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Optimal tolerance for failure

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ABSTRACT

We consider the problem of an employer who has to choose whether to reemploy agents with a positive track record or agents who were unsuccessful. While previously successful managers are likely to be of high ability, they have also accumulated wealth and will be harder to motivate in the future. It may hence be optimal to retain unsuccessful managers but not successful ones. The result that the optimal tenure of a manager may not be increasing in his success is consistent with empirical studies that find a low correlation between firm success and managerial turnover.

1. Introduction

When searching for new employees firms usually invest a non-negligible amount of time and resources in not only finding the most able employees but also the ones who are most motivated. Indeed, firms regularly claim a certain degree of ambition to be a relevant criterion for employment at the management level. The question "Where do you see yourself in five years?" belongs to the standard repertoire of job interviews and mirrors this concern. One way to think of ambition is that it reflects an employee's responsiveness to monetary incentives.

In this paper we consider a situation where this responsiveness to incentives is endogenous and depends on the wealth that a manager has accumulated while working for a firm. The wealthier an agent, the lower his marginal utility of income. Hence, the prospect of earning a large bonus in case of success is less appealing to rich managers than to poor ones. Whether a manager has been able to accumulate wealth or not depends on his achievements. In case the manager has been successful in the past, he has earned higher bonuses and is harder to motivate in the future than an unsuccessful manager. At the

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same time, previous success is likely to carry some information on the ability of a manager with respect to the task at hand. Hence, the principal faces a non-trivial trade-off between keeping only the most able employees versus tolerating failure and renewing the employment contracts of unsuccessful but "hungry" managers.

The fact that endogenous changes in wealth influence the responsiveness to incentives is probably most important at hierarchy levels where incentive pay constitutes a large fraction of a manager's total compensation. In particular, this is the case for senior executives and directors of large publicly held companies, whose wealth changed by almost US$670,000 for each 1% change in their company's stock price in the period between 1992 and 2002 (Brick et al., 2012). However, changes in the wealth of their employees are also a concern for younger companies that compensate their employees with stock options. In fact, in its I.P.O.-prospectus in 2012 the online network Facebook listed as a risk factor facing its business that *"we have a number of current employees [who] [. . .] after the completion of our initial public offering will be entitled to receive substantial amounts of our capital stock. As a result, it may be difficult for us to continue to retain and motivate these employees, and this wealth could affect their decisions about whether or not they continue to work for us"*.

We consider a two period principal-agent model in which the probability that a project is successful in a given period depends on the agent's ability and his unobservable effort. In the first period a principal hires an agent of unknown ability and offers him a wage that is contingent on the project's success in order to give the agent incentives to exert effort. After having observed the success of the project, the principal can decide whether to rehire the agent in the second period or whether to hire a new agent from a pool of ex-ante identical employees. If the project is successful in the first period, the principal is going to adjust his belief on the agent's ability upwards. But a success will also trigger a bonus payment, which increases the agent's wealth and makes it more expensive to motivate him in the next period. While a higher wealth may reduce the agent's risk aversion and make him more inclined to accept a bonus contract with uncertain future income, it also reduces the agent's marginal utility of income and makes it harder to compensate him for his effort. In this paper we consider a situation where the latter effect dominates and show that this is indeed the case under weak assumptions on the agent's utility function. Conversely, an unfavorable outcome in the first period reduces the principal's expectation about the agent's ability. But it also reduces the agent's wealth since he will be financially punished in case of failure. It is thus not clear if the principal should rehire successful managers and if he should replace unsuccessful ones.

Continuing employment relations only in case an agent has been successful is optimal whenever it is either extremely important or hardly matters at all whether the agent is successful in period two. If success is very important, the cost of remuneration is small relative to the profits if the project does turn out successful. Hence, the principal employs the agent who is most able in expectation. After a positive outcome in period one this is the current employee, while after failure this requires hiring a new employee. If the value of success is very low, the principal offers a contract that does not implement effort regardless of the agent's history. Hence, the cost of incentives is irrelevant and again it is optimal to hire the most able manager. However, for intermediate values of success, it may be optimal to tolerate failure and to rehire unsuccessful managers. In this case the principal may want to implement effort and the cost of doing so is an important determinant of firm profits. It may hence be optimal to hire managers that are cheaper to motivate, even if this comes at the cost of a lower expected ability. In particular, there are parameter constellations for which it is optimal to retain the current manager regardless of his previous success, or to retain a manager only if he was unsuccessful. For certain values of success it can also be optimal to terminate the employment relationship with the manager regardless of his success. This corresponds to cases where after performing an important task in the first period the manager has either become too rich or is seen as incompetent.

Finally, the principal is more likely to reemploy an unsuccessful agent and to let go of a successful one if there is little ex-ante uncertainty with respect to ability. In this case the principal infers little information from the fact that the agent has failed in period one. Hence, it is optimal to base employment decisions solely on the agent's wealth.

The effects we consider in this paper are likely to be relevant in a number of areas. We have already discussed that they may be important for the key staff of small start-ups as well as for CEOs of large, publicly held companies. For CEOs there is extensive empirical evidence that the correlation between a manager's success and his tenure is surprisingly weak (see below). Moreover, this appears to be driven by CEOs remaining in their job regardless of success. However, in some industries the opposite seems to be the case: There is ample evidence of hedge fund managers retiring as early as in their mid-forties regardless of previous success. Either they are too unsuccessful to continue working in the industry. Or they are too wealthy to continue exerting effort when market conditions become more challenging.[1] The former chairman of Microsoft, Bill Gates, is another prominent example of a manager resigning despite being highly successful. The fact that he chose to run a charity instead of continuing in his previous job is consistent with our prediction that it is not always optimal for firms to retain successful managers. It seems plausible that the decision of Microsoft's chairman was driven by monetary rewards becoming an increasingly less powerful source of incentives.

[1] While we do provide some conditions for whether it is optimal to retain managers regardless of success or to terminate employment relationships regardless of success, this is not the focus of this paper. Instead, we focus on the question whether or not a manager's optimal tenure is increasing in his success.