values for intercoder agreement measurement (see on this Landis and Koch (1977), Fleiss (1981), Altman (1991)). Furthermore, we detected and deeply analysed divergent cases confronting as well with previous classifications provided by the literature (i.e. Hall, 1992; Blazy et al., 2013; Collett et al., 2014), making the two taxonomies naturally converging toward a unique classification scheme. The classification was then used to categorize the remaining cases; the fact no new micro-causes emerged in this second phase demonstrates that the adopted taxonomy had reached a theoretical saturation.[17] Furthermore, the most complicated cases were analysed with the contribution, across more iterative passages, of an experienced judicial liquidator operating in the Veneto's Tribunals too. For one highly complex case we interviewed the judicial liquidator directly appointed by the Court for that specific case.

The final classification consists of 39 micro-causes, grouped into 8 macro-causes of business failure: *Strategy*, *Finance*, *Production*, *Operational management*, *External environment*, *Third*

[16] Tinsley and Weiss (2000) define intercoder agreement as "the extent to which the different judges tend to assign exactly the same rating to each object" (p. 98). Sandelowski (1995a) reports as strong intercoder agreement suggests that the coded concept is not a mere figment of the coder's imagination, increasing the chances that the theme is valid. We compute intercoder agreement measurement as the ratio between the number of matching coding cases over the number of total coding cases.

[17] Bloor and Wood (2006) refers to theoretical saturation as the continuation of sampling and data collection till the point no new conceptual insights are generated. The concept of theoretical saturation was originally proposed by Glaser and Strauss (1967). Once theoretical saturation is reached, the researcher has provided repeated evidence for the defined conceptual categories.

parties, *Outlets*, *Accident*. The full classification scheme with an extensive description of the documented causes of business decline is reported in *Table 1*. The identification and classification of the documented causes of business failure allows us so to decline, from the initial main hypotheses, a set of sub-hypotheses.

[Insert *Table 1* here]

6. Hypotheses development

Financial structure

The above-mentioned literature reports how the financial structure of the insolvent firm affects the outcome of the debt renegotiation process. Denis and Rodgers (2007) suggest that companies presenting higher leverage prior to the entrance in U.S. Chapter 11 are more likely to succeed in in-court restructuring. Their intuition is that high-leverage leads firms to go bankrupt in a shorter time even if still economically viable; low-leverage firms instead may go bankrupt after a long time of unprofitable business. High-leverage firms able to financially restructure may have a more solid business to count on for future cash flows. In this sense, bankruptcy is the result of a "combination of financial distress resulting from a suboptimal capital structure and/or economic distress associated with unprofitable operations" (Denis and Rodgers, 2007, p. 113). It follows that firms that suffered from a suboptimal capital structure but have a viable economic business may still recover in-court. Accordingly, we expect the same for companies with unprofitable strategies not compromising the whole business. That is, companies suffering from financial distress but able to restructure financially may successfully emerge from the in-court procedure as going concerns (in line with Kahl (2002)). This may be the case for companies which suffered from financial causes of business decline, corresponding to our *Finance causes* category, or from unpaying clients, that we labelled as *Third parties causes*, which led the firm to a liquidity shortage. As well, companies in financial default that suffered from strategical mistakes (i.e. the failure of a relevant project, or a bad investment), that we indicate as *Strategy causes*, in our taxonomy, may still turnaround. In this sense, Sudarsanam and Lai (2001) argue that distressed firms able to adopt more forward-looking, expansionary and extreme market focused strategies have higher chances to successfully recover. As such, we pose the following:

***H1A*:** Documented *Strategy causes* of business failure positively moderate the relationship between firm's leverage and chances for business' continuation through the in-court procedure.

***H1B*:** Documented *Finance causes* of business failure positively moderate the relationship between firm's leverage and chances for business' continuation through the in-court procedure.

***H1C*:** Documented *Third parties causes* of business failure positively moderate the relationship between firm's leverage and chances for business' continuation through the in-court procedure.

Entity of distress

We claimed that documented causes of business failure moderate the relationship between the entity of firm's distress and the result of the debt reorganizational proceeding. As asserted, issues in the production system may appear hardly adjustable in the short-term, or at least in the terms creditors are willing waiting for the recovery of their funds. This is consistent with prior literature (Ponikvar et al., 2018). We expect so that chances for creditors' support to business going concern through the in-court procedure decrease when a severe entity of distress is accompanied by production issues. As such, we propose:

***H2A*:** Documented *Production causes* of business failure negatively moderate the relationship between entity of firm's distress and chances for business' continuation through the in-court procedure.

Following Denis and Rodgers (2007), we suggested as high-levered companies suffering from financial difficulties or unpaying clients may face higher chances to emerge from the bankruptcy process as going concerns if keeping an economically viable business. Yet, we suspect this may not be the case when the business is economically, other than financially, distressed. The entity of distress has reached a no-return point, affecting both the financial and the economic sides of the firm. Solving financial difficulties or pendent credits from unpaying costumers might not be enough for an effective business' upturn. In such a case, creditors may expect low future cash flows from business continuation, preferring immediate recovery rates from liquidation. Thus, we claim that when financial distress goes along the economic one, chances for business' going concern through the legal way decrease. As such, we state:

***H2B*:** Documented *Finance causes* of business failure negatively moderate the relationship between entity of firm's distress and chances for business' continuation through the in-court procedure.

***H2C*:** Documented *Third parties causes* of business failure negatively moderate the relationship between entity of firm's distress and chances for business' continuation through the in-court procedure.

Profitability

We argued that documented causes of business decline moderate the relationship between the profitability of the insolvent firm and the outcome of the bankruptcy procedure. Ponikvar et al. (2018) rely on Jensen (1988) to demonstrate as chances for liquidation are lower for companies with higher labour productivity and capital intensity of production. An inefficient production system may result difficultly changeable in the short-term. Accordingly, we believe that creditors may perceive production issues as a major impediment for a company entering the bankruptcy procedure, that may inhibit the likelihood of turnaround also for relatively more profitable firms. We so propose:

***H3A*:** Documented *Production causes* of business failure negatively moderate the relationship between firm's profitability and chances for business' continuation through the in-court procedure.

The external environment surrounding the firm proved as well to affect the debt renegotiation process. Collett et al. (2014) and Denis and Rodgers (2007) show how chances for effective restructuring may decrease in presence of a hostile external environment. When causes of business failure directly relate to the external environment, a sectorial upturn could be needed to turnaround the firm. Creditors may so prefer recovery rates from an immediate liquidation respect waiting longer for an industry upturn. As such, we argue that causes of business decline related to the sectorial environment may constitute an obstacle for the going concern of even relatively more profitable firms facing the legal way. Thus, we pose:

***H3B*:** Documented *External environment causes* of business failure negatively moderate the relationship between firm's profitability and chances for business' continuation through the in-court procedure.

Intangible assets

We argued that creditors' awareness of firm's causes of decline moderates the relationship between the amount of firm's intangible assets and the bankruptcy outcome. Following Gilson et al. (1990), the uncertainty onto intangible assets' value under piecemeal liquidation may drive creditors to hope in higher recovery rates from future cash flows following the continuation of the business. Yet, uncertainty may even be enhanced when causes of business failure relate to a hostile external environment. Under this situation of extreme uncertainty, creditors may prefer to bet on the continuation of the firm and its capability to generate higher cash flows respect the liquidation case. Especially, this option seems preferable for unsecured creditors voting the plan, who under these

circumstances would probably get almost nothing from liquidation values of intangible assets. Thus, we propose:

H4A: Documented *External environment causes* of business failure positively moderate the relationship between the amount of firm's intangible assets and chances for business' continuation through the in-court procedure.

Sudarsanam and Lai (2001) argue as distressed firms able to adopt more forward-looking, expansionary and extreme market focused strategies have higher chances to successfully recover. When causes of firm decline relate to strategical mistakes, sound turnaround strategies may permit effective continuation of the business. We expect this to hold especially when larger portions of the business rely on firm-specific assets, as in the case of intangibles, from which the firm may be the only subject able to extract economic rents. When part of the firm's value relies onto intangible assets, and business decline relates to wrong strategical operations, we expect creditors to look for higher recovery rates from business' going concern. As such, we pose:

H4B**:** Documented *Strategy causes* of business failure positively moderate the relationship between the amount of firm's intangible assets and chances for business continuation through the in-court procedure.

Industry trend

Results from Collett et al. (2014), Denis and Rodgers (2007), Dewaelheynsa and Van Hullea (2009) demonstrate as a harsh sectorial environment has a negative impact on business' reorganization chances. We expect such impact to be stronger when causes of business decline relate to the economic environment surrounding the firm. In fact, overcoming such causes may need waiting for an industry's upturn. As this may happen within a long-time horizon, creditors may prefer recovery rates from present piecemeal liquidation. Accordingly, we argue that, in presence of a sectorial downturn, chances for achieving creditors' support to business' going concern decrease when causes of business decline relate to the external environment. We so revise *H5* as:

H5A**:** Documented *External environment causes* of business failure negatively moderate the relationship between the sectorial trend and chances for business continuation through the in-court procedure.

7. Research method

To test our hypotheses, we rely onto multinomial logistic regression, which proved adapted to model the choice among alternative bankruptcy outcomes (i.e. Chatterjee et al., 1996; Denis and Rodgers, 2007). We test moderating effects of macro-causes of business failure onto above-mentioned relationships between accounting drivers of the debt renegotiation process and the outcome of the in-court procedure, controlling for relevant firm-specific characteristics and the industry trend. Models to be tested assume so the general form presented in equation 1:

$$Bankruptcy\ outcome_i = \beta_0 + \beta_1\ Macro\text{-}Cause_i + \beta_2\ Accounting\ Driver_i + \beta_3\ Macro\text{-}Cause_i * Accounting\ Driver_i + \beta_4\ Controls_i + \varepsilon_i \quad [1]$$

where *Bankruptcy outcome*$_i$ is firm *i*'s exit path from the in-court procedure, *Macro-Cause*$_i$ is the macro-cause of business failure for the firm *i*, *Accounting Driver*$_i$ is the accounting factor of the firm *i* for which we test the interaction with *Macro-Cause*$_i$, *Controls*$_i$ refers to the other firm *i*'s accounting features and to the sectorial trend and ε_i is the error term for the firm *i*.

The dependent variable is the outcome of the bankruptcy process distinguishing between *reorganization*, *acquisition* and *liquidation*. It assumes value 2 if at the end of the bankruptcy procedure the firm is reorganized with no changes in the ownership, value 1 in case the company is acquired at the end of the legal process and value 0 if piecemeal liquidation occurs. The independent variable is the interaction between the specific *Macro-Cause*$_i$ and the *Accounting Driver*$_i$. Both causes of business failure and accounting factors refer to events which are antecedent respect the conclusion of the legal procedure, such that reverse causality does not constitute a threat to our models. The other explanatory variables include the *Macro-Cause*$_i$, the *Accounting Driver*$_i$ and the control variables. Concerning macro-causes of business failure, following Blazy et al. (2011), for the econometric implementation we define *Macro-Cause*$_i$ as the natural logarithm of the number of micro-causes reported within the macro-cause.[18] Concerning controls, we confront with previous literature (Gilson et al., 1990; Brown et al.,1994; Denis and Rodgers, 2007; Jostarndt and Sautner, 2010) to address the firm's specific factors guiding the bankruptcy issue as well as the sectorial performance. *Table 2* reports the list of the variables and the constructs adopted for the econometric analysis.

[Insert *Table 2* here]

[18] We add 1 to avoid Ln(0) when no micro-causes are reported within the macro-cause.

8. Empirical analysis

8.1 Descriptive statistics

All companies in our dataset are SMEs. According to the EU classification for SMEs (see footnote 14), the dataset is formed by 78 micro, 99 small and 31 medium enterprises. In terms of economic sector, the construction and the real estate sectors were the most involved (15.9% and 14.9% of cases, respectively). The wholesale sector is the third in terms of cases (10.6% of firms). Companies of our dataset operate into 41 different economic sectors. The ten most involved sectors cover the 65.9% of cases; the fact that less represented sectors cover the 34.1% of cases demonstrates the heterogeneity of our dataset in terms of economic activities. Considering the legal form, 187 companies are Ltd., 12 are joint-stocks, and the rest in other minor forms. Looking at the years of activity, the 10-20 band is the one with more companies (27.9%), followed by the bands 20-30 and 30-40 (both 17.8%) and the band 5-10 (15.4%); the other companies are either younger than 5 years (10.1%) or older than 40 (11.1%).

Concerning the bankruptcy outcome, firms exit the legal procedure in three alternative forms:

- *reorganization*: the business is restructured, and the incumbent ownership remains in control of the firm (33 firms);
- *acquisition*: the viable firm or one/more operative units are sold to third subjects and proceeds are used to repay creditors (89 firms);[19]
- *liquidation*: firm's assets are sold piecemeal (86 firms).

Continuation of the business through the in-court procedure may so happen in the form of either reorganization or acquisition. *Table 3* reports data describing the structure of our dataset.

[19] It is worth mentioning that Italian jurisprudence only distinguishes between liquidation and continuation, disciplined under different articles of the Insolvency Law. Till 2015 there has been a deep discussion within the Italian jurisprudence regarding the classification of the different cases under the continuation or the liquidation framework. This derives by the two different points of view that may be adopted. In fact, where part of the jurisprudence adopted the point of view of the economic entity (the firm), a second line of thought adopted the point of view of the incumbent entrepreneur/ownership. Embracing this second perspective, any form in which there is a dispossession of the assets (even so if the entire viable firm is sold to a third subject) may constitute liquidation. Since 2015 the jurisprudence has aligned to the point of view of the economic entity; as such forms of "indirect" continuation (acquisition) still constitute continuation. We align to this prevalent view, even for cases before 2015, basing our conclusions onto the economic content of the debt renegotiation plans and thanks to the help of a judicial commissioner that supported us for the classification of doubtful cases.

[Insert *Table 3* here]

Companies' financial data were extracted from AIDA Database (by Bureau van Dijk), while sectorial performance from I.Stat, the official database of the Italian National Institute of Statistics. To control for outliers, we apply winsorization at 0.5%. *Table 4* shows descriptive statistics for the selected accounting factors.

[Insert *Table 4* here]

Looking at the causes of business decline, we classified 39 micro-causes grouped into 8 macro-causes.[20] At the general level, the most relevant macro-causes[21] in terms of appearance are *External environment causes* (83.7%), *Finance causes* (53.4%), *Third parties causes* (53.4%) and *Strategy causes* (38.5%).[22] Focusing on firm's size, *External environment causes* are reported between 80% and 90% for each category; *Production causes* are more relevant for medium firms (45.2%), than for Smalls (34.3%) and Micros (10.3%); *Strategy causes* are less mentioned by Mediums (22.6%), whereas their appearance almost doubles for Smalls (43.4%) and for Micros (38.5%). *Outlets causes* are more relevant for small firms (31.3%) than for medium and micro ones (19.4% and 14.1%, respectively). *Third parties causes* and *Finance causes* are almost equally mentioned by each category (between 48% and 58%). Looking at firms' exit route from the proceedings, *External environment causes*, *Third parties causes* and *Finance causes* are, in alternative orders, the most relevant for the three groups. *Table 5* reports stylized data for macro-causes of business decline.

[Insert *Table 5* here]

[20] For the aim of simplicity, we report here relevant dimensions for macro-causes of business decline; data on micro-causes can be provided by the authors upon request.

[21] A macro-cause is counted whenever a company reports at list one micro-cause contained in such cluster. If more micro-causes for the same cluster appear, the macro-cause is still counted once; we consider that more micro-causes involving the same macro-cause are related to the same set of issues.

[22] The value in parentheses represents the percentage of cases in which the cause appears within the total of the cases (208), and the same holds throughout the paragraph; the sums exceed 100% as one company may suffer from more causes.

8.2 Econometric implementation and results

To implement moderation analysis, aware of remarks from Baron and Kenny's (1986) seminal work on this method, we initially present the baseline models with uniquely direct effects and controls, followed by the complete models in which we add the interaction terms to test for moderation. *Table 6* reports the results of the baseline models with uniquely controls and the macro-causes of interest added singularly. Across baseline models, controls are in line with results from previous literature, with different significance levels between acquisition and reorganization. This is expected, as diverse bankruptcy outcomes should be driven by different factors. The impact of leverage (*Tot. Debt/Tot. Assets*) is positively related to continuation through acquisition in Model 2 as predicted by the literature (i.e. Jostarndt and Sautner, 2010; Chatterjee et al., 1996), whereas it is negatively related to continuation through reorganization in all baseline models. This is in line with Kahl's (2002) assertion, following which high pre-distress leverage may be a signal of economic viability of the firm as it may reduce chances for a debt-equity swap. Consequently, its net effect on the debt restructuring process may result difficult to be defined. In the legal context here explored, excessively levered firms may induce creditors not to see chances for an autonomous business' restructuring, inducing them to dislike this option. At this stage, pressures from financial creditors (*Bank Debt/Tot. Debt*) seem not to affect the bankruptcy result. We can explain this thinking at the fact that for the Italian case, once in-court, voting power is uniquely reserved to unsecured creditors, with financial ones often being secured. Pressures from banks may result less important once in-court.

[Insert *Table 6* here]

Financial structure

We argued that documented *Strategy causes*, *Finance causes* and *Third parties causes* of business failure affect creditors' valuations, positively moderating the relationship between firm's financial structure and bankruptcy outcome. *Table 7* reports results from multinomial logit analysis. In Model 6 we test the moderating effect of *Strategy causes*. The interaction is positive and significant for continuation through acquisition. *H1A* is so supported. This means that in presence of strategical mistakes, despite a financially defaulted business, a third subject may provide resources to restructure a still economically viable firm, encountering creditors' favour.

Differently, the interaction between *Tot. Debt/Tot. Assets* and *Finance causes* in Model 7 is not significant, so that *H1B* is not supported. We may explain this considering that firms, by entering the legal procedure already demonstrate to suffer from financial issues and a compromised leverage,

so that financial causes of business decline do not have a diriment role with respect to the financial structure.

Looking at Model 8, the interaction with *Third parties causes* is positive and significant for continuation through acquisition, as predicted. We find so support for *H1C* at 5% level. When business decline is caused by unpaying clients, an economically viable business, if restructured financially, may provide higher recovery rates through future cash flows than through piecemeal liquidation. This may induce creditors in supporting the research for an interested buyer, increasing chances for continuation through acquisition. These outcomes may explain Kahl's (2002) above-mentioned dissertation on the unclear net effect that high pre-distress leverage may have on the debt renegotiation process.

Overall, our results show how causes of business failure may help discerning the cases for which high-leverage effects positively affect business' going concern chances. Also, these results confirm the ones of Chatterjee et al. (1996), Jostarndt and Sautner (2010), Blazy et al. (2014) concerning creditors' support for business' continuation in presence of higher amounts of debt.

[Insert *Table 7* here]

Entity of distress

Bankruptcy literature claims as the entity of firm's distress is a relevant driver of the debt renegotiation process (Chatterjee et al., 1996; Smith and Graves, 2005; Brown et al., 1994). We asserted that documented causes of firm's decline affect creditors' preferences on the bankruptcy outcome with respect to the entity of distress. In Models 2, 3 and 4, the direct effect of *Ebit/Interest Expenses* is positive and significant for continuation through acquisition (that is, the lower the entity of distress and the higher firm's chances to be acquired at the end of the legal procedure). *Table 8* reports econometrical results for the interaction effects. In Model 9, the interaction between entity of distress and *Production causes* is negative and significant for the reorganization outcome. *H2A* is so confirmed for continuation through reorganization. The direct effect of *Ebit/Interest Expenses* is significant in Models 2 and 9 for continuation through acquisition, but not for continuation through reorganization. The entity of firm's distress becomes so a relevant driver for the reorganization option if in relation with production issues: creditors may perceive production-related causes of firm's failure as difficultly solvable for high-distressed businesses, leading them to prefer the liquidation way. This confirms above-mentioned results from Ponikvar et al. (2018). We investigate the interaction with *Finance causes* and with *Third parties causes* in Model 10 and in Model 11, respectively. The interaction with *Finance causes* is negative and significant (at 10% level) for both continuation outcomes; the interaction with *Third parties causes* is negative and significant (at 5% level) for

continuation through acquisition. *H2B* and *H2C* are so confirmed. This indicates that when financial default accompanies a compromised economic viability of the business, chances for continuation through bankruptcy decrease. This considering as well that the direct effect of *Ebit/Interest Expenses* is positive and significant in Models 2 and 3 for continuation through acquisition, whereas it turns out negative once moderated by *Finance causes* and *Third parties causes*. It is worth noticing how causes of business failure moderate differently the relationship between entity of firm's distress and bankruptcy outcome. In fact, the interaction with *Finance causes* affects both continuation outcomes; instead, the interaction with *Production causes* decreases chances for continuation through reorganization whereas the interaction with *Third parties causes* limits likelihood for continuation through acquisition. This highlights as the same accounting driver (the entity of distress, in this case) may differently impact creditors' choice on firm's exit route from the bankruptcy procedure once in relation with the causes of business decline. This adds evidence on the importance in considering the causes of firm's decline alongside accounting and financial factors to grasp effective chances for creditors' support to business' going concern within the context of in-court debt restructuring.

[Insert *Table 8* here]

Profitability

We claimed that documented *Production causes* and *External environment causes* affect creditors' valuations within the legal context, negatively moderating the impact of firm's profitability onto the bankruptcy outcome. The direct effect of *Ebitda/Tot. Assets* is positive and significant in Model 4 for continuation through reorganization (*Table 6*). *Table 9* reports results from multinomial logit regression once adding the interaction terms. Testing moderation with *Production causes* (Model 12) the direct effect of *Ebitda/Tot. Assets* is positive and significant at 1% level for continuation through reorganization, whereas the interaction term is negative and significant, still at 1%. We thus find strong support for *H3A*: issues in the production side mitigate the positive effect of firm's profitability on chances for business' going concern through bankruptcy. Creditors may perceive such issues to be difficult to solve in the short-term. This is in line with findings from Ponikvar et al. (2018) showing that chances for liquidation decrease for businesses with higher labour productivity and capital intensity of production. Results are similar for *External environment causes*. The direct effect of *Ebitda/Tot. Assets* is positive and significant in baseline Model 5 for continuation through reorganization, and positive and significant at 1% level in Model 13 after adding the interaction term. Here the interaction with *External environment causes* is negative and significant, thus supporting *H3B*. The positive effect of business' profitability on chances for firm's continuation through the legal procedure is reduced by causes of firm's decline related to a harsh external

environment. Overcoming such causes may require waiting the time needed for an industry's upturn, inducing creditors to prefer immediate recovery rates from liquidation. This is in accordance with findings from Collett et al. (2014) on the external environment as a major cause for business failure and of Denis and Rodgers (2007) onto the ostracizing role of a sectorial downturn for business' restructuring chances.

[Insert *Table 9* here]

Intangible assets

Gilson et al. (1990) show how the presence of intangible assets may induce creditors in supporting the continuation of the insolvent firm; they argue that intangibles would easily suffer a high decrease in value for the liquidation outcome. In accordance to their evidence, direct effects for *Intangible assets* are positive and highly significant in all baseline models. We claimed that this trend is enhanced in presence of causes of business failure related to a harsh external environment or to strategic mistakes. *Table 10* reports results on this. In Model 14 the interaction term with *External environment causes* is positive and significant for continuation through reorganization, providing support for *H4A*. Under *H4A* scenario, uncertainty on assets' recovery value increases. This induces creditors to prefer to bet on higher future cash flows from business' continuation rather than accepting extremely low recovery rates from piecemeal liquidation of intangible assets. This confirms findings of Gilson et al. (1990) concerning high uncertainty as a driver for creditors' support to insolvent firm's reorganization. We argued as well that in presence of intangible assets, when causes of business decline relate to strategical issues, chances for continuation through bankruptcy increase. In Model 15 we report results for the interaction of the intangible assets with *Strategy causes*. The interaction term is positive and significant at 5% level for continuation through reorganization. *H4B* is so confirmed: creditors perceive that the company may be the only subject able to extract economic rents from highly firm-specific assets, leading them to prefer the reorganization option. This is in line with the arguments of Sudarsanam and Lai (2001), stating that firms able to adopt extreme market focused strategies have higher likelihood to successfully recover.

[Insert *Table 10* here]

Industry trend

Findings from bankruptcy literature report that a hostile sectorial trend negatively affects chances for creditors to support going concern of the insolvent firm (Collett et al., 2014; Denis and Rodgers, 2007; Dewaelheynsa and Van Hullea, 2009). As expected, in baseline Model 5 (*Table 6*)

the direct effect of *Industry performance* is positive and significant for continuation through acquisition (the better the industry trend and the higher firm's chances to be acquired at the end of the in-court procedure). We argued that such relationship is inverted in presence of causes of business failure related to the external environment. Model 16 in *Table 11* shows that the main effect of *Industry performance* is positive and significant (at 1% level) for both the continuation outcomes; reversely, the interaction of this variable with *External environment causes* is negative and significant (still at 1% level) for both continuation through acquisition and continuation through reorganization. This evidence supports *H5A*: *External environment causes* negatively moderate the impact of the industry trend on chances for achieving creditors' support to business' continuation through bankruptcy. This finding is in line with the above-mentioned results from Collett et al. (2014) and Denis and Rodgers (2007) on the ostracizing role of a harsh external environment on likelihood for insolvent business' going concern.

[Insert *Table 11* here]

Estimation of marginal effects

In order to estimate the economic relevance of the relations we investigated, we assess the marginal effects and the relative marginal effects of the interaction variables of our models. *Table 12* reports these values for the three outcomes. The reported marginal effects represent the change in the probability of each outcome for a unit increase of a specific interaction term, keeping the other covariates constant at their average value. Results from marginal effects confirm the results emerged from the regression analysis. In fact, all marginal effects are significant for at least one of the three outcomes (except for *Tot. Debt/Tot. Assets x Finance*, in line with results from the original Model 7) and in accordance with results from original models.[23] More interestingly, *Table 12* reports also relative marginal effects.[24] Computing relative marginal effects allows us to identify the variables that contribute the most in explaining the bankruptcy outcome. The contributions of interaction terms sensibly differ among the models. For models focusing on the entity of firm's distress (Models 11, 12, 13) and on the role of intangible assets (Models 14 and 15), interaction terms contribute in

[23] The impact of the interaction terms with regards to sign is either the same for the same continuation outcome – reorganization or acquisition – or it has a reversed sign for the liquidation outcome (which is the base outcome for original models), so maintaining the same economic meaning respect original models.

[24] We compute relative marginal effects, for each interaction term, as the ratio between the absolute value of the marginal effect of an interaction term and the sum of the absolute values of marginal effects of all the variables in the model. The relative marginal effect is a measure of the contribution of the interaction term in explaining the bankruptcy outcome respect to what explained by all the variables in the model.

explaining within the 4% of what explained by all the variables. Yet, relative marginal effects sensibly increase for interaction terms in the other models. They reach between approximately 7% and 11% for models focused on the firm's financial structure (Models 6 and 8). Furthermore, they markedly increase with reference to business' profitability (Models 9 and 10) and role of the sectorial performance (Model 16). Here interaction terms contribute to explain between 30% and more than 45% of what explained by all the variables concerning the bankruptcy outcome.

Results from the study of marginal effects provide further support to our main hypothesis: causes of business failure play a relevant role in affecting creditors' valuations of firm's exit route from bankruptcy. Accounting and industry-specific factors consistently contribute in explaining creditors' preferences, in agreement with bankruptcy literature. Yet, the picture would remain uncomplete if not focusing also on the documented causes of business decline. Data gathering from legal documents on the causes of business failure may provide new instruments for a finer comprehension of the factors guiding creditors' valuations within the bankruptcy context.

[Insert *Table 12* here]

8.3 Robustness tests

We test the robustness of our findings in several ways. First, we compute variance inflation factors (VIFs) to check whether multicollinearity represents a threat. Across all the models VIF scores are always lower than 10, the commonly accepted threshold value indicating potential problems (Neter et al., 1996; Chatterjee and Hadi, 2006); the highest average VIF across models is 2.65 (Model 14), suggesting that multicollinearity is unlikely to affect our findings. We also run analyses applying winsorization at 1%, as well as differentiate winsorization thresholds across variables depending on the tails of their distributions; results appear robust to these tests. We then check for the assumption of independence of irrelevant alternatives (IIA assumption), core assumption of multinomial logit regression (see Cameron and Trivedi, 2005). IIA requires that if an alternative x is preferred to the alternative y within the choice set $\{x, y\}$ (i.e. liquidation vs. reorganization, in our context), introducing a third option z (i.e. acquisition), so expanding the choice set to $\{x, y, z\}$, must not make y preferable to x.[25] IIA assumption can be tested by a Hausman test (Hausman and McFadden, 1984). We run Hausman test for all the models, and we find evidence that the IIA assumption is always satisfied.

[25] IIA is one of the conditions of Arrow's impossibility theorem (see Arrow, 1963).

Our period of analysis sees the effect of the economic crisis, which hit heavily the construction and the real estate sectors. We thus perform the analyses excluding firms operating in those industries to check if results are robust to such variation. *H2B*, *H4A* and *H4B* are no longer significant; we thus perform ulterior tests to explain these changes, excluding from the analyses other business sectors and checking for the distribution of intangible assets across industries. We conclude that the loss of significance can be reasonably explained by the reduction of observations in the model following the exclusion of the sectors. Overall, the hypotheses result thus partially supported.

Italian Legislative Decree 27th June 2015, no. 83 introduces a minimum debt recovery rate of 20% that the restructuring plan must grant to unsecured creditors in case of firm's liquidation. We thus run econometrical analysis excluding the firms for which such requirement applies (29 firms), finding no changes in our results.

9. Concluding remarks

Our research studies how the combination of specific causes of business failure, as documented in bankruptcy files, and firm financial characteristics affect the creditors' decision on the firm's exit path from the in-court procedure. We concentrate on Italian insolvent Small and Medium Enterprises. We believe that a clear understanding of the ways through which SMEs can successfully face their risk of default is crucial for strengthening the European industrial systems, as remarked by data from European Commission on SMEs' pervasiveness in the EU economy (see the *Annual Report on European SMEs 2016/2017*).

A seminal stream of research within bankruptcy literature studies the accounting and industry-specific factors for which debt restructuring of the insolvent firms has higher chances to succeed. For instance, the financial structure of the firm, the entity of distress or the sort of assets proved to affect the debt renegotiation outcome (i.e. Gilson et al., 1990; Chatterjee et al., 1996; Franks and Torous, 1994).

A number of authors (Haswell and Holmes, 1989; Watson and Everett, 1993; Cahill, 1980) address the bankruptcy event as a proxy for the failure of a business. Still others (i.e. Barker and Mone, 1994; Everett and Watson, 1998; Collett et al., 2014) show how business failure can embrace operational, strategical, managerial, sectorial or even accidental aspects, other than bankruptcy ones. In accordance with such view, some authors within the bankruptcy field address alternative drivers of the debt renegotiation process in addition to firm's accounting factors (i.e. Denis and Rodgers, 2007; Blazy et al., 2013; Blazy et al., 2014). Overall, their evidence shows as such additional factors

well complement firm's accounting and financial drivers in explaining the bankruptcy outcome. Nevertheless, the role of the causes of business failure remains a less studied topic within the bankruptcy field. We relate this gap to difficulties in accessing legal files reporting reliable evidence of the causes of business decline.

Extending this line of research, we argue that creditors' awareness of the causes of business failure moderates the relationship between acknowledged accounting and industry-specific drivers of the debt renegotiation process – financial structure and profitability of the insolvent firm, entity of firm's distress, amount of intangible assets, sectorial trend – and firm's exit route from the in-court procedure.

We code bankruptcy filings to extract documented causes of firm's failure for the SMEs that faced the legal procedure in the Italian Veneto Region over the January 2011-September 2016 period, analysing 688 proceedings. The final dataset covers 208 cases. To increase the robustness of our coding procedure we apply the widely recognized Gioia Methodology (Gioia and Chittipeddi, 1991; Gioia et al., 2012). We test our hypotheses through multinomial logistic analysis, which proved effective in modelling the choice among alternative bankruptcy outcomes (Chatterjee et al., 1996; Denis and Rodgers, 2007).

Italy proved, even in recent works, to be a valid context for the study of the bankruptcy topic (i.e. Rodano et al., 2016; Melcarne and Ramello, 2018), and our setting shows similarities with the ones of other bankruptcy studies (Franks and Sussman, 2005; Blazy et al., 2014; Brunner and Krahnen, 2008). We thus expect that our approach can be extended to those settings showing a strong concentration of SMEs and high levels of institutional and industrial development. Our results can be summarized as follows.

Creditors appear less incline toward firm's continuation at the end of the bankruptcy process when a relatively more profitable as well as less distressed business suffers from issues on the production side. This is consistent with Ponikvar et al. (2018), which confirm as firms with higher labour productivity and capital intensity of production face lower chances to incur in liquidation. Similarly, likelihoods for firm's continuation following a creditors' vote decrease when relatively more profitable as well as less distressed businesses suffered from causes of decline related to the sectorial environment. This confirms the results from Collett et al. (2014), which report as high debt into an hostile environment can be a major cause for business failure, as well as the findings of Denis and Rodgers (2007) which report as an industry downturn represents an obstacle for the going concern of insolvent firms. Likeliness for business continuation through creditors' in-court support is limited also when causes of firm's failure directly affecting liquidity shortage (financial issues or unpaying clients) occur along economic distress. We believe that in all these cases creditors may perceive as

hard for the company to overcome the causes of business decline and produce stable cash flows through business' ongoing operations, inducing them to push for its liquidation.

Reversely, creditors appear more committed in supporting business continuation (both through acquisition and reorganization) for high-levered firms that faced strategical mistakes or unpaying clients. In these circumstances, creditors may believe such issues to be more easily solvable, considering the high amounts of debt at stake as well. They prefer so waiting for the business to turnaround, achieving higher recovery rates in the future. This is in line with results from the bankruptcy literature on creditors' commitment in sustaining firm's reorganization for higher amounts of debt (Chatterjee et al., 1996; Jostarndt and Sautner, 2010; Blazy et al., 2014). Moreover, this may provide an explanation for above-mentioned Kahl's (2002) conclusions on the doubtful net effect of high pre-distress leverage on the debt restructuring process, which indeed may be shaped by the causes of firm's decline. Also, we find that when uncertainty on assets' recovery value increases (as for intangible assets into a hostile environment), creditors are more incline in supporting continuation of the business. They seem, in this sense, betting onto positive future prospects (i.e. assets revaluation) rather than accepting low (or almost null) recovery rates through present piecemeal liquidation of intangibles. This holds as well when firms detaining higher amounts of intangible assets suffered from strategic causes of decline. In this case, the insolvent company could be the only actor able to extract economic rents from such firm-specific assets, through ad-hoc turnaround strategies (in accordance with findings from Sudarsanam and Lai (2001)). This agrees with results from Gilson et al. (1990) concerning uncertainty on assets' value as an incentive for creditors' support in firm's restructuring.

Overall, these results support Kahl's (2002) assertions, as creditors seem able to liquidate businesses with poor turnaround prospects, supporting instead going concern of the firm in presence of attractive growth opportunities.

We also examine marginal effects, to evaluate whether including the causes of business failure in the analysis contributes consistently in explaining creditors' preferences on the bankruptcy outcome. Results for marginal effects differ across models: the interactions between accounting factors and our causes of business decline arrive to explain till between 30% and more than 45% of what explained by all the variables. Therefore, our findings suggest that creditors rely onto both accounting indicators and the documented causes of business failure to support their valuations.

Our research contributes to the extant bankruptcy literature demonstrating how documented causes of firm's failure complement financial and accounting factors in affecting creditors' valuations in bankruptcy. A deep cognition of the role played by the causes of business decline in addition to firm's financial and accounting factors is essential for a finer understanding of the economic viability

of the business and of its recovery chances. As such, we believe that the role of established accounting and industry-specific drivers of the debt renegotiation process can be different depending on the causes of firm's decline they combine to.

Concerning managerial implications, we are confident that our results can be highly informative for managers of insolvent firms onto the best actions to undertake under in-court debt restructuring, contingently with both firm's accounting and financial features and specific causes of business decline. This may increase their chances for achieving creditors' support to firm's continuation through bankruptcy. Our findings may serve creditors as well; Blazy et al. (2013) demonstrate that creditors may expect higher debt recovery rates, on average, through the restructuring of the firm rather than its liquidation. Our results provide worthy insights to creditors on the circumstances under which going concern of the business is more probable and thus, indirectly, recovery rates are likely to be higher. Furthermore, our findings may also support bankruptcy trustees in identifying the most indicated firm's exit path from the proceeding in relation with its accounting and financial measures and causes of decline. All this may lead to a more efficient conduct of the legal proceeding, easing the research for a shared settlement to the firm's crisis, diminishing its duration and costs.

The hope is that our results and our approach for the study of the bankruptcy issue may shed an original light on the topic, stimulating the rise of new research questions.

List of tables and figures

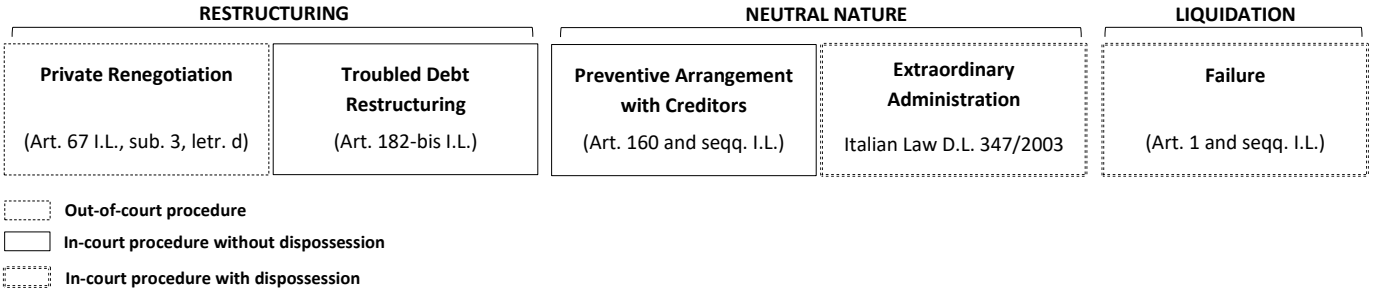

Figure 1: Structure of the Italian Insolvency Law (I.L.)

Source: Rearrangement from Danovi et al. (2018)

Macro-Causes of business failure	Micro-Causes of business failure
Strategy	*Causes of business failure endogenous to the company emerging from its strategic operations* Failure of a relevant project/bad investment; Price reduction; Failure of a member of the group; Exit of a relevant shareholder
Finance	*Causes of business failure endogenous to the company emerging from its financial operations* Decreased value of financial assets (swap); Difficulties in obtaining bank credit; High indebtment; Missing of non-strategic asset to be sold for cash; Request by the bank of paying the debt; Increasing financing costs
Production	*Causes of business failure endogenous to the company emerging from its productive operations* High fixed costs; High personnel costs; Increasing costs of raw material; High taxes; Unavailability of relevant material/assets
Operational Management	*Causes of business failure endogenous to the company deriving from poor management skills* Change of a key figure; Weak internal informational system; Disagreements among directors/managers; Excessive inventories; Increasing management costs
External Environment	*Causes of business failure exogenous to the company emerging from the surrounding environment* Sectorial crisis; Climate issue; Global economic crisis; Change public policies; Currency rate
Third Parties	*Causes of business failure exogenous to the company deriving from its business partners* Devaluation of costumers' credits; Longer period for credit collection; Crisis of a relevant client/client portfolio; Shorter period for paying suppliers; Missed/high delayed payment by public administration
Outlets	*Causes of business failure exogenous to the company deriving from its target market* No competitive prices; Disappearance of costumers; Competition from international brands; Decreasing sales to a large client; Competition from low labour costs countries; Major change in costumers' tastes
Accident	*Causes of business failure exogenous to the company deriving from an accidental event* Health problems of key personnel; Disaster; Dispute with public authorities/fiscal inquiry

Table 1: Causes of business failure as emerging from bankruptcy filings

Variable	Definition
Bankruptcy outcome	Firm's exit path from the in-court procedure distinguishing between reorganization (B.o.=2), acquisition (B.o.=1) and liquidation (B.o.=0)
Macro-Cause	Natural logarithm of the number of micro-causes reported within the macro-cause, adding 1
Size	Revenues of the firm
Profitability	Ebitda over total assets
Intangible assets	Natural logarithm of the amount of intangible assets
Leverage	Book value of total liabilities over book value of total assets
Fraction of short-term debt	Short-term debt over total debt
Fraction of bank-debt	Total bank debt over total debt
Entity of distress	Ebit over interest expenses
Industry performance	Growth rate of industry's turnover between one to four years prior to firm's default

Table 2: Definition of selected variables

	Reorganization			Acquisition			Liquidation		
Variable	#obs.	Mean	Median	#obs.	Mean	Median	#obs.	Mean	Median
No. Employees	33	21.8	11	89	21.8	11.5	84	21.7	11.5
Age (Years)	33	22.5	20	89	22.3	19.8	86	22.3	19.7
Size									
Micro	33	33.3%	-	89	25.8%	-	86	51.2%	-
Small	33	48.5%	-	89	53.9%	-	86	40.7%	-
Medium	33	18.2%	-	89	20.2%	-	86	8.1%	-
Limited Liability	33	81.8%	-	89	92.1%	-	86	90.7%	-
Sector									
Commerce	33	24.2%	-	89	34.8%	-	86	25.6%	-
Industry	33	51.5%	-	89	44.9%	-	86	45.3%	-
Services	33	24.2%	-	89	15.7%	-	86	22.1%	-
Other sectors	33	0.0%	-	89	4.5%	-	86	7.0%	-

Table 3: Characteristics of firms for our dataset

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors

Liquidation	Firm's assets are sold piecemeal at the end of the in-court procedure and proceeds are used to repay creditors
No. Employees	Number of firm's employees the year before the entrance to the legal procedure
Age	Number of firm's years, from its foundation till the entrance to the legal procedure
Micro	Percentage of firms in our dataset whose dimension is classified as *micro* following EU Recommendation 2003/361 – less than 10 employees and, alternatively, turnover equal or inferior to 2 m € or balance sheet total equal or inferior to 2 m €
Small	Percentage of firms in our dataset whose dimension is classified as *small* following EU Recommendation 2003/361 – less than 50 employees and, alternatively, turnover equal or inferior to 10 m € or balance sheet total equal or inferior to 10 m €
Medium	Percentage of firms in our dataset whose dimension is classified as *medium* following EU Recommendation 2003/361 – less than 250 employees and, alternatively, turnover equal or inferior to 50 m € or balance sheet total equal or inferior to 43 m €
Limited Liability	Percentage of firms in our dataset registered as Ltd. Company
Commerce	Percentage of firms in our dataset operating in the commerce sector
Industry	Percentage of firms in our dataset operating in the industry sector
Services	Percentage of firms in our dataset operating in the service sector
Other sectors	Percentage of firms in our dataset operating in other less represented sectors

	Reorganization				Acquisition				Liquidation			
Variable	#obs.	Mean	S.D.	Median	#obs.	Mean	S.D.	Median	#obs.	Mean	S.D.	Median
Revenues (K €)	33	5,837	7,976	2,625	89	5,829	7,939	2,684	85	5,746	7,910	2,573
Ebitda/Tot. Assets (%)	33	-24.4%	44.24%	-11.1%	89	-27.1%	49.69%	-12.0%	85	-28.2%	52.53%	-12.4%
Intangible assets (K €)	33	157.7	327.5	12.0	87	155.2	325.6	9.6	81	153.7	324.4	9.3
Tot. Debt/ Tot. Assets	33	1.27	0.65	1.06	89	1.47	1.28	1.11	85	1.51	1.45	1.10
Short-term debt/ Tot. Debt (%)	33	77.2%	27.00%	83.8%	89	77.9%	26.69%	84.1%	85	77.9%	26.65%	84.2%
Bank debt/Tot. Debt (%)	33	52.3%	25.98%	54.6%	89	52.0%	26.21%	54.0%	85	51.9%	26.30%	54.4%
Ebit/Interest Expenses	33	-14.4	36.27	-5.5	89	-14.1	34.68	-5.5	84	-15.2	37.34	-5.6
Industry performance (%)	32	-4.0%	11.18%	-4.4%	88	-3.9%	11.07%	-3.9%	83	-3.9%	10.98%	-3.9%

Table 4: Descriptive statistics for selected accounting factors

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors
Liquidation	Firm's assets are sold piecemeal at the end of the in-court procedure and proceeds are used to repay creditors
Revenues	Revenues of the firm (in K €), from income statement, the year before the entrance to the legal procedure
Ebitda/Tot. Assets	Ratio (%) between firm's Ebitda, from income statement, and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Intangible assets	Natural logarithm of firm's Intangible Assets, from income statement, the year before the entrance to the legal procedure
Tot. Debt/Tot. Assets	Ratio between firm's total debt and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Short-term debt/Tot. Debt	Ratio (%) between firm's Short-term Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Bank debt/Tot. Debt	Ratio (%) between firm's Bank Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Ebit/Interest Expenses	Ratio between firm's Ebit and firm's Expenses for Interest, from income statement, the year before the entrance to the legal procedure
Industry performance	Growth rate of industry's turnover, based on aggregated data from income statements, between one to four years prior to firm's entrance to the legal procedure

Bankruptcy outcome			Size		
Reorganization	**Acquisition**	**Liquidation**	**Micro**	**Small**	**Medium**
External environment	External environment	External environment	External environment	External environment	External environment
78.8%	84.3%	84.9%	82.1%	82.8%	90.3%
Third parties	Finance	Third parties	Third parties	Finance	Finance
60.6%	55.1%	52.3%	52.6%	55.6%	58.6%
Finance	Third parties	Finance	Finance	Third parties	Third parties
60.6%	51.7%	48.8%	48.7%	53.5%	54.8%
Strategy	Strategy	Strategy	Strategy	Strategy	Production
33.3%	39.3%	39.5%	38.5%	43.4%	45.2%
Production	Production	Production	Outlets	Production	Strategy
21.2%	34.8%	20.9%	14.1%	34.3%	22.6%
Outlets	Outlets	Outlets	Production	Outlets	Outlets
18.2%	29.2%	18.6%	10.3%	31.3%	19.4%
Accident	Operational Management	Operational Management	Operational Management	Operational Management	Operational Management
3.0%	13.5%	8.1%	10.3%	10.1%	3.2%
Operational Management	Accident	Accident	Accident	Accident	Accident
0.0%	3.4%	4.7%	7.7%	2.0%	0.0%
N = 33	N = 89	N = 86	N = 31	N = 99	N = 78

Table 5: Macro-causes of business failure by firm's size and bankruptcy outcome as extracted from legal files

Note: the sums exceed 100% as the company may suffer from more causes.

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors

Liquidation	Firm's assets are sold piecemeal at the end of the in-court procedure and proceeds are used to repay creditors
Micro	Firms in our dataset whose dimension is classified as *micro* following EU Recommendation 2003/361 – less than 10 employees and, alternatively, turnover equal or inferior to 2 m € or balance sheet total equal or inferior to 2 m €
Small	Firms in our dataset whose dimension is classified as *small* following EU Recommendation 2003/361 – less than 50 employees and, alternatively, turnover equal or inferior to 10 m € or balance sheet total equal or inferior to 10 m €
Medium	Firms in our dataset whose dimension is classified as *medium* following EU Recommendation 2003/361 – less than 250 employees and, alternatively, turnover equal or inferior to 50 m € or balance sheet total equal or inferior to 43 m €
Strategy	Percentage of firms in the dataset mentioning *Strategy* macro-causes of business failure [Causes of business failure endogenous to the company emerging from its strategic operations]
Finance	Percentage of firms in the dataset mentioning *Finance* macro-causes of business failure [Causes of business failure endogenous to the company emerging from its financial operations]
Production	Percentage of firms in the dataset mentioning *Production* macro-causes of business failure [Causes of business failure endogenous to the company emerging from its productive operations]
Operational Management	Percentage of firms in the dataset mentioning *Operational Management* macro-causes of business failure [Causes of business failure endogenous to the company deriving from poor management skills]
External Environment	Percentage of firms in the dataset mentioning *External Environment* macro-causes of business failure [Causes of business failure exogenous to the company emerging from the surrounding environment]
Third Parties	Percentage of firms in the dataset mentioning *Third Parties* macro-causes of business failure [Causes of business failure exogenous to the company deriving from its business partners]
Outlets	Percentage of firms in the dataset mentioning *Outlets* macro-causes of business failure [Causes of business failure exogenous to the company deriving from its target market]
Accident	Percentage of firms in the dataset mentioning *Accident* macro-causes of business failure [Causes of business failure exogenous to the company deriving from an accidental event]

No. obs.: 195 Base outcome: liquidation (76 obs.)

	Model 1		Model 2		Model 3		Model 4		Model 5	
Variable	Acquisition	Reorganization	Acquisition	Reorganization	Acquisition	Reorganization	Acquisition	Reorganization	Acquisition	Reorganization
Strategy causes	0.5230	-0.0197								
	(0.266)	(0.975)								
Production causes			0.5152	0.1466						
			(0.266)	(0.812)						
Finance causes					0.2933	1.1544**				
					(0.480)	(0.038)				
Third parties causes							-0.2464	0.1679		
							(0.472)	(0.694)		
External environment causes									-0.3567	-1.4104*
									(0.558)	(0.065)
Revenues	0.0673***	0.0422	0.0658**	0.0421	0.0684***	0.0419	0.0675***	0.0422	0.0661**	0.0460
	(0.009)	(0.211)	(0.012)	(0.215)	(0.010)	(0.222)	(0.009)	(0.216)	(0.011)	(0.173)
Ebitda/Tot. Assets	0.2826	2.0984*	0.2338	2.0224	0.2414	2.1446*	0.2330	1.9714	0.2455	2.2240*
	(0.480)	(0.096)	(0.558)	(0.11)	(0.544)	(0.091)	(0.560)	(0.118)	(0.536)	0.084)
Intangible Assets	0.1232***	0.1245***	0.1209***	0.1230**	0.1272***	0.1448***	0.1251***	0.1235***	0.1252***	0.1234**
	(0.001)	(0.009)	(0.001)	(0.011)	(0.001)	(0.004)	(0.001)	(0.01)	(0.001)	(0.011)
	0.0136*	-0.0105*	0.0135*	-0.0104*	0.0142*	-0.0118**	0.0145*	-0.0104*	0.0139*	-0.0107*

Ebit/Interest Expenses	(0.078)	(0.076)	(0.087)	(0.084)	(0.073)	(0.046)	(0.065)	(0.078)	(0.076)	(0.073)
Bank Debt/Tot. Debt	0.9270	0.7358	0.9015	0.6776	0.7769	0.2291	0.8876	0.7581	0.9335	0.6151
	(0.274)	(0.551)	(0.288)	(0.584)	(0.369)	(0.855)	(0.295)	(0.539)	(0.269)	(0.620)
Tot. Debt/Tot. Assets	0.2272	-0.8730*	0.2351*	-0.8962*	0.2228	-1.0687**	0.2122	-0.9053*	0.2187	-0.9703*
	(0.103)	(0.091)	(0.092)	(0.087)	(0.104)	(0.048)	(0.122)	(0.084)	(0.111)	(0.079)
Short-term Debt/Tot. Debt	2.3032**	-0.5057	2.2054**	-0.5534	2.1619**	-0.6530	2.2846**	-0.5025	2.2331**	-0.6318
	(0.011)	(0.638)	(0.014)	(0.606)	(0.016)	(0.543)	(0.012)	(0.638)	(0.013)	(0.564)
Industry performance	3.7369**	2.6183	3.7772**	2.5154	4.0053**	2.2299	3.9174**	2.6762	3.9535**	2.2840
	(0.040)	(0.242)	(0.037)	(0.26)	(0.029)	(0.318)	(0.031)	(0.232)	(0.030)	(0.312)
Intercept	-3.5144***	-0.7078	-3.4004***	-0.6548	-3.3183***	-0.8537	-3.1872***	-0.7926	-3.0682***	0.4186
	(0.002)	(0.623)	(0.002)	(0.649)	(0.002)	(0.546)	(0.004)	(0.584)	(0.009)	(0.790)
N	87	32	87	32	87	32	87	32	87	32
Wald $\chi 2$	51.58		52.85		58.26		52.14		57.95	
p-value	0.0000***		0.0000***		0.0000***		0.0000***		0.0000***	

Table 6: Determinants of the choice among bankruptcy outcomes – baseline models.
Note: *p*-values in parenthesis. *Statistical significance at the 10% level. **Statistical significance at the 5% level. ***Statistical significance at the 1% level.

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors
Revenues	Revenues of the firm (in K €), from income statement, the year before the entrance to the legal procedure
Ebitda/Tot. Assets	Ratio (%) between firm's Ebitda, from income statement, and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Intangible assets	Natural logarithm of firm's Intangible Assets, from income statement, the year before the entrance to the legal procedure
Tot. Debt/Tot. Assets	Ratio between firm's total debt and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Short-term debt/Tot. Debt	Ratio (%) between firm's Short-term Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Bank debt/Tot. Debt	Ratio (%) between firm's Bank Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Ebit/Interest Expenses	Ratio between firm's Ebit and firm's Expenses for Interest, from income statement, the year before the entrance to the legal procedure
Industry performance	Growth rate of industry's turnover, based on aggregated data from income statements, between one to four years prior to firm's entrance to the legal procedure
Strategy causes	Natural logarithm of the number of micro-causes reported within the *Strategy* macro-cause [Causes of business failure endogenous to the company emerging from its strategic operations]
Finance causes	Natural logarithm of the number of micro-causes reported within the *Finance* macro-cause [Causes of business failure endogenous to the company emerging from its financial operations]
Third Parties causes	Natural logarithm of the number of micro-causes reported within the *Third Parties* macro-cause [Causes of business failure exogenous to the company deriving from its business partners]
Production causes	Natural logarithm of the number of micro-causes reported within the *Production* macro-cause [Causes of business failure endogenous to the company emerging from its productive operations]
External Environment causes	Natural logarithm of the number of micro-causes reported within the *External Environment* macro-cause [Causes of business failure exogenous to the company emerging from the surrounding environment]

No. obs.: 195 — Base outcome: liquidation (76 obs.)

	Model 6		Model 7		Model 8	
Variable	Acquisition	Reorganization	Acquisition	Reorganization	Acquisition	Reorganization
H1A						
Tot. Debt/Tot. Assets x Strategy causes	0.9677**	1.6040				
	(0.036)	(0.236)				
Strategy causes	-0.8603	-1.8816				
	(0.294)	(0.234)				
H1B						
Tot. Debt/Tot. Assets x Finance causes			-0.2292	-0.5042		
			(0.445)	(0.538)		
Finance causes			0.6469	1.7336*		
			(0.276)	(0.098)		
H1C						
Tot. Debt/Tot. Assets x Third parties causes					0.7787**	0.7038
					(0.031)	(0.450)
Third parties causes					-1.3045**	-0.6523
					(0.037)	(0.518)
Revenues	0.0650**	0.0386	0.0667**	0.0403	0.0712***	0.0429
	(0.013)	(0.235)	(0.014)	(0.206)	(0.007)	(0.192)
Ebitda/Tot. Assets	0.4393	2.2903*	0.2129	2.2082*	0.4193	2.0420*
	(0.287)	(0.062)	(0.582)	(0.086)	(0.274)	(0.057)
Intangible Assets	0.1277***	0.1274***	0.1294***	0.1478***	0.1239***	0.1190**
	(0.001)	(0.009)	(0.000)	(0.003)	(0.001)	(0.016)
Ebit/Interest Expenses	0.0125*	-0.0119	0.0126*	-0.0125*	0.0177***	-0.0106
	(0.076)	(0.131)	(0.068)	(0.093)	(0.005)	(0.131)
Bank Debt/Tot. Debt	1.0224	0.6855	0.9423	0.3749	0.9256	0.7185
	(0.224)	(0.642)	(0.295)	(0.802)	(0.255)	(0.607)
Tot. Debt/Tot. Assets	0.1403	-1.2517**	0.2857**	-0.7871	0.1403	-1.1711*
	(0.343)	(0.032)	(0.022)	(0.349)	(0.322)	(0.091)
Short-term Debt/Tot. Debt	2.4563**	-0.3854	2.3412**	-0.5278	2.1918**	-0.6578
	(0.019)	(0.721)	(0.024)	(0.614)	(0.036)	(0.538)
Industry performance	3.7647**	2.4106	4.0936**	2.2869	3.9280**	2.6099
	(0.028)	(0.278)	(0.020)	(0.280)	(0.019)	(0.221)
Intercept	-3.5346***	-0.3540	-3.6695***	-1.3345	-2.9447**	-0.3117
	(0.004)	(0.819)	(0.003)	(0.449)	(0.011)	(0.848)
N	87	32	87	32	87	32
Wald χ^2	58.47		59.31		51.47	
p-value	0.0000***		0.0000***		0.0001***	

Table 7: Determinants of the choice among bankruptcy outcomes – focus on financial structure.
Note: *p*-values in parenthesis. *Statistical significance at the 10% level. **Statistical significance at the 5% level. ***Statistical significance at the 1% level.

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors

Revenues	Revenues of the firm (in K €), from income statement, the year before the entrance to the legal procedure
Ebitda/Tot. Assets	Ratio (%) between firm's Ebitda, from income statement, and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Intangible assets	Natural logarithm of firm's Intangible Assets, from income statement, the year before the entrance to the legal procedure
Tot. Debt/Tot. Assets	Ratio between firm's total debt and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Short-term debt/Tot. Debt	Ratio (%) between firm's Short-term Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Bank debt/Tot. Debt	Ratio (%) between firm's Bank Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Ebit/Interest Expenses	Ratio between firm's Ebit and firm's Expenses for Interest, from income statement, the year before the entrance to the legal procedure
Industry performance	Growth rate of industry's turnover, based on aggregated data from income statements, between one to four years prior to firm's entrance to the legal procedure
Strategy causes	Natural logarithm of the number of micro-causes reported within the *Strategy* macro-cause [Causes of business failure endogenous to the company emerging from its strategic operations]
Finance causes	Natural logarithm of the number of micro-causes reported within the *Finance* macro-cause [Causes of business failure endogenous to the company emerging from its financial operations]
Third Parties causes	Natural logarithm of the number of micro-causes reported within the *Third Parties* macro-cause [Causes of business failure exogenous to the company deriving from its business partners]

No. obs.: 195 — Base outcome: liquidation (76 obs.)

	Model 9		Model 10		Model 11	
Variable	Acquisition	Reorganization	Acquisition	Reorganization	Acquisition	Reorganization
H2A						
Ebit/Interest Expenses x Production causes	0.0208 (0.527)	-0.0660** (0.038)				
Production causes	0.6548 (0.182)	-0.4089 (0.596)				
H2B						
Ebit/Interest Expenses x Finance causes			-0.0399* (0.093)	-0.0272* (0.055)		
Finance causes			-0.1838 (0.706)	0.7269 (0.222)		
H2C						
Ebit/Interest Expenses x Third parties causes					-0.0222** (0.044)	-0.0028 (0.828)
Third parties causes					-0.4582 (0.231)	0.0892 (0.834)
Revenues	0.0661*** (0.010)	0.0466 (0.155)	0.0743** (0.014)	0.0484 (0.143)	0.0700** (0.011)	0.0434 (0.186)
Ebitda/Tot. Assets	0.2029 (0.587)	2.5496** (0.025)	0.0124 (0.977)	2.2533* (0.080)	0.1561 (0.671)	1.9550 (0.121)
Intangible Assets	0.1201*** (0.001)	0.1220** (0.013)	0.1207*** (0.001)	0.1375*** (0.004)	0.1277*** (0.000)	0.1243** (0.012)
Ebit/Interest Expenses	0.0119*	-0.0104	0.0354*	-0.0078	0.0252**	-0.0087

	(0.055)	(0.153)	(0.076)	(0.395)	(0.014)	(0.454)
Bank Debt/Tot. Debt	0.8866	0.5031	0.6765	0.2375	0.8192	0.7607
	(0.299)	(0.715)	(0.452)	(0.867)	(0.327)	(0.589)
Tot. Debt/Tot. Assets	0.2276*	-0.8269	0.1547	-1.1682	0.1979	-0.8821
	(0.083)	(0.120)	(0.272)	(0.115)	(0.104)	(0.121)
Short-term Debt/Tot. Debt	2.1767**	-0.7171	2.0146**	-0.6266	2.2378**	-0.5374
	(0.027)	(0.499)	(0.047)	(0.534)	(0.032)	(0.602)
Industry performance	3.6924**	2.7910	4.0796**	2.2179	3.9324**	2.6868
	(0.027)	(0.198)	(0.022)	(0.297)	(0.021)	(0.209)
Intercept	-3.3783***	-0.4668	-2.8618**	-0.6016	-3.0309***	-0.7601
	(0.005)	(0.751)	(0.017)	(0.705)	(0.009)	(0.600)
N	87	32	87	32	87	32
Wald χ^2	56.26		58.96		53.23	
p-value	0.0000***		0.0000***		0.0001***	

Table 8: Determinants of the choice among bankruptcy outcomes – focus on entity of distress.
Note: *p*-values in parenthesis. *Statistical significance at the 10% level. **Statistical significance at the 5% level. ***Statistical significance at the 1% level.

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors
Revenues	Revenues of the firm (in K €), from income statement, the year before the entrance to the legal procedure
Ebitda/Tot. Assets	Ratio (%) between firm's Ebitda, from income statement, and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Intangible assets	Natural logarithm of firm's Intangible Assets, from income statement, the year before the entrance to the legal procedure
Tot. Debt/Tot. Assets	Ratio between firm's total debt and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Short-term debt/Tot. Debt	Ratio (%) between firm's Short-term Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Bank debt/Tot. Debt	Ratio (%) between firm's Bank Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Ebit/Interest Expenses	Ratio between firm's Ebit and firm's Expenses for Interest, from income statement, the year before the entrance to the legal procedure
Industry performance	Growth rate of industry's turnover, based on aggregated data from income statements, between one to four years prior to firm's entrance to the legal procedure
Production causes	Natural logarithm of the number of micro-causes reported within the *Production* macro-cause [Causes of business failure endogenous to the company emerging from its productive operations]
Finance causes	Natural logarithm of the number of micro-causes reported within the *Finance* macro-cause [Causes of business failure endogenous to the company emerging from its financial operations]
Third Parties causes	Natural logarithm of the number of micro-causes reported within the *Third Parties* macro-cause [Causes of business failure exogenous to the company deriving from its business partners]

No. obs.: 195			Base outcome: liquidation (76 obs.)	
	Model 12		Model 13	
Variable	Acquisition	Reorganization	Acquisition	Reorganization
H3A				
Ebitda/Tot. Assets x Production causes	0.2835 (0.741)	-5.5346*** (0.003)		
Production causes	0.5802 (0.233)	-0.6028 (0.378)		
H3B				
Ebitda/Tot. Assets x External environment causes			0.2943 (0.773)	-4.0948** (0.043)
External environment causes			-0.3171 (0.681)	-1.8399* (0.060)
Revenues	0.0695*** (0.009)	0.0422 (0.215)	0.0690** (0.013)	0.0575* (0.078)
Ebitda/Tot. Assets	0.1591 (0.697)	4.0647*** (0.004)	0.0373 (0.963)	4.3984** (0.013)
Intangible Assets	0.1234*** (0.001)	0.1280** (0.012)	0.1271*** (0.000)	0.1201** (0.013)
Ebit/Interest Expenses	0.0139* (0.053)	-0.0131* (0.083)	0.0149** (0.043)	-0.0114 (0.142)
Bank Debt/Tot. Debt	0.9607 (0.270)	0.3527 (0.798)	0.9649 (0.261)	0.5881 (0.684)
Tot. Debt/Tot. Assets	0.2333* (0.083)	-0.9319* (0.086)	0.2187* (0.093)	-1.0403* (0.077)
Short-term Debt/Tot. Debt	2.2039** (0.029)	-0.6877 (0.518)	2.2277** (0.029)	-0.7507 (0.502)
Industry performance	3.6715** (0.028)	2.5958 (0.232)	4.0295** (0.021)	2.1582 (0.312)
Intercept	-3.4861*** (0.005)	-0.2426 (0.870)	-3.1261** (0.014)	0.7577 (0.667)
N	87	32	87	32
Wald χ^2	55.99		57.47	
p-value	0.0000***		0.0000***	

Table 9: Determinants of the choice among bankruptcy outcomes – focus on profitability.
Note: *p*-values in parenthesis. *Statistical significance at the 10% level. **Statistical significance at the 5% level. ***Statistical significance at the 1% level.

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors
Revenues	Revenues of the firm (in K €), from income statement, the year before the entrance to the legal procedure
Ebitda/Tot. Assets	Ratio (%) between firm's Ebitda, from income statement, and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Intangible assets	Natural logarithm of firm's Intangible Assets, from income statement, the year before the entrance to the legal procedure

Tot. Debt/Tot. Assets	Ratio between firm's total debt and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Short-term debt/Tot. Debt	Ratio (%) between firm's Short-term Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Bank debt/Tot. Debt	Ratio (%) between firm's Bank Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Ebit/Interest Expenses	Ratio between firm's Ebit and firm's Expenses for Interest, from income statement, the year before the entrance to the legal procedure
Industry performance	Growth rate of industry's turnover, based on aggregated data from income statements, between one to four years prior to firm's entrance to the legal procedure
Production causes	Natural logarithm of the number of micro-causes reported within the *Production* macro-cause [Causes of business failure endogenous to the company emerging from its productive operations]
External Environment causes	Natural logarithm of the number of micro-causes reported within the *External Environment* macro-cause [Causes of business failure exogenous to the company emerging from the surrounding environment]

No. obs.: 195 — Base outcome: liquidation (76 obs.)

	Model 14		Model 15	
Variable	Acquisition	Reorganization	Acquisition	Reorganization
H4A				
Intangible Assets (Ln) x External environment causes	0.0556 (0.668)	0.2920* (0.069)		
External environment causes	-0.6322 (0.597)	-4.0089*** (0.008)		
H4B				
Intangible Assets x Strategy causes			0.0791 (0.464)	0.3650** (0.017)
Strategy causes			0.1190 (0.884)	-3.2760** (0.020)
Revenues	0.0666** (0.012)	0.0452 (0.200)	0.0653*** (0.010)	0.0402 (0.210)
Ebitda/Tot. Assets	0.2666 (0.467)	2.5640** (0.037)	0.2842 (0.434)	2.0051* (0.076)
Intangible Assets	0.0860 (0.330)	-0.0380 (0.712)	0.1068** (0.020)	0.0667 (0.201)
Ebit/Interest Expenses	0.0135* (0.052)	-0.0127 (0.124)	0.0135* (0.054)	-0.0118* (0.080)
Bank Debt/Tot. Debt	1.0085 (0.238)	0.9361 (0.505)	0.9885 (0.244)	0.7478 (0.600)
Tot. Debt/Tot. Assets	0.2166* (0.086)	-0.9354* (0.083)	0.2272* (0.075)	-0.9314* (0.081)
Short-term Debt/Tot. Debt	2.2708** (0.024)	-0.5613 (0.606)	2.3168** (0.021)	-0.6099 (0.545)
Industry performance	3.8951** (0.023)	1.9433 (0.368)	3.7373** (0.029)	2.3645 (0.273)
Intercept	-2.9366** (0.036)	1.5652 (0.352)	-3.4624*** (0.005)	-0.1415 (0.923)
N	87	32	87	32

Wald χ^2	60.28	56.97
p-value	0.0000***	0.0000***

Table 10: Determinants of the choice among bankruptcy outcomes – focus on intangible assets.
Note: *p*-values in parenthesis. *Statistical significance at the 10% level. **Statistical significance at the 5% level. ***Statistical significance at the 1% level.

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors
Revenues	Revenues of the firm (in K €), from income statement, the year before the entrance to the legal procedure
Ebitda/Tot. Assets	Ratio (%) between firm's Ebitda, from income statement, and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Intangible assets	Natural logarithm of firm's Intangible Assets, from income statement, the year before the entrance to the legal procedure
Tot. Debt/Tot. Assets	Ratio between firm's total debt and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Short-term debt/Tot. Debt	Ratio (%) between firm's Short-term Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Bank debt/Tot. Debt	Ratio (%) between firm's Bank Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Ebit/Interest Expenses	Ratio between firm's Ebit and firm's Expenses for Interest, from income statement, the year before the entrance to the legal procedure
Industry performance	Growth rate of industry's turnover, based on aggregated data from income statements, between one to four years prior to firm's entrance to the legal procedure
External Environment causes	Natural logarithm of the number of micro-causes reported within the *External Environment* macro-cause [Causes of business failure exogenous to the company emerging from the surrounding environment]
Strategy causes	Natural logarithm of the number of micro-causes reported within the *Strategy* macro-cause [Causes of business failure endogenous to the company emerging from its strategic operations]

No. obs.: 195	Base outcome: liquidation (76 obs.)	
	Model 16	
Variable	Acquisition	Reorganization
H5A		
Industry performance x External environment causes	-23.4117*** (0.004)	-24.8948*** (0.007)
External environment causes	-1.6057* (0.095)	-2.7231** (0.023)
Revenues	0.0679** (0.012)	0.0485 (0.140)
Ebitda/Tot. Assets	0.2536 (0.482)	2.1685* (0.063)
Intangible Assets	0.1358*** (0.000)	0.1447*** (0.005)
Ebit/Interest Expenses	0.0127* (0.058)	-0.0117 (0.130)
Bank Debt/Tot. Debt	0.5908 (0.478)	0.3219 (0.824)

Tot. Debt/Tot. Assets	0.2194*	-0.9329*
	(0.078)	(0.091)
Short-term Debt/Tot. Debt	1.9924**	-0.8367
	(0.048)	(0.424)
Industry performance	20.5771***	19.0895***
	(0.001)	(0.006)
Intercept	-1.8669	1.4288
	(0.174)	(0.428)
N	87	32
Wald χ^2	58.45	
p-value	0.0000***	

Table 11: Determinants of the choice among bankruptcy outcomes – focus on industry trend.
Note: *p*-values in parenthesis. *Statistical significance at the 10% level. **Statistical significance at the 5% level. ***Statistical significance at the 1% level.

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors
Revenues	Revenues of the firm (in K €), from income statement, the year before the entrance to the legal procedure
Ebitda/Tot. Assets	Ratio (%) between firm's Ebitda, from income statement, and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Intangible assets	Natural logarithm of firm's Intangible Assets, from income statement, the year before the entrance to the legal procedure
Tot. Debt/Tot. Assets	Ratio between firm's total debt and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Short-term debt/Tot. Debt	Ratio (%) between firm's Short-term Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Bank debt/Tot. Debt	Ratio (%) between firm's Bank Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Ebit/Interest Expenses	Ratio between firm's Ebit and firm's Expenses for Interest, from income statement, the year before the entrance to the legal procedure
Industry performance	Growth rate of industry's turnover, based on aggregated data from income statements, between one to four years prior to firm's entrance to the legal procedure
External Environment causes	Natural logarithm of the number of micro-causes reported within the *External Environment* macro-cause [Causes of business failure exogenous to the company emerging from the surrounding environment]

No. obs.: 195

Variable	Acquisition (N = 87)		Reorganization (N = 32)		Liquidation (N = 76)	
	dy/dx	Relative marginal effect	dy/dx	Relative marginal effect	dy/dx	Relative marginal effect
Tot. Debt/Tot. Assets x Strategy causes *(Model 6)*	0.165	0.078	0.098	0.133	-0.264**	0.112
	(0.209)		(0.442)		(0.018)	
Tot. Debt/Tot. Assets x Finance causes *(Model 7)*	-0.034	0.017	-0.033	0.055	0.067	0.032
	(0.67)		(0.649)		(0.363)	
Tot. Debt/Tot. Assets x Third Parties causes *(Model 8)*	0.160*	0.072	0.027	0.050	-0.188**	0.083
	(0.073)		(0.734)		(0.043)	
Ebit/Interest Expenses x Production causes *(Model 9)*	0.008	0.004	-0.007**	0.011	-0.001	0.001
	(0.304)		(0.022)		(0.842)	

Ebit/Interest Expenses x Finance causes *(Model 10)*	-0.009 (0.113)	0.005	-0.001 (0.602)	0.001	0.009* (0.066)	0.006
Ebit/Interest Expenses x Third Parties causes *(Model 11)*	-0.005** (0.036)	0.003	0.001 (0.466)	0.001	0.005* (0.066)	0.003
Ebitda/Tot. Assets x Production causes *(Model 12)*	0.283 (0.185)	0.122	-0.420*** (0.002)	0.395	0.136 (0.507)	0.068
Ebitda/Tot. Assets x External Environment causes *(Model 13)*	0.265 (0.257)	0.114	-0.380** (0.028)	0.313	0.115 (0.654)	0.056
Intangible Assets (Ln) x External Environment causes *(Model 14)*	0.002 (0.949)	0.001	0.021* (0.058)	0.027	-0.022 (0.461)	0.011
Intangible Assets (Ln) x Strategy causes *(Model 15)*	0.004 (0.875)	0.002	0.027** (0.035)	0.036	-0.031 (0.228)	0.016
Industry performance x External Environment causes *(Model 16)*	-4.547*** (0.005)	0.463	-1.082* (0.089)	0.447	5.629*** (0.002)	0.486

Table 12: Marginal effects of interaction terms

Note: *p*-values in parenthesis. *Statistical significance at the 10% level. **Statistical significance at the 5% level. ***Statistical significance at the 1% level.

' Relative marginal effects are computed as the ratio between the absolute value of the marginal effect of the variable and the sum of the absolute values of the marginal effects of all the variable for the reference model (absolute values are used to elide the effect of opposite signs, that would cancel each other out otherwise).

Reorganization	The business is restructured at the end of the in-court procedure, and the incumbent ownership remains in control of the firm
Acquisition	The viable firm or one/more operative units are sold to third subjects at the end of the in-court procedure and proceeds are used to repay creditors
Liquidation	Firm's assets are sold piecemeal at the end of the in-court procedure and proceeds are used to repay creditors
Revenues	Revenues of the firm (in K €), from income statement, the year before the entrance to the legal procedure
Ebitda/Tot. Assets	Ratio (%) between firm's Ebitda, from income statement, and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Intangible assets	Natural logarithm of firm's Intangible Assets, from income statement, the year before the entrance to the legal procedure
Tot. Debt/Tot. Assets	Ratio between firm's total debt and firm's Total Assets, from balance sheet, the year before the entrance to the legal procedure
Short-term debt/Tot. Debt	Ratio (%) between firm's Short-term Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Bank debt/Tot. Debt	Ratio (%) between firm's Bank Debt and firm's Total Debt, from balance sheet, the year before the entrance to the legal procedure
Ebit/Interest Expenses	Ratio between firm's Ebit and firm's Expenses for Interest, from income statement, the year before the entrance to the legal procedure
Industry performance	Growth rate of industry's turnover, based on aggregated data from income statements, between one to four years prior to firm's entrance to the legal procedure
Strategy causes	Natural logarithm of the number of micro-causes reported within the *Strategy* macro-cause [Causes of business failure endogenous to the company emerging from its strategic operations]
Finance causes	Natural logarithm of the number of micro-causes reported within the *Finance* macro-cause [Causes of business failure endogenous to the company emerging from its financial operations]
Third Parties causes	Natural logarithm of the number of micro-causes reported within the *Third Parties* macro-cause [Causes of business failure exogenous to the company deriving from its business partners]
Production causes	Natural logarithm of the number of micro-causes reported within the *Production* macro-cause [Causes of business failure endogenous to the company emerging from its productive operations]
External Environment causes	Natural logarithm of the number of micro-causes reported within the *External Environment* macro-cause [Causes of business failure exogenous to the company emerging from the surrounding environment]

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