

A Simple Model for the Damage Caused by Ungrounded Rumors (*Fuhyo-Higai*)

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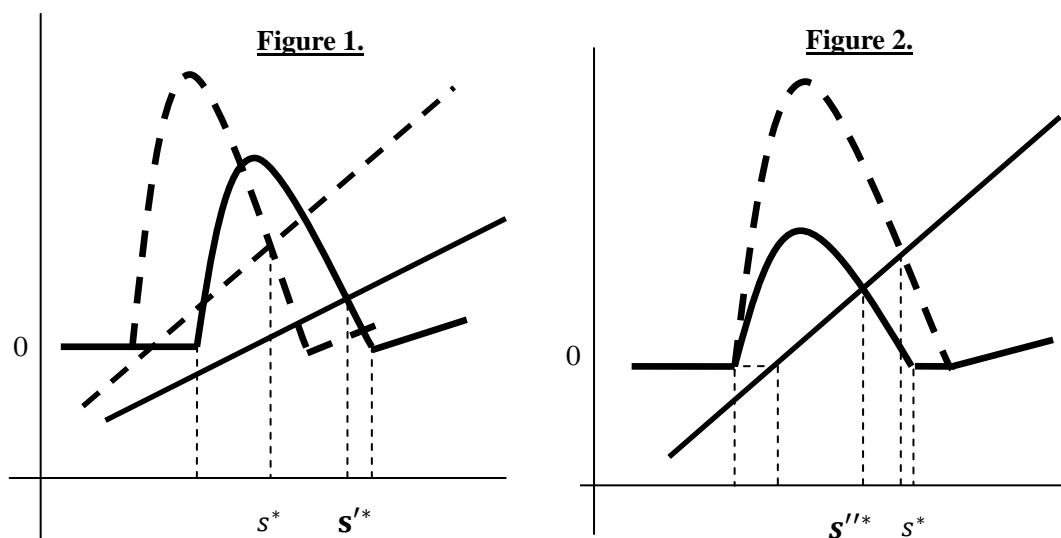
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Abstract

This paper mainly explores what role the existence of irrational consumers, who always choose not to buy, play in the outbreak and the process of escalation of “*Fuhyo-Higai*”. Why does “*Fuhyo-Higai*” happen? It may seem that some people’s irrational behavior is propagated and amplified, making the damage more serious, but is that true?

To describe the mechanism of “*Fuhyo-Higai*”, we use a social learning model with heterogeneous beliefs and endogenous timing of each action. In our two-period model, a consumer with his own private belief formed via Bayes’s rule can choose either action: buying now or delaying in the first period. If he chooses to delay, in the second period, he will observe an action taken by others. Then, he updates his belief, depending on what he observed, and makes a final decision.

A symmetric subgame perfect Bayesian equilibrium in the model depends on the intertemporal arbitrage between the opportunity cost of delay and the value of information gained from observation. If the equilibrium strategy, represented by a private signal, becomes larger, more consumers will choose to delay, which results in more serious “*Fuhyo-Higai*”. We find strong feelings to a risk push up the value of the equilibrium strategy, leading to more delays (See Figure 1). More interestingly, we also find if consumers know what percentage of consumers behave irrationally, the value of equilibrium strategy will go down (See Figure 2). It is because they rely more on their private signals and less on observation. The existence of irrational people could mitigate “*Fuhyo-Higai*”.



The straight lines show opportunity cost of delay, while hump-shaped curves show option value of delay.