



UNIVERSIDAD CARLOS III DE MADRID

working
papers

Working Paper 08-29
Business Economic Series 06
June 2008

Departamento de Economía de la Empresa
Universidad Carlos III de Madrid
Calle Madrid, 126
28903 Getafe (Spain)
Fax (34-91) 6249607

Downsizing implementation and financial performance*

Fernando Muñoz-Bullon¹ and María José Sánchez-Bueno²

Abstract

In the present study we explore the relationship between downsizing decisions and corporate financial performance after top management has decided to downsize. Our focus is on the financial consequences arising from the amount of downsizing and the use of disengagement incentives. For this purpose, we use a sample of downsizing announcements in the Spanish press from 1995 up to 2001. Although the results show that the amount of downsizing is not significantly related to post-downsizing profitability, the evidence provided supports the finding that the use of disengagement incentives (which motivate workers to leave the organization) is negatively related to firm performance. Our analysis helps to understand the role that strategic downsizing decisions play in explaining observed variance in the performance of downsized firms. Thus, it advances scholarly organizational research by reinforcing the concept that corporate performance is not only contingent on strategies, but also influenced by the means through which these strategies are implemented.

Keywords: Downsizing; Disengagement incentives; Corporate performance; Spanish labour market.

JEL Classification: J21, J65

* We acknowledge financial support from Universidad Carlos III de Madrid (project CCG07-UC3M/HUM-3287) and from the Spanish Commission for Science and Technology-ERDF (Project SEJ2007-63879ECON). This work benefited from comments received from participants at EURAM 2008 Conference (Slovenia). The usual disclaimer applies.

¹ Sección de Organización de Empresas. Universidad Carlos III de Madrid. C/ Madrid, 126. 28903 - Getafe (Madrid). SPAIN E- mail: fernando.munoz@uc3m.es

² Universidad de Salamanca. Facultad de Economía y Empresa. Campus "Miguel de Unamuno" 37007 Salamanca (Spain). e-mail: mjsanchez@usal.es

1. Introduction

Contrary to the assumption that bigger means better, the idea that smaller organizations may be able to improve their profitability and competitiveness exists since the mid-1980s. From then on, many firms have sought to accomplish restructuring through organizational downsizing —defined as the planned and permanent reduction of an organization’s workforce (Freeman and Cameron, 1993; DeWitt, 1993). Despite frequent and ongoing corporate downsizing activities —not only in the United States (Chadwick et al., 2004; Chen et al., 2001; De Meuse et al., 2004) but also in European (Filatotchev et al., 2000) and Asian countries (Ahmadjian & Robinson, 2001; Lee, 1997; Yu & Park, 2006)— and some reported improvements in corporate performance (McKinley, 1993; Sutton, 1987), expected positive outcomes of downsizing are often elusive (Cascio, 1993; Levinson, 1992).

In this paper we claim that, while not all downsizing outcomes are negative, its frequently disappointing economic and organizational outcomes may be the result, at least in part, of the downsizing implementation decisions taken by top managers. Among others, such decisions include the amount of downsizing and the use of disengagement incentives. Following Murray and Jick’s work (1985), we establish that they may explain a significant portion of the variance in firm performance after the downsizing event.

The amount of downsizing is the size of the organization’s personnel that will no longer be employed by the firm. Downsizing too much or too little may result in achieving less than the desired optimal positive impacts on performance. For example, if a firm downsizes by laying-off only a single employee, ongoing performance would not be expected to change. On the other hand, if the same firm downsizes to the extent of dismissing all but one employee, ongoing performance might not only fail to

increase, but the firm would cease to exist. Thus, there may be an optimal amount of downsizing for the organization somewhat in between these two extremes. Past this optimal point, improvements in firm performance may begin to drop off. In other words, a curvilinear relationship may exist between the amount of personnel reduction and firm performance, suggesting that there may be an optimal amount of reduction. Another downsizing decision that may play a role in firm performance is the extent to which employees receive extraordinary incentives to voluntarily leave the firm. We claim that motivating employees to leave voluntarily may result in a negative impact on firm performance, due to short-term and long-term financial costs, as well as the loss of valued employees.

As Murray and Jick (1985) suggest, the impact of downsizing implementation decisions—involving how many employees to layoff, along with whether or not to provide incentives for departure—are under-explored and may be important determinants of firm performance after downsizing. It is rather surprising that, as ubiquitous as downsizing is, scant theory (and even less empirical work) has linked downsizing implementation to performance outcomes of firms which have downsized (Freeman and Cameron, 1993). For this reason, we explore the relationship between these downsizing implementation decisions and corporate performance after top management has decided to downsize.

We use a sample of downsizing announcements in Spain from 1995 to 2001. The relevance of choosing Spain for our analysis is threefold. First, in this country this issue has not yet been addressed, since literature in downsizing has so far focused either on examining the determinants of a firm's decision to downsize or the extent of downsizing (e.g., Requejo 1996; Vicente-Lorente & Suárez-González 2007). Second,

almost 50% of companies in Spain claim to have engaged in downsizing between 1989 and 1994 (Suárez, 1999), and a substantial number of companies announced reductions of their workforce during the 1995-2001 period (Sánchez and Suarez, 2003). Third, as opposed to the United States, in Spain it seems harder to initiate downsizing practices: this country is often regarded as characterized by a high protection of employees' rights —due to tough job security rules, a generous unemployment insurance system and high firing costs (Jimeno, 1998). On the whole, therefore, given these institutional features and that the debate about the financial consequences of employee cuts is unclear, it is interesting to explore whether or not the way in which downsizing is implemented is a significant predictor of firm performance.

The remainder of the paper is organized as follows. The next section briefly reviews the downsizing literature. Section 3 establishes theoretical linkages and presents testable hypotheses. Data and variables are described in Section 4. The fifth section shows the results, and the final section presents the main conclusions from the analysis.

2. Literature review

Literature on organizational downsizing has generally centred on the outcomes of the downsizing event, focusing on three broad areas. The first area is related to the consequences of downsizing on departing individuals. This research has explored such topics as the departee's job mobility, the impact of outplacement efforts and the impact of job loss on work-life linkages (Cobb and Kasl, 1977). The second area described the consequences of downsizing on survivors. For example, survivor attitudes (Jick and Greenhalgh, 1989), job performance (Brockner et al., 1992), perceptions of the post-downsized environment (Brockner et al., 1987) have received some attention — research into ways to combat the negative effects of these consequences has also been

undertaken (Taber, Walsh and Cooke, 1979). The third research area has been on the relationship between downsizing and corporate performance. While some studies suggest that firms choose to downsize in order to cut costs, and/or to improve financial performance (Espahbodi et al., 2000; Kozlowski et al., 1993; Mone, 1994) —under the assumption that firm’s profitability will be increased with fewer employees (Cascio et al., 1997; Mckinley et al., 2000)— another stream of research finds that the effect of personnel reduction on profitability is non-existent or even negative. Therefore, downsizing may be inefficient and companies that downsize may be unable to financially outperform companies that maintain their employees (Mentzer, 1996; Morris et al., 1999; Vanderheiden et al., 1999). Literature has also underlined several factors which might counteract the presumed benefits of downsizing, such as employee stress, feelings of guilt and negative attitudes toward the organization among the surviving employees (Brockner et al., 1992, 1993); lack of procedural justice in the workforce reduction process (Elovainio et al., 2001); and resentment and resistance in firms which may hinder rather than help competitiveness (Cameron et al., 1991; Cameron, 1994).

However, one area in the downsizing literature that has received little scholarly attention is a discussion of how downsizing decisions are implemented and their impact on firm outcomes such as financial health or firm survivability (Murray and Jick, 1985). This is in spite of the fact that there has been considerable variation in organizational strategies regarding downsizing —Cameron, Freeman and Mishra (1991, 1993) reported three major findings regarding downsizing implementation strategies: workforce reduction strategy, organization redesign strategy and a systematic strategy¹. As

¹ The first one concentrates upon the elimination of headcount and the reduction of the overall number of employees (it encompasses activities such as layoffs, retrenchments, natural attritions, early retirements, hiring freezes, golden parachutes, and buyout packages). It is a frequently a short-term response to declining profits (Ryan & Macky, 1998). The organization redesign strategy focuses predominantly upon

explained in the following section, understanding theoretical relationships between downsizing implementation and firm performance may help to refine managerial expectations regarding this form of organizational restructuring and increase managerial understanding of the impact of their strategic implementation decisions on firm performance.

3. Downsizing implementation and firm performance: Hypotheses

For the purposes of this study, we follow the lead of Greenhalgh, Lawrence and Sutton (1988) who used the term “workforce reductions” to address “downsizing”. Since downsizing (when broadly defined) may incorporate the use of one or more resource reduction options (in conjunctions with personnel reductions), the term workforce reduction better distinguishes it from these other restructuring methods (DeWitt 1993, 1998; Hoskisson and Hitts 1994). More specifically, our definition of downsizing refers to reductions in the size of workforce under open-ended contracts (or permanent employment). The concept excludes reductions in the size of the temporary workforce, which do not normally imply the notion of actual downsizing.

In anticipation of downsizing activities, corporate managers must take decisions regarding how downsizing will be accomplished. Up to our knowledge, there exist a large number of specific downsizing decisions that have been virtually unexplored so far. They deal with, among other things, deciding how many people to downsize and whether to introduce an early retirement plan (Murray and Jick, 1985: 114). Thus, an

the elimination of work, rather than reducing the number of employees (Luthans & Sommer, 1999) — which is commonly regarded as being difficult to implement quickly as this requires some advanced analysis of the areas concerned (Cameron et al., 1991). It encompasses activities, such as abolishing functions, eliminating hierarchical levels (de-layering), groups, divisions, products, redesigning tasks, consolidating and merging units, and reducing overall work hours. Finally, the systemic strategy is fundamentally different from the former two strategies since in this case downsizing embraces all dimensions and aspects of the organization, including suppliers, customer relations, production methods, design processes, and inventories (Cameron, 1994).

examination of the amount of downsizing and of the use of the disengagement incentives as determinants of downsized firm performance may lead to a better understanding of their effects on organizations. In this section we claim that the decision(s) as to how downsizing is implemented can have an effect on whether or not organizational performance will be improved.

3.1. The amount of downsizing

Public announcements of downsizing frequently include information regarding the amount of the intended reduction —i.e., the number of employees who will be terminated. Different amounts may have differential effects on firm performance. In this section we argue that the reason why some firms have enjoyed success with downsizing is that they have resorted to the right amount of downsizing instead of arbitrarily reducing headcounts: some downsizing is necessary to make the organization more competitive. However, in a rush to improve short-term profits, firms might make more employee reductions than necessary and in the process lose valuable human expertise. Thus, both very low and very high levels of downsizing may result in achieving less than the desired best possible effects on firm performance: an optimal amount of downsizing may exist for the firm. A change from positive to negative performance as the amount of downsizing increases suggests an inverted-U shaped relationship between the amount of downsizing and firm performance as illustrated in Figure 1.

INSERT FIGURE I ABOUT HERE

The positive portion of the slope of the inverted-U shaped curve (A to X; representing lower levels of downsizing) in Figure I may be the result of several factors. First, small reductions may be a reflection of top managers' recognition that the

maintenance and proper use of resources (including human capital) are critical to the strategic, long-term success of the firm. Thus, managers may be reluctant to lose large numbers of qualified workers that may harm a firm's ability to take advantage of future economic opportunities. Second, gains in performance from small reductions in the number of employees may indicate that the firm is already close to its optimal organizational size. Being close to its optimal size suggests that management has made continuous refinements to maintain the proper balance of human capital within the firm. In this setting, implementing small amounts of downsizing, managers are less likely to go beyond the optimal "right size" and, this way, will be able to avoid less desirable performance outcomes (Hitt et al., 2004).

The negative portion of the slope of the inverted-U shaped curve (X to B; representing larger amounts of downsizing) in Figure I reflects declining performance from downsizing. There are several reasons why lower performance may occur. First, the need for more drastic downsizing may evidence a great distance from the optimal firm size. Due to the greater distance from the optimal size, larger amounts of downsizing may be more coarse-grained (i.e., less accurate) and more likely to overestimate the amount of downsizing required to reach an optimal organizational size. Second, there are the short-term costs of collective dismissals, similar in nature to plant closing (Addison et al., 1987; Bluestone et al., 1982), which could include severance pay entitlement, high unemployment taxes, or extended health benefits, as well as long-term costs (such as the loss of workers with important, firm-specific skills). Particularly in Spain, dismissals of workers under open-ended contracts are subject to relatively high separation costs due to institutional employment protection: firms' costs of changing their permanent workforce size are determined by legislation that protects workers

against individual and collective dismissals (Toharia and Malo, 2000). A dismissal can be very expensive for employers in Spain relative to other countries (the Appendix reviews the procedures for worker dismissals in this country).

Third, high levels of downsizing are associated with greater turbulence in the organization, which may have an adverse impact on organizational performance (Kesner et al., 1994). When an organization resorts to large scale employee reduction, many skilled employees may choose to leave the organization rather than stay and face uncertainty. As a result, the employees who remain may suffer problems associated with job insecurity (on seeing their colleagues leave, their moral may be poor and, as a result, their productivity is bound to decrease). With large amounts of downsizing, many survivors may feel worried about future layoffs (Krishnan et al., 1998; Worrell et al., 1991).

Therefore, we argue that the relationship between the amount of downsizing and performance may be curvilinear (inverted U-shaped):

***Hypothesis 1:** There is an inverted U-shape relationship between the amount of downsizing and firm performance in the succeeding years after the announcement.*

3.2. The use of disengagement incentives

Apart from the amount of downsizing, another downsizing decision that could have some impact on firm performance is the extent to which employees receive extraordinary payments to entice them to leave the organization (i.e., those payments offered beyond the normal severance payments). Such incentives are often perceived as a less painful or traumatic means of reducing head-count compared to layoffs. These incentives appear in three general ways: early retirement programmes, relocation assistance and voluntary severance packages.

As regards early retirement, the Law in Spain contemplates two early retirement formulae: early retirement at the age of 52 and reduced-rate early retirement — while others form the subject of collective bargaining. As a means to adjust employment, early retirement is rather widespread nowadays, since it is frequently a consequence of employment adjustment processes: it is offered in restructuring, given that employers are obliged by law to offer measures designed to alleviate its social effects. Thus, these incentives induce workers to exit the labour force before they reach the age of 65 (the statutory retirement age in Spain), and serve to protect workers who get jobless when firms implement collective dismissals. In fact, in case of being above 52 years-old and after the exhaustion of contributory unemployment benefits², dismissed individuals are frequently entitled to receiving unemployment assistance benefits up to the early retirement age³. Pensions are usually reduced in an extent dependent on both workers' labour market experience and their distance to the statutory retirement age. However, these agreements cover the possibility that in the event of crisis accords or “social plans” —created in order to manage and cushion the consequences of collective dismissals or in the case of collective contracts involving firms affected by over-manning— the employer may agree to pay a sum equivalent to the old age pension, until the worker reaches the age of 65, a system quite common in Spain (Toharia and Ojeda, 1999)⁴. Thus, the compensation received by these individuals may be above the

² As in other European countries, the Spanish UCS is composed of two parts: unemployment insurance and unemployment assistance. The latter is granted to unemployed persons whose total income does not exceed the minimum wage and who have either exhausted unemployment insurance or do not meet the minimum contribution period for eligibility to unemployment insurance.

³ These complements for the pension negotiated within the collective dismissal process may explain, for instance, that in the year 2001, 55 percent of the newly retired individuals in the General Regime of the Social Security were below 65 years-old, and 29 percent were below 60 years-old. In fact, for such a year, 21,712 individuals took up early retirement before the age of 65 after exhausting unemployment benefits —Spanish Labour Force Survey, fourth quarter, 2001 (INE).

⁴ In addition, the industrial conversion programmes for sectors in crisis envisage a similar measure: employers agree to pay such workers the equivalent of the pension from the age of 55 and, in any event,

average for the organization's general workforce, since they frequently have substantial tenure within the organization.

Apart from early retirement programmes, negotiated alternatives between companies and workers' representatives may include part-time work programmes, relocation assistance or outplacement programs —i.e., offers of the firm to help in a new placement, pay for targeted employees to find new job through employment agencies, or relocation of the worker to another unit of the firm— and “voluntary severance programmes”. Voluntary severance incentives are offered to reduce head count through self-selection. These incentives can include continuation of compensation for a specified period of time, a one-off lump-sum payment or maintenance of certain benefits paid for by the organization (life or health insurance, memberships, education allowance and so on).

While the strategy of using disengagement incentives for downsizing may appear simple and straightforward — for instance, early retirement might allow for saving money as firms traditionally pay older employees more than younger ones, and older employees' rate of pay may not be congruent with their current productivity (Davidson et al., 1996) — unintended consequences may occur. These consequences may be important to the organization, both through pecuniary and non-pecuniary effects.

As regards pecuniary effects, there are the costs of funding disengagement incentives. Payments funded from corporate resources are awarded to the employee, which otherwise could have accrued to stockholders. Thus, the cost of personnel cuts might shift from the employee to the stockholders —these costs are frequently noted in

to guarantee them 75% of the average pay they would have received had they remained in work, while the state assumes responsibility for their social security contributions.

the business press as charges against current profits, especially executive severance (Dalton et al., 1993; Nixon et al., 2004). In addition to direct charges against short-term profits disengagement incentives may also have a negative impact on longer-term performance. As financial resources are scarce, the use of scant corporate resources to fund downsizing disengagement incentives may represent opportunity costs. For example, resources that are expended to motivate employees to disengage from the organization are then not available for investment in projects that may be important to the future performance of the organization (e.g., investment in R&D). Investment in such projects must then be funded through other means. Thus, the use of corporate resources to fund disengagement incentives may create a need for additional cash flow, which may lead to an increase in debt. As debt holders increase their power, the acceptance of risky projects may diminish. Thus, dissipation of corporate resources to finance employee disengagement may lead to a lack of capital and managerial avoidance of risk, which might produce barriers to innovation and a negative effect on firm performance.

As regards non-pecuniary effects from disengagement incentives, when the cost of leaving for valuable employees (those which the organization desires to retain) is also reduced, the valuable employee may also depart due to disengagement incentives (Hitt et al., 1994; Nixon et al., 2004)⁵. Valuable employees are in possession of firm-specific skills. As a result, productive value is lost because firm-specific skills are not transferable between organizations. In addition, when a valuable employee is motivated

⁵ For example, Bowman's (1993) study of the aircraft industry found that when attractive early retirement was offered, the most valuable employees left, while those employees the firms were trying to usher out stayed. In addition, Greenhalgh et. al.'s (1986) research at IBM suggests that disengagement incentives (in this case, open transfer availability to other IBM plants) during downsizing can lead to the loss of "... too many employees, especially valuable employees, who would be eagerly sought by other plants" (Greenhalgh et al., 1986, p. 36)

to leave through disengagement incentives, the organization must hire a new employee as a replacement and incur training costs (which would have been unnecessary if the former, valuable employee had not been enticed to disengage from the firm). Thus, as suggested by Williamson (1981), the costs of losing and having to replace firm-specific skills may be greater than recognised. On the contrary, if downsizing implementation omitted disengagement incentives, transaction costs such as these (and their negative impact on firm performance) may be minimized.

From the above ideas, we suggest the following hypothesis:

Hypothesis 2: *There is a negative relationship between the use of disengagement incentives in downsizing and firm performance.*

4. Method

4.1. Data collection

Our data set was collected from announcements in the Spanish press for the 1995-2001 period, similar to the approach taken by other recent works (De Meuse et al., 2004). One advantage of relying on newspaper announcements is that they usually include information on the level of the intended reduction (Nixon et al., 2004). We mined the BARATZ database from 1995 to 2001 — which provides information on headlines and a summary of news published in different national and regional newspapers — and analysed downsizing announcements published in two of the most widely circulated business publications in Spain —*Expansion* and *Cinco Dias*. Several filters were applied to this initial dataset. First, we excluded workforce reductions that were rejected by the Ministry of Labour or that were not eventually implemented. Second, announcements on temporary reductions were eliminated, since these were not the object of our study (instead, our focus is on permanent workforce reductions, as

explained in Section 3). Thirdly, we excluded those workforce reductions that were carried out by non-Spanish companies, as well as those of multinational companies in which their Spanish subsidiaries were not involved. Finally, observations with missing variables were erased. The application of these criteria resulted in a final sample consisting of 117 press announcements (on 96 firms).

4.2. Variables

4.2.1. Dependent variable

Different measures such as stock prices (Hallock, 1998; Worrel et al., 1991) and several financial accounting outcomes (Cascio et al., 1997; De Meuse et al., 1994) may be used to examine financial performance — e.g., profit margin (i.e., profits/sales), return on assets (profits/assets), return on equity (profits/stockholder equity), asset turnover (sales/assets) and market-to-book ratio (market value/stockholders' equity). In line with other works (Cascio, 1998; De Meuse et al., 2004; Yu et al., 2006), we exploit one accounting measure to determine financial performance: return on assets (ROA). This variable is measured as operating income (before depreciation, interest, and taxes) divided by total assets. We focus on ROA as a measure of the cash flow return on assets after the event under analysis (i.e., personnel reduction). ROA views “profitability in relation to the euros invested in the firm”. Any changes in the performance of the firm that result from employment downsizing should show up in the ROA measure. In keeping with other studies (Cascio, 1998), we calculate our dependent variable as the average of ROA for the three years following the year of downsizing. The announcement year was excluded because of the potential costs to be borne by the downsizing firm in such a year, which may bias the impact of comparability on the years after the downsizing event. This variable was obtained from the SABI database —

Sistema de Análisis de Balances Ibéricos or System for Analysing Balance Sheets in Spain & Portugal, which provides information on the annual reports of the main Spanish and Portuguese firms over time.

4.2.2. Independent variables

As regards hypothesis 1, the amount of downsizing is measured through the announced reduction in the number of employees (*AMOUNT*)⁶. In nearly every instance of the downsizing articles examined, the actual number of terminations was explicitly stated. For ease of interpretation of the estimated coefficients, this variable was divided by one hundred. In order to assess whether the theorized curvilinear relationship between the amount of downsizing and the dependent variable was valid, a second order term was added to the regression model.

As regards hypothesis 2, the way firms targeted those employees who would be affected by the downsizing actions was operationalized using the dummy variable *DISENGAGEMENT*, which was recorded as 1 if disengagement incentives were offered (early retirement, voluntary severance or relocation assistance), and 0 otherwise.

4.2.3. Control variables

We considered a set of factors that are regularly associated with differences in firm profitability in the literature, in order to more accurately account for the explanation of the impact on profitability arising from downsizing.

SIZE: we measure size as the log transformation of total firm sales during the year of the downsizing announcement (similar to Krishnan et. al., 1998). If, as Jensen (1993) argues, firms downsize after they grow beyond their optimal size and begin to experience deterioration in performance, the size of a firm immediately before

⁶ Although the percent of the organization's personnel that will no longer be employed by the firm is missing from the collected data, in the estimations we already control for firm size, so that the variable "amount of downsizing" offers an appropriate idea of the relative impact of the reduction.

downsizing should be associated with the change in the firm's performance after downsizing. Data on firm size were gathered from the SABI database.

INDUSTRY: the relationship between downsizing and profitability may vary from industry to industry (Mentzer, 1996). In particular, the use of machines and people to produce goods may vary by industry and, thus, the balance of these two factors may imply that workforce reductions have a different impact on firm performance in each industry (Pasmore et al., 1979). For instance, downsizing may occasionally be required in some industries to improve firm performance because there is typically less human (as compared to equipment) contribution to the final product. On the other hand, in low-complexity industries downsizing may have greater impact on firm performance because there is more human contribution to the organization's output (being therefore a more necessary practice to implement). In line with other research (e.g, Yu et al., 2006), we do so by including dummies for the following categories: Agriculture, Mining and Construction, Manufacturing, Transportation, Distribution, Finance, and Services. This variable was collected from the SABI database.

STOCK MARKET: managers are under considerable pressure from their stockholders to improve financial performance (Budros, 2002). In this sense, managers in companies listed on the stock market may accept employment downsizing as a strategy for cutting costs. This variable was coded 1 if a firm was listed on the Spanish stock market, otherwise it was coded 0. Data on this variable came from the SABI database.

AGE: on the one hand, as the eldest firms might benefit from both the process of learning and from reputation effects, a positive relationship between firm's age and performance may be observed. On the other hand, firm's age and performance may be

negatively associated, due to the fact that the eldest companies may have developed routines which are out of touch with changes in market conditions. The firm's age is measured by the number of years between the year of downsizing and the year of incorporation. Age data were gathered from the SABI database.

YEAR OF DOWNSIZING: a series of seven dichotomous variables were used to control the years (1995-2001) in which the downsizing announcement took place. For each observation, the year was coded as 1 and all other years for that observation were coded as 0. The purpose of controlling the year of downsizing is to isolate the effects of downsizing in any particular year.

4.3. Econometric model

The principal variables of interest in this research involved the amount of downsizing, the use of disengagement incentives and firm financial performance. The hypotheses presented were tested using ordinary-least-squares (OLS) techniques to analyze the effect of employment reductions on the post-announcement performance in the three subsequent years following the implementation of employment reductions. That is, we regressed the average ROA for the three years after the announced downsizing against the independent and control variables indicated in the previous section. This analysis shows, therefore, the effect of the amount of downsizing and the use of disengagement incentives, holding the remaining variables constant (i.e., whether the firm is listed on the stock market, its age and size, the industry the firm belongs to and the year of the announcement).

5. Results

Table I summarizes descriptive statistics amongst all the variables in the study for the sample of downsized firms.

INSERT TABLE I ABOUT HERE

The correlations of the variables, along with their significance levels, are presented in Table II. As Table II indicates, intercorrelations among the full set of independent variables are generally sufficiently low to preclude the problem of unstable coefficients which could be caused by multicollinearity in the regression model.

INSERT TABLE II ABOUT HERE

The results of the regression model are shown in Table III. Model 1 is a baseline model consisting of control variables. To check the robustness of the results, models 2, 3 and 4 successively add the variables of interest to test hypotheses. Model 4 is therefore the full model that includes all the variables of interest.

INSERT TABLE III ABOUT HERE

Model 1 shows that the impact on firm performance arising from a firm's listing on the stock market is both positive and significant, whilst a firm's age is also positively associated to larger financial performance.

Models 2 and 3 provide results for testing Hypothesis 1. Hypothesis 1 postulated that the amount of downsizing would relate to firm performance in a curvilinear (inverted U-shape) manner. That is, firm performance would initially increase as firms raise the number of employees to be terminated. However, increasing the extent of downsizing would be associated with a lower rate of performance enhancement. After a certain point, further increases in the amount downsized would lead to a downward trend in firm performance. In Model 2 the coefficient for DOWNSIZING AMOUNT is negative and non-significant. Therefore, when a firm increases the amount of

downsizing, no significant contribution to higher or lower performance is obtained. In Model 3, the squared term of DOWNSIZING AMOUNT has a positive and non-significant coefficient. Therefore, ROA was not significantly affected by the size of the adjustment. Thus, the results from the regression estimates in Table III do not provide support for Hypothesis 1. Other prior studies (e.g. Krishnan and Park, 1998; Morris et al., 1999) also found that downsizing does not improve post-downsizing financial performance.

In addition, Model 4 includes the variable DISENGAGEMENT, in order to test hypothesis 2, which proposed that using disengagement incentives that motivate workers to leave the organization is negatively related to firm performance. As can be observed, the association between ROA and disengagement incentives found in Table III is negative. Thus, firms which downsize using disengagement incentives suffer lower post-downsizing performance (compared to those that do not use such incentives).

In addition, the non-significance of the results for the variable DOWNSIZING AMOUNT remains in Model 4. Thus, estimation results are robust across the four models. With all variables entered into the model, all coefficients that were significant in the earlier models remain statistically significant in the full model. In this model, the independent variables explained over 30% of the variance in firm financial performance (ROA), with the model being highly significant. As can be observed, the extent of downsizing shows a non-significant relationship with firm performance in the three succeeding years of the employment reduction. This result holds controlling for size and several other firm and industry characteristics.

6. Conclusions

In the present study we have analyzed some of the linkages between downsizing implementation decisions and corporate performance. Some researchers have suggested that the literature on downsizing has lacked the scholarly attention on this issue (Worrell et al., 1991; Murray and Jick, 1985). This lack of attention is particularly glaring given the ubiquitous nature of the phenomena (Freeman and Cameron, 1993). Understanding the role that downsizing implementation decisions play in explaining observed variance in the performance of downsized firms advances scholarly research by reinforcing the concept that corporate performance is not only contingent on formulated strategies, but is also influenced by the means through which these formulated strategies are implemented.

The hypotheses presented centered on the amount of personnel reduction and whether or not disengagement incentives are offered as a means to implement the required personnel reduction. As regards the former, the articulated theoretical arguments in this study suggest that downsizing too little or too much may result in achieving less than the desired optimal positive effects on firm performance. An optimal amount of downsizing may exist somewhere between inconsequential layoffs and massive reduction of employees. This suggests an optimal point in a curvilinear path tracking the amount of the reduction and its resulting influence on post-downsizing corporate performance. However, regression results do not provide support for this hypothesis. The amount of downsizing showed a non-significant relationship with firm performance, which suggests that the amount of downsizing has no significant impact on performance (this is consistent with previous studies for other countries; e.g., Cascio et al., 1997; Morris et al., Vanderheiden et al., 1999).

As regards disengagement incentives, hypothesis 2 proposed that the use of such incentives that motivate workers to voluntarily leave the organization is negatively related to firm post-downsizing performance. The basis of the argument was that short-term financial costs (funding the incentives, increased pension demands, etc.), long-term financial costs (scarce resources, diversion from R&D, increase in debt, etc) and loss of valuable employees would lead to lower firm's financial performance after downsizing.

This study has several implications, with an important one being that the implementation decisions managers take to downsize do matter. The choices managers make regarding the use of disengagement incentives are important. In particular, firms cannot reliably assume that disengagement incentives offered to employees are a quick fix leading to increased financial performance, since the impact on profitability arising from such incentives is negative. On the contrary, the choices managers make regarding the number of employees to downsize are not so much important: corporate performance does not vary depending on the aggressiveness of managers as regards the number of terminations implemented. Therefore, the amount of downsizing may not necessarily generate the benefits sought by firms. Unfortunately, this strategy may lead to disappointment, as many firms have been unable to improve their performance up to the expected levels prior to downsizing (Cascio, 1993). One interpretation is that firms engaging in downsizing ignore the time-consuming but critical elements of redesigning the organization and developing a systematic strategy predicated on massive cultural change within the firm. Thus, how managers determine which departments will be trimmed or what important functions will be protected may be of critical importance to corporate performance. Organizations must be very cautious in implementing downsizing, which may impose traumatic costs on employees, both those who leave and

those who stay (Armstrong-Stassen, 1998; Leana, 1996). They need to be sure about the sources of future savings and carefully weigh those against all the costs: identifying and protecting functions which build firm competitiveness instead of focusing on “slimming down” the entire entity may be crucial. Our study supports the view that not only is the decision *to* downsize important, but *how* the decision is implemented can affect expected outcomes. In any case, despite the non-significant or even negative consequences often associated with the way whereby downsizing is implemented, it would be incorrect to conclude that reducing the workforce is always an inappropriate strategic response. Some workplaces may not be “lean and mean”, and a comprehensive downsizing strategy may be necessary. However, downsizing is not a quick fix remedy; it requires careful planning and implementation.

APPENDIX: Worker dismissals in Spain

There are two basic ways through which any employer may adjust its workforce: (i) not renewing temporary contracts; and (ii) dismiss, either individually or collectively, some of its permanent workers. Permanent contracts may only be terminated, under Spanish law, according to legally defined causes (unfair dismissals can be very expensive. Indeed, if an employer terminates such contract without good cause (see below) the employee will be entitled to receiving a severance compensation based on 45 days of salary per year of service in the company capped at 3 and ½ years of salary (which corresponds to more than 28 years of service). On the one hand, if the size of the adjustment is large enough —meaning roughly 10 percent of the workforce— the employer has to negotiate a procedure called *Expediente de regulacion de empleo* with the workers (which includes the amount of severance pay, for which the law only establishes a minimum). Redundancy payments in Spain are calculated at 20 days' pay per year of service, up to a maximum of 12 months' pay. Likewise, when a collective (or objective) dismissal is found to be unjustified, the compensation amounts to 45 days' pay —except for “promotion contracts” when the unfairly dismissed worker receives the equivalent of 33 days' pay. On the other hand, if the size of the required adjustment does not meet the criteria to be considered collective, firms may initiate an individual dismissal procedure which may take the form of (i) an “objective” dismissal —meaning a dismissal on the grounds of economic or technological circumstances; i.e., objectively justified— or (ii) a disciplinary dismissal. The latter are usually preferred by firms because there are fewer requirements involved (no advance notice is required and no initial severance payment has to be deposited; however, the employer faces a financial risk in case of a disciplinary dismissal to be unfair of 45 days of salary per year of service). In objective dismissals, if the motives for dissolving the contract are accredited, the severance paid to the employee should be equivalent to 20 days' salary per year worked, up to a maximum of one year's pay—otherwise, if the company can not accredit the reason for the termination, or breaches the formal and procedural communication requisites, it will have to opt to either pay the employee severance pay equivalent to 45 days' salary per year worked, up to a maximum of 42 monthly payments, or to readmit the employee under the conditions in place prior to dismissal.

REFERENCES

- J.T. Addison and P. Portugal The Effect of Advance Notice Notification on Plant Closing on Unemployment, *Industrial and Labor Relations Review* **38**, 87-97 (1987).
- C. L. Ahmadjian and P. Robinson. Safety in Numbers: Downsizing and the Deinstitutionalization of Permanent Employment in Japan, *Administrative Science Quarterly* **46**, 622-654 (2001).
- M. Armstrong-Stassen, The Effect of Gender and Organizational Level on How Survivors Appraise and Cope with Organizational Downsizing, *Journal of Applied Behavioral Science* **34**, 125-142 (1988).
- G. Bailey and D. Sherman, Downsizing: The Alternatives May be Cheaper. *Management Review* **77** (4), 54-55 (1988).
- S. Bhagat, A. Shleifer and R. W. Vishny, Hostile Takeovers in the 1980s: The Returns to Corporate Specialization, *Brookings Papers: Microeconomics* **1990**, 1-84 (1990).
- B. Bluestone and B. Harrison. *The Deindustrialization of America: Plant Closing, Community Abandonment, and the Dismantling of Private Industry*, New York: Basic Books (1982).
- C. Bowman, JandM Airframes, Ltd.: A case study, in G.G. Dess, G.G. and A. Miller, (Eds), *Strategic Management*. New York: McGraw-Hill, 833-838 (1993).
- J. Brockner, S. Grover, T.F. Reed, and R.L. DeWitt, Layoffs, Job Insecurity, and Survivors' Work Effort: Evidence of an Inverted-U Relationship, *Academy of Management Journal* **35**, 413-425 (1992).
- Brockner, J., S. Grover, M. N. O'Malley, T.F. Reed and M.A. Glynn. Threat of Future Layoffs, Self-esteem, and Survivors' Reaction: Evidence from the Laboratory and the Field, *Strategic Management Journal* **14**, 153-166 (1993).
- Budros A. 2002. The mean and lean firm and downsizing: causes of involuntary and voluntary downsizing strategies. *Sociological Forum* **17**: 307-342
- Cameron, K. S., Strategies for Successful Organizational Downsizing, *Human Resource Management* **33** (2), 189-211 (1994).

- K.S. Cameron, S.J. Freeman and A.K. Mishra, Best Practices in White-Collar Downsizing: Managing Contradictions, *Academy of Management Executive* **5 (3)**, 57-73 (1991).
- Cameron, K.S., Freeman, S.J., & Mishra, A.K. "Downsizing and redesigning organizations". In Huber, G & Glick, W (eds), *Organizational Change and Redesign* (19-63) New York Oxford University Press (1993).
- Cascio, W, Downsizing: What Do We Know? What Have We Learned?, *Academy of Management Executive* **7 (1)**, 95-104 (1993).
- W.F. Cascio., Learning from Outcomes: Financial Experiences of 311 Firms that Have Downsized, in M.K. Gowing, J.D. Kraft and J.C. Quick (Eds), *The New Organizational Reality. Downsizing, restructuring, and revitalization*, Washington: American Psychological Association (1998).
- W.F. Cascio, C.E. Young and J.R. Morris. Financial Consequences of Employment-Change Decisions in Major U.S. Corporations. *Academy of Management Journal*, **40 (5)**, 1175-1189 (1997).
- W.F. Cascio and C.E. Young. Financial Consequences of Employment-Change Decisions in Major U.S. Corporations, 1982-2000, in De Meuse, K.P. and Marks (Eds.), *Resizing the Organization: Managing Layoffs, Divestitures and Closings*. Jossey Bass: San Francisco (2003).
- C. Chadwick, L.W. Hunter and S.L. Walston, Effects of Downsizing Practices on the Performance of Hospitals, *Strategic Management Journal* **25**, 405-427 (2004).
- P. Chen, V. Mehrotra, R. Sivakumar and W.W. Yu, Layoffs, Shareholders' Wealth, and Corporate Performance. *Journal of Empirical Finance* **8**, 171-199 (2001).
- Cobb, S. and Kasl, S.V. (1977). "Termination: The consequence of job loss". *Hew Publication No (NIOSH)*, U.S. Department of Health, Education, and Welfare; Washington, DC: 77-224.
- D.R. Dalton, C.M. Daily and I. F. Kesner, Executive Severance Agreements: Benefits of Burglary?. *Academy of Management Executive*, **4**, 69-76 (1993).

- W.N. Davidson III, D.L. Worrell and J. B. Fox, Early Retirement Programs and Firm Performance, *Academy of Management Journal* **39**, 970-984 (1996).
- K.P. De Meuse, P.A. Vanderheiden and T.J. Bergmann, Announced Layoffs: Their Effect on Corporate Financial Performance, *Human Resource Management*, **33 (4)**, 509-530 (1994).
- K.P. De Meuse T.J. Bergmann, P.A. Vanderheiden and C.E. Roraff, New Evidence Regarding Organizational Downsizing and a Firm's Financial Performance: A Long-term Analysis, *Journal of Managerial Issues* **16 (2)**, 155-177 (2004).
- R.L. DeWitt, The Structural Consequences of Downsizing, *Organization Science* **4**, 30-40 (1993).
- M. Elovaino, M. Kivimaki. and K. Hekama, Organizational Justice Evaluations, Job Control and Occupational Strain, *Journal of Applied Psychology* **86**, 418-424 (2001).
- R. Espahbodi, T. A. John and G. Vasudevan, The Effects of Downsizing on Operating Performance, *Review of Quantitative Finance and Accounting* **15 (2)**, 107-126 (2000).
- I. Filatotchev, T. Buck and V. Zuckov, Downsizing in Privatized Firms in Russia, Ukraine, and Belarus, *Academy of Management Journal* **43**, 286-304 (2000).
- S.J. Freeman and K. S. Cameron, Organizational Downsizing: A Convergence and Reorientation Framework, *Organization Science* **4**, 10-29 (1993).
- L. Greenhalgh, R.B. McKersie and R.W. Gilkey, Rebalancing the Workforce at IBM: A Case Study of Redeployment and Vitalization, *Organizational Dynamics* **14 (4)**, 30-47 (1986)
- L. Greenhalgh, A.T. Lawrence and R.I. Sutton. Determinants of Workforce Reduction Strategies in Declining Organizations, *Academy of Management Review* **13**, 241 -254 (1988).
- L. Greenhalgh and R.B. McKersie, Cost-Effectiveness of Alternative Strategies for Cut-Back Management, *Public Administration Review* **40 (6)**, 575-584 (1988).
- K.F. Hallock, Layoffs, Top Executive Pay, and Firm Performance, *The American Economic Review* **88 (4)**, 711-723 (1988).

- M.A. Hitt and D.L. Smart, Debt: A Disciplining Force for Managers or a Debilitating Force for Organizations?, *Journal of Management Inquiry* **3**,144-152 (1994)
- Z. Iqbal and S. Shetty, Layoffs, Stock Price, and Financial Condition of the Firm, *Journal of Applied Business Research* **11 (2)**, 67-72 (1995).
- M. Jensen. The Modern Industrial Revolution, Exit, and Failure of Internal Control Systems, *Journal of Finance* **48**, 831-880 (1993).
- Jick, T.D. and Greenhalgh (1989). "Survivor sense making and reactions to organizational decline: Effect of individual differences", *Management Communication Quarterly*, 2: 305-327.
- Zeinab A. Karake, Zeinab Karake-Shalhoub (1999). *Organizational Downsizing, Discrimination and Corporate Social*. Greenwood Publishing group.
- I.F. Kesner and D.R. Dalton. Top Management Turnover and CEO Succession: An Investigation of the Effects of Turnover on Performance, *Journal of Management Studies* **31 (5)**, 701-713 (1994).
- S.W.J. Kozlowski, G. Chao, E. Smith and J. Hedlund, Organizational Downsizing: Strategies, Interventions, and Research Implications, in Cooper, C. L. and I.T. Robertson (Eds), *International Review of Industrial and Organizational Psychology*. New York: Wiley 263-332 (1993).
- H.A. Krishnan and D. Park, Effects of Top Management Team Change on Performance in Downsized US Companies, *Management International Review* **38 (4)**, 303-319 (1998)
- H.A. Krishnan, M.A. Hitt and D. Park, D, Acquisitions Premiums, Subsequent Workforce Reductions and Post-acquisition Performance, *Journal of Management Studies* **44 (5)**, 709-732 (2007).
- C.R. Leana, Why Downsizing Won't Work, *Chicago Tribune Magazine* April, 15-18 (1996).
- Lee, P. M., A Comparative Analysis of Layoff Announcements and Stock Price Reactions in the United States and Japan, *Strategic Management Journal* **18**, 879-894 (1997).

- Levinson, H. (1992). "Fads, fantasies and psychological management". *Consulting Psychology Journal: Practice and Research*, 44 (1): 1-12.
- B.C. Luthans and S.M. Sommer (1999). "The impact of downsizing on workplace attitudes". *Group and Organization Management*, 24 (1): 46-70.
- W. McKinley, J. Zhao and K.A. Rust, A Sociocognitive Interpretation of Organizational Downsizing, *Academy of Management Review* **25**, 227-243 (2000).
- McKinley, W. (1993). Organizational decline and adaptation. *Organization Science*, 4(1), 2-9.
- M.S. Mentzer, Corporate Downsizing and Profitability in Canada, *Canadian Journal of Administrative Sciences* **13 (3)**, 237-250 (1996).
- A.K. Mishra and G.M. Spreitzer, Explaining How Survivors Respond to Downsizing: The Roles of Trust, Empowerment, Justice, and Work Redesign, *Academy of Management Review* **23**, 567-588 (1998).
- M. Mone, Relationship Between Self-concepts, Aspirations, Emotional Responses and Intent to Leave a Downsizing Organization, *Human Resource Management* **33 (2)**, 261-279 (1994).
- J.R. Morris, W.F. Cascio and C.E. Young. Questions and Answers About Who Did It, How Many Did It, and Who Benefited From It, *Organizational Dynamics* **27 (3)**, 78-87 (1999).
- Murray, V.V. and Jick, T.D. (1985). "Taking stock of organizational decline management: Some issues and illustrations from an empirical study", *Journal of Management*, 11(3): 111-123.
- R.D. Nixon, M.A. Hitt, L. Ho-Uk and E. Jeong, Market Reactions to Announcements of Corporate Downsizing Actions and Implementation Strategies, *Strategic Management Journal* **25**, 1121-1129 (2004).
- W.A. Pasmore and J.J. Sherwood, *Sociotechnical Systems and the Quality of Work Life*, Cleveland: Organizational Consultants (1979).
- A. Requejo, Reducción de Plantilla y Problemas de Viabilidad Financiera: El Papel de la Estructura de Capital, *Investigaciones económicas* **20/1**, 43-70 (1996).

- Ryan, L., and Macky K.A. (1998).” Downsizing organizations: Uses, outcomes and strategies”. *Asia Pacific Journal of Human Resources*, 36 (2): 29-45.
- Sutton, R.I. (1987). “The process of organizational death: Disbanding and reconnecting”, *Administrative Science Quarterly*, 32: 542-569.
- Taber, T.D., Walsh, J.T. and Cooke, R.A. (1979). “Developing community-based program for reducing the social impact of a plant closing”. *Journal of Applied Behavioural Science*, 15: 133-155.
- Toharia LM, Malo MA. 2000. The Spanish experiment: Pros and cons of the flexibility at the margin. In *Why Deregulate? Dilemmas of labour market reform in Europe*, Espin-Andersen G, Regini M (eds.). Oxford University Press.
- Toharia, L. and Ojeda, A. (1999) “The management of redundancies in Europe: the case of Spain”, *Labour*, 13 (1), 1-31.
- R.M. Tomasko, *Downsizing: Reshaping the Corporation of the Future*, New York: AMACON (1990).
- P.A. Vanderheiden, K.P. De Meuse and T.J. Bergmann, Response to Haar’s Comment- And the Beat Goes On: Corporate Downsizing in the Twenty-first Century, *Human Resource Management* **38 (3)**, 261-267 (1999).
- D. Vicente-Lorente and I. Suárez-González, Ownership Traits and Downsizing Behaviour: Evidence for the Largest Spanish Firms, 1990-1998, *Organization Studies* **28/11**, 1613-1638 (2007).
- V.B. Wayhan and S. Werner, The Impact of Workforce Reductions on Financial Performance: A Longitudinal Perspective, *Journal of Management* **26**, 341-363 (2000)
- O.E. Williamson, The Economics of Organization: The Transaction Costs Approach, *American Journal of Sociology* **87 (3)**, 548-577 (1981).
- D.L. Worrel, W.N. Davidson III and V.M. Sharma, Layoff Announcements and Stockholder Wealth, *Academy of Management Journal* **34**, 662-678 (1991).
- G. Yu and J. Park. The Effect of Downsizing on the Financial Performance and Employee Productivity of Korean Firms. *International Journal of Manpower*, **27 (3)**, 230-250 (2006).

Figure I. Relationship between amount downsized and firm performance

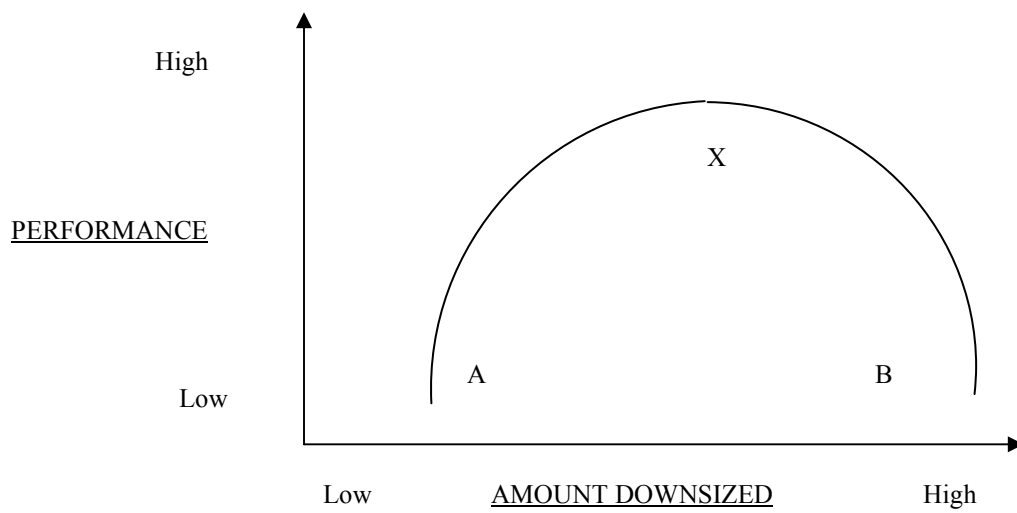


Table I. Main descriptive statistics

Variable	Mean	SD	Min	Max
ROA	-0.011	0.162	-0.661	0.590
Downsizing amount /100	5.210	11.025	0.070	71.910
Disengagement incentives (1=Yes)	0.436	0.498	0	1
Stock market	0.162	0.370	0	1
Age	36.077	27.117	1	102
Log (Sales)	16.704	2.526	6.685	20.585
Industry:				
Agriculture	0.009	0.092	0	1
Mining and construction	0.034	0.182	0	1
Manufacturing	0.650	0.479	0	1
Transportation	0.171	0.378	0	1
Distribution	0.060	0.238	0	1
Finance	0.043	0.203	0	1
Services	0.034	0.182	0	1
Year of downsizing:				
1995	0.128	0.336	0	1
1996	0.145	0.354	0	1
1997	0.094	0.293	0	1
1998	0.068	0.253	0	1
1999	0.068	0.253	0	1
2000	0.205	0.406	0	1
2001	0.291	0.456	0	1

Number of observations: 117. Number of firms: 96

Table II. Correlation coefficients

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. ROA	1.00																			
2. Amount/100	0.11	1.00																		
3. Diseng. Inc.	-0.11	0.24***	1.00																	
4. Stock market	0.26***	0.56***	0.17*	1.00																
5. Age	0.17*	0.34***	0.26***	0.26***	1.00															
6. Log(Sales)	0.10	-0.02	-0.03	0.04	0.25***	1.00														
7. Agriculture	0.04	-0.01	0.11	-0.04	-0.02	0.04	1.00													
8. Min & Const.	0.10	-0.06	0.02	0.04	0.06	0.00	-0.02	1.00												
9. Manufacturing	-0.07	-0.32***	-0.08	-0.16*	0.16*	0.16*	-0.13	0.26***	1.00											
10. Transportation	-0.07	0.49***	0.06	0.29***	0.03	-0.05	-0.04	-0.09	-0.62***	1.00										
11. Distirbution	0.01	-0.07	-0.08	-0.11	-0.19	-0.09	-0.02	-0.05	-0.34***	-0.11	1.00									
12. Financial serv.	0.13	0.04	0.24***	0.02	-0.14	-0.17*	-0.02	-0.04	-0.29***	-0.10	-0.05	1.00								
13. Services	0.06	-0.07	-0.17*	-0.08	-0.13	-0.03	-0.02	-0.04	-0.26***	-0.09	-0.05	-0.04	1.00							
14. Year 1995	0.09	-0.06	-0.03	-0.10	-0.06	0.02	-0.04	0.07	-0.15	0.10	0.01	-0.08	0.21**	1.00						
15. Year 1996	-0.15	-0.12	-0.12	-0.12	0.07	-0.05	-0.04	0.06	0.20**	-0.12	-0.10	-0.09	-0.08	-0.16*	1.00					
16. Year 1997	0.03	-0.06	0.01	-0.06	0.05	0.19**	-0.03	-0.06	0.18**	-0.07	-0.08	-0.07	-0.06	-0.12	-0.13	1.00				
17. Year 1998	-0.06	0.15	0.24***	0.06	0.14	0.09	-0.03	0.32***	-0.23***	0.06	-0.07	0.28***	-0.05	-0.10	-0.11	-0.09	1.00			
18. Year 1999	0.23	0.09	-0.03	-0.03	-0.06	0.15	-0.03	-0.05	0.06	-0.03	-0.07	0.11	-0.05	-0.10	-0.11	-0.09	-0.07	1.00		
19. Year 2000	-0.05	0.06	-0.02	0.12	-0.05	-0.10	-0.05	-0.10	-0.03	-0.01	0.14	0.00	0.02	-0.19	-0.21**	-0.16	-0.14	-0.14	1.00	
20. Year 2001	-0.02	-0.02	0.01	0.08	-0.04	-0.14	0.15	-0.12	-0.04	0.06	0.08	-0.04	-0.02	0.25***	0.26***	0.21**	0.17*	0.17*	0.33	1.00

* p<0.10; ** p<0.05; *** p<0.01

Table III. OLS regression results on profitability

	Model 1			Model 2			Model 3			Model 4		
	Coeff.	SE	Sig.	Coeff.	SE	Sig.	Coeff.	SE	Sig.	Coeff.	SE	Sig.
Downsizing amount	-	-	-	-0.001	0.002		-0.005	0.004		-0.004	0.004	
(Downsizing amount) ²	-	-	-	-	-		0.000	0.000		0.000	0.000	
Disengagement incentives (1=Yes)	-	-	-	-	-		-	-		-0.076	0.031	**
	-	-	-	-	-		-	-		-	-	
Stock market	0.126	0.042	***	0.140	0.048	***	0.143	0.048	***	0.147	0.047	***
Age	0.001	0.001	*	0.001	0.001	*	0.001	0.001	**	0.002	0.001	***
Log(sales)	0.002	0.006		0.002	0.006		0.002	0.006		0.001	0.006	
Industry:												
Agriculture	-	-	-	-	-	-	-	-	-	-	-	-
Mining & construction	0.016	0.174		0.003	0.176		0.009	0.176		-0.046	0.173	
Manufacturing	-0.105	0.153		-0.112	0.154		-0.115	0.154		-0.163	0.151	
Transportation	-0.154	0.157		-0.147	0.158		-0.145	0.157		-0.196	0.155	
Distribution	-0.040	0.162		-0.042	0.163		-0.045	0.163		-0.097	0.160	
Finance	0.039	0.171		0.035	0.171		0.051	0.172		0.039	0.168	
Services	-0.022	0.171		-0.026	0.171		-0.032	0.171		-0.107	0.170	
Downsizing year:												
1995	0.056	0.049		0.056	0.049		0.051	0.049		0.058	0.048	
1996	-0.041	0.046		-0.040	0.047		-0.047	0.047		-0.055	0.046	
1997	0.033	0.054		0.035	0.055		0.032	0.055		0.037	0.053	
1998	-0.102	0.068		-0.095	0.069		-0.121	0.073		-0.097	0.072	
1999	0.149	0.062	**	0.158	0.063	**	0.153	0.064	**	0.148	0.062	**
2000	-0.020	0.040		-0.017	0.041		-0.019	0.041		-0.020	0.040	
2001	-	-		-	-		-	-		-	-	
Intercept	-0.017	0.184		-0.005	0.186		0.003	0.186		0.014	0.181	
R-squared		0.2539			0.2571			0.2659			0.3081	
F		2.29			2.16			2.11			2.42	
Prob>F		0.0077***			0.0109**			0.0118**			0.0029***	
N		117			117			117			117	

* p<0.10; ** p<0.05; *** p<0.01