European Economic Review 74 (2015) 244–268

Contents lists available at ScienceDirect

European Economic Review

journal homepage: www.elsevier.com/locate/eer

Relative performance pay in the shadow of crisis

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ARTICLE INFO

Article history:
Received 20 December 2013
Accepted 10 December 2014
Available online 24 December 2014

JEL classification:
C9
J3
J6
M5

Keywords:
Crisis
Incentives
Strategic complements
Strategic substitutes
Tournament

ABSTRACT

We analyze whether incentives from relative performance pay are reduced or enhanced if a department is possibly terminated due to a crisis. Our benchmark model shows that incentives decrease in a severe crisis, but are boosted given a minor crisis since efforts are strategic complements in the former case but strategic substitutes in the latter one. We tested our predictions in a laboratory experiment. The results confirm the effort ranking but show that in a severe crisis individuals deviate from equilibrium significantly stronger than in other situations. This behavior contradicts the benchmark model and leads to a five times higher survival probability of the department. We develop a new theoretical approach that might explain players' behavior.

"Crisis can bring out the best in a company and its people. Rather than yield to pessimism, our organization has moved forward with a renewed sense of purpose to succeed. Through hard work and tough choices, we made significant progress during the past 365 days." (Sergio Marchionne, CEO Chrysler Group LLC, The Wall Street Journal, 2010)

1. Introduction

During the recent economic crisis in the U.S. and Europe, companies had to deal with a reduction of demand for their products and reduced profits. Even though the local governments induced "recovery packages" including for instance the option for short-time working, companies often decided to shut down parts of their facilities or to generally downsize their workforce (for more details check Glassner and Galgoczi, 2009). For example, Foot Locker closed 208 of its U.S. stores in 2008 to increase overall efficiency and profits. In the same year, the coffee retailer Starbucks proclaimed to shut down 600 of its underperforming shops in the U.S. In January 2010, the large European drugstore chain Schlecker announced to eliminate 500 locations, while GAP decided to close 189 retail stores in the U.S. in 2011. These and other cases show that, for technological reasons, companies prefer closing an entire organizational unit or a department to dismissing a certain number of workers at different units. As Bewley (1999) documents, companies with a single location also prefer dissolving whole departments.[2]

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[2] Bewley (1999, Chapter 13) analyzes layoffs of 235 companies during recession and finds that "many firms laid off whole departments or large portions of them" (p. 238).

http://dx.doi.org/10.1016/j.euroecorev.2014.12.002
0014-2921/

Generally, if a company is facing a crisis, workers might lose their jobs or will have to accept substantial wage cuts. The job insecurity perceptions during such a downsizing process lead to a reduction of performance and increased stress (Sverke et al., 2002) a phenomenon which can also be observed in the advance notice period of plant closures (Hansson and Wigblad, 2006).[3] This strand of the literature deals with large companies that were facing a severe crisis and in the end did not manage a turnaround and were forced to downsize or close parts of their businesses. However, little is known about the effects of a looming crisis when there is still a chance to avoid layoffs and closures. Our paper fills this gap in the literature as we study the impact of different degrees of crisis on worker motivation.

Intuitively, a looming crisis might reduce incentives for workers, because they might not receive promised bonus payments or promotions even though they performed well (see, e.g., Friebel and Matros, 2005). We show that this intuition is not necessarily true and theoretically and experimentally discuss the incentive effects of a crisis for the case of relative performance pay. The theoretical results show that incentives will indeed decrease, if the crisis is sufficiently severe. However, if workers face a minor crisis, incentives will be enhanced compared to a situation without crisis. The experimental findings support the incentive enhancing effect of a minor crisis. The detrimental consequences of a severe crisis are considerably less strong than theoretically predicted, suggesting that individuals are – at least partly – motivated by the possibility to save their department by an overall high performance.

In the empirical part of the paper, we rely on experimental data instead of company data as it would be very difficult to measure the perceived extent of a crisis and the individual effort reaction of workers using company data. The experiment allows us to induce different likelihoods of termination resulting from a crisis keeping all else equal. In our theoretical model we compare three different cases: no crisis, minor crisis, severe crisis. We start with the *baseline case* where a department does not face a crisis and the workers are motivated by relative performance pay. The use of relative performance pay in the form of bonus pools, sales contests or rewards is very common in companies to induce incentives.[4] Moreover, nearly every company uses relative performance evaluation to fill vacant positions via job-promotion contests. In addition, many companies apply forced-ranking systems to avoid leniency and centrality biases when evaluating their employees. As Boyle (2001) reports, about 25% of the Fortune 500 companies employ a forced-ranking system (e.g., General Electric, Intel, Cisco Systems, Sun Microsystems). Following the seminal papers by Lazear and Rosen (1981), Green and Stokey (1983), Nalebuff and Stiglitz (1983), O'Keeffe et al. (1984), Malcomson (1984), and Rosen (1986), we model workers' relative performance pay as a rank-order tournament. We consider a stylized situation of a department with two workers. These two workers compete for relative performance pay, consisting of a non-negative tournament loser prize and a strictly larger winner prize.

In the second and third case we supplement relative performance pay by the possibility of termination due to a minor or a severe crisis, respectively. In both case termination can be avoided if the performance of the department exceeds a certain threshold. Hence, the likelihood of termination is not exogenous but does depend on the workers' efforts. If the threshold is not met, the department will be terminated and both workers will lose the tournament prizes. The combination of relative performance pay and a looming crisis leads to two opposing incentive effects for the workers. On the one hand, the incentive effect of relative performance pay leads to a negative externality with respect to the competing co-worker. The higher a worker's effort, the lower the co-worker's probability of winning the tournament. On the other hand, the "team effect" of collectively saving the department leads to a positive externality between the workers. If a worker exerts high effort, the department's survival probability will increase. The presumable winner of the tournament thus benefits from this effort.

The second case – *minor crisis* – corresponds to a situation where the department can avoid termination relatively easily by improving its productivity. As only one worker needs to be successful to meet the department's survival threshold, the team component of saving the department vanishes. But the negative externality of relative performance pay is still present. Our results show that in this setting efforts are strategic substitutes in the sense of Bulow et al. (1985) meaning that a higher effort of one worker decreases the effort of his opponent. Since each worker wants to make use of this strategic effect, in equilibrium both end up in a situation with higher effort levels compared to the baseline case without crisis.

The third case – *severe crisis* – corresponds to a situation where termination is very likely and can only be avoided if both workers are sufficiently successful so that the survival threshold is met. Now, the survival of the department and, hence, the positive externality between the workers become the main issue. This situation reminds of a team problem as the workers have to stick together in order to avoid termination. The important difference to the existing team literature (see, e.g., van Dijk et al., 2001 or Vandegrift and Yavas, 2011) is that the workers still participate in a tournament and therefore only one of them will be able to collect the winner prize. We show that in this setting efforts are strategic complements in the sense of Bulow et al. (1985) as less effort by one of the workers induces less effort by the other. As a consequence, the workers free-ride in equilibrium and choose lower effort levels than in the baseline case without crisis.

To sum up, we find that the severity of the looming crisis is crucial for its impact on worker motivation. If efforts are strategic substitutes as in the case of a minor crisis, workers will respond with higher effort levels than in the baseline case. If efforts are strategic complements as in the severe crisis, workers will refrain from exerting much effort compared to the baseline case. Thus, our model shows that both, reduced productivity before plant closure announcements and enhanced productivity, can be explained based on the plant's (or department's) likelihood of being terminated.

[3] After the closedown decision is made public and the plant is shut down no matter how well it performs, the so-called close-down effect leading to enhanced productivity can be observed.

[4] For example, monetary incentives can be combined with relative performance evaluation (e.g., "employee of the month"), as practiced by Foot Locker.