Journal of Economic Behavior & Organization 99 (2014) 178–194

Contents lists available at ScienceDirect

Journal of Economic Behavior & Organization

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

Delegating the decision-making authority to terminate a sequential project

Yasunari Tamada[a], Tsung-Sheng Tsai[b,*]

[a] Faculty of Economics, Keio University, 2-15-45 Mita, Minato-ku, Tokyo 108-8345, Japan
[b] Department of Economics, National Taiwan University, 21 Hsu-Chow Road, Taipei 10055, Taiwan

ARTICLE INFO

Article history:
Received 3 January 2013
Received in revised form 11 January 2014
Accepted 18 January 2014
Available online 28 January 2014

JEL classification:
D23
D86
L14

Keywords:
Career concerns
Delegation
Sequential investment
Sunk cost fallacy

ABSTRACT

This paper considers a two-stage project which requires investments to be made by different agents, who have career concerns, at each stage. The principal needs to decide whether the project should be continued or not after the first-stage outcome is realized. The principal can either keep the decision-making authority regarding the termination policy, or else delegate it to one of the agents. With career concerns, the first-stage agent always wants to continue the project, in which case the sunk cost fallacy occurs. On the contrary, the second-stage agent may prefer to stop it voluntarily to protect his reputation. Therefore, when the career concerns are strong, the principal should delegate the authority to the second-stage agent if an early termination of the project is also the best policy for the principal; while if the career concerns are weak, the principal should keep the authority.

1. Introduction

In many cases, a project requires several stages of sequential investments to take place. It is very often the case that, at each stage, the principal (she, such as the shareholder or the Board of Directors) needs to decide whether or not the project should be continued to the next stage based on the outcomes in the previous one. Sometimes the principal does not have the expertise to make such a decision and may have to delegate the decision right to the agent (he, such as a CEO or a project manager) who knows more about the promise the project holds. In such a situation, however, there may occur the "sunk cost fallacy": the project managers or the agents who have been executing the project tend to continue an unpromising project and ignore the sunk cost that has been made. This kind of "escalation of commitment" to a chosen course of action is commonly observed in reality.[1]

The sunk cost fallacy has often been interpreted as self-justification of the decision-maker's earlier choice and has been considered irrational in behavioral economics or social psychology.[2] However, it has also been pointed out that this seemingly irrational behavior can occur in a world of rational decision makers. One of the most appealing explanations is the agents'

* Corresponding author. Tel.: +886 223519641.
E-mail addresses: tamada@econ.keio.ac.jp (Y. Tamada), tstsai@ntu.edu.tw (T.-S. Tsai).

[1] For example, Staw and Hoang (1995) find that NBA players who are drafted early in the first round play more minutes but end up performing more poorly and having shorter careers than those who are drafted later. This indicates that teams escalate their commitment to high-ranking players.

[2] See, for example, McCarthy et al. (1993), Staw (1976, 1981), Staw et al. (1997).

0167-2681/$ – see front matter
http://dx.doi.org/10.1016/j.jebo.2014.01.007

reputation or career concerns. Intuitively, if the labor market interprets a "failure" as a signal of poor ability, a manager has a strong incentive to input more resources to save a failing project in order to protect his reputation. Therefore, the sunk cost fallacy can be a rational choice based on the decision maker's career concern.[3] In this paper, we follow this view by considering that agents have career concerns in determining whether a sequential project should be continued or not when the decision right is delegated to them.

To solve the problem, one elegant remedy is having one agent make the initial decision and a different agent make the subsequent decision. With such a possibility of turnover, the initial decision-maker's motivation to self-justify the previous investments and honor the sunk costs are weakened.[4] Several researchers have found evidence to support this point of view in reality. For example, Weisbach (1995) finds that new managers tend to divest the unprofitable corporate acquisitions of their predecessors; Staw et al. (1997) find that new bank executives are more likely to terminate poorly performing loans. More recently, Jin and Scherbina (2011) have found that new managers who take over mutual fund portfolios sell off inherited losers at higher rates, while continuing managers tend to hold on to losers.

This paper aims to analyze the optimal allocation of authority regarding the termination policy when there is a sunk cost fallacy driven by rational agents' career concerns, an issue which has not formally been analyzed in the literature. We consider a two-period sequential investment model in which two different agents are responsible for the investment in each period, in which there is a turnover of agents between the stages. The principal needs to determine whether the project should be continued to the next stage or not. If the principal keeps the authority, the sunk cost fallacy can be avoided, but she may not have the precise information to make a correct decision. On the other hand, delegating the authority to the second-stage agent (i.e., the new manager) may help in terminating an unpromising project; however, the principal may also lose her control which leads to inefficiency, as argued in the delegation literature. Therefore, besides the typical tradeoff between loss of information and loss of control, there arises an interesting interaction with the sunk cost fallacy. The key issue in this paper is to explain who should have the authority to terminate the project, and with whom the principal should communicate if she decides to keep the authority.

The first-stage outcome can be used as an "early warning signal" for deciding the termination policy. We assume that this information is non-verifiable and may not be observable by the principal. Thus, the monetary wage paid to each agent can only be contingent on the termination decision and the verifiable final outcome if the project is continued.[5] To induce an agent to make an investment, the principal needs to pay him a sufficiently high wage (or the "efficiency wage") when the final outcome is a success. In this case, the agents have strong incentives to continue the project in order to obtain the efficiency wage, even when the first stage is a failure. Therefore, if the agents care only about monetary payoffs, there occurs the sunk cost fallacy, and delegation is worse than the principal's authority because the information cannot be revealed under delegation.

When, then, does the principal want to delegate the decision-making authority to the agent? We think that the agent's career concerns play an important role. For the outside evaluator such as the labor market, there are two possible signals that can be used to evaluate the agents: the continuation/termination of the project, which reflects the first-stage outcome, and the final outcome. For the first-stage agent, the termination of the project is a signal of incompetence, and so when the first stage is a failure, the agent has a stronger incentive to continue the project, because not only is he paid only when the final outcome is successful, but he also obtains a better reputation if the project is continued. Thus, career concerns can only enhance the occurrence of the sunk cost fallacy, and it is never optimal to delegate the authority to the first-stage agent.

The situation for the second-stage agent is different. When the first stage is a failure, it is more difficult for the second-stage agent to finally make the project a success even when he makes an investment, and so there is a good chance that it will fail in the end, in which case his reputation can be hurt if the project continues. On the other hand, if the project is cancelled, the belief regarding his ability will not be updated and will remain the prior one. Therefore, if his career concerns are strong enough, he would rather stop the project voluntarily in order to protect his reputation, even though he has to give up the wage payment. This is consistent with the empirical findings mentioned before in which case new managers tend to kill the existing project. In this case, the principal can extract the true information through delegating the authority to the second-stage agent.

However, does this mean that delegation to the second-stage agent is *always* good for the principal? The answer is no. If it is also best for the principal to terminate the project given that the first stage is a failure, then delegating to the second-stage agent will be the optimal policy because not only can the principal extract the information without incurring any cost, but the two of them will also have the same preferences over the termination policy, so that neither loss of control nor loss of information occurs. However, if it is best for the principal to always continue the project, then delegation leads to a loss of control because the second-stage agent wants to protect his career and stops the project which is in fact promising to the principal. Although the turnover of agents can solve the sunk cost fallacy, a potentially profitable project is also wrongly killed. In this case, keeping the authority is in fact a better choice for the principal.

On the other hand, if the agents' career concerns are weak, even the second-stage agent will prefer to continue the project all the time in order to receive the efficiency wage. Delegation is therefore not optimal. To rectify the sunk cost fallacy, the

[3] See Kanodia et al. (1989), Boot (1992), Prendergast and Stole (1996).

[4] See, for example, McCarthy et al. (1993), Staw et al. (1997).

[5] Such a wage scheme is similar to "deferred compensation." See Lazear (1995).