Corporate Retrenchment and its Consequences for Bankruptcy Emergence

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Abstract: Understanding whether retrenchment actions provide a real option for resolving financial distress is essential for firms seeking to achieve turnaround and continue operating as a going concern. I examine the impact of two common methods of retrenchment, downsizing and bankruptcy, on the likelihood of bankruptcy emergence of a sample of 244 Dutch firms between 2005 and 2021. Using a logistic regression model, I find that downsizing processes that are accompanied by social plans improve the likelihood of bankruptcy emergence by providing signals of procedural and distributive fairness to the firm's stakeholders, whereas downsizing without a social plan has no significant impact on the likelihood of bankruptcy emergence. As expected, I also find that the likelihood of bankruptcy emergence of firms going through a pre-packed bankruptcy is significantly higher than firms going through a conventional bankruptcy or suspension of payments procedure. The results are robust to several models, including controlling for lagged variables.

Keywords: downsizing; turnaround process; retrenchment; bankruptcy; bankruptcy emergence; real options; signaling theory.

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1. Introduction

Recent management literature has acknowledged the need to examine not only the creation of firms, but also their ultimate exit (e.g., Chirico, Gómez-Mejia, Hellerstedt, Withers, & Nordqvist, 2020). Although predictors of bankruptcy have been studied extensively over the years, only recent studies have begun to assess bankrupt firms' ability to turn around and successfully emerge from bankruptcy (Nishi & Peabody, 2019). The need for knowledge development around turnaround and bankruptcy emergence becomes even more evident now that the Covid-19 crisis is threatening the survival of firms around the world (Wenzel, Stanske, & Lieberman, 2021).

To stem and turn around survival-threatening performance decline, firms can implement strategic change (e.g., Aalbers, Adriaanse, Boon, Van der Rest, Vriesendorp, & Van Wersch, 2019; Aalbers, 2020; Harrigan & Wing, 2021). Scholars have agreed that the turnaround process consists of a retrenchment stage and a recovery stage (Robbins & Pearce, 1992; Tangpong, Abebe, & Li, 2015; Barbero, Di Pietro, & Chiang, 2017; Wenzel et al., 2021; Harrigan & Wing, 2021). The retrenchment stage denotes a strong emphasis by the firm on cost and asset reductions as means to mitigate the conditions responsible for financial downturn (Robbins & Pearce, 1992). This stage can consist of for instance asset, cost, and employee retrenchment, or liquidation[1] (Robbins & Pearce, 1992; Lim, Celly, Morse, & Rowe, 2013; Tangpong et al., 2015). Retrenchment strategies are used by firms to reduce the complexity and overall size of the operations of the firm, stabilize financial decline, and correct operational inefficiencies (Robbins & Pearce, 1992; Rico, Pandit, & Puig, 2020; Harrigan & Wing, 2021). In general, the retrenchment stage gradually yields to the recovery stage. The recovery stage consists of systematic investments to stimulate financial improvement and to re-orientate the firm towards sustainable competitive advantage (Robbins & Pearce, 1992; Barker & Duhaime, 1997, in Rico et al., 2020). The socioeconomic effects can be positive and significant if turnaround is achieved and a viable firm is saved (Tangpong et al., 2015, in: Rico et al., 2020). A schematic overview of the stages within the turnaround process is included in **Appendix A** (retrieved from Robbins & Pearce, 1992:192).[2]

[1] For a definition of 'liquidation', see more elaborately Rico et al. (2020). His definition of the Spanish "*liquidación"* is similar to the Dutch meaning of "*liquidatie"*. In short, liquidation means that the firm's assets are sold to pay the creditors (Rico et al., 2020). The firm then ceases to exist. The difference with bankruptcy emergence is that in the case of liquidation, assets are sold separately instead of going concern (Schreurs, 2017).
[2] For a more elaborate overview of the turnaround literature I refer to Trahms, Ndofor, & Sirmon, 2013.

The retrenchment stage can take different shapes. For instance, a firm in financial distress can first try downsizing as a retrenchment strategy. Downsizing is defined as the planned, simultaneous termination of the labor contracts of a large group of workers (Cascio, 1993, in: Shah, 2000; Landsman & Stremersch, 2020). Although downsizing is implemented to cut back on costs and improve profitability, studies show that the effects of downsizing on firm performance are mixed at best, and often fail to produce the desired improvements (e.g., Cascio, 1993, in: Brockner, Spreitzer, Mishra, Hochwarter, Pepper, & Weinberg, 2004). Park (2019) found, based on a study about downsizing in the public sector, that the initial erosion of human capital is often offset by the positive effect of cost reduction, but that beyond the point of inflection, the initial advantage generated by downsizing is offset by long-term losses. As a result, downsizing does often not improve the chances of a successful turnaround (Tangpong et al., 2015).

Nevertheless, (the strength of) these effects could be altered by the availability of a social plan. A social plan is a collection of rules regarding the social consequences of the downsizing for the employees, that is agreed upon with the works council or a labor union (Zondag, 2015). A social plan may positively influence perceived fairness of the employees that get laid off ("the victims", as described by Van Dierendonck & Jacobs, 2012). As a result, these employees send more positive signals to the firm's stakeholders, such as employees, customers and suppliers. This improves their willingness to do business with and work for the firm (Van Dierendonck & Jacobs, 2012), thus probably limiting the negative effects of downsizing on the likelihood of bankruptcy emergence.

In contrast to first trying downsizing as a retrenchment strategy, a firm in financial distress can also decide to file for bankruptcy right away (e.g., Flynn & Farid, 1991; Mann & Byun, 2017). Over the last 30 years, there has been growing interest in whether and when bankruptcy can be a mechanism through which firms make strategic changes that help to preserve value, instead of a mechanism to liquidate and divide value over the creditors (Moulton & Thomas, 1993; Van der Pijl, 2019).

Despite numerous turnaround studies, inconclusive research findings have limited the ability to offer convincing and coherent strategic insights to managers charged with challenging turnaround tasks (e.g., Robbins & Pearce, 1992; Brauer & Zimmermann, 2019; Barbero et al., 2020). Still, little is known about the relationship between different retrenchment decisions and firm survival (Powell & Yawson, 2012). This thesis seeks to advance the understanding of the retrenchment-turnaround relationship in several ways. In the first place, retrenchment in the form of employee downsizing shortly before bankruptcy has not yet been linked to bankruptcy

survival. Second, Park (2019) has called for further investigation into specific management practices and organizational attributes that moderate the effect of shrinking (human) resources, of which social plans can be an example. Third, Harrigan and Wing (2021) have recently called for theory development around the process of leading a firm out of bankruptcy. Incorporating social and legal considerations into theory development and empirical testing will significantly improve the ability to explain and predict successful bankruptcy turnaround outcomes.

This thesis is written from a mixed real options theory (e.g., Aalbers et al., 2019; Kang, James, & Fabian, 2020) and signaling theory lens (e.g., Spence, 1973; Connelly, Certo, Ireland, & Reutzel, 2011; Xia, Dawley, Jiang, Ma, & Boal, 2016). Real options theory assumes the fundamental decision asymmetry to take a future action at a predetermined cost, only if this is beneficial to the decision maker (Trigeorgis & Reuer, 2017). In this context, real options are decisions that help firms to access upside opportunities while containing downside risk (Trigeorgis & Reuer, 2017). In this thesis, I investigate whether downsizing and social and legal procedures are real options when bankruptcy turns out to be unavertable after all. Recent studies have called for a combination of real options theory with other strategic management theories (e.g., Ragozzino, Reuer, & Trigerorgis, 2016; Trigeorgis & Reuer, 2017). In my opinion, signaling theory has the potential to offer a great contribution to real options theory, because the firm's "real option" can depend on the signals that these decisions (i.e., downsizing, entering into a social plan, and filing for bankruptcy) send to the firm's stakeholders. These signals can influence the stakeholders' behavior and the firm's likelihood of bankruptcy emergence, which ultimately determines if it is (was) a real option for the firm. In short, this combined lens means that I address the question of how signaling theory can be used to predict turnaround outcomes, and how to use real options theory to address the cost of commitment under uncertainty. The choice for and meaning of the combined theoretical lens is further explained later in this thesis. In conclusion, the central question in this thesis is:

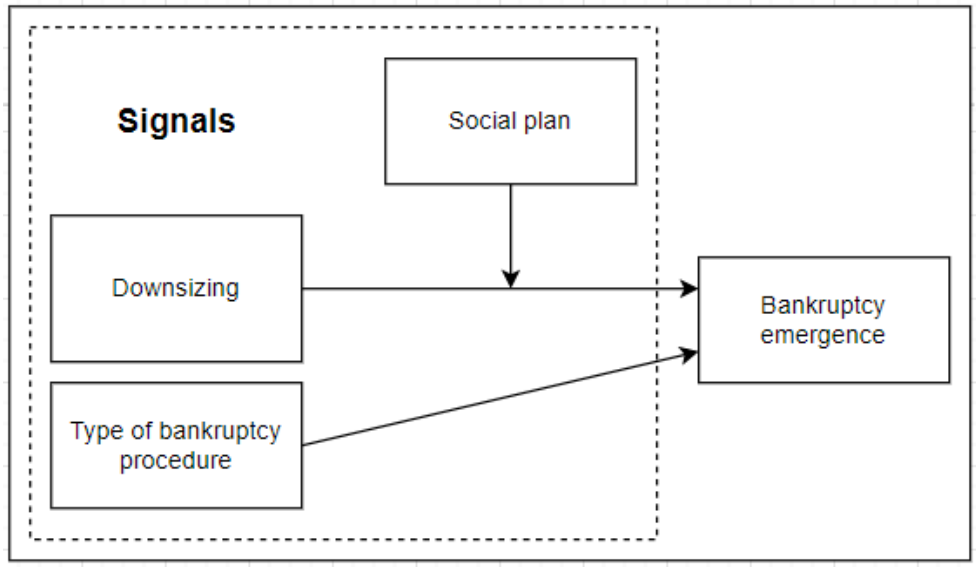
> *How do retrenchment actions in times of financial distress affect the likelihood of bankruptcy emergence?*

This question will be answered by examining the following sub-questions:

- What are the implications of real options theory and signaling theory for the turnaround process? (§ 2.1)
- What is downsizing and how does it relate to bankruptcy emergence? (§ 2.2)
- What are social plans and how do they relate to downsizing and bankruptcy emergence? (§ 2.3)
- What are the different legal bankruptcy procedures in The Netherlands and how do they relate to bankruptcy emergence? (§ 2.4)

The main question and sub-questions together lead to the following conceptual model:

FIGURE 1 Conceptual model



2. Theory and Hypotheses

2.1. Combining Real Options Theory and Signaling Theory

This thesis examines the turnaround process in the light of a combined real options theory and signaling theory lens. This combined lens deserves some extra explanation before diving into the other sub-questions of this thesis, because the combination is not yet common in strategic management literature.

Real options theory (ROT) is traditionally used in economics research, but has gained popularity in the field of strategic management research (Adner, 2007). Recently, scholars have called for combination of ROT with other theoretical lenses that are used in strategic

management research, and application of ROT to individual firms to inform firms of the various options available to the firm, their value, and their optimal timing of exercise (Ragozzino et al., 2016; Trigeorgis & Reuer, 2017). ROT carries considerable integration potential with other theories focusing on decision making under uncertainty (Trigeorgis & Reuer, 2017). Signaling theory is one such theory that provides a way of dealing with uncertainty, because it is a way of dealing with information asymmetry between a firm and its stakeholders (Essman, Schepker, Nyberg, & Ray, 2021). Therefore, integrating ROT with signaling theory has considerable potential.

In the following paragraphs, I separately address the implications of ROT, followed by the implications of signaling theory.

2.1.1. Real Options Theory and the Turnaround Process

ROT suggests that a firm's ability to adapt is critical in changing market conditions (Choi, Ju, Trigeorgis, & Zhang, 2019). An option is a right, but no obligation, to take some future specified action at a predetermined cost (Trigeorgis & Reuer, 2017). At the core of ROT lies a fundamental decision asymmetry to take a future action at a predetermined cost, only if this is beneficial to the decision maker. The asymmetry of options also gives rise to an asymmetry in the outcomes for the firm in the presence of uncertainty (Trigeorgis & Reuer, 2017). Much empirical research on real options has focused on whether and when firms can access upside opportunities while containing downside risk (Trigeorgis & Reuer, 2017). ROT explicitly incorporates the ability of decision makers to make sequential commitments to a course of action and to benefit from updated information as this sequence unfolds. Therefore, ROT has been held out as an appealing lens through which to view the content and process of strategy making (Adner, 2007). In the light of ROT, firms are viewed as possessing distinct portfolios of real options, and firms vary in how they recognize and manage latent options. At the same time, it is possible that shared options arise that represent collective opportunities available also to rivals, whose value can be affected by industry factors (Tong & Reuer, 2006).

Through the real options lens, a distressed firm's strategic choices for downsizing, and the selection of social and legal procedures, may be understood as collective real options that are available to almost any firm. Applying ROT to the turnaround process is suitable for three reasons. First, the turnaround process involves both direct and indirect costs from not choosing alternative courses of action, such as divestiture of associated assets (e.g., Tangpong et al., 2015; Damaraju, Barney, & Makhija, 2015). If the top management team devotes resources and time to repairing troubled operations within the firm, its decision to do so would suggest that

the expected value of fixing problems within the firm is greater than the proceeds that could be garnered via divestiture of associated assets (Harrigan & Wing, 2021). Second, real options provide upside potential for a firm if uncertain conditions evolve in favorable ways, while minimizing losses if uncertain situations evolve in unfavorable ways (Damaraju et al., 2015). Therefore, if a successful turnaround is possible through downsizing and the selection of social and legal procedures, the gain from upside variance can be unlimited. Third, the top management team of the firm is free to either exercise or abandon these options. Thus, applying ROT to the turnaround process means that firms that have an option to downsize and to choose for social and legal procedures, should have a greater chance of bankruptcy emergence than firms lacking this option. This thesis aims to enhance our understanding about whether and when downsizing and the selection of social and legal procedures provide a real option. Further understanding in this field is essential for financially-distressed firms seeking to restructure and continue operating as a going concern (Kang et al., 2020).

2.1.2. Signaling Theory and the Turnaround Process

Signaling theory suggests that a signaler and its receiver signal unobservable qualities about themselves to reduce information asymmetries (Spence, 1973). Visible and reliable signals are useful in communicating signalers' unobservable qualities, thus predicting their prospects (Certo, 2003, in: Xia et al., 2016). In the strategic management literature, the signal sender is typically the firm, the signal is an activity or attribute that conveys information that alters the receiver's beliefs about the firm, and the receiver is often the market in which the firm operates (Aalbers, McCarthy & Heimeriks, 2021). Signaling theory is then primarily applied to examine how firms send intentional, positive signals to stakeholders. However, signals can also be unintentional or negative (Essman et al., 2021).

With making turnaround decisions such as downsizing and the selection of social and legal procedures, the firm sends signals about the firm's viability to its stakeholders, some of which may be unintentional and negative. For instance, bankruptcy filing creates a stigma which imposes challenges for applying signaling theory in the post-bankruptcy context (Xia et al., 2016). Although stigmatized firms tend to take actions to remove the stigma by decoupling themselves from discredited events, behavioral changes may not be enough on their own to signal change and prevent or remove the stigma. The initial negative signal of bankruptcy may overshadow the positive signal by a bankrupt firm's turnaround efforts, because the firm bears significant loss of reliability and legitimacy (Xia et al., 2016). A similar stigma may arise after downsizing. Stakeholders may become extra aware of the different downsizing manners and

social and legal procedures, especially because receivers of signals pay more attention to details when the risk increases (Aalbers et al., 2021).

The application of both ROT and signaling theory to the turnaround process is interesting, because the results of a turnaround process are typically uncertain for the firm as well as its stakeholders. This uncertainty may be minimized by examining the effects of downsizing and social and legal procedures on the likelihood of bankruptcy emergence. McGrath and Nerkar (2004) found that R&D option decisions are influenced by the signals of option potential. Similarly, retrenchment option decisions may be influenced by the signals of option potential.

2.2. Downsizing and Bankruptcy Emergence

2.2.1. Downsizing and Firm Performance

Downsizing is the planned, simultaneous termination of the labor contracts of a large group of workers (Cascio, 1993 in Shah, 2000; Landsman & Stremersch, 2020). Orchestration of downsizing is a delicate and crucial task for the firm's top management team (Aalbers & Dolfsma, 2014a). It is one of the most direct managerial instruments, involving reshuffling the labor force to improve operational effectiveness (Aalbers, 2020). Downsizing is often applied in the retrenchment stage, which consists of efficiency-oriented, short-term turnaround actions such as cost reduction, asset sell-offs, and the divestment of businesses (Tangpong et al., 2015; Aalbers et al., 2019). Firms that pursue a retrenchment strategy attain a greater degree of turnaround success than those that do not. That is, those firms outperform the so-called "non-retrenchers" on measures of efficiency (i.e., inventory turns per year, sales to inventory, return on sales, return on equity, and operating return), liquidity, and debt reduction (Robbins & Pearce, 1992). Pursuing a retrenchment strategy such as downsizing in times of financial distress thus seems a real option and a way to prevent bankruptcy.

However, not all performance consequences are noticeable immediately after downsizing because after downsizing, an adjustment period follows. During this period, the surviving employees must modify their behavior to accommodate to the new processes, incentives, and lines of reporting (Anderson & Lewis, 2014). The need for modification of employee behavior results in a lag between the moment of downsizing and the time when the firm's top management team can observe the results from implementing the new structure. During the initial implementation phase, the new structure's benefits increase over time. Only after the surviving employees have adjusted their behavior to the new interaction structure, the new structure can finally exhibit its desired effects (Raveendran, 2020).

Nevertheless, downsizing studies predominantly document negative performance consequences in the long term (e.g., McElroy, Morrow, & Rude, 2001; Hausknecht & Trevor, 2011; Schmitt, Borzillo, & Probst, 2011; Tangpong et al., 2015; De Meulenaere, De Winne, Marescaux, & Vanormelingen, 2021). This means that the outperformance after downsizing is often only short-term and that the relationship between downsizing and performance takes an inverted-U shape (Park, 2019). This effect is caused by the fact that the initial benefit of cost reductions is subject to diminishing returns, and eventually degrading performance (Park, 2019). Moreover, downsizing often leads to erosion of a firm's valuable resources, capabilities, and culture (Guthrie & Datta, 2008; Wenzel et al., 2021). Specifically, layoff of valuable human resources leads to a loss of social capital (i.e., the capital embedded in employees' social relationships developed over time, in which human resources are shared and integrated) and firm culture, disruption of organizational processes, diminishing synergy effects, and overall diminishing firm performance over time (Schmitt et al., 2011; Wenzel et al., 2021; De Meulenaere et al., 2021).

2.2.2. Downsizing and Signals to Surviving Employees

Downsizing also has several negative effects on the surviving employees. First, the work effort and productivity of these employees often decreases, while absenteeism increases (Brockner, Grover, Reed, & Dewitt, 1992; Barbero, Martínez, & Moreno, 2020). Second, the surviving employees often experience feelings of anger, vulnerability, stress, depression, and fear due to a higher workload, which cause an increase in voluntary turnover (Barbero et al., 2020). As a result, the firm faces deteriorating levels of quality, productivity and effectiveness after downsizing (Schmitt et al., 2011).

These effects can be explained by the fact that employee layoff breaches the implicit contract that the employee's contribution to the firm will be reciprocated with a stable and positive work environment and safe employment (Van Dick, Drzensky, & Heinz, 2016). The violation of this implicit contract is perceived as most painful when the process and the outcomes of the layoff are experienced as unfair (Guthrie & Datta, 2008; Van Dierendonck & Jacobs, 2012). These perceptions are created by reactions of the victims, and can be viewed as signals that can be observed by stakeholders within the firm (i.e., surviving employees), and outside of the firm (e.g., customers, potential job candidates, or investors) (Van Dierendonck & Jacobs, 2012).

Fairness perceptions consist of perceptions about procedural and distributive fairness. Procedural fairness is the fairness of the procedure that implements the employee layoff (Lind

& Tyler, 1988, in: Van Dierendonck & Jacobs, 2012). Essential elements of procedural fairness are consistency regarding laid-off employees and time, lack of bias, the possibility to correct wrong decisions, and the opportunity to provide information and voice during the decision-making process. Another aspect of fairness is distributive fairness. Distributive fairness is the fairness of the outcomes resulting from the downsizing decision, such as the severance benefits that victims receive (Van Dierendonck & Jacobs, 2012).

The downsizing fairness perceptions can influence the surviving employees' job attitudes and behaviors, such as their commitment and intent to leave (Van Dierendonck & Jacobs, 2012). Although employee layoff violates the implicit contract between employees and the firm, Guthrie and Datta (2008) suggest that employees could perceive downsizing in the context of financial distress to be relatively more fair, and as a legitimate attempt to "right the ship". They suggest future research to analyze the effect of firm-level factors on the downsizing perceptions of employees. If their suggestion is correct, that means that employees of the firms in this research could perceive downsizing to be relatively fair. As a result, their job attitudes and behaviors may not change after downsizing, and the signals the surviving employees send to external stakeholders are not as negative as is believed until now.

2.2.3. Downsizing and Signals to External Stakeholders

Downsizing announcements also elicit a significant negative market reaction (Powell & Yawson, 2012). Staffing levels signal the human capital of the firm and its organizational capacity (Park, 2019). As staffing levels signal valuable resources and fundamental viability within a firm, their disposal may accelerate decline (Rico et al., 2020). Downsizing is associated with liquidation instead of survival. The probability of liquidation even increases rapidly as downsizing intensifies (Rico et al., 2020). In contrast to the above-mentioned suggestion of Guthrie and Datta (2008), investors' response to downsizing is more negative if the downsizing firm shows a negative performance trend. This effect can be explained by the fact that downsizing subsequently to performance decreases seem to be perceived by investors as confirmatory evidence that a firm's competitive and financial problems are substantial, making the firm less attractive to invest in (Brauer & Zimmermann, 2019). Furthermore, prior research has found that fairness perceptions influence stakeholders' intentions to buy the firm's products and to apply for jobs at the firm at which the layoffs occurred (Skarlicki, Ellard, & Kelln, 1998, in: Van Dierendonck & Jacobs, 2012).

Thus, negative signals about the firm's viability during downsizing might become a self-fulfilling prophecy. That is, negative signals about a firm's viability may make stakeholders

adverse to doing business with the firm, and may deter potential going-concern investors during a bankruptcy procedure. As a result, a firm that has downsized prior to bankruptcy may have a lower chance of emerging from bankruptcy than firms that have not downsized prior to bankruptcy.

Moreover, Powell and Yawson (2012) found that downsizing increases the probability and speed of market exit via bankruptcy. In addition, high uncertainty about the prospects of the firm's industry may make costly-to-reverse actions (such as downsizing) unattractive in the light of real options theory (compare Damaraju et al., 2015). In conclusion, this means that it is at least questionable if downsizing can be seen as a real option for the top management team of a firm in financial distress. Accordingly, I hypothesize that:

> **Hypothesis 1 (H1):** *Downsizing prior to bankruptcy decreases the likelihood of bankruptcy emergence.*

2.3. Downsizing with Social Plans and Bankruptcy Emergence

Both procedural and distributive fairness could be improved when downsizing is accompanied by a social plan. A social plan is a collection of rules with regard to the social consequences of downsizing for the employees, that is agreed upon with the firm's works council or a labor union (Zondag, 2015). According to Article 3(1) of the Act on Collective Layoff Notification ("*Wet Melding collectief ontslag")*, a firm with more than fifty employees is obliged to discuss the financial consequences of the employee layoff with the works council and/or labor union when it is planning on laying off more than twenty employees (or more than ten percent of the workforce; Aalbers, Dolfsma, & Blinde-Leerentveld, 2014). These discussions can lead to a social plan. Nevertheless, although discussing the layoff is obligatory, the firm is not obliged to sign a social plan afterwards (Filippo, n.d.). If the firm and works council and/or labor union do agree to sign a social plan, this plan often concerns severance benefits in the form of an allowance to be obtained under the Act on Unemployment Insurance ("*Werkloosheidswet*"), or a supplement to the level of the old net salary in the event that a new job with a lower salary is found (Zondag, 2015). In addition to the severance benefits, a social plan often also includes allowances for, for instance, outplacement and extra time off to look for a new job elsewhere (Zondag, 2015).

According to prior research, downsizing more socially does not increase firm performance one year after downsizing (Aalbers et al., 2014). In their study, Aalbers et al. (2014) analyzed the effect of downsizing on firm performance, by comparing specific aspects

of a social plan (e.g., severance benefits, schooling and duration). Although the specific aspects of the social plan do not influence firm performance, I argue that downsizing with a social plan in general, in contrast to downsizing without a social plan, can positively influence the firm's bankruptcy emergence likelihood, based on signaling theory.

As the social plan is agreed upon with works councils and/or labor unions, the employees have had the opportunity to (directly or indirectly) provide a voice during the decision-making process. Moreover, the chances of bias are smaller, increasing procedural fairness. At the same time distributive fairness is guaranteed, because the results of downsizing are transparent and agreed upon with the works council and/or labor union. As the victims' perceptions of procedural and distributive fairness increase with the availability of a social plan, they send positive signals to the firm's stakeholders. As a result, a social plan may also improve fairness perceptions of the firm's stakeholders.

In short, the stakeholders' perceived fairness might improve when downsizing is accompanied with a social plan, which in turn influences the stakeholders' willingness to do business with the firm (in accordance with Van Dierendonck & Jacobs, 2012). As a result, stakeholders may also be more willing to do a going-concern acquisition after bankruptcy. Accordingly, I hypothesize:

> **Hypothesis 2 (H2):** *The presence of a social plan prior to bankruptcy positively moderates the relationship between downsizing and the likelihood of bankruptcy emergence.*

2.4. Bankruptcy Procedures and Bankruptcy Emergence

As seen in the previous paragraphs, difficulties can arise during the turnaround process among employees that fear for their jobs, creditors that harbor doubts of debt recovery, and buyers and suppliers concerned about future business with the firm. These difficulties can multiply, making it difficult to achieve turnaround (Rico et al., 2020). This puts the firm in a situation of severe financial distress, a state in which the liquid assets of the firm are insufficient to meet the current (contractual) obligations of the firm (Aalbers et al., 2019). As financial distress worsens, it may ultimately lead to bankruptcy (Rico et al., 2020).

Different bankruptcy procedures have different connotations for the firm, and as a result may send different signals to the firm's stakeholders. These signals may be positive or negative – i.e., signals of liquidation or survival (Rico et al., 2020) – and consequently, either make filing for these different kinds of bankruptcy procedures real options or not.

Often, filing for bankruptcy has negative connotations for the firm (Arora, 2018). Nevertheless, bankruptcy also provides a special opportunity for the firm to accomplish far-reaching turnaround actions that would otherwise be unpalatable to creditors, employees, shareholders and other stakeholders. As such, a bankruptcy procedure can thus be viewed as a distinct phase in the turnaround process (Arora, 2018).

From a strategic management perspective, bankruptcy procedures are categorized as either strategic bankruptcies or non-strategic bankruptcies. A bankruptcy is defined as "strategic" when firms use bankruptcy as a deliberate reorganization strategy within the turnaround process (Moulton & Thomas, 1993). From a Dutch legal perspective however, a distinction between four categories of bankruptcy procedures can be made. These legal categories are (1) conventional bankruptcy, (2) pre-packed bankruptcy, (3) suspension of payments, and (4) the Dutch Scheme.[3] In the following paragraphs, I briefly introduce the first three bankruptcy procedures and their implications for bankruptcy emergence. I set out some considerations on the Dutch Scheme in paragraph 5.1.

2.4.1. Conventional Bankruptcy

A conventional bankruptcy is a retrenchment strategy that consists of a bankruptcy in the sense of Title I of the Bankruptcy Act ("*Faillissementswet*"). During a conventional bankruptcy proceeding, formal and collective proceedings directed at the liquidation and dissolution of the debtor are administered by a liquidator. Strictly speaking, the debtor in this case is the legal entity (e.g., the limited liability company), while the firm consists of the assets that are held by the legal entity and the activities it exploits. The liquidator pursues a (partial) going-concern transaction of the assets when the firm is perceived to be still (partly) viable and when this is in the best interest of the creditors (Aalbers et al., 2019).

Retrenchment of tangible and intangible assets is not associated with firm survival, because financially troubled firms are most likely to sell their most lucrative and strategically important assets below value (Rico et al., 2020). Retrenchment in inventory even decreases the probability of survival (Rico et al., 2020). Because retrenchment in assets and inventory is common in a conventional bankruptcy, this type of bankruptcy is probably not associated with firm survival.

[3] Pre-packed bankruptcies have lost popularity after the Court of Justice of the European Union gave its judgement in the so-called Smallsteps case, mid-2017 (Aalbers et al., 2019; Mennens, 2020; ECLI:EU:C:2017:489). Considerations on the pre-packed bankruptcy are therefore of a backward-looking nature. On the other hand, the Dutch Scheme was only introduced January 2021, thus making it impossible to empirically test at this point (Wet van 7 oktober 2020, *Stb*. 2020, 414).

It is thus not surprising that according to Xia et al. (2016), bankruptcy is still highly stigmatized and sends negative signals to external stakeholders. As a result of this stigma, firms often bear significant loss of reliability and legitimacy. Furthermore, this stigma may lead to difficulty to effectively communicate the firm's quality and prospects. This initial negative signal may overshadow the positive signal provided by a bankrupt firm's restructuring efforts (Xia et al., 2016). As negative signals about a firm's viability decrease the willingness of investors to invest in the firm (Brauer & Zimmermann, 2019), the bankrupt firm might have a hard time to find a going-concern buyer for the firm. A decrease in institutional investors following a bankrupt firm predicts the firm's bankruptcy reorganization outcome (Xia et al., 2016). Bankruptcy signals can also lead to problems among creditors that harbor doubts of debt recovery, and buyers and suppliers concerned about future business with the firm (Rico et al., 2020). Therefore, it is questionable if filing for a conventional bankruptcy is a real option for the firm, as a result of the negative signals of bankruptcy that are sent to the firm's stakeholders.

2.4.2. Pre-packed Bankruptcy

The Dutch pre-packed bankruptcy practice emerged in 2012, but quickly declined after the Court of Justice of the European Union gave its judgement in the Smallsteps case, mid-2017 (Aalbers et al., 2019; ECLI:EU:C:2017:489). In a pre-packed bankruptcy, the debtor requests the court to appoint a provisional liquidator and a provisional supervisory judge, before officially filing for bankruptcy. During this so-called preliminary phase, the provisional liquidator prepares a deal for a going-concern asset transaction to be performed after bankruptcy. So, most of the preparations before filing for bankruptcy are conducted informally and usually not made public (Aalbers et al., 2019).

As a result, a firm has already secured the consent of various creditors to a plan of reorganization at the time of filing for bankruptcy. Consequently, these firms spend a shorter time in bankruptcy (Arora, 2018). The outcome of a pre-packed bankruptcy is therefore more predictable and less costly than a conventional bankruptcy (Lin, Liu, Tan, & Zhou, 2020).

I argue that firms that go through a pre-packed bankruptcy have a higher bankruptcy emergence likelihood than firms that go through a conventional bankruptcy for four reasons. First, a pre-packed bankruptcy positively impacts employment retention rates after bankruptcy, compared with a conventional bankruptcy proceeding (Aalbers et al., 2019). With the retention of employment, valuable resources within the firm stay intact (Wenzel et al., 2021), sending positive signals to the firm's stakeholders. Second, pre-negotiated agreements with major creditors instill greater confidence that the firm can eventually emerge from bankruptcy with a

higher likelihood of long-term survival. In turn, the firm is more likely to receive buy-in from key stakeholders, all of which can directly impact strategy implementation and value creation activities (Kang et al., 2020). Third, the initial negative signal of bankruptcy may be alleviated by the simultaneous signal of reorganization (as is the case with the US Chapter 11 procedure, according to Xia et al., 2016). Forth, during a longer bankruptcy procedure, chances of bankruptcy emergence decrease (Kang et al., 2020). The reason for this mechanism is that as bankruptcy costs increase with time, key stakeholders become less assured in the firm's ability to stabilize operations. Consequently, the valuation of the firm's assets decreases, and may compromise a firm's ability to create and capture value from its assets post-bankruptcy (Kang et al., 2020). Since the official time in bankruptcy in the case of a pre-packed bankruptcy is shorter than the time in a conventional bankruptcy, less negative signals are sent. As a result, I expect a firm to have a higher likelihood of bankruptcy emergence after a pre-packed bankruptcy than after a conventional bankruptcy.

> **Hypothesis 3 (H3)***: Firms that go through a pre-packed bankruptcy have a higher likelihood of bankruptcy emergence than firms that go through a conventional bankruptcy procedure.*

2.4.3. Suspension of Payments

Suspension of payments ("*surseance van betaling*") is the third category of bankruptcy procedures in The Netherlands. The suspension of payments procedure is a procedure facilitated by the court, that grants the firm temporal and general postponement of debt payments for at most 1.5 years. During this procedure, the firm's activities are continued, but under certain payments restrictions. The most important restriction is that the firm has to pay its creditors jointly and proportionally. This means that the firm is not allowed to selectively pay its creditors, while the creditors are not allowed to seek redress or enforce payments. The suspension of payments procedure can end through cancellation, formal ending (e.g., because an agreement with the creditors is reached), or conversion into a conventional bankruptcy (De Rechtspraak, n.d.).

The suspension of payments procedure gives the firm some time to breathe, which it shall use to recover from its situation of financial distress. In this period, the debtor creates a settlement for its creditors (De Rechtspraak, n.d.). If all creditors agree, the settlement will be homologated by the court and the firm is released from (part of) its debts. When the firm is in

financial distress and foresees it cannot continue paying its due and payable debts, it is able to request a suspension of payments procedure from the court (De Rechtspraak, n.d.).

Whereas conventional bankruptcy is often initially aimed at liquidation of the firm, suspension of payments is aimed at continuation of the firm's activities and reaching settlement with creditors (Van Eeden-van Harskamp, 2021). Moreover, retrenchment of debt is generally associated with survival, in contrast to retrenchment of assets (Rico et al., 2020). The suspension of payments procedure specifically fits the retrenchment process because it allows cash to be raised to further reduce debt, all of which increases vital creditor support during the turnaround process (Pajunen, 2006, in: Rico et al., 2020). Thus, although the suspension of payments procedure is a signal that the firm is in financial distress (compare Brauer & Zimmermann, 2019), it is also a sign that the firm is actively working on improving its viability.

Therefore, I expect that a suspension of payments procedure sends more positive signals to the firm's stakeholders than a conventional bankruptcy. As a result, I expect a higher likelihood of bankruptcy emergence after a suspension of payments procedure than after a conventional bankruptcy.

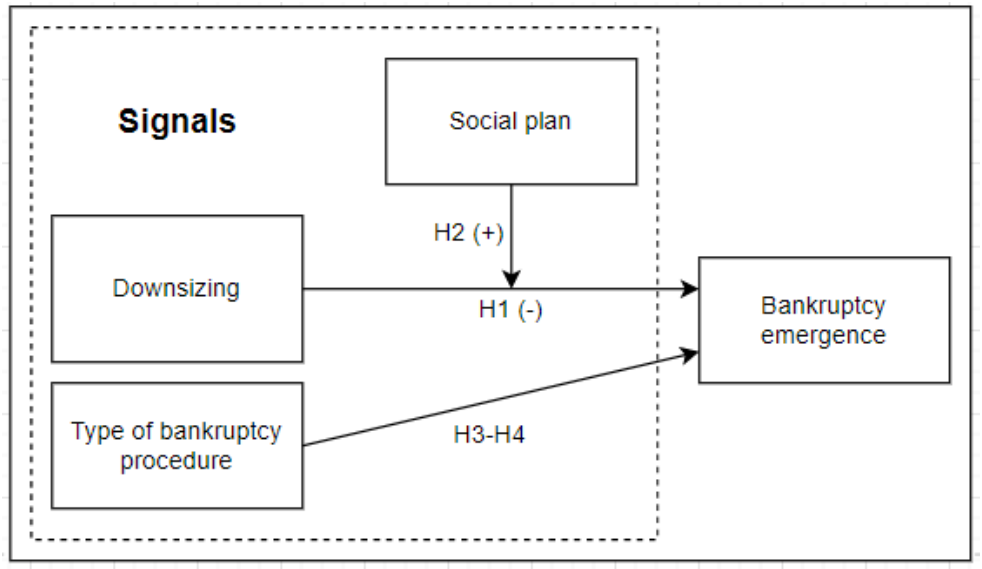
> **Hypothesis 4a (H4a)***: Firms that go through a suspension of payments procedure have a higher likelihood of bankruptcy emergence than firms that go through a conventional bankruptcy.*

However, at the same time I expect the likelihood of emergence to be higher after a pre-packed bankruptcy than after a suspension of payments procedure, because the time spent in a suspension of payments procedure is longer than in a pre-packed bankruptcy (compare Kang et al., 2020). Applying signaling theory, the signals of financial distress are sent during the entire suspension of payments procedure, while the signals of financial distress in a pre-packed bankruptcy are immediately silenced by the signals of reorganization.

> **Hypothesis 4b (H4b):** *Firms that go through a suspension of payments procedure have a lower likelihood of bankruptcy emergence than firms that go through a pre-packed bankruptcy.*

Adding the hypotheses to Figure 1 leads to the following conceptual model:

FIGURE 2 Conceptual model with hypotheses



3. Methods

3.1. Sample and Data

I identified firms that have been in a bankruptcy procedure from Orbis, the Central Insolvency Register and *Faillissementsdossier*.[4] Moreover, I had access to a collection of social plans that is used in ongoing research at the Radboud University. This collection includes 1,380 social plans of Dutch firms that downsized between 2003 and 2015 and was supplemented with social plan announcements between 2015 and 2020 that were published on the website of the Ministry of Social Affairs.[5] I combined information from these databases with liquidators' bankruptcy reports, a paper on pre-packed bankruptcies in The Netherlands, and digital newspaper articles. The use of these sources enabled me to compare firms that downsized prior to bankruptcy to firms that did not downsize before bankruptcy, and to distinguish between the different bankruptcy procedures.

The final sample included 244 firms filing for bankruptcy between 2005 and 2021, of which 128 emerged from bankruptcy, and 116 were liquidated.

[4] https://faillissementsdossier.nl
[5] https://www.uitvoeringarbeidsvoorwaardenwetgeving.nl/mozard/!suite16.scherm1168?mGmr=66

3.2. Dependent Variable

Following prior research in the turnaround literature, I used a binary variable to test the hypotheses (Mueller & Barker, 1997; Abebe & Tangpong, 2018; Barbero et al., 2020). This dependent variable is called bankruptcy emergence, and was coded "1" in the case of a going-concern asset transaction after bankruptcy, which was called a "*doorstart*" in the liquidator's bankruptcy report or news messages. Bankruptcy emergence was coded "0" in the case of liquidation and dissolution after bankruptcy, which was retrieved from bankruptcy reports, information available at the Dutch chamber of commerce, and news messages.

There are three reasons for using a binary dependent variable in this research. First, as it turned out that the grand majority of Dutch firms emerge from bankruptcy through an asset transaction, insufficient data was available to compare a firm's pre- and post-bankruptcy performance. That is, a bankrupt firm's return on assets or return on equity pre-bankruptcy cannot be compared to the acquiring firm's return on assets or return on equity after acquiring the assets of the bankrupt firm. Additionally, this would not have made sense in the light of signaling theory either. Second, binary dependent variables have been proved by strategic management scholars to enjoy a great power to accurately assess turnaround performance (Mueller & Barker, 1997; Barbero et al., 2020). Third, being acquired by other firms has been viewed as a desired outcome rather than corporate failure and liquidation (Daily, 1995; Cefis, Bettinelli, Coad, Marsili, 2021). This justifies coding all acquired firms as "1" (in accordance with Xia et al., 2016). Fourth, recent research studying the value of retrenchment has successfully used binary variables as the only dependent variable (Abebe & Tangpong, 2018; Barbero et al., 2020).

3.3. Independent Variables

3.3.1. Downsizing

Following prior research in the downsizing and strategic management literatures, downsizing is measured in terms of the percentage change in employees (Love & Nohria, 2005; Tangpong et al., 2015; Rico, 2020). The most commonly used cut-off point in workforce reduction to represent downsizing is 5% (Brauer & Laamanen, 2014; Tangpong et al., 2015). According to Tangpong et al. (2015), a 5% reduction represents a significant event and likely indicates an intentional reduction in employees, a hallmark of downsizing. Therefore, I measured downsizing as a percentage of total employees, and only included workforce reductions greater than 5% in the empirical analysis. Because it generally takes two to five years to assess the efficacy of a reorganization (Dawley, Hoffman, & Lamont, 2002), a firm is considered to have

downsized if the workforce reduction was greater than 5% within any of the five years prior to bankruptcy.

The measure for downsizing was derived through analysis of data from the Orbis database and bankruptcy reports. I excluded cases in which the bankruptcy report made notification of voluntary dismissal and retirement, since these cases cannot be classified as strategic decisions – "downsizing" – made by the firm. Furthermore, I also excluded cases in which the workforce reduction was greater than 5% in a certain year, but increased in following years. Moreover, firms that were known to have entered into a social plan in a certain year were assumed to have downsized, even when no data on number of employees was available in Orbis or bankruptcy reports. This assumption was made because social plans are made solely to accommodate large-scale employee layoff (Zondag, 2015).

Downsizing was coded "1" in the case of a workforce reduction greater than 5% or availability of a social plan within any of the five years prior to bankruptcy, and "0" otherwise.

3.3.2. Social plan

In accordance with the measure of downsizing, a firm is considered to own a social plan if it had a social plan within five years before a bankruptcy procedure was started. I created a binary variable, which took the value "1" if the firm had a social plan within five years prior to bankruptcy, and "0" otherwise.

3.3.3. Type of bankruptcy procedure

Bankruptcy procedures are published in the Central Insolvency Register.[6] This register does however not distinguish between conventional bankruptcy and pre-packed bankruptcy, because the pre-packed bankruptcy practice is not embedded in the Dutch law. That is, the pre-packed bankruptcy is a phenomenon that occurs and is accepted in practice, but is not formalized in the Bankruptcy Act. Therefore, pre-packed bankruptcies are retrieved from a Dutch paper about pre-packed bankruptcies. This paper contains around 40 names of firms that went through a pre-packed bankruptcy, which were requested from the Dutch courts that supported the pre-pack practice (Hurenkamp, 2015). Some of these names matched the pre-packed bankruptcies that I already gathered from case law databases.

For interpretation reasons, I created two sets of dummy variables to test the differences between the type of bankruptcy procedures. First, I created dummies to compare the pre-packed

[6] https://insolventies.rechtspraak.nl

bankruptcy and suspension of payments procedure to the conventional bankruptcy. The suspension of payments dummy was coded "1" if the firm exclusively went through a suspension of payments procedure (i.e., the suspension of payments procedure was not converted into a conventional bankruptcy), and "0" otherwise. I also created a pre-pack dummy, which was coded "1" if the firm went through a pre-packed bankruptcy, and "0" otherwise. Second, I created a conventional bankruptcy dummy to run an extra model to compare the pre-packed bankruptcies to the suspension of payments procedure. The conventional bankruptcy dummy was coded "1" if the firm went through a conventional bankruptcy, and "0" otherwise.

3.4. Control Variables

I controlled for additional factors that could influence the dependent variable, including variables relating to the level of financial distress within the firm, a firm-level variable, and an industry-level variable.

First, I controlled for three variables to account for the financial distress of the firm. Prior studies in strategic management suggest that leverage, profitability and liquidity influence the viability of the firm (Daily & Dalton, 1994; Kang et al., 2020). Accordingly, I included the leverage, profitability and liquidity numbers prior to bankruptcy into the empirical analysis. Leverage is measured as total debt to total assets, profitability is measured as earnings before interest and taxes divided by total assets, and liquidity is measured as current assets divided by current liabilities (Kang et al., 2020).

Second, I controlled for firm size because it "dominates all other factors" in predicting success in completing a reorganization process after bankruptcy (Moulton & Thomas, 1993:125). Although strategic management scholars also measure firm size as the number of (full-time-equivalent) employees working in the firm (e.g., De Meulenaere et al., 2021), I chose to operationalize firm size as the natural logarithm of the value of the firm's total assets prior to bankruptcy (in line with Dawley et al., 2002; Guthrie & Datta, 2008; Barbero et al., 2020), because this enables me to make a clear distinction with the downsizing variable.

Third, acquisitions are more common in industries characterized by fast-paced change and continuous innovation (Cloodt et al., 2006, in: Aalbers et al., 2021). To control for variations regarding going-concern acquisitions across industries, I included an industry dummy (as suggested by Budros, 1999; Brauer & Laamanen, 2014) in the analysis based on the 2-digit NACE industry levels in the Orbis database. The industry dummy distinguished between service industries ("1") and other industries ("0"). As service industries I marked all available NACE-2 industries except for the Manufacturing and Wholesale and retail trade categories. The

latter two industries were thus used as a reference category. I also controlled for bankruptcy year.

4. Analysis and Results

4.1. Sample Selection

When nonrandom samples are used to test statistical relationships, sample selection bias can lead to flawed conclusions (Certo, Busenbark, Woo, & Semadeni, 2016). Sample selection bias happens when the research contains two stages. There are two necessary conditions for sample selection bias: the independent variable of interest must be a significant predictor in the first stage of a model, and the error terms in both stages must be correlated (Certo et al., 2016).

In this thesis, I compare the bankruptcy emergence likelihood of firms that downsized prior to bankruptcy to firms that did not downsize before bankruptcy. Furthermore, firms with and without a social plan and all three types of bankruptcy procedures are included in the analysis. This means that no selection was made within the sample. Even when bankruptcy is classified as a strategic decision that entails a nonrandom collection of firms, this does not lead to sample selection bias because the dependent variable "bankruptcy emergence" by definition cannot be measured without a bankruptcy. That is, this research design contains just one stage, instead of two stages as is the cause for sample selection (Certo et al., 2016). No selection is made within the population of bankruptcies. Therefore, sample selection bias is of no concern in this thesis and no correction has to be performed.

4.2. Descriptive Statistics

Because the dependent variable (bankruptcy emergence) is a binary variable, I performed a logistic regression analysis.

The control variables leverage, liquidity, profitability and firm size were made into dummy variables based on their median, in order to optimize the sample size for the logistic regression (e.g., DeCoster, Gallucci, & Iselin, 2011; Field, 2018). For each variable, I created an "above-median" and "missing" dummy. The above-median dummy was called "[dummy name] 1", while the missing dummy was called "[variable name] 2". The values below the median were thus used as a reference category.

The descriptive statistics and correlations for the full sample are provided in Table 1, indicating no significant issue in terms of correlations between key variables. Furthermore, I deleted the control variable "liquidity" because of multicollinearity. After deletion of this variable, the highest variance inflation factor is 2.598 (**Appendix B**), indicating no

multicollinearity concerns (according to Aiken and West, 1990, in: Lim et al., 2013). The logistic regression analysis is appropriate for the data, as indicated by the Hosmer and Lemeshow Chi-Square tests for overall model fit, which are insignificant for every model used to test the predictions. The Hosmer and Lemeshow tests are backed up by the Omnibus Tests of Model Coefficients, which are significant for every model used to test the predictions (**Appendix C**). As can also be derived from Appendix C, the overall predictive accuracy of the four models is 63.8%, 69.2%, 70.1% and 70.1% respectively.

Table 2 reports the logistic regression results. Model 1 is the baseline model with controls only. Model 2 tests the main effects of downsizing and the type of bankruptcy procedure on the likelihood of bankruptcy emergence. In these models, pre-packed bankruptcies and suspension of payments procedures are compared with conventional bankruptcies. Model 3 adds the interaction effect of downsizing and social plans. Model 4 tests the difference in bankruptcy emergence likelihood between conventional and pre-packed bankruptcies, as compared to suspension of payments procedures.

TABLE 1 Descriptive statistics

		M	*Std. Dev.*	*Min*	*Max*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
1	*Downsizing*	.67	.47	0	1	1.00											
2	*Downsizing * social plan*	.19	.39	0	1	-.38	1.00										
3	*Pre-packed bankruptcy*	.24	.43	1	3	.23	.15	1.00									
4	*Suspension of payments*	.08	.27	0	1	-.01	.03	.23	1.00								
5	*Bankruptcy year*	2015.49	3.65	2005	2021	-.07	.41	.37	.28	1.00							
6	*Firm size 1*	.35	.48	.00	1.00	-.15	.05	-.15	.01	.08	1.00						
7	*Firm size 2*	.30	.46	.00	1.00	.10	-.14	.07	.02	.34	.27	1.00					
8	*Services industry*	.19	.39	.00	1.00	-.04	.06	-.08	.02	.05	.00	.09	1.00				
9	*Profitability 1*	.13	.33	.00	1.00	.05	.06	-.01	.03	.06	-.12	-.00	.02	1.00			
10	*Profitability 2*	.75	.43	.00	1.00	.06	.12	.08	.03	.09	.44	-.02	.05	.50	1.00		
11	*Leverage 1*	.35	.48	.00	1.00	.00	.00	-.06	-.06	-.07	.00	-.01	-.04	.15	.01	1.00	
12	*Leverage 2*	.30	.46	.00	1.00	-.05	.03	-.06	-.03	.04	.02	-.38	-.03	.05	-.07	.51	1.00

N = 244

4.3. Logistic Regression Results

As can be derived from Model 1 in Table 2, bankruptcy year has a significant negative influence on the bankruptcy emergence likelihood (B = -.139, Exp(B) = .870, p = .004). This means that the bankruptcy emergence likelihood has become significantly lower over the years for the bankrupt firms in this sample. This finding supports the importance of including bankruptcy year as a control variable in the logistic regression analysis. However, when including the main and interaction effects in Models 2-4, the significant effect of bankruptcy year on the

bankruptcy emergence likelihood disappears. A likely explanation for this is the relatively high correlation with downsizing (correlation = .41) and pre-packed bankruptcies (correlation = .37).

Hypothesis 1 predicted that firms that downsized prior to bankruptcy have a lower likelihood of bankruptcy emergence than firms that did not downsize prior to bankruptcy. Unfortunately, this hypothesis was not supported by the results of the logistic regression analysis (B = .561, Exp(B) = 1.753, p = .128), as can be derived from Model 2 in Table 2. This means that downsizing is not associated with the bankruptcy emergence likelihood.

Hypothesis 2 predicted that firms that enter into a social plan during downsizing have a higher likelihood of bankruptcy emergence than firms that do not enter into a social plan and downsize. As reported by Model 3 in Table 2, the presence of a social plan during downsizing prior to bankruptcy indeed increases the likelihood of bankruptcy emergence, supporting hypothesis 2 (B = 1.276, Exp(B) = 3.583, p = .022). Firms that downsize and enter into a social plan before bankruptcy are three times as likely to emerge from bankruptcy than firms that do not downsize and enter into a social plan before bankruptcy. An interesting finding is that downsizing prior to bankruptcy has no significant effect on the bankruptcy emergence likelihood, whereas downsizing in combination with a social plan does have a significant effect on the bankruptcy emergence likelihood. In the light of signaling theory, this means that downsizing does not provide an impactful signal to the firm's stakeholders, whereas social plans do. More specifically, social plans provide a positive signal to the firm's stakeholders, that keep them willing to continue doing business with the firm and do a going-concern acquisition after bankruptcy. Consequently, downsizing with a social plan is a real option for firms in a turnaround process when trying to resolve financial distress. That is, the upside opportunities of downsizing are maximized while the downside risk of downsizing is minimized by using a social plan, because if the firm goes bankrupt later on, it is most likely that the firm is able to emerge from bankruptcy.

Hypothesis 3 predicted that firms that go through a pre-packed bankruptcy are more likely to emergence from bankruptcy than firms that go through a conventional bankruptcy. As shown by Model 2 in Table 2, hypothesis 3 is strongly supported (B = 2.668, Exp(B) = 14.406, p < .000). Firms that go through a pre-packed bankruptcy procedure are 14 times more likely to emerge from bankruptcy than firms that followed a conventional bankruptcy procedure. This effect is robust, as it holds in Model 3 (B = 2.866, Exp(B) = 17.562, p < .000).

Hypothesis 4a predicted that firms that go through a suspension of payments procedure have a higher likelihood of bankruptcy emergence than firms that go through a conventional bankruptcy. As shown in Model 2 in Table 2, this hypothesis did not find support (B = .407,

Exp(B) = 1.502, *p* = .478). In contrast to the purposes of the different procedures, there is no significant difference in the likelihood of bankruptcy emergence after a conventional bankruptcy or suspension of payments procedure. Although the suspension of payments procedure is meant to last only temporarily, many firms get dissolved afterwards.

Similarly, hypothesis 4b predicted that firms that go through a suspension of payments procedure have a lower likelihood of bankruptcy emergence than firms that followed a pre-packed bankruptcy. As shown by Model 4 in Table 2, firms that go through a pre-packed bankruptcy are 11 times more likely to emerge from bankruptcy than firms that followed a suspension of payments procedure (B = 2.471, Exp(B) = 11.837, *p* = .002). Thus, hypothesis 4b is strongly supported. This means that pre-packed bankruptcies seem to be the real option for firms in a turnaround process when trying to resolve financial distress. That is, the upside opportunities of filing for (strategic) bankruptcy are maximized and the downside risks are minimized by filing for a pre-packed bankruptcy, because firms that go through a pre-packed bankruptcy are most likely to emerge from bankruptcy.

TABLE 2 Logistic regression results

	Model 1	*Model 2*	*Model 3*	*Model 4*
Downsizing		.561	.119	.180
*Downsizing * social plan*			1.276*	1.276*
Conventional bankruptcy				-.395
Pre-packed bankruptcy		2.668***	2.866***	2.471**
Suspension of payments		.407	.395	
Bankruptcy year	-.139**	-.053	.018	.018
Firm size 1	.765	.508	.603	.603
Firm size2	-.249	.006	-.219	-.219
Services industry	.292	.238	.270	.270
Profitability 1	.071	.039	.075	.075
Profitability 2	-.456	-.292	-.164	-.164
Leverage 1	-.250	-.453	-.447	-.447
Leverage 2	.137	-.006	.032	.032
-2LL	283.495	254.513	248.946	248.946
Cox & Snell R Square	.107	.215	.234	.234
Nagelkerke R Square	.143	.287	.313	.313
Percentage correct	63.8	69.2	70.1	70.1

**p < .05, **p < .01, ***p < .001.*
N = 244

4.4. Supplementary Analyses

4.4.1. Performance prior to bankruptcy

To ensure that the results on bankruptcy emergence likelihood are not for a large part influenced by the effects of downsizing and social plans on firm performance, I performed a supplementary

linear regression analysis including firm performance prior to bankruptcy as lagged dependent variable (**Appendix D**). Following prior strategic management research, firm performance was operationalized as the firm's return on assets (e.g., Aalbers & Dolfsma, 2014b; Brauer & Zimmermann, 2019; Barbero et al., 2020; Rico et al., 2020). As expected in paragraph 3.4, leverage (B = -28.063, $p < .000$), profitability (B = 77.064, $p < .000$), and firm size (B = 11.887, $p = .043$) have a significant impact on firm performance. This means that firms with higher leverage have lower firm performance, whereas firms with higher profitability and more assets have higher firm performance. In contrast to prior research, the negative effect of downsizing on firm performance is only marginally significant (B = -7.665, $p = .089$). Using social plans during downsizing does not significantly influence firm performance either (B = 4.487, $p = .428$). With this analysis, I found results essentially supporting the main analysis.

4.4.2. Bankruptcy procedure

I also checked if the effects of downsizing and social plans on bankruptcy emergence likelihood depend on the type of bankruptcy procedure that these firms typically go through, although there is no literature on ratios for opting for the different bankruptcy procedures as far as I am concerned. I performed a multinomial logistic regression including the previously used control variables (firm size, industry, profitability, and leverage), downsizing and the interaction effect of downsizing with a social plan as independent variables, and bankruptcy procedure as dependent variable (**Appendix E**). I first ran a model using conventional bankruptcy as a reference category, enabling me to compare pre-packed bankruptcies and suspension of payments procedures to conventional bankruptcies (Model 1). Then I ran a model using the suspension of payments procedure as a reference category (Model 2)

Model 1 shows that downsizing firms are six times more likely to go through a pre-packed bankruptcy than a conventional bankruptcy, as compared to firms that have not downsized prior to bankruptcy (B = 1.823, Exp(B) = 6.191, $p < .000$). However, no such difference for downsizing firms was found between suspension of payments procedures and conventional bankruptcies (B = .597, Exp(B) = 1.817, $p = .441$). Moreover, no significant difference was found for the interaction effect of downsizing with a social plan regarding pre-packed bankruptcies (B = -.165, Exp(B) = .848, $p = .777$), nor suspension of payments procedures (B = -1.428, Exp(B) = .240, $p = .067$).

Model 2 shows no significant differences in the likelihood of going through a pre-packed bankruptcy as compared to a suspension of payments procedure for downsizing firms

(B = 1.226, Exp(B) = 3.408, *p* = .149) and firms that had a social plan during downsizing (B = 1.264, Exp(B) = 3.538, *p* = .162).

Downsizing was shown in the main analysis to have no significant influence on the likelihood of bankruptcy emergence. Therefore, the fact that downsizing firms are more likely to go through a pre-packed bankruptcy than a conventional bankruptcy or suspension of payments procedure does not create any concern for the main analysis. Because the interaction effect with social plans has no significant effect on the type of bankruptcy procedure, the main analysis is supported. That is, the interaction effect of downsizing with social plans on the likelihood of bankruptcy emergence is robust.

5. Discussion

5.1. Considerations on the Dutch Scheme

As the pre-packed bankruptcy has lost popularity after the Smallsteps ruling mid-2017, another procedure was desired to improve the reorganization capabilities for firms in financial distress that are viable at the core. As a result, the Dutch Scheme ("*Wet Homologatie onderhands akkoord*") was created and put into force at the beginning of 2021 (Mennens, 2020). In short, the Dutch Scheme enables these firms to reach a binding agreement to reorganize and reach debt settlements with its creditors and shareholders. It thus resembles the US Chapter 11 procedure (Mennens, 2020; for more information on the US Chapter 11 procedure see for instance Xia et al., 2016; Iverson, 2018). An important aspect of the Dutch Scheme is that no formal bankruptcy or suspension of payments procedure needs to be declared (Mennens, 2020). Because the Dutch Scheme has only been in force for a couple of months and only a few procedures have been concluded, it is too soon for empirical testing. Nevertheless, some theoretical considerations can be made in the light of signaling theory.

First, as the Dutch Scheme requires no formal bankruptcy or suspension of payments procedure, it is best compared to the preliminary phase in the pre-packed bankruptcy (e.g., Aalbers et al., 2019). After all, neither of these procedures require formal declaration of bankruptcy at the start, although both procedures can end in formal bankruptcy. Reorganization signals are being sent at the same time that the Dutch Scheme or pre-pack is applied. As a result, the bankruptcy emergence likelihood after a Dutch Scheme is likely to be higher than after conventional bankruptcies and suspension of payments procedures, as turned out to be the case for pre-packed bankruptcies.

Second, the Dutch Scheme is mainly aimed at reaching debt settlements with creditors and shareholders, as is the suspension of payment procedure (Mennens, 2020). As discussed in paragraph 2.4.3, retrenchment of debt is generally associated with survival instead of liquidation (Rico et al., 2020). Thus, stakeholders will likely perceive application of the Dutch Scheme as a signal of survival.

Combining the absence of formal bankruptcy signals with the presence of debt retrenchment signals, the Dutch Scheme will particularly signal survival to its stakeholders. It combines the best of both worlds, i.e., the positive aspects of both the pre-packed bankruptcy and the suspension of payments procedure. Therefore, although empirical testing is needed in the future, the Dutch Scheme seems to be a worthy replacement of the pre-packed bankruptcy, and a real option in the light of signaling theory.

5.2. Limitations and Directions for Future Research

Although this thesis was carefully designed with regard to theory and methodology, limitations are inevitable. First, this thesis has been limited to the Dutch (legal) setting with regard to social plans and bankruptcy procedures. Further research may extend the impact of retrenchment actions in different jurisdictions by measuring additional retrenchment actions and legal procedures, as well as its long term performance consequences after bankruptcy emergence. For instance, such research could analyze the likelihood of bankruptcy re-entering after initial bankruptcy emergence. Moreover, as mentioned in the previous paragraph, future research could analyze the implications of the Dutch Scheme for the bankruptcy emergence likelihood and its consequences for firm performance in the long term. Second, as described in paragraph 2.4, the firm itself as well as its creditors can file for bankruptcy. The bankruptcy reports in the Central Insolvency Register do not mention explicitly which party files for bankruptcy. Therefore, I did not distinguish between strategic bankruptcy and non-strategic bankruptcy in this thesis. Third, the most recent social plans are gathered from the website of the Ministry of Social Affairs. This website only contains social plans that were announced to the Ministry of Social Affairs. As a result, it is possible that some social plans that were negotiated solely within the firm (i.e., with the works council but not with a labor union) were not announced to the Ministry of Social Affairs and are excluded from this analysis. Firms that only negotiate with a works council might be different kinds of firms than firms that negotiate with a labor union. Moreover, the specific signals that these social plans send to stakeholders might differ, for instance regarding procedural and distributive fairness. Future research could look into the different signals that social plans negotiated either with the works council or the labor union

send to the firm's stakeholders and their effects on for example the likelihood of bankruptcy emergence. Last, financial control variables in this research were included as median- and missing-based dummy variables because of missing data. That is, the sample size would have been significantly decreased if only the non-missing cases were included in this thesis, because Orbis did not contain complete financial data for many firms. As a result, these control variables might not be as representative as could have been the case when there was no missing data. However, it enabled me to at least include these control variables and maintain a large sample size. At the same time, the distinction based on median is non-random, because it is based on the available values.

5.3. Conclusion

The extant literature provides evidence that retrenchment actions improve the firm's ability to achieve turnaround, although retrenchment in human resources (i.e., downsizing) often has a negative effect on the firm's performance in the long term. Nevertheless, the exact consequences of downsizing depend in part on the procedural and distributive fairness of the downsizing, as perceived by the firm's stakeholders. I add to this body of research by examining the use of downsizing in combination with social plans and different bankruptcy procedures as retrenchment options to achieve turnaround. Building on signaling theory and real options theory, I explored the influence of downsizing and these social and legal procedures on the likelihood of bankruptcy emergence. I proposed and found that the firm's use of social plans increases the likelihood of bankruptcy emergence. In addition, the results revealed that the likelihood of bankruptcy emergence is highest when the firm goes through a pre-packed bankruptcy, as compared to conventional bankruptcies and suspension of payments procedures. Hence, the results demonstrate that using social plans prior to bankruptcy and filing for a pre-packed bankruptcy are real options for the top management team of a firm in financial distress. In addition, however, the findings also demonstrate that downsizing without a social plan has no significant effect on the likelihood of bankruptcy emergence. Moreover, no significant difference was found between conventional bankruptcies and suspension of payments procedures. I now turn to the theoretical and practical implications of the findings.

5.3.1. Theoretical Implications

This research adds to real options theory literature by combining this theory with signaling theory, which both provide ways to deal with information asymmetry. I find that the (unintentional) signals that a firm sends to its stakeholders when opting for certain retrenchment

actions influence whether these actions are real options for the top management team. Specifically, I developed and tested theory about downsizing, social plans and bankruptcy procedures. Downsizing literature shows that the effects of downsizing on the firm's performance in part depend on the perceived procedural and distributive fairness among the firm's stakeholders. Consistent with this prior work, I found that the firm's use of a social plan during downsizing positively influences the likelihood of bankruptcy emergence, as it increases the perceived procedural and distributive fairness among stakeholders. Moreover, signaling theory shows that firms can send (unintentional) signals of its viability to its stakeholders by taking certain actions, which influence the likelihood of firm survival. In accordance with this work, I found that the bankruptcy emergence likelihood after pre-packed bankruptcies is significantly higher than after conventional bankruptcies and suspension of payments procedures, because of the signals of survival or liquidation that each of these procedures send to the firm's stakeholders. These findings are novel as they reveal that the use of social plans and pre-packed bankruptcies instead of conventional bankruptcies or suspension of payments procedures can meaningfully impact the likelihood of bankruptcy emergence, and thus of a successful turnaround.

Strategic management scholars should stimulate further work on combining real options theory with signaling theory to improve the embeddedness of real options theory in strategic management research.

5.3.2. Managerial Implications

Finally, this thesis has implications for managers. This thesis suggests that top management teams should be conscious of the influence of the signals they send to firm stakeholders in the retrenchment process, because while the potential benefits of retrenchment appear broad, its outcomes depend on the specific decisions taken during the process. Whereas the signals of social plans and pre-packed bankruptcy have a positive effect on the bankruptcy emergence likelihood, downsizing without a social plan has no effect on the bankruptcy emergence likelihood. Thus, the real option for the top management team of a firm in financial distress is to enter into a social plan when considering downsizing, in order to optimize bankruptcy emergence potential. In unbearable times of financial distress, firms appear to benefit most when the top management team files for a pre-packed bankruptcy, making filing for a pre-packed bankruptcy the last-resort real option.

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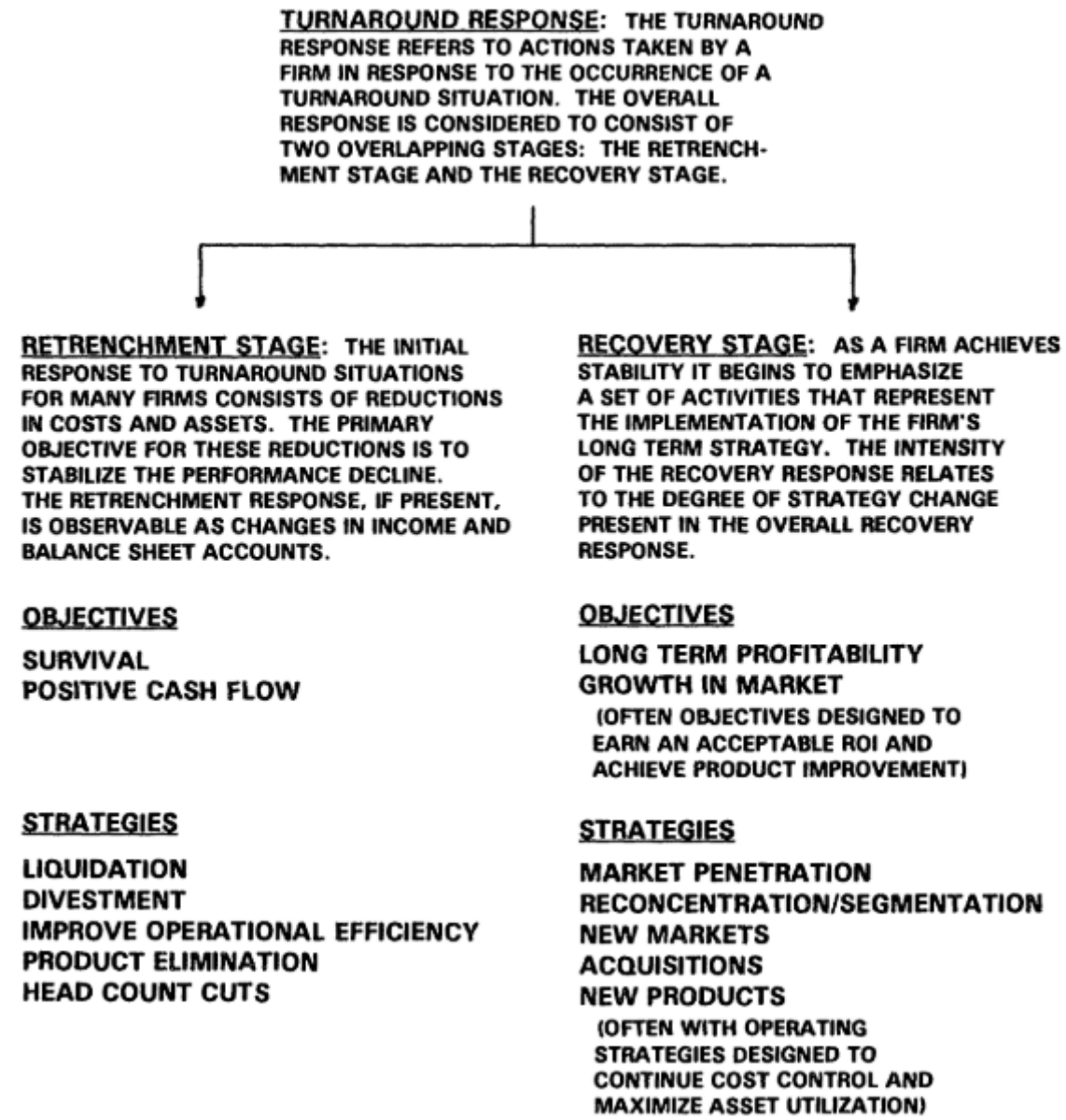
Appendix A: Schematic Overview of the Turnaround Process



Source: Robbins & Pearce, 1992:291

Appendix B: Multicollinearity

Part 1: multicollinearity including all variables

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Downsizing	,723	1,384
	Social plan	,582	1,720
	prepack	,694	1,441
	suspension	,858	1,166
	Bankruptcy year	,461	2,167
	firmsize1	,435	2,297
	firmsize2	,018	54,516
	services	,936	1,068
	profitability1	,529	1,890
	profitability2	,385	2,600
	liquidity1	,677	1,476
	liquidity2	,018	56,956
	leverage1	,620	1,614
	leverage2	,443	2,257

a. Dependent Variable: Bankruptcy emergence

Part 2: multicollinearity after deletion of "liquidity"

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Downsizing	,731	1,369
	Social plan	,585	1,709
	prepack	,711	1,407
	suspension	,863	1,159
	Bankruptcy year	,468	2,137
	firmsize1	,441	2,267
	firmsize2	,421	2,373
	services	,969	1,032
	profitability1	,532	1,879
	profitability2	,385	2,598
	leverage1	,628	1,593
	leverage2	,457	2,187

a. Dependent Variable: Bankruptcy emergence

Appendix C: Model Fit

Omnibus Tests of Model Coefficients:

	Chi-square	*DF*	*Sig.*
Model 1	25.247	8	.001
Model 2	54.228	11	.000
Model 3	59.796	12	.000
Model 4	59.796	12	.000

Hosmer and Lemeshow Scores:

	Chi-square	*DF*	*Sig.*
Model 1	15.091	8	.057
Model 2	2.610	8	.956
Model 3	3.283	8	.915
Model 4	3.283	8	.915

Overall predictive accuracy:

	Percentage correct
Model 1	63.8
Model 2	69.2
Model 3	70.1
Model 4	70.1

Appendix D: Model with Return on Assets as Dependent Variable

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95,0% Confidence Interval for B Lower Bound	95,0% Confidence Interval for B Upper Bound	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	-53,942	8,219		-6,563	,000	-70,476	-37,408		
	firmsize1	10,917	5,733	,193	1,904	,063	-,616	22,451	,466	2,144
	firmsize2	,681	5,558	,012	,123	,903	-10,500	11,862	,540	1,852
	services	1,365	3,967	,024	,344	,732	-6,616	9,347	,985	1,016
	profitability1	77,876	7,641	,961	10,192	,000	62,505	93,248	,540	1,851
	profitability2	51,584	6,861	,828	7,518	,000	37,781	65,386	,396	2,523
	leverage1	-28,038	5,520	-,442	-5,079	,000	-39,143	-16,933	,634	1,578
	leverage2	-12,660	5,513	-,234	-2,296	,026	-23,750	-1,570	,462	2,167
2	(Constant)	-49,125	8,670		-5,666	,000	-66,577	-31,673		
	firmsize1	11,783	5,676	,209	2,076	,044	,358	23,208	,462	2,165
	firmsize2	,523	5,477	,009	,096	,924	-10,501	11,548	,540	1,852
	services	1,315	3,909	,023	,336	,738	-6,554	9,183	,984	1,016
	profitability1	76,784	7,561	,947	10,155	,000	61,564	92,003	,536	1,867
	profitability2	50,506	6,795	,810	7,432	,000	36,828	64,185	,392	2,550
	leverage1	-28,201	5,440	-,445	-5,184	,000	-39,150	-17,251	,633	1,579
	leverage2	-12,506	5,432	-,231	-2,302	,026	-23,441	-1,571	,461	2,167
	Downsizing	-6,220	4,000	-,109	-1,555	,127	-14,272	1,832	,952	1,050
3	(Constant)	-49,167	8,704		-5,649	,000	-66,698	-31,635		
	firmsize1	11,887	5,700	,210	2,086	,043	,407	23,367	,462	2,166
	firmsize2	-1,022	5,828	-,017	-,175	,862	-12,760	10,715	,481	2,081
	services	1,466	3,929	,026	,373	,711	-6,447	9,379	,982	1,018
	profitability1	77,064	7,599	,951	10,141	,000	61,759	92,369	,534	1,871
	profitability2	51,005	6,851	,818	7,445	,000	37,208	64,803	,389	2,571
	leverage1	-28,063	5,464	-,443	-5,136	,000	-39,068	-17,058	,633	1,581
	leverage2	-12,441	5,454	-,230	-2,281	,027	-23,426	-1,455	,461	2,168
	Downsizing	-7,655	4,398	-,134	-1,741	,089	-16,513	1,203	,794	1,259
	downplan	4,487	5,605	,065	,800	,428	-6,802	15,776	,712	1,404

a. Dependent Variable: ROA last avail. year

Appendix E: Model with Bankruptcy Procedure as Dependent Variable

Model 1: conventional bankruptcy as reference category

Parameter Estimates

Bankruptcy procedure[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B) Lower Bound	Upper Bound
pre-pack	Intercept	-,118	1,138	,011	1	,917			
	[Downsizing =0]	1,823	,459	15,779	1	,000	6,191	2,518	15,222
	[Downsizing =1]	0[b]	.	.	0	.	.	.	.
	[downplan=,00]	-,165	,581	,080	1	,777	,848	,272	2,647
	[downplan=1,00]	0[b]	.	.	0	.	.	.	.
	[firmsize1=,00]	-1,728	,575	9,031	1	,003	,178	,058	,548
	[firmsize1=1,00]	0[b]	.	.	0	.	.	.	.
	[firmsize2=,00]	-,575	,582	,976	1	,323	,563	,180	1,761
	[firmsize2=1,00]	0[b]	.	.	0	.	.	.	.
	[profitability1=,00]	,001	,615	,000	1	,998	1,001	,300	3,342
	[profitability1=1,00]	0[b]	.	.	0	.	.	.	.
	[profitability2=,00]	,652	,588	1,231	1	,267	1,919	,607	6,071
	[profitability2=1,00]	0[b]	.	.	0	.	.	.	.
	[leverage1=,00]	-,104	,524	,039	1	,843	,901	,323	2,517
	[leverage1=1,00]	0[b]	.	.	0	.	.	.	.
	[leverage2=,00]	-,501	,511	,961	1	,327	,606	,222	1,650
	[leverage2=1,00]	0[b]	.	.	0	.	.	.	.
	[services=,00]	-,563	,401	1,972	1	,160	,569	,259	1,250
	[services=1,00]	0[b]	.	.	0	.	.	.	.
suspension	Intercept	,392	2,121	,034	1	,854			
	[Downsizing =0]	,597	,775	,594	1	,441	1,817	,398	8,301
	[Downsizing =1]	0[b]	.	.	0	.	.	.	.
	[downplan=,00]	-1,428	,780	3,350	1	,067	,240	,052	1,106
	[downplan=1,00]	0[b]	.	.	0	.	.	.	.
	[firmsize1=,00]	-,386	,888	,189	1	,664	,680	,119	3,877
	[firmsize1=1,00]	0[b]	.	.	0	.	.	.	.
	[firmsize2=,00]	-,252	,880	,082	1	,774	,777	,138	4,361
	[firmsize2=1,00]	0[b]	.	.	0	.	.	.	.
	[profitability1=,00]	,183	1,362	,018	1	,893	1,201	,083	17,325
	[profitability1=1,00]	0[b]	.	.	0	.	.	.	.
	[profitability2=,00]	,069	1,025	,004	1	,947	1,071	,144	7,985
	[profitability2=1,00]	0[b]	.	.	0	.	.	.	.
	[leverage1=,00]	-1,519	1,171	1,682	1	,195	,219	,022	2,174
	[leverage1=1,00]	0[b]	.	.	0	.	.	.	.
	[leverage2=,00]	-1,455	1,185	1,508	1	,219	,233	,023	2,380
	[leverage2=1,00]	0[b]	.	.	0	.	.	.	.
	[services=,00]	,134	,556	,058	1	,809	1,144	,385	3,402
	[services=1,00]	0[b]	.	.	0	.	.	.	.

a. The reference category is: conventional.

b. This parameter is set to zero because it is redundant.

Model 2: suspension of payments as reference category

Parameter Estimates

Bankruptcy procedure[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B) Lower Bound	Upper Bound
conventional	Intercept	-,392	2,121	,034	1	,854			
	[Downsizing =0]	-,597	,775	,594	1	,441	,550	,120	2,514
	[Downsizing =1]	0[b]	.	.	0	.	.	.	.
	[downplan=,00]	1,428	,780	3,350	1	,067	4,172	,904	19,256
	[downplan=1,00]	0[b]	.	.	0	.	.	.	.
	[firmsize1=,00]	,386	,888	,189	1	,664	1,471	,258	8,393
	[firmsize1=1,00]	0[b]	.	.	0	.	.	.	.
	[firmsize2=,00]	,252	,880	,082	1	,774	1,287	,229	7,226
	[firmsize2=1,00]	0[b]	.	.	0	.	.	.	.
	[profitability1=,00]	-,183	1,362	,018	1	,893	,833	,058	12,020
	[profitability1=1,00]	0[b]	.	.	0	.	.	.	.
	[profitability2=,00]	-,069	1,025	,004	1	,947	,934	,125	6,961
	[profitability2=1,00]	0[b]	.	.	0	.	.	.	.
	[leverage1=,00]	1,519	1,171	1,682	1	,195	4,567	,460	45,352
	[leverage1=1,00]	0[b]	.	.	0	.	.	.	.
	[leverage2=,00]	1,455	1,185	1,508	1	,219	4,283	,420	43,654
	[leverage2=1,00]	0[b]	.	.	0	.	.	.	.
	[services=,00]	-,134	,556	,058	1	,809	,874	,294	2,600
	[services=1,00]	0[b]	.	.	0	.	.	.	.
pre-pack	Intercept	-,510	2,270	,050	1	,822			
	[Downsizing =0]	1,226	,850	2,081	1	,149	3,408	,644	18,025
	[Downsizing =1]	0[b]	.	.	0	.	.	.	.
	[downplan=,00]	1,264	,903	1,957	1	,162	3,538	,602	20,786
	[downplan=1,00]	0[b]	.	.	0	.	.	.	.
	[firmsize1=,00]	-1,342	,991	1,832	1	,176	,261	,037	1,824
	[firmsize1=1,00]	0[b]	.	.	0	.	.	.	.
	[firmsize2=,00]	-,322	,985	,107	1	,744	,724	,105	4,994
	[firmsize2=1,00]	0[b]	.	.	0	.	.	.	.
	[profitability1=,00]	-,181	1,409	,017	1	,898	,834	,053	13,191
	[profitability1=1,00]	0[b]	.	.	0	.	.	.	.
	[profitability2=,00]	,583	1,103	,280	1	,597	1,792	,206	15,559
	[profitability2=1,00]	0[b]	.	.	0	.	.	.	.
	[leverage1=,00]	1,415	1,236	1,311	1	,252	4,117	,365	46,388
	[leverage1=1,00]	0[b]	.	.	0	.	.	.	.
	[leverage2=,00]	,953	1,239	,592	1	,442	2,595	,229	29,415
	[leverage2=1,00]	0[b]	.	.	0	.	.	.	.
	[services=,00]	-,698	,643	1,176	1	,278	,498	,141	1,756
	[services=1,00]	0[b]	.	.	0	.	.	.	.

a. The reference category is: suspension.

b. This parameter is set to zero because it is redundant.