Should Declining Firms Be Aggressive During the Retrenchment Process?

Jose Luis Barbero
Jose Antonio Martínez
Universidad Pablo de Olavide
Ana Maria Moreno
Universidad de Sevilla

In this study, we test the effects of retrenchment aggressiveness on turnaround performance. Using the downward-spiral, threat–rigidity, and survivor syndrome perspectives, we hypothesize the direct effects of the two dimensions of aggressiveness—time aggressiveness and volume aggressiveness—on turnaround performance. We also examine the moderation effect of time aggressiveness on the relationship between volume aggressiveness and turnaround performance. We use data on a sample of declining firms collected from the Compustat North America database and use a matched-pair sample of 494 surviving and nonsurviving firms between the years 1990 and 2010. Our results show that time aggressiveness has a positive effect on turnaround performance, whereas volume aggressiveness has a negative effect. We also find that time aggressiveness positively moderates the negative relationship between volume aggressiveness and turnaround performance. We contribute to the scant but critical literature indicating the importance of time in a turnaround setting and to the long-held discussion of retrenchment as a cause of turnaround or a consequence of decline.

Keywords: turnaround; retrenchment aggressiveness; time; timing; speed; downward-spiral perspective; threat–rigidity perspective; survivor syndrome perspective
While the turnaround leader must take control quickly, he or she risks being too aggressive to achieve successful buy in. (Slatter, Lovett, & Barlow, 2006, p. 10)

The idea that turnarounds require aggressive action can be persistently found throughout the turnaround literature. Mythical turnaround managers, such as Frank Lorenzo, Carl Icahn, and Al Dunlap, are often presented as individuals fit for turnaround situations given their approach to firm decline. These individuals’ traits include the ability to take ruthless and radical action (Calandro, 2011; Gilson, 1997a; Shein, 2013). More specifically, they have been described as aggressive cost cutters. As the case of Al Dunlap shows, whether this behavior leads to turnaround success is subject to controversy (Calandro, 2011; Gilson, 1997a). We know little about whether this aggressive behavior in retrenchment leads to turnaround success. The early literature has overtly suggested that aggressive retrenchment leads to turnaround success (Bibeault, 1982; Hofer, 1980; Pearce & Robbins, 1993; Robbins & Pearce, 1992). However, despite this attention to aggressiveness, the turnaround literature has not defined aggressiveness precisely.

Aggressiveness is a well-defined concept given that it has been studied in several management streams (M. Chen, Lin, & Michel, 2010; Ferrier, Smith, & Grimm, 1999; Konig, Kammerlander, & Enders, 2013; Nadkarni, Chen, & Chen, 2016). A firm has a high degree of action aggressiveness if “it has rapidly taken a large number of actions” (M. Chen et al., 2010: 1413). Thus, there are two dimensions to aggressiveness: the time dimension and the volume dimension (M. Chen et al., 2010; Nadkarni et al., 2016). We develop and study these two dimensions—volume aggressiveness and time aggressiveness—in the context of retrenchment. Retrenchment has been defined as the deliberate elimination of assets or cost reductions with the aim of increasing firm efficiency (Lim, Celly, Morse, & Rowe, 2013). Hence, in the context of retrenchment, volume aggressiveness represents how deep or shallow the retrenchment actions implemented by declining firms are. Time aggressiveness represents how early/late or quickly/slowly declining firms implement the retrenchment process.

The value of retrenchment is the most studied and controversial topic in turnaround research. Most studies have focused on the effects of volume aggressiveness on turnaround success, showing unclear evidence of how the volume of retrenchment both improves and hinders firm performance (Barker & Mone, 1994; Cascio, Young, & Morris, 1997; Castrogiovanni & Bruton, 2000; Datta, Guthrie, Basuil, & Pandey, 2010; Robbins & Pearce, 1992). As a result, prescriptions have been unclear. Only recently has turnaround research paid attention to the other dimension, time aggressiveness, with promising results (Barbero, Di Pietro, & Chiang, 2017; Tangpong, Abebe, & Li, 2015). All this past and recent research has studied the two dimensions of aggressiveness disconnectedly: It studies either volume aggressiveness or time aggressiveness. But it has not studied both dimensions at the same time or the relationship between the two. Early works suggest that both dimensions are linked through the concept of aggressiveness and aggressive action. Pearce and Robbins (1993) broadly refer to the dimensions of retrenchment as degree—volume—and duration—time. Hofer (1980) argues that they are both related to the firm’s degree of severity. Most importantly, the early and recent literature has referred to both indirectly when it alludes to aggressiveness or aggressive actions. A joint study of these two dimensions, providing a holistic approach to retrenchment, will help clarify the real value of
Barbero et al. / Retrenchment Aggressiveness

retrenchment by determining how each dimension contributes to turnaround success and, most importantly, how they are both interrelated.

In our research, we study the effects of time aggressiveness and volume aggressiveness on declining firm performance. Specifically, we respond to three questions: (a) How do time aggressiveness and volume aggressiveness influence declining turnaround performance? (b) What is the relationship between time aggressiveness, volume aggressiveness, and turnaround performance? (c) Particularly, does time aggressiveness moderate the relationship between volume aggressiveness and turnaround performance? Our research model has been depicted in Figure 1.

We use three perspectives to argue our hypotheses. First, the downward-spiral stream is a longitudinal perspective of decline, arguing that it is a process that continuously erodes a firm’s resources (Hambrick & D’Aveni, 1988). Second, the threat–rigidity perspective argues that decline produces stress at the managerial and employee levels (Staw, Sandelands, & Sutton, 1981). Third, the survivor syndrome perspective describes the emotional and attitudinal reactions of surviving employees toward their assessment of the retrenchment process (Brockner, 1992; Brockner, Grover, Reed, & Dewitt, 1992). On the basis of these three perspectives, we argue that volume aggressiveness negatively influences firm performance due to the dysfunctional effects on the firm’s employees (Barker, Mone, Mueller, & Freeman, 1998; Brockner, 1988, 1992). We also defend that time-aggressive firms will shorten the decline period, and as a consequence, resource erosion, organizational stress, and employees’
negative reactions will be reduced. Finally, we posit that time aggressiveness positively interacts with the negative relationship between volume aggressiveness and turnaround performance. Slack conserved through early and fast retrenchment will avoid bankruptcy due to volume-aggressive slack depletion.

Our results show that volume aggressiveness negatively influences turnaround performance. In contrast, time aggressiveness has a positive relationship with turnaround performance. Thus, surviving and overperforming declining firms start the retrenchment process early and carry it out quickly, but they are not characterized by introducing deep cuts. Conversely, firms that start the retrenchment process late and implement it slowly have a higher likelihood of underperformance. Finally, we find that time aggressiveness positively moderates the negative relationship between volume aggressiveness and turnaround performance.

In sum, turnaround studies have traditionally focused with inconsistent success on the value of the volume of retrenchment. We provide several contributions to the study of turnarounds. First, by focusing on aggressiveness, we simultaneously study volume and time. Our evidence contributes to the debate of retrenchment as a cause of turnaround or a consequence of decline by suggesting retrenchment can be both. In the early stages of decline, firms have a choice for time aggressiveness and to improve performance. In the later stages of decline, firms need to behave volume aggressively to contend with resource scarcity and end up hindering performance. Second, we provide turnaround research with a fresh lens by adding the concept of aggressiveness developed in management research. We find that the portrait depicted by the media of cost cutters who successfully turn firms around by focusing on volume cutting costs is a stereotype. Third, we develop a methodology to quantitatively analyze the temporal aspects of decline. It is well established that decline possesses a dynamic and longitudinal nature (Hambrick & D’Aveni, 1988; Weitzel & Jonsson, 1989). Until now, decline research has studied decline mostly in a qualitative fashion (D’Aveni, 1990; McKinley, Latham, & Braun, 2014). Our methodology opens the possibility to the quantitative study of decline. Fourth, we contribute to the threat-rigidity perspective by introducing one subtle but important precision: the importance of nuancing the type of threat and the moment of the threat to calibrate the consequences of the response. Last, our evidence confirms the pivotal role of the scant but emerging literature studying time and turnarounds that helps to unblock the current controversy concerning the value of retrenchment (Barbero, Di Pietro, et al., 2017; Tangpong et al., 2015).

**Theoretical Background**

**Turnaround and Aggressiveness**

The turnaround literature has acknowledged how turnarounds require aggressive action (Bibeault, 1982; Pearce & Robbins, 1993; Whitney, 1987). Aggressiveness should inform about some actions of declining firms, such as inventory management (Shein, 2013), cash flow management (Cascio, 1993; Slatter et al., 2006), and dividend reductions (John, Lang, & Netter, 1992). Most importantly, the traditional literature has both extensively suggested and bluntly acknowledged that managers ought to retrench aggressively (Bibeault, 1982; Pearce & Robbins, 1993; Robbins & Pearce, 1992). Authors have also suggested that aggressive retrenchment generates greater gains when the situation is more severe (Hofer, 1980; Pearce & Robbins, 1993; Robbins & Pearce, 1992), the shareholders are institutional (Datta
et al., 2010), or managers perceive decline derives from external causes (Lohrke, Ahlstrom, & Bruton, 2012). In contrast, some authors have warned against the risks of being too aggressive (G. Chen, 2014; Slatter et al., 2006). Aggressiveness should be handled in a manner to mitigate employee anxiety (Brockner, 1992; Shein, 2013). A balance ought to be achieved in the degree of aggressiveness to gain employee cooperation (Slatter et al., 2006). Despite the attention paid to retrenchment aggressiveness, the literature has not precisely defined or tested the concept.

Aggressiveness is a concept found in diverse parts of the management literature (Ferrier, 2001; Konig et al., 2013). It has mostly been developed in the competitive dynamic stream to study competitive behavior and the reactions to competitive moves (M. Chen et al., 2010; Ferrier et al., 1999; Nadkarni et al., 2016). Authors have used several dimensions to define and set the boundaries to action aggressiveness (Ferrier, 2001; Ferrier et al., 1999). Nevertheless, aggressiveness has converged in two main dimensions. A firm has a high degree of action aggressiveness if it has taken “a large number of actions with great speed” (M. Chen et al., 2010: 1413). Thus, action aggressiveness possesses two dimensions: the volume dimension and the time dimension (M. Chen et al., 2010; Ferrier, 2001; Nadkarni et al., 2016). Next, we define retrenchment aggressiveness and develop the two dimensions defining the concept.

Most turnaround studies have recognized the value of the two-stage turnaround model proposed by Robbins and Pearce (1992) (Lim et al., 2013; Morrow, Johnson, & Busenitz, 2004; Tangpong et al., 2015). This model posits that turnarounds require two stages—retrenchment and recovery—to achieve the survival and profitability of declining firms. The objective of the former stage is firm survival and cash flow generation, whereas the aim of the latter is firm profitability and growth (Pearce & Robbins, 1993; Trahms, Ndofor, & Sirmon, 2013). Retrenchment is defined as deliberately eliminating assets or reducing costs with the goal of increasing a firm’s efficiency (Lim et al., 2013).

We define retrenchment aggressiveness as the volume of retrenchment action taken by declining firms over time. Therefore, retrenchment aggressiveness consists of two dimensions: retrenchment time aggressiveness and retrenchment volume aggressiveness (hereinafter, time aggressiveness and volume aggressiveness). The turnaround literature has acknowledged volume aggressiveness (Barker & Mone, 1994; Robbins & Pearce, 1992) and time aggressiveness (Bibeault, 1982; Pearce & Robbins, 1993; Shein, 2013; Tangpong et al., 2015) as relevant to turnaround success. We find a distinctive degree of support in the turnaround literature for the value of each of the two dimensions. First, volume aggressiveness has been studied at length. Yet the value of volume aggressiveness has been subject to controversy given the mixed results obtained by the studies (Barker & Mone, 1994; Cascio et al., 1997; Pearce & Robbins, 1993). Second, though the literature has shown scant evidence of the temporal dimension (Barbero, Di Pietro, et al., 2017; Tangpong et al., 2015), it has strongly suggested its importance (Bibeault, 1982; Pearce & Robbins, 1993; Weitzel & Jonsson, 1989).

**Downward-Spiral, Threat–Rigidity, and Survivor Syndrome Perspectives**

In line with other turnaround studies, we take a pluralistic theory-building approach (McKinley et al., 2014; Schmitt, Barker, Raisch, & Whetten, 2016). We will employ three
perspectives common in turnaround studies: the downward-spiral perspective, the threat-rigidity perspective, and the survivor-syndrome perspective. Next, we describe each perspective.

The downward spiral is an influential turnaround stream arguing that decline is a protracted longitudinal process throughout which firm resources are eroded (Hambrick & D’Aveni, 1988). Decline acts as a process continuously eroding both internal resources (Hambrick & D’Aveni, 1992; Sutton, Eisenhardt, & Jucker, 1986) and the access to external resources (D’Aveni, 1990; Pajunen, 2006). This perspective argues that declining firms can avoid firm demise as long as they possess a minimum stock of resources available to cope with the decline. These resources can either be provided by the environment or be possessed by the company itself (Hambrick & D’Aveni, 1988). In short, a declining firm will avoid bankruptcy as long as resources are available from either source.

A second seminal turnaround stream is the threat–rigidity perspective (Staw et al., 1981). This perspective argues how an organization, its executives, and employees react to a threat, such as decline (D’Aveni, 1989a). A threat will provoke stress in managers and employees. Their response to stress will be to increase the search for information. This increase in the search for information will further impair their ability to process information due to information overload, bringing about further stress. Thus, they will restrict information processing (Staw et al., 1981). Then, managers will step up centralization and constriction in the control of employees (D’Aunno & Sutton, 1992; D’Aveni, 1989a; Staw et al., 1981).

Finally, as described earlier, the survivor syndrome perspective studies the reactions of employees surviving a retrenchment process and how they affect firm performance (Brockner, 1988, 1992; Iverson & Pullman, 2000). Employees surviving retrenchment decrease their productivity and increase absenteeism. Feelings of anger, vulnerability, stress, depression, and fear cause an increase in voluntary turnover. Also, these employees increase the rate of resignations due to a higher workload among the smaller number of employees left.

Hypotheses

*Volume Aggressiveness*

*Volume aggressiveness* refers to the amount of retrenchment that declining firms carry out during the retrenchment process, that is, the depth of the cuts. Turnaround studies have shown controversial results of the effect of volume aggressiveness. However, most leading evidence points to a negative relationship or no effect between volume aggressiveness and firm performance (Barker & Mone, 1994; Boyne & Meier, 2009; Castrogiovanni & Bruton, 2000; Josefy, Harrison, Sirmon, & Carnes, 2017; Santana, Valle, & Galán, 2017), quality, productivity and effectiveness (Cameron, Freeman, & Mishra, 1991), firm reputation (Flanagan & O’Shaughnessy, 2005), and stock market reaction (Nixon, Hitt, Lee, & Jeong, 2004). Next, we argue that volume aggressiveness negatively influences turnaround success.

Employees are likely to incur a wide range of negative feelings that will reduce their productivity and effectiveness. First, employees’ level of stress is likely to rise. The threat–rigidity perspective describes the response by employees to a threat, such as retrenchment (Barker & Duhaime, 1997; D’Aunno & Sutton, 1992; Greenhalgh, Lawrence, & Sutton, 1988). The primary psychological effects of a threat to individuals are to create feelings of psychological stress and anxiety, and physiological arousal (Staw et al., 1981). Also, threatened individuals restrict information processing by narrowing their field of attention.
Barbero et al. / Retrenchment Aggressiveness

(Gladstein & Reilly, 1985) and tend to fixate their behavior (D’Aunno & Sutton, 1992; Staw et al., 1981). These feelings and behaviors lead to a lower effectiveness (Brockner, Spreitzer, Mishra, Hochwarter, Pepper, & Weinberg, 2004; Staw et al., 1981). Then, the survivor syndrome perspective suggests headcount reductions will yield a smaller number of employees left to perform the increasing workload (Brockner, 1988, 1992; Cameron et al., 1991). Aggressive cost and asset volume retrenchment will reduce the amount of resources available for task performance (Hofer, 1980; Lim et al., 2013), and the quality of those resources left will be lower (Hambrick & D’Aveni, 1992; Slatter et al., 2006). Thus, the remaining employees will bear a greater workload (Brockner, 1988, 1992) but will have fewer and lower-quality resources available to do their job (Brockner et al., 2004). An increasing workload to be faced with fewer resources of a lower quality will amplify the feelings of stress and anxiety, and create new negative feelings, such as frustration and anger (Brockner, 1988; Mishra & Spreitzer, 1998; Staw et al., 1981). Due to these two sources of stress, the work level faced by surviving employees will be very high. The Yerkes-Dodson law has shown evidence that the relationship between stress and performance has an inverted-U-shaped curve. Employee performance is likely to decrease substantially and even collapse under high levels of stress (Brockner et al., 1992; Rudolph & Repenning, 2002; Yerkes & Dodson, 1908).

Second, surviving employees are likely to reduce their commitment to the firm (Arogyaswamy, Barker, & Yasai-Ardekani, 1995; Brockner, Davy, & Carter, 1985; Cameron, 1994). A greater volume of retrenchment is associated with a lower employee commitment. This absence of commitment is due to a perception of a lack of commitment by the organization itself and a violation of the psychological contract (De Meuse, Bergmann, Vanderheiden, & Roraff, 2004). These employees are likely to engage in dissension due to a situation that they feel that they have not created and that they perceive management is responsible for (Weitzel & Jonsson, 1989).

Third, high volume-retrenchment aggressiveness engenders low job security among the surviving employees (Brockner et al., 1985, 1992). Job insecurity leaves these employees demoralized, demotivated, and anxious (Brockner, 1988). Lower work effort is linked with higher levels of job insecurity (Brockner et al., 1992). Those employees with marketable skills and connections are likely to leave (Barker & Mone, 1994; Sutton et al., 1986). This results in a loss of human capital and firm knowledge (Cascio & Wynn, 2004; Iverson & Zatzick, 2011).

In short, high volume-aggressive firms will find themselves operating with a stressed, uncommitted, insecure, anxious, and demotivated workforce doing its job with an increased workload and a lower support by organizational resources. These arguments uphold the idea that high volume aggressiveness will have a negative effect on a declining firm’s survival or performance. Thus, we propose the following:

**Hypothesis 1:** Volume aggressiveness will be negatively related to turnaround performance.

**Time Aggressiveness**

Time is critical to decline because it can itself influence the outcomes of a turnaround (Bibeault, 1982; Hambrick & D’Aveni, 1988; Tangpong et al., 2015; Weitzel & Jonsson, 1989; Whitney, 1987). Time research has highlighted several dimensions of organizational
change, such as timing, frequency, rhythm, and speed (Ancona, Goodman, Lawrence, & Tushman, 2001; Huy, 2001). The turnaround literature specifically cites two of these as critical: timing and speed. Timing is defined as the moment an event is initiated or is planned to be initiated (Huy, 2001). The timing of retrenchment is, then, the moment the retrenchment process is begun (Barbero, Di Pietro, et al., 2017). An extensive literature suggests that a turnaround, and more specifically, the retrenchment process, should be initiated earlier rather than later (Tangpong et al., 2015; Weitzel & Jonsson, 1989). Speed can be defined as the amount of time that a firm requires to complete an action or a process (M. Chen & Hambrick, 1995; Vermeulen & Barkema, 2002). A retrenchment process has a duration, which refers to the “longevity” required to complete this process (Pearce & Robbins, 1993: 663). The speed of retrenchment refers to how long or short the duration of the retrenchment process is. That is, how quickly or slowly the retrenchment process is implemented (Barbero, Di Pietro, et al., 2017). Likewise, there is also an extensive literature suggesting how speed of action is key to turnaround (Arogyaswamy et al., 1995; Bibeault; Dowell, Shackell, & Stuart, 2011; Pearce & Robbins, 1993). Despite competitive dynamic studies having defined the time dimension of aggressiveness solely in terms of speed (M. Chen et al., 2010; Nadkarni et al., 2016), given that the turnaround literature has overtly posited the importance of both timing and speed for turnaround success, we will use these two in order to define time aggressiveness. Time-aggressive firms are those starting the retrenchment process early (timing) and/or completing the retrenchment process quickly (speed). Then, time aggressiveness, formed by these two continuous and sequential lapses of time, accounts for the time period from the start of the firm’s decline to the completion of the retrenchment process. Time-aggressive firms will implement this period in a short lapse of time, either by bringing forward the timing of the retrenchment, by increasing the speed of retrenchment, or both. Figure 2 depicts this discussion and illustrates the relationship between the concepts of time aggressiveness, the timing of retrenchment, and the speed of retrenchment.

Based on the premises of the downward-spiral, the threat–rigidity, and the survivor syndrome perspectives, time-aggressive firms will be able to avoid the negative consequences of decline. We first argue the connection between firm performance and timing-aggressive retrenchment and then its connection to speed-aggressive retrenchment. First, a downward spiral is a process that protractedly erosates firm resources. Decline is conceptualized as a
temporal cumulative, continuous, and longitudinal process (Hambrick & D’Aveni, 1988; Weitzel & Jonsson, 1989). The process diminishes over time both the amount of resources possessed (Hambrick & D’Aveni, 1988) and the quality of those resources left (Hambrick & D’Aveni, 1992). An extended period of decline also reduces the access to external resources by reducing stakeholder support as firm stigmatization increases (Arogyaswamy et al., 1995; Sutton, 1990) and managerial legitimacy decreases (D’Aveni, 1990). Firm stigmatization leaves the firm tainted in terms of reputation and results in a loss of employees in possession of connections and skills (Barker & Mone, 1994; Sutton et al., 1986). Finally, extended decline negatively affects prices obtained in asset retrenchment processes. High distress negatively affects a firm’s bargaining power (Laamanen, Brauer, & Junna, 2014). These firms will negotiate from a position of weakness, leading to fire-sale prices for the retrenched assets (Andersen & Nielsen, 2017; Laamanen et al., 2014; Shleifer & Vishny, 1992). Fire sales cause severe losses to sellers (Shleifer & Vishny, 2011). In sum, less time-retrenchment-aggressive firms, by drifting to advanced stages of decline, will weaken their resource base and will restrict the access to resources due to a lack of stakeholder support. In contrast, time-aggressive firms acting early will prevent an excessive deterioration of the resource base or of the access to resources.

Second, our prior argument suggests that firms acting late in a downward spiral incur a process of resource reduction or slack depletion. Either is likely to trigger a threat–rigidity response by the organization (D’Aunno & Sutton, 1992; D’Aveni, 1989a; Hambrick & D’Aveni, 1988; Staw et al., 1981). A threat–rigidity response will have consequences for the executives and the surviving employees of declining firms. As described earlier, they will suffer excessive levels of stress, anxiety, and arousal (Staw et al., 1981), restrict information processing (Gladstein & Reilly, 1985), and experience behavior fixation (D’Aunno & Sutton; Staw et al., 1981). Beyond this direct source of negative feelings, executives are likely to respond to the threat posed by increasing centralization (Hambrick & D’Aveni, 1988, 1992; Staw et al., 1981). The survivor syndrome perspective suggests that the remaining employees will perceive threat–rigidity-based centralization itself as a threat (Brockner et al., 2004; Mishra & Spreitzer, 1998). Decision-making centralization will limit the survivors’ freedom by reducing the number of activities left to the employees’ discretion. Lower perceived control increases survivors’ stress and decreases their commitment and job performance (Brockner et al., 2004). A large number of sources of employee stress is likely to lead to extreme levels of stress. Under the Yerkes-Dodson law, higher levels of stress could lead to employee performance collapse (Brockner et al., 1992; Yerkes & Dodson, 1908). In contrast, time-aggressive firms executing early retrenchment will curb a threat–rigidity response by halting the downward spiral early. The surviving employees and executives will avoid extreme levels of stress and an increase in firm centralization (D’Aunno & Sutton; Staw et al., 1981).

Third, the survivor syndrome perspective has shown evidence that surviving employees will react more positively to retrenchment when the management conducts a systematic analysis in advance (Brockner, 1992; Cameron, 1994), when it acts proactively (P. Lee, 1997; Love & Nohria, 2005), and when surviving employees perceive that managers are proficient for the task (Cameron et al., 1991; Mishra & Spreitzer, 1998) or handle retrenchment fairly (Brockner, Grover, & Reed, 1987). Under an early initiation, the surviving employees are likely to perceive executives as more proactive and more competent and are likely to react more positively to the event. Also, firms initiating retrenchment in the early stages of the
downward slide will enjoy slack time and resources, which are a prerequisite to plan the process well ahead (Love & Nohria, 2005). In contrast, managers executing late retrenchment will be perceived by the surviving employees as less proactive and competent, exacerbating the surviving employees’ negative feelings.

Fourth, surviving employees will also react more positively to a retrenchment process when they perceive that management has handled retrenchment fairly (Brockner et al., 1987). They will perceive fairness when compensation for the employees leaving is adequate (Brockner et al., 1987; Cropanzano, Bowen, & Gilliland, 2007). In a downward spiral, poor performance reduces slack resources in a self-reinforcing fashion. When the firm reaches the later stages, slack has become exhausted (Hambrick & D’Aveni, 1988). The availability of cash for severance payments is lower in later stages of decline. For example, Hambrick and D’Aveni (1992) found that executive compensation in later decline stages is lower than that in early decline, and resources for rewards are limited even for securing managerial talent. Given that in early decline more resources are available for the compensation of the employees leaving, early retrenchment will diminish the negative reaction of the surviving employees.

Fifth, for strategic leaders, an advanced stage of the downward spiral triggers a threat–rigidity response with negative consequences. Some executives who might prefer decentralization (research and development or marketing profile) are likely to be replaced by new members with a finance or accounting background more prone to centralization (D’Aveni, 1989a; Hambrick & D’Aveni, 1992). The team becomes unbalanced in terms of skills and the number of executives decreases. Team depletion in quantity and in diversity hampers the quality of information processing and decision making (Filatotchev & Toms, 2003; Hambrick & D’Aveni) and impairs social capital (D’Aveni, 1990). Furthermore, reshaping the team becomes a challenge in declining cash-strapped organizations because new high-quality executives ought to be compensated for the risk to their reputation and future employment (G. Chen, 2014).

Then, the downward spiral decimates a board of directors, too. A number of independent board members tend to depart in an attempt to avoid firm stigma (Daily & Dalton, 1994; Filatotchev & Toms, 2003; Mueller & Barker, 1997). A less diverse board with a larger proportion of inside directors is less likely to mitigate agency problems (Mellahi, 2005). The board’s power and ability to influence the firm weakens as the downward spiral advances (Mellahi, 2005). In contrast, the CEO’s power and influence increases with decline (Mellahi, 2005). A board with less power and influence is less likely to fully meet its fiduciary duty. By comparison, boards acting early will avoid a loss of influence and will be able to meet their fiduciary duties (Arogyaswamy et al., 1995; Hambrick & D’Aveni, 1988; Sutton, 1990).

The arguments supporting a positive effect of an aggressive timing of retrenchment on declining firm performance can be also applied to an aggressive speed of retrenchment. First, time-aggressive firms implementing the retrenchment process quickly will shorten the period of decline. A shorter period of decline will avoid excessive levels of resource deterioration or the access to them (Staw et al., 1981). Second, a fast retrenchment process will also hold down excessive levels of decline-based threat–rigidity stress and centralization across the firm (Brockner et al., 1992; Cameron, 1994; P. Lee, 1997; Mishra & Spreatzer, 1998). Third, proactive executives retrenching fast are likely to be perceived as effective by the surviving employees (Hambrick & D’Aveni, 1988, 1992). Resources
conserved through a shortening of the downward spiral can improve the compensation of exiting employees (Hambrick & D’Aveni, 1992) and the surviving employees’ perception of a fair process (Brockner, 1988; Brockner et al., 1992) and reduce the negative reaction by the surviving employees (Brockner et al., 1987). Finally, a shorter downward slide and a less extreme threat–rigidity response will help keep a more diverse executive team, a more independent board, and a balanced power between the board and the CEO (Hambrick & D’Aveni, 1992; Mellahi, 2005).

Considering the above arguments, we can formally state the following:

**Hypothesis 2**: Time aggressiveness will be positively related to turnaround performance.

**Moderation by Time Aggressiveness of the Negative Relationship Between Volume Aggressiveness and Turnaround Performance**

We now hypothesize that time aggressiveness positively moderates the negative relationship between volume aggressiveness and turnaround performance. We first posit the moderation effects of timing aggressiveness and then the moderation effects of speed aggressiveness.

First, a combination of high volume aggressiveness and low time aggressiveness involves the firm in a resource-intense activity—high volume aggressiveness—at a moment in which resource slack is scant—low time aggressiveness. As less timing-aggressive firms drift down the downward spiral process, resource slack becomes eroded (Hambrick & D’Aveni, 1988). Additionally, the costs of reorganization increase as the firm spirals downwardly (Altman & Hotchkiss, 2011; Gilson, 1997b). However, the implementation of aggressive volume retrenchment requires resources (Brockner et al., 1987; D. Lee & Madhavan, 2010; Mishra & Spreitzer, 1998). Aggressive volume retrenchment at a late stage of decline—that is, combined with low aggressive time retrenchment—is likely to result in underperformance due to tensions in slack resources. Yet, slack is needed to achieve a successful turnaround (Arogyaswamy et al., 1995; D’Aveni, 1989b). Slack constrains a firm’s strategy (Barker & Duhaime, 1997; D’Aveni, 1989b), and “managers should consider the depth of the firm’s cushion before undertaking certain strategies” (D’Aveni, 1989b: 1136). The possession of slack avoids firm dissolution and its exhaustion triggers a firm’s bankruptcy (D’Aveni, 1989b). We focus now on the uses of slack under volume-aggressive retrenchment.

Aggressive volume asset retrenchment requires slack resources. Under an asset retrenchment strategy, firms deliberately eliminate assets by divesting equity, closing plants, and reducing the stock of property, equipment, and inventory (Lim et al., 2013; Morrow et al., 2004; Robbins & Pearce, 1992). The execution of asset retrenchment requires the transfer of the assets retrenched: Having a transactional bilateral nature, the declining firm needs to find an acquirer and is hence involved in a time- and resource-consuming process (Barbero, Ramos, & Chiang, 2017; Brauer, 2006; D. Lee & Madhavan, 2010). We have evidence that performance in divestment processes increases with the level of resources slack (D. Lee & Madhavan, 2010). Some of the resources needed to execute divestment are a better network, managerial capabilities, and money (D. Lee & Madhavan, 2010). Notwithstanding, decline erodes firm network (Arogyaswamy et al., 1995; Pajunen, 2006; Sutton, 1990), managerial capabilities (Hambrick & D’Aveni, 1992), and money (Hambrick & D’Aveni, 1988). Then,
slack is also required to implement workforce aggressive volume retrenchment. As argued earlier, surviving employees react less negatively to retrenchment processes when they perceive that they have been fairly managed through adequate compensation (Brockner et al., 1987; Cascio, 1993; Iverson & Pullman, 2000; Mishra & Spreitzer, 1998). During the early stages of the downward slide, the firm accumulates slack (Hambrick & D’Aveni, 1988, 1992) that can be used to better compensate employees by the retrenchment process. During late decline, slack becomes depleted, compensation is likely to be lower (Hambrick & D’Aveni, 1992), and the retrenchment process will be perceived as unfair.

In sum, the execution of volume-aggressive asset and cost retrenchment requires slack (Brockner et al., 1987; D. Lee & Madhavan, 2010). Firms pursuing intense resource volume retrenchment at a moment in which slack is scant, such as late decline, opt for a high-risk combination leading to either underperformance or even firm demise.

Second, aggressive volume asset retrenchment conducted in the latest stages of decline will result in reduced sale prices. In late decline, the firm is stigmatized and because its reputation is tarnished (D’Aveni, 1990; Hambrick & D’Aveni, 1992), firm problems are likely to be known by potential acquirers. The bargaining power of highly distressed organizations in situations of divestment is low (Laamanen et al., 2014). These organizations are likely to retrench assets at fire-sale prices, which will impact firm profitability (Andersen & Nielsen, 2017; Laamanen et al., 2014; Shleifer & Vishny, 1992). In situations of fire sale, aggressive volume retrenchment is likely to negatively influence performance and slack even more. A highly distressed seller placing a very large amount of assets in the market will negatively affect fire-sale prices given that fire-sale effects increase with the size of the deal (Finlay, Marshall, & McColgan, 2018).

Third, a combination of low timing aggressiveness and high volume aggressiveness will tremendously increase the employees’ level of stress. Employees are likely to accumulate stress from two sources. Under late action, downward-spiral resource erosion will endow the surviving employees with a lower quantity and quality of resources available for task performance (Arogyaswamy et al., 1995; Hambrick & D’Aveni, 1988, 1992; Pajunen, 2006; Staw et al., 1981). The employees’ task performance burden increase will need to be coped with through a lower resource base and less employee discretion derived from increased managerial centralization (Brockner et al., 2004; Staw et al., 1981). Also, this downward slide will trigger a threat–rigidity response across the firm, which will increase managerial centralization, adding to the level of stress (Staw et al., 1981). Then, high volume aggressiveness will further reduce the number of employees left and the amount of resources available to deal with task performance, resulting in an increasing workload and more stress (Brockner, 1988; Brockner et al., 1992; Cameron et al., 1991). The combination of both is likely to produce extreme levels of stress for the surviving employees, and based on the Yerkes-Dodson curve, the firm is likely to vastly underperform (Rudolph & Repenning, 2002; Yerkes & Dodson, 1908).

The moderating effects of the speed of retrenchment operate in a similar fashion to those of the timing of retrenchment. Fast retrenchment shortens the period of decline, preserving resource slack. A greater stock of reputational, human, or financial resources required to adequately implement retrenchment processes by high-volume-aggressive firms will curb the negative effects of slack tensions. Also, speed-aggressive firms will curtail the negative effects of fire-sale prices under aggressive volume given that retrenchment is being executed...
at an earlier stage of decline. This will scale down the stress level of the surviving employees by executing volume retrenchment earlier in the decline cycle.

Based on the above arguments, we posit the following:

**Hypothesis 3**: Time aggressiveness will positively moderate the relationship between volume aggressiveness and turnaround performance.

**Method**

**Data and Sample**

Our aim is to study established firms in a situation of decline involved in retrenchment processes. We drew our sample from the Compustat database quarterly files to select declining firms between the years 1990 and 2010 and their effects on turnaround success 6 years later (Ndofor, Vanevenhoven, & Barker, 2013). We define a company in decline as one that has 2 consecutive years of declining return on assets (ROA), after a base year with ROA greater than the risk-free rate. We used the return for the 6-month U.S. T-bill as a proxy for the risk-free rate (Barker & Duhaime, 1997; Ndofor et al., 2013). Sample firms were also required to report a negative ROA in the 2nd year of decline to single out firms enduring a survival-threatening event (Lim et al., 2013). Declining firms were further obliged to employ more than 500 employees in the base year (Morrow et al., 2004; Tangpong et al., 2015). Also, we limited our sample to companies that derived at least 70% of their revenues from their primary three-digit Standard Industrial Classification (SIC) industry to avoid the pooling effects of financial data between divisions (Morrow et al., 2004; Tangpong et al., 2015). In addition to the above criteria, we chose firms operating in SIC industries 2000 to 3999, that is, manufacturing firms (Morrow et al., 2004). Finally, if a firm displayed these requirements more than once during our 21-year period of analysis, we used the reported data corresponding to the 1st year the company met them (Ndofor et al., 2013). We identified 836 companies from this set. For this set of declining firms to be considered a successful turnaround, they had to meet the following criteria: (a) have at least 2 years of increasing its ROA after 2 years of decline and (2) have achieved and maintained a positive ROA by at least the 6th year after the 2nd year of decline (Barker & Duhaime; Ndofor et al., 2013; Tangpong et al., 2015). In brief, to select declining firms and assess their turnaround success, we used a base year plus a 6-year period (Lim et al., 103; Morrow et al., 2004). We used the base year and the 2 first years of the 6-year period to determine whether the firms were considered to be in decline. We used the last 4 years of the 6-year period to determine a turnaround success.

To study retrenchment aggressiveness, we singled out firms involved in retrenchment processes. The literature discusses two retrenchment strategies: asset retrenchment and cost retrenchment (Lim et al., 2013). We selected asset retrenchers as those firms cutting total assets by more than 5% over the 6-year period (Lim et al., 2013). We also selected cost retrenchers as those firms reducing selling, general, and administrative expenses (SGA) by more than 5% over this period. We identified 758 declining firms implementing either asset retrenchment or cost retrenchment measures. This accounts for 90.67% of the total sample of declining firms. A total of 266 firms met the requirements to be considered successful turnarounds. This accounts for 35.08%, a figure similar to other turnaround studies (Barker & Mone, 1998; Ndofor et al., 2013).
Selection Bias

Since strategic decisions (such as the decision to retrench) are typically not random and are often endogenously linked to other organizational variables, there is a possibility of sample selection bias. Our empirical design allowed us to observe only cases where retrenchment occurred. To control for possible sample selection bias (Certo, Busenbark, Woo, & Semadeni, 2016), prior to our analyses we used Heckman’s two-stage model (G. Chen, 2014; G. Chen & Hambrick, 2012; Ndofor et al., 2013; Tangpong et al., 2015). In the first stage, we ran a probit analysis to demonstrate the existence of selection bias through the Wald test for independence of equations. We regressed the retrenchment dummy (retrencher = 1; otherwise 0) on organizational and industry retrenchment predictors evidenced by prior studies (G. Chen, 2014; Daily & Dalton, 1994; Tangpong et al., 2015). Specifically, we used level of distress (measured by the firm’s Altman Z score), quick ratio (measured by the current assets minus inventories divided by the current liabilities), firm size (calculated as the transformed logarithm of the number of employees), leverage (operationalized as the ratio of long-term debt to total assets), firm performance (measured by firm ROA), and firm age (the log of the number of years from the establishment of the company until the year prior to its decline). These variables were computed at the base year. We also used CEO change (a binary variable indicating whether there had been a change in the company’s CEO during the 2 years of decline or the 1st year after decline [change CEO = 1; otherwise 0]), year dummies (21 dummies corresponding to each of the years of the period of analysis), and industry dummies (19 dummies corresponding to each of the SIC two-digit industry sectors represented in our sample). Our results indicated no evidence of selection bias. They showed that the $\chi^2$ statistic was not significant, $\chi^2(1) = 1.40, p = .23$, indicating that selection bias was not a concern.

Methodology

We tested our hypotheses by using a matched-pair sampling technique. Using matched pairs provides a means to study rare phenomena (Arthaud-Day, Certo, Dalton, & Dalton, 2006; D’Aveni & MacMillan, 1990; Daily, 1996) and is well established as one of the most appropriate methods to study infrequent events (Ndofor, Wesley, & Priem, 2015). Random sampling is less appropriate to study infrequent events because it does not generate an adequate number of cases (O’Connor, Priem, Coombs, & Gilley, 2006; Tangpong et al., 2015). Thus, as the turnaround literature has considered turnaround success to be an infrequent event (Barker & Mone, 1994, 1998), matched pair has been very common in turnaround studies (Ndofor et al., 2013; Tangpong et al., 2015). Another advantage of pair matching is that the design “allows for a priori mitigation of endogeneity concerns” (Heyden, Kavadis, & Neuman, 2017: 2072) by controlling the noise of confounding factors found in infrequent event random sampling (Gomulya & Mishina, 2017). The turnaround and decline literature has pointed out that it is vital to control for critical confounding factors (Bruton, Ahlstrom, & Wan, 2003; D’Aveni, 1989a; Mueller & Barker, 1997), such as industry or firm size (Arogyaswamy et al., 1995; Trahms et al., 2013). In our sample of 756 declining firms introducing retrenchment measures, 266 firms had successful turnarounds. We needed to identify a comparison target of nonsuccessful turnaround firms.

In the past, turnaround studies have used industry and firm size (assets and sales) to match successful and unsuccessful firms (Daily & Dalton, 1994; Schendel, Patton, & Riggs, 1976;
Industry has been shown to be one of the most contingent factors to turnaround success (Lim et al., 2013; Morrow et al., 2004; Ndofor et al., 2013). Also, industry is linked with the critical literature discussion on the causes of firm decline. Authors have become quite concerned about the potential bias by the firm’s causes of decline and have suggested the need to account for strong controls on whether decline is firm-based or industry-based (Arogyaswamy et al., 1995; Barker & Duhaime, 1997; Ndofor et al., 2013). A match on industry improves overcoming this critical bias in turnaround research. Regarding size, studies have found this variable to influence both survival rates (Hannan & Freeman, 1989) and critical turnaround performance aspects, such as strategic change (Barker & Duhaime).

From a pool of 756 declining firms, we identified candidate firms from industry and firm size by using Mergent Online and Compustat (Abebe & Tangpong, 2018; Tangpong et al., 2015). Similar to other studies (Abebe & Tangpong; Tangpong et al., 2015), we chose for our successful firms a counterfactual case that appeared in Mergent Online as a direct competitor and had an identical two-digit SIC code. Out of the possible counterfactual cases meeting these criteria, we used total assets (calculated as the transformed logarithm of assets in the base year) and firm sales (calculated as the transformed logarithm of sales in the base year) as our second-level criterion. We were unable to identify a candidate firm for 19 of our treatment firms, and they were dropped from our final sample. This represents 7.88% of the sample, a percentage similar to other turnaround studies (Abebe & Tangpong; D’Aveni, 1990; Tangpong et al., 2015). Our final sample size was 494 firms, based on the match of 247 unsuccessful firms with 247 successful firms. To test the appropriateness of our matching process, we used $T$ tests to identify significant differences between the successful and unsuccessful subsamples on total assets, firm sales, and firm size. The $T$ tests revealed that the subsamples were statistically significant before the matching and statistically not significant after the matching, suggesting that our matching process was appropriate (G. Chen, Luo, Tang, & Tong, 2015; Tangpong et al., 2015).

The financial data were collected from the Compustat North American Database. The agency variables (CEO change, CEO duality, and board size) were extracted from annual reports and proxy statements filed with the U.S. Securities and Exchange Commission (EDGAR database).

**Measurement**

**Dependent variables.** Our dependent variable is turnaround performance. To test our hypotheses, we used a binary variable as our main dependent variable (Hambrick & D’Aveni, 1992; Ndofor et al., 2013; Tangpong et al., 2015). This variable is turnaround success and is based on whether the firm was successful in turning around or not, as described in the Data and Sample section. There are two reasons for using a binary dependent variable in our research. Binary dependent variables have been proved in the past to enjoy a great power to accurately assess turnaround performance (Mueller & Barker, 1997). In contrast, other continuous variables have been subject to criticism (Barker & Mone, 1994; Trahms et al., 2013). Second, most recent leading research studying the value of retrenchment has successfully used this type of variable as its only or main dependent variable (Abebe & Tangpong, 2018; Ndofor et al., 2013; Tangpong et al., 2015). Future researchers will be able to compare our research with prior leading research on the value of retrenchment. The variable was binary.
coded 1 for a successful turnaround and 0 for an unsuccessful turnaround. As a second variable, we used ROA change as a proxy for turnaround performance. Consistent with other turnaround studies, we calculated ROA change as the difference between the average three-digit SIC industry-adjusted ROA for the last 3 years and for the first 3 years of the 6-year period (Tangpong et al., 2015).

**Independent variables.** The independent variables in this study are related to the two dimensions of retrenchment aggressiveness: time aggressiveness and volume aggressiveness (Nadkarni et al., 2016). Time aggressiveness is represented by the two variables timing of retrenchment and speed of retrenchment. Timing of retrenchment is calculated by standardizing and adding the timing of asset retrenchment and the timing of cost retrenchment. The speed of retrenchment is calculated by standardizing and adding the speed of asset retrenchment and the speed of cost retrenchment. The timing of each—asset retrenchment and cost retrenchment—is calculated as the count of the number of quarters spanning the quarter in which asset retrenchment or cost retrenchment is initiated and the last quarter of the base year (Barbero, Di Pietro, et al., 2017). The speed of each is calculated as the number of quarters between the initiation of the retrenchment process (timing) and the time period in which the firm reached 80% of the total amount retrenched during the six-year study period (Barbero, Di Pietro, et al., 2017). Negative values for the timing and speed represent an earlier timing and a faster speed of retrenchment.

Volume aggressiveness is calculated as the sum of the standardized values of asset retrenchment and cost retrenchment. Each—asset retrenchment and cost retrenchment—is calculated as the total drop of assets (total assets) or total drop of costs (SGA) in the 6-year period (Lim et al., 2013; Morrow et al., 2004; Robbins & Pearce, 1992). Negative values for volume of retrenchment represent a lower volume of retrenchment. Finally, we standardized the timing and speed of retrenchment and volume aggressiveness.

**Control variables.** We incorporated three sets of control variables to account for conditions in the firm (level of distress, firm size, variation of common stock, issuance of debt, firm growth, capital investment intensity, firm age, causes of decline), industry (industry growth rate, industry median profitability), and corporate governance level (board size, board independence, CEO change, CEO duality) that might potentially influence turnaround performance.

First, in connection with firm characteristics, scholars have suggested that the level of distress influences the degree of retrenchment, the type of retrenchment strategy choice (Arogyaswamy et al., 1995; Bibeault, 1982; Robbins & Pearce, 1992), and the performance of the firm (Schendel et al., 1976; Slatter et al., 2006). We accounted for firm size because evidence has shown that smaller firms possess a greater degree of inertia and a less-retrenchment-proactive behavior than larger firms (Barker, Patterson, & Mueller, 2001). Also, mortality rates are greater for smaller firms (Hannan & Freeman, 1989). To control for the financing raised during the period of decline (Ndofor et al., 2013), we used variation of common stock (dummy variable coded 1 if additional equity was raised during decline years) and issuance of debt (dummy variable coded 1 if additional debt was raised during decline years). Firm growth (firm sales growth between the 1st year of decline and the prior year) allowed us to control for performance not captured by our level-of-distress variable. Firm age has been linked to the nature of the causes of decline given that the decline of older firms has an
environmental nature, whereas that of younger firms has a firm nature (Thornhill & Amit, 2003). We controlled for capital investment intensity as it represents a leading indicator of early decline (Castrogiovanni, Baliga, & Kidwell, 1992). Causes of decline is a particularly important control variable accounting for whether decline had a firm or an environmental nature (Arogyaswamy et al., 1995; Barker & Duhaime, 1997). The calculation of this variable is given by the expression \( \text{ROA firm (Year 1)} - \text{ROA sector (Year 1)} \) (G. Chen, 2014; Lim et al., 2013).

Second, industry conditions is one of the most studied contingencies in turnaround research (Barbero, Di Pietro, et al., 2017; Lim et al., 2013; Morrow et al., 2004; Ndofor et al., 2013). We controlled for industry growth rate (three-digit SIC industry median rate) and industry median profitability (three-digit SIC industry median ROA). These two variables are meant to capture the favorable and bountiful environmental conditions provided by the industry.

Finally, we controlled for the firm’s corporate governance profile given its critical role in declining firm performance (Daily, 1995, 1996; Dowell et al., 2011; Mueller & Barker, 1997). We accounted for this with two variables for CEO (CEO duality and CEO change) and two variables for the board of directors (board size and board independence). The literature suggests that CEO duality leads to increased CEO power and to unity of command (Dowell et al., 2011). As a result, duality facilitates making critical decisions in a short time frame, which affects results positively (Dowell et al., 2011; Mueller & Barker, 1997). To control for CEO duality, we coded a dummy variable as 1 if the CEO also held the position of chair of the board in the base year. CEO change drives a positive reaction by the markets (Davidson, Worrell, & Dutia, 1993), and successors tend to execute a greater degree of strategic change leading to higher performance (Arogyaswamy et al., 1995; Barker & Duhaime, 1997; Ndofor et al., 2013). In declining organizations, fast decision making has been linked with board size. As a consequence, agility in small boards positively affects declining firms’ performance (Dowell et al., 2011). We calculated board size as the number of members on the board of directors. Last, board independence has been evidenced to positively influence declining firms’ performance (Daily, 1995; Mueller & Barker, 1997) and lead to faster chapter 11 reorganizations (Daily, 1996). We calculated board independence as the number of nonmanagement directors divided by the total number of directors (Marcel, Cowen, & Ballinger, 2017). We also included year dummies and industry dummies to capture the industry and time period in which retrenchment/recovery took place.

**Results**

Descriptive statistics and correlations for all the variables in our models appear in Table 1. We checked the variance inflation factors (VIF), and only one of them was slightly larger than 3 (industry growth rate VIF = 3.05), indicating no multicollinearity issues. Table 2 includes Models 1a to 8a, testing our hypotheses by using the dependent variable turnaround success. Table 3 includes Models 1b to 8b, testing our hypotheses by using the dependent variable ROA change. Despite extreme performance being common in turnaround studies (Morrow et al., 2004; Tangpong et al., 2015), we checked the distribution of values for ROA change to investigate for the presence of outliers. We found three firms with ROA change values greater than 3 standard deviations from the mean (Norman, Butler, & Ranft, 2012).
### Table 1
Descriptive Statistics and Correlation Matrix

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Level of distress</td>
<td>4.25</td>
<td>5.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Firm size (log)</td>
<td>1.14</td>
<td>1.35</td>
<td>-1.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Variation common stock</td>
<td>0.83</td>
<td>0.38</td>
<td>.07</td>
<td>-0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Issuance of debt</td>
<td>0.71</td>
<td>0.45</td>
<td>-0.13</td>
<td>0.25</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Firm growth</td>
<td>0.06</td>
<td>0.32</td>
<td>0.15</td>
<td>-0.1</td>
<td>0.03</td>
<td>0.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Capital investment intensity</td>
<td>0.07</td>
<td>0.09</td>
<td>0.14</td>
<td>0.02</td>
<td>0.14</td>
<td>0.07</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Firm age (log)</td>
<td>3.25</td>
<td>1.10</td>
<td>-0.10</td>
<td>0.26</td>
<td>-0.08</td>
<td>0.02</td>
<td>-0.20</td>
<td>-0.20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Causes of decline</td>
<td>2.80</td>
<td>9.19</td>
<td>0.10</td>
<td>0.02</td>
<td>-0.01</td>
<td>0.02</td>
<td>0.23</td>
<td>0.02</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Industry growth rate</td>
<td>0.08</td>
<td>0.11</td>
<td>-0.01</td>
<td>-0.14</td>
<td>0.12</td>
<td>0.02</td>
<td>0.29</td>
<td>0.00</td>
<td>-0.09</td>
<td>0.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Industry median profitability</td>
<td>-0.86</td>
<td>4.59</td>
<td>0.01</td>
<td>-0.01</td>
<td>-0.03</td>
<td>-0.00</td>
<td>0.02</td>
<td>0.05</td>
<td>-0.59</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Board size</td>
<td>9.79</td>
<td>3.36</td>
<td>0.39</td>
<td>0.03</td>
<td>0.09</td>
<td>-0.01</td>
<td>0.14</td>
<td>0.09</td>
<td>0.03</td>
<td>-0.04</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Board independence</td>
<td>0.70</td>
<td>0.13</td>
<td>0.05</td>
<td>-0.02</td>
<td>-0.00</td>
<td>0.02</td>
<td>0.04</td>
<td>0.04</td>
<td>0.03</td>
<td>-0.07</td>
<td>0.00</td>
<td>0.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. CEO change</td>
<td>0.30</td>
<td>0.46</td>
<td>0.03</td>
<td>-0.03</td>
<td>0.02</td>
<td>-0.08</td>
<td>0.01</td>
<td>-0.03</td>
<td>0.08</td>
<td>0.11</td>
<td>0.04</td>
<td>0.00</td>
<td>0.04</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. CEO duality</td>
<td>0.71</td>
<td>0.45</td>
<td>-0.06</td>
<td>-0.09</td>
<td>0.13</td>
<td>0.02</td>
<td>-0.01</td>
<td>0.05</td>
<td>0.06</td>
<td>0.02</td>
<td>-0.02</td>
<td>0.11</td>
<td>-0.06</td>
<td>0.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Volume aggressiveness</td>
<td>0.00</td>
<td>1.00</td>
<td>0.01</td>
<td>-0.22</td>
<td>0.11</td>
<td>0.05</td>
<td>-0.03</td>
<td>-0.12</td>
<td>0.18</td>
<td>0.15</td>
<td>0.05</td>
<td>-12.08</td>
<td>0.06</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Timing (time aggressiveness)</td>
<td>0.00</td>
<td>1.00</td>
<td>0.00</td>
<td>0.15</td>
<td>0.01</td>
<td>0.09</td>
<td>0.10</td>
<td>0.03</td>
<td>0.03</td>
<td>0.13</td>
<td>0.07</td>
<td>0.02</td>
<td>0.12</td>
<td>0.04</td>
<td>0.03</td>
<td>0.10</td>
<td>0.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Speed (time aggressiveness)</td>
<td>0.00</td>
<td>1.00</td>
<td>-0.04</td>
<td>-0.04</td>
<td>0.04</td>
<td>0.00</td>
<td>0.03</td>
<td>0.01</td>
<td>0.07</td>
<td>-0.01</td>
<td>0.03</td>
<td>-0.06</td>
<td>0.04</td>
<td>-0.00</td>
<td>0.05</td>
<td>0.48</td>
<td>0.49</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Turnaround success</td>
<td>0.50</td>
<td>0.50</td>
<td>0.08</td>
<td>0.04</td>
<td>0.07</td>
<td>0.02</td>
<td>0.02</td>
<td>-0.08</td>
<td>0.17</td>
<td>0.09</td>
<td>-0.11</td>
<td>-0.08</td>
<td>0.03</td>
<td>0.10</td>
<td>-0.09</td>
<td>-0.02</td>
<td>0.31</td>
<td>-0.03</td>
<td>-0.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. ROA change</td>
<td>6.09</td>
<td>32.40</td>
<td>-0.02</td>
<td>0.05</td>
<td>-0.66</td>
<td>-0.08</td>
<td>0.05</td>
<td>0.04</td>
<td>0.06</td>
<td>0.07</td>
<td>0.01</td>
<td>0.06</td>
<td>0.03</td>
<td>0.01</td>
<td>-0.03</td>
<td>-0.05</td>
<td>-0.03</td>
<td>-0.10</td>
<td>0.19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: N = 494. Correlations with values of |.09| or greater are significant at *p* < .05.*
Given that we used a pair-matched sample, we removed the three outliers and their three matching firms.

We used logit regression analyses to test our three hypotheses with the dependent variable turnaround success (Models 1a–8a). We employed ordinary least squares to test our results with the dependent variable ROA change (Models 1b–8b). We utilized robust standard errors...
Table 3  
Effects of Volume Aggressiveness and Time Aggressiveness on Return-on-Assets Change

<table>
<thead>
<tr>
<th>Variable</th>
<th>1b</th>
<th>2b</th>
<th>3b</th>
<th>4b</th>
<th>5b</th>
<th>6b</th>
<th>7b</th>
<th>8b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of distress</td>
<td>0.36†</td>
<td>0.36†</td>
<td>0.36†</td>
<td>0.36†</td>
<td>0.35†</td>
<td>0.36†</td>
<td>0.33†</td>
<td>0.31†</td>
</tr>
<tr>
<td>(0.16)</td>
<td>(0.16)</td>
<td>(0.15)</td>
<td>(0.15)</td>
<td>(0.14)</td>
<td>(0.15)</td>
<td>(0.15)</td>
<td>(0.13)</td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>−0.38</td>
<td>−0.40</td>
<td>−0.31</td>
<td>−0.36</td>
<td>−0.19</td>
<td>−0.35</td>
<td>−0.32</td>
<td>−0.09</td>
</tr>
<tr>
<td>(0.53)</td>
<td>(0.51)</td>
<td>(0.53)</td>
<td>(0.52)</td>
<td>(0.48)</td>
<td>(0.51)</td>
<td>(0.49)</td>
<td>(0.46)</td>
<td></td>
</tr>
<tr>
<td>Variation common stock</td>
<td>2.46†</td>
<td>2.46†</td>
<td>2.62†</td>
<td>2.57†</td>
<td>2.61†</td>
<td>2.37†</td>
<td>2.50†</td>
<td></td>
</tr>
<tr>
<td>(1.48)</td>
<td>(1.49)</td>
<td>(1.47)</td>
<td>(1.46)</td>
<td>(1.40)</td>
<td>(1.48)</td>
<td>(1.43)</td>
<td>(1.36)</td>
<td></td>
</tr>
<tr>
<td>Issuance of debt</td>
<td>5.09†</td>
<td>5.07†</td>
<td>5.24†</td>
<td>5.07†</td>
<td>5.36†</td>
<td>4.84†</td>
<td>5.00†</td>
<td>4.18†</td>
</tr>
<tr>
<td>(2.22)</td>
<td>(2.21)</td>
<td>(2.15)</td>
<td>(2.22)</td>
<td>(2.11)</td>
<td>(2.02)</td>
<td>(2.23)</td>
<td>(1.91)</td>
<td></td>
</tr>
<tr>
<td>Firm growth</td>
<td>−1.81</td>
<td>−1.77</td>
<td>−1.19</td>
<td>−1.88</td>
<td>−0.96</td>
<td>−0.24</td>
<td>−2.24</td>
<td>0.36</td>
</tr>
<tr>
<td>(3.04)</td>
<td>(3.03)</td>
<td>(2.96)</td>
<td>(3.00)</td>
<td>(2.79)</td>
<td>(2.85)</td>
<td>(3.01)</td>
<td>(2.49)</td>
<td></td>
</tr>
<tr>
<td>Capital investment intensity</td>
<td>−9.26</td>
<td>−9.31</td>
<td>−8.26</td>
<td>−8.64</td>
<td>−6.08</td>
<td>−8.28</td>
<td>−8.27</td>
<td>−5.95</td>
</tr>
<tr>
<td>Firm age</td>
<td>0.49</td>
<td>0.49</td>
<td>0.56</td>
<td>0.49</td>
<td>0.65</td>
<td>0.44</td>
<td>0.66</td>
<td>0.57</td>
</tr>
<tr>
<td>(0.59)</td>
<td>(0.59)</td>
<td>(0.59)</td>
<td>(0.58)</td>
<td>(0.56)</td>
<td>(0.59)</td>
<td>(0.58)</td>
<td>(0.55)</td>
<td></td>
</tr>
<tr>
<td>Causes of decline</td>
<td>−0.72***</td>
<td>−0.73***</td>
<td>−0.68***</td>
<td>−0.73***</td>
<td>−0.66***</td>
<td>−0.68***</td>
<td>−0.67***</td>
<td>−0.54***</td>
</tr>
<tr>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.10)</td>
<td>(0.10)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td></td>
</tr>
<tr>
<td>Industry growth rate</td>
<td>3.36</td>
<td>3.41</td>
<td>0.69</td>
<td>4.30</td>
<td>0.97</td>
<td>1.39</td>
<td>3.35</td>
<td>1.10</td>
</tr>
<tr>
<td>(9.30)</td>
<td>(9.31)</td>
<td>(9.52)</td>
<td>(9.24)</td>
<td>(9.31)</td>
<td>(9.60)</td>
<td>(9.00)</td>
<td>(9.15)</td>
<td></td>
</tr>
<tr>
<td>Industry median profitability</td>
<td>−0.50***</td>
<td>−0.50***</td>
<td>−0.48***</td>
<td>−0.40***</td>
<td>−0.44***</td>
<td>−0.47***</td>
<td>−0.45***</td>
<td>−0.33***</td>
</tr>
<tr>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td></td>
</tr>
<tr>
<td>Board size</td>
<td>−0.21</td>
<td>−0.21</td>
<td>−0.15</td>
<td>−0.25</td>
<td>−0.19</td>
<td>−0.14</td>
<td>−0.28</td>
<td>−0.22</td>
</tr>
<tr>
<td>(0.21)</td>
<td>(0.21)</td>
<td>(0.21)</td>
<td>(0.21)</td>
<td>(0.20)</td>
<td>(0.20)</td>
<td>(0.20)</td>
<td>(0.18)</td>
<td></td>
</tr>
<tr>
<td>Board independence</td>
<td>3.72</td>
<td>3.62</td>
<td>4.40</td>
<td>3.28</td>
<td>4.12</td>
<td>4.20</td>
<td>2.05</td>
<td>1.87</td>
</tr>
<tr>
<td>(5.15)</td>
<td>(5.15)</td>
<td>(5.23)</td>
<td>(5.09)</td>
<td>(5.14)</td>
<td>(5.29)</td>
<td>(5.19)</td>
<td>(5.30)</td>
<td></td>
</tr>
<tr>
<td>CEO change</td>
<td>−1.52</td>
<td>−1.51</td>
<td>−1.46</td>
<td>−1.60</td>
<td>−1.64</td>
<td>−1.42</td>
<td>−1.63</td>
<td>−1.61</td>
</tr>
<tr>
<td>(1.40)</td>
<td>(1.40)</td>
<td>(1.39)</td>
<td>(1.38)</td>
<td>(1.32)</td>
<td>(1.39)</td>
<td>(1.34)</td>
<td>(1.27)</td>
<td></td>
</tr>
<tr>
<td>CEO duality</td>
<td>−0.96</td>
<td>−0.92</td>
<td>−0.60</td>
<td>−0.73</td>
<td>0.04</td>
<td>−0.40</td>
<td>−0.80</td>
<td>0.03</td>
</tr>
<tr>
<td>(1.50)</td>
<td>(1.52)</td>
<td>(1.48)</td>
<td>(1.50)</td>
<td>(1.48)</td>
<td>(1.52)</td>
<td>(1.48)</td>
<td>(1.45)</td>
<td></td>
</tr>
<tr>
<td>Volume aggressiveness</td>
<td>−0.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.94)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timing (time aggressiveness)</td>
<td>−2.37**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.86)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed (time aggressiveness)</td>
<td>−1.75*</td>
<td>−3.84***</td>
<td></td>
<td>−2.90**</td>
<td>−4.94***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.68)</td>
<td>(0.84)</td>
<td></td>
<td></td>
<td>(0.91)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timing × Volume</td>
<td>−1.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1.32)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed × Volume</td>
<td>−2.28**</td>
<td>−4.15**</td>
<td></td>
<td>−4.40*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.84)</td>
<td>(1.40)</td>
<td></td>
<td></td>
<td>(1.77)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>−8.89</td>
<td>−8.72</td>
<td>−7.87</td>
<td>−6.48</td>
<td>−7.84</td>
<td>−8.21</td>
<td>−8.45</td>
<td>−2.63</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.29***</td>
<td>0.29***</td>
<td>0.30***</td>
<td>0.30***</td>
<td>0.34***</td>
<td>0.32***</td>
<td>0.32***</td>
<td>0.39***</td>
</tr>
</tbody>
</table>

Note: Standard errors are in parentheses. $N = 488$. Industry and year dummies included.

*p < .1.

**p < .01.

***p < .001.

for all our analyses. Model 1 is the control model for our three hypotheses. Models 2 through 5 are the direct-effects models, used to test our first and second hypotheses. Models 6 through 8 are the interaction models, used to test our third hypothesis. Models 2, 3, and 4, respectively, include volume aggressiveness and the two variables representing time aggressiveness,
which are the timing of retrenchment and the speed of retrenchment. Model 5 is the full model for direct effects, including those three variables at the same time. Models 6 and 7 include the interactions between the volume and the timing of retrenchment, and the volume and the speed of retrenchment, respectively. Model 8 is the full model for the interaction effects, including both interactions at the same time.

Our first hypothesis argues that volume aggressiveness exerts a negative effect on turnaround performance. Model 2 presents the results for our first hypothesis and confirms our dependent variable turnaround success (for 2a, $\beta = -1.00, p < .00$), having a negative and significant coefficient. To test our second hypothesis, which argued a positive effect of time aggressiveness on turnaround performance, we use Model 3 (timing of retrenchment), Model 4 (speed of retrenchment), and Model 5 (the full direct-effects model). The results for Models 3a and 3b show that the timing of retrenchment is significant for our dependent variable ROA change (for 3b, $\beta = -2.37, p < .01$) but not for our dependent variable turnaround success. However, the results obtained for the timing of retrenchment in the full direct-effects model for both dependent variables (Models 5a and 5b) confirms the relationship between an early timing of retrenchment and performance (for 5a, $\beta = -0.60, p < .00$; for 5b, $\beta = -4.16, p < .00$). The results for Models 4a and 4b show that a faster speed of retrenchment is significant in predicting firm performance (for 4a, $\beta = -0.57, p < .00$; for 4b, $\beta = -1.75, p < .05$). The full direct-effects model is consistent with these results and confirms a positive effect by a fast speed of retrenchment and turnaround performance (for 5a, $\beta = -0.46, p < .05$; for 5b, $\beta = -3.84, p < .00$). In sum, the results for the timing of retrenchment and the speed of retrenchment suggest that the more time aggressive a declining firm is, the greater the turnaround performance.

Our third hypothesis argues that time aggressiveness positively moderates the negative relationship between volume aggressiveness and turnaround performance. Again, we independently analyze the timing and the speed of retrenchment. Model 6a confirms ($\beta = -0.47, p < .01$) that the timing of retrenchment exerts a positive moderator effect on the negative relationship between the volume of retrenchment and the turnaround performance. The full model for the interaction effects and the dependent variable turnaround success (Model 8a) also confirms these results ($\beta = -0.96, p < .00$). Finally, Models 7b and 8a confirm the positive interaction effects of a fast speed of retrenchment (for 7b, $\beta = -2.28, p < .01$; for 8a, $\beta = -0.70, p < .01$). In short, these results confirm that time aggressiveness exerts a positive effect on the negative effect between volume aggressiveness and turnaround performance.

Binary logistic regressions and limited dependent variable (LDV) models in general are not linear. The marginal effect of the explanatory variable is different from the model coefficient (Wiersema & Bowen, 2009). Research prescribes reporting the marginal effect of the independent and interaction variables to assess their true effect (Ndofor et al., 2013; Tangpong et al., 2015). We calculated the marginal effect for our LDV turnaround success using the full direct-effects model (Model 5a) for our significant direct effects and the full model (Model 8a) for the significant interaction effects. The marginal effect for volume aggressiveness, timing aggressiveness, and speed aggressiveness amounts to $-0.26 (p < .00; Z = -4.84)$, $-0.14 (p < .00; Z = -3.72)$, and $-0.14 (p < .01; Z = -3.00)$. This implies that a 1% decrease in volume aggressiveness (lower volume retrenchment), timing of retrenchment (earlier retrenchment), or speed of retrenchment (faster retrenchment) above its mean improves the likelihood of turnaround success by 26%, 14%, and 14%, respectively. Methodological
research advises that the interpretation of LDV results requires the graphic plot of the Z statistics (Hoetker, 2007; Wiersema & Bowen, 2009). Figures 3a, 3b, and 3c plot the marginal effect of volume aggressiveness, timing of retrenchment, and speed of retrenchment on turnaround success. The figures confirm our Hypotheses 1 and 2 as they show that almost all of the cases lie below the lower limit of the confidence interval (Z statistic $<-1.96$) and have a negative sign as indicated by the left y-axis. The moderating effect of timing aggressiveness on the marginal effect of volume aggressiveness on turnaround success amounts to $-0.24$ ($p < .00; Z = -3.67$). Figure 3d plots this effect. The figure depicts that the majority of the cases lie below the lower limit of the confidence interval. As shown in the figure, the interaction effect is primarily significant when the probability of turnaround success is in the 0.3-to-0.9 range, which provides support for our Hypothesis 3.

**Robustness Tests**

There are some robustness tests that we carried out to stress test our results. First, we consolidated time aggressiveness as one construct by standardizing and adding together the
timing and the speed of retrenchment into one variable. Consistent with our results, we found that consolidated time had a positive direct effect on turnaround success ($\beta = -0.63$, $p < .00$) and a positive interaction effect on the negative effect of volume retrenchment on turnaround success ($\beta = -0.72$, $p < .00$). Second, we split the variables volume, timing, and speed of retrenchment by the type of retrenchment: asset retrenchment and cost retrenchment. The results obtained did not substantially deviate from those reported here. Specifically, our results were more significant and showed a stronger effect for asset retrenchment (volume, $\beta = -1.12$, $p < .00$; timing, $\beta = -1.00$, $p < .00$; speed, $\beta = -1.00$, $p < .00$; interaction by timing, $\beta = -0.89$, $p < .00$; interaction by speed, $\beta = -1.03$, $p < .00$) than for cost retrenchment (volume, $\beta = -1.00$, $p < .00$; timing, $\beta = -0.87$, $p < .01$; speed, $\beta = -0.57$, $p < .05$; interaction by timing, $\beta = -0.56$, $p < .05$; interaction by speed, $\beta = -0.25$, $p > .05$). Asset retrenchment has been argued to be more strategic than cost retrenchment (Barbero, Ramos, et al., 2017; Morrow, Sirmon, Hitt, & Holcomb, 2007); thus the lever on profitability should be greater than cost retrenchment. Third, the early literature often included a third dimension of aggressiveness: aggressiveness complexity (Ferrier, 2001). Aggressiveness complexity includes the range of different action types that the firm uses (Ferrier, 2001). We tested the effects of aggressiveness complexity, measured as whether a firm uses one type of retrenchment (either asset or cost) or both types. The results were not significant. Consistent with the latest aggressiveness studies, we decided to eliminate this type (M. Chen et al., 2010; Nadkarni et al., 2016). Fourth, we operated a similar procedure to Ndofor et al. (2013) and Wiersema and Zhang (2011). Instead of introducing CEO change as a control variable, we calculated a proxy for CEO replacement by regressing CEO replacement on base performance, industry, and year dummies (Ndofor et al., 2013). We obtained similar results to those reported (volume, $\beta = -1.28$, $p < .00$; timing, $\beta = -1.07$, $p < .00$; speed, $\beta = -0.63$, $p < .01$; interaction by timing, $\beta = -0.96$, $p < .00$; interaction by speed, $\beta = -0.70$, $p < .01$). The results for these four sets of robustness tests were analyzed with turnaround success as the dependent variable using our full model (Model 8 in our Table 2). Fifth, we tested our sample with an event study following the methodology used in prior downsizing research (P. Lee, 1997; Nixon et al., 2004; Norman et al., 2012). We sought retrenchment announcements during our 6-year period of study in the Wall Street Journal. Our dependent variable was calculated as the cumulative abnormal daily stock return using a 5-day event window. Unfortunately, we did not find support for our hypotheses using this methodology. This lack of support was possibly derived from the methodological difficulties of using an event study to research the topic of retrenchment. First, past research has used event studies to analyze announcements of single events, such as downsizing, and one-off restructuring events, such as spinoffs and selloffs (Bergh & Lim, 2008; Brauer & Laamanen, 2014; Norman et al., 2012). The effect of these single events on firm profits is relatively easy to appraise, and as a consequence, financial markets are likely to react to announcements. In contrast, appraising the effect of retrenchment is more complex because announcements do not disclose either a detailed description of the heterogeneous assets retrenched or their market value. Second, event studies rely on the “surprise” element of announcements. This surprise element is unlikely to be found in retrenchment processes. Retrenchment processes are continuous and incremental in nature, spanning a large number of quarters. Analysts following 10-Q statements are likely to incrementally factor the effect of retrenchment on stock price over the quarters. Thus, the stock price is unlikely to react in short time windows but over longer ones. For this main reason, prior studies have used cumulative longer time window measures...
accumulating the effect on firm value (Barbero, Di Pietro, et al., 2017; Morrow et al., 2004; Mueller & Barker, 1997). In sum, despite our efforts to validate this research with an event study, we find that this methodology is less suited to the study of retrenchment. Our initial methodological approach, validated by traditional and recent research (Abebe & Tangpong, 2018; Barker & Duhaime, 1997; Mueller & Barker; Tangpong et al., 2015; Trahms et al., 2013), is best suited to our central topic of study. This methodology confirms our hypotheses.

Discussion

This study focuses on the relationship between retrenchment aggressiveness and turnaround performance. We independently analyze the effects of time aggressiveness and volume aggressiveness and their interactive effects on the performance of declining firms. With support from the downward-spiral, threat–rigidity, and survivor syndrome perspectives, we posit and find that volume aggressiveness has a negative effect on turnaround performance and that time aggressiveness has a positive effect on turnaround performance. Finally, we find that time aggressiveness positively moderates the negative relationship between volume aggressiveness and turnaround performance.

Theoretical Implications

We contribute to improving the understanding of the performance implications of retrenchment in three ways. First, our most important contribution is related to the long unresolved debate over retrenchment as a cause of turnaround or a consequence of decline. Two seminal papers during the 1990s debated about whether retrenchment improves performance or whether it only avoids firm demise by securing resources (Barker & Mone, 1994; Robbins & Pearce, 1992). Those studies hardly considered the effects of the time dimension. Our study, by developing the concept of retrenchment aggressiveness and dividing the analysis of retrenchment into time aggressiveness and volume aggressiveness, suggests that retrenchment is a cause of turnaround performance when the firm acts time aggressively and a consequence of decline when time-unaggressive firms move along the downward spiral to a situation of resource exhaustion. These firms are forced at this later stage to step up volume aggressiveness to generate those resources desperately needed for survival. Then, our results contribute to recent studies arguing the path-dependent pattern of the retrenchment–turnaround relationship (Schmitt & Raisch, 2013) by showing evidence of how retrenchment evolves in two stages. In the first stage (retrenchment as a cause), carried out in the early stage of decline, firms have a choice of acting time aggressively and averting resource depletion. In the second stage (retrenchment as a consequence), implemented in the later stages of decline, a firm’s only choice, driven by resource scarcity, is to act volume aggressively. Second, we test one of the most extended myths in the turnaround literature, which argues that declining firms need to be aggressive. We provide a framework to analyze firm aggressiveness in a decline setting and show that the ruthless, aggressive-cost-cutter turnaround manager who successfully drives the firm to survival is a stereotype that does not fit with the evidence. Volume-aggressive managers will drive the firm to underperformance. Only when retrenchment is handled in a time-aggressive manner will declining firms improve their
results. Thus, our evidence is aligned with recent research showing shocking evidence concerning the personality and behavior of CEOs in charge of troubled firms (Tang & Crossan, 2016). Third, our contribution suggests that the discussion on the value of retrenchment should not be construed in an absolute form (Tangpong et al., 2015). Studies centering the debate on the question of whether retrenchment is valuable have led to mixed evidence. Our study suggests that assessing the value of retrenchment requires a shift in the research perspective to ask how retrenchment is implemented. In responding to this question, we contribute to the scant but recent research stream on the value of time in a turnaround setting (Barbero, Di Pietro, et al., 2017; Tangpong et al., 2015). However, our study goes one critical step beyond by benchmarking the value contributed by volume aggressiveness to that contributed by time aggressiveness.

Beyond retrenchment, our work also provides an important contribution to the study of turnarounds. Our study truly reinforces the view that because turnarounds are a very complex area of research (Trahms et al., 2013), this requires a pluralistic-perspective approach to nuance the explanation of the research questions (Schmitt et al., 2016). Turnaround research is a theoretically fragmented body of research, and there are excellent studies using a single perspective (G. Chen & Hambrick, 2012; Lim et al., 2013; Schmitt & Raisch, 2013). Yet, turnaround research is bereft of studies taking a holistic view to turnarounds that can integrate the different pieces in the jigsaw (Arogyaswamy et al., 1995). This type of contribution requires the use of several perspectives, but most importantly, it requires their integration. Interestingly, as we show, perspectives previously used in or developed by turnaround studies in an individual fashion are extremely complementary, providing through their integration a more complete big picture of the topic. This approach has also the advantage of furnishing a larger contribution by extending it to each of the perspectives used. Our study contributes to each of the three perspectives supporting our research. We will now describe these contributions.

First, we contribute to the downward-spiral perspective by quantifying the temporal dimension of decline. This perspective was farsighted in describing the dynamic and longitudinal nature of a decline process (Hambrick & D’Aveni, 1988; Weitzel & Jonsson, 1989). Our methodology contributes to the perspective by quantifying the stage of decline a firm is at and connects it with the chronology of the turnaround measures implemented.10 We believe that the methodology employed opens the possibility for studies beyond turnarounds to advance research in the investigation of the important temporal dimension of decline. Second, we also contribute to the threat–rigidity perspective in two ways. First, studies using this perspective assume that a threat triggers a response by all the constituents in the firm. In our study, we highlight the importance of precisely defining the nature of the threat in order to assess which constituent is under threat and calibrate the likely response more accurately. This approach is enabled by the conceptual richness of the perspective. Second, we incorporate a longitudinal approach to the threat–rigidity perspective. The perspective assumes a direct relationship between threat and response. This link is not obvious as the case of decline proves. A direct influence of decline on the trigger of a threat is unlikely given that early decline is probably not triggering a response or only triggering a very mild one. On the contrary, late decline is probably representing a full threat, and it will trigger a full, multilevel response. Finally, we also contribute to the survivor syndrome perspective by extending this valuable perspective to turnaround research. The perspective has been mainly used to explain
surviving employees’ behavior to downsizing processes (Brockner, 1988, 1992; Mishra & Spreitzer, 1998). Few turnaround studies have made deep use of the insights this perspective brings. Our study brings to the fore and extends this important perspective to turnaround research. More specifically, we link the insights of the survivor syndrome perspective to those of the threat–rigidity perspective to provide a more complete view of employees’ behavior as one of the most important factors in firm survival.

**Practical Implications**

We can extract from our research some practical suggestions for distressed investors and turnaround managers on the optimal type and structure of distressed acquisitions and how these opportunities can best be managed.

For investment managers of distressed funds, our study reveals that in their search for opportunities to profit from, they will find more value if they focus on opportunities in the early stage of decline. At this stage, the resources in the organization might be sufficient to enact a comeback. Beyond financial resources, the organization will retain other necessary assets, such as an un tarnished reputation, an intact talent base, and a cooperating workforce and executive team. Once in, they will need to be time aggressive by starting early and implementing fast retrenchment measures. During this early stage, even if the situation requires drastic action in the form of deep cuts, extra resources conserved by a time-aggressive behavior will partly curb the negative effects of volume-aggressive measures and avert firm collapse. Conversely, the likelihood of achieving a firm’s successful turnaround in the last stages of its decline is slim. During the last stages, the management’s alternative is to become volume aggressive. Evidence suggests volume aggressiveness is a recipe for underperformance. Furthermore, the combination of volume aggressiveness and the meager resources typical of this stage represents a trigger to organizational collapse. As a consequence, if investment managers decide to acquire distressed firms in the last stages of decline, the transaction should be priced to reflect the high risk of underperformance. Also, this price ought to reflect the successive rounds of capital infusion that are likely to be required to steer an organization with an exhausted resource base.

Similarly, our study suggests to chief restructuring officers that the traditional image of successful aggressive turnaround managers presented by the media is inaccurate. Retrenchment aggressiveness has two dimensions leading to separate organizational outcomes: time aggressiveness and volume aggressiveness. Chances of success improve under a time aggressiveness choice, either by starting retrenchment early when resources suffice or by executing retrenchment quickly to avert resource depletion. In contrast, volume aggressiveness represented by deep cuts drives underperformance and, if exerted, should be done early, when resources are still sufficient. Second, when assessing whether to take on a turnaround mandate, success requires taking charge early in the downward slide. Taking over during early decline provides managers with the choice of being time aggressive or volume aggressive. This choice will be rendered almost null at advanced stages of decline.

**Limitations and Future Lines of Research**

Our study has some limitations that might extend future research. First, our study has been implemented under very specific conditions: We used a sample of U.S. large public
firms. The literature has offered evidence that the effects of retrenchment might vary when used in a different cultural setting (Bruton et al., 2003) or firm type setting (Cater & Schwab, 2008). Our results are valid for a U.S. large public firm context, and extrapolation to other idiosyncratic environments ought not to be automatic. These represent fine research opportunities. Specifically, research of turnaround aggressiveness in the context of family firms is an excellent ground to better understand the boundaries of retrenchment in the light of the socioemotional wealth paradigm (Berrone, Cruz, Gomez-Mejia, & Larraza-Kintana, 2010).

Second, our study has been built using two dimensions of aggressiveness, time and volume. The aggressiveness literature has studied other dimensions, such as breadth. Despite our not finding significant results, the future literature should research this dimension further. Ideally, researchers ought to define breadth aggressiveness and establish a finer-grained measure using a wider range of retrenchment actions (SGA, employee, fixed assets, current assets, reductions, etc.). Also, the topic of time and turnaround success is quite novel. Some interesting research themes can be suggested, such as the drivers of time aggressive retrenchment behavior or the use of asset retrenchment versus that of cost retrenchment based on time considerations.

Finally, we believe that the most interesting research extension to our contribution lies in the time and governance area. Although there exist interesting works on governance and turnarounds (G. Chen, 2014; Dowell et al., 2011; Mueller & Barker, 1997), they lack a temporal approach. The longitudinal nature of decline offers an attractive basis for bringing new important research questions into the critical temporal perspective. Under this line of investigation, future researchers can study topics such as the timing and speed of CEO replacement under different conditions (tenure, causes of decline, board size), the speed of reaction to the decline of firms operating under duality, or the influence of boards on time and volume aggressiveness.

Conclusion

In our research, we develop and study the concept of retrenchment aggressiveness and its two dimensions—volume aggressiveness and time aggressiveness—to help untangle the contentious debate over the value of retrenchment. While traditional studies have offered a partial view by focusing only on volume aggressiveness, we simultaneously study this dimension along with time aggressiveness to investigate the contribution of retrenchment to turnaround success. With the support of the previous literature, our study offers strong backing for the idea that the use of the time dimension should be integral to turnaround, restructuring, and decline research. Our study offers scholars researching those areas an invitation not only to investigate new topics by making use of retrenchment aggressiveness and its two dimensions but to revisit old research questions dealing with volume aggressiveness by complementing them with the use of time aggressiveness.

Notes

1. The literature has suggested that retrenchment is mainly a threat to the firm’s employees rather than to the top management (Freeman & Hannan, 1975) given that the bulk of the cost-cutting measures is suffered by the former (Hambrick & D’Aveni, 1992).
2. Threat–rigidity perspective describes the reaction to a threat to individuals’ vital interests (Staw, Sandelands, & Sutton, 1981), such as a process of retrenchment (Barker & Duhaime, 1997; D’Aunno & Sutton, 1992). Retrenchment represents a shrinking of employees’ financial resources and is perceived by employees as a threat (Cameron, Kim, & Whetten, 1987; D’Aunno & Sutton).
3. Yerkes and Dodson (1908) posited that extreme levels of stress increase inertia while moderate levels of stress decrease inertia.
4. Hambrick and D’Aveni (1992) note that strategic errors can be traced to top management team and board composition deficiencies. However, strategic change is key in turnaround success (Barker & Duhaime, 1997).
5. Bankruptcy can be very expensive. Professional fees for Enron, Lehman Brothers, and General Motors have been estimated in the $1 billion range (Shein, 2013).
7. In our case, following Hambrick and D’Aveni (1988), the use of a large number of years of Compustat data—21—to gather a relatively small number of firms—over 200—indicates turnaround success is an infrequent event.
8. For conservativeness purposes, we used only firms reporting results during all our 6-year period of analysis (Barker & Duhaime, 1997). Most importantly, the inclusion in our sample of firms that stopped reporting results—generally, firms liquidated, bankrupt, acquired, or merged—would have provided biased estimates for our independent variables. For example, the timing and speed of retrenchment for a merged or an acquired firm reporting only 2 years of postdecline retrenchment data are likely to be misrepresented because they are based on a shorter time period. Similarly, volume aggressiveness for those firms will probably be understated: Values would be low due to a lack of data—only 2 years of data—rather than to actual managerial decision. Thus, similar to other time and turnaround studies, we opted for using only firms reporting during all our period of analysis (Tangpong, Abebe, & Li, 2015).
9. We thank one of our anonymous reviewers for this suggestion.
10. We took a chronological approach on the definition of decline proposed by other authors to whom we remain very thankful (Barker & Duhaime, 1997; Ndofor, Vanevenhoven, & Barker, 2013). We also remain thankful to those authors pointing to time as a critical line of research (Pearce & Robbins, 1993; Trahms, Ndofor, & Sirmon, 2013).

References


