Information Advantage of the Early Bird Entrepreneur

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Abstract

This paper formalises a model of entrepreneurial opportunities with temporary asymmetric information. At the start date an entrepreneur will have some information not available to other entrepreneurs, but as entrepreneurs interact socially over time, information diffuses to other entrepreneurs in the economy. A scan of the literature shows the sparseness of contributions on the effects of the spread of information on entrepreneurial opportunities. To my knowledge, there is only one contribution that analyses the effects of the spread of information on entrepreneurial opportunities and that contribution focused on the effects of rumours on the price of securities[1]. This paper will add to existing knowledge by providing the analytical framework to assess the behaviour of the risk premium, as information diffuses over time. The main finding is that the risk premium may be underestimated or overestimated in the early stages of the model but as time increases the risk premium will converge to a steady value. The rate at which the risk premium converges depends on the speed at which information diffuses to entrepreneurs.

Key Words: Information Diffusion**,** Entrepreneurial opportunity, Risk Premium

1 Introduction

Contributions on the spread of information (rumours), in most cases, assume that agents assimilate new information through Bayesian updating. Banerjee (1993) purported that rumours spread through individual Bayesian updates and so used this mechanism to derive the underlying stochastic process driving the spread of the rumour. Other contributions such as Vettas (1998) explored a bilateral learning process where, agents on the consumption side learn (via Bayesian updating) by observing other agents on the consumption side, while agents on the production side learn by observing other agents on the production side. The dynamics of the rumour process was approximated by a differential equation. Another contribution, Kirman (1993), approached the spread of information through a recruitment mechanism.

Kirman (1993) purported that the dynamics of the spread of information can be determined by observing the behaviour of ants. Kirman examined a scenario where ants are faced with two symmetric food sources, the ant that discovers a food source interacts with other ant(s) enabling the information on the location of the food source to spread. Each ant that interacts with another ant that has the information is recruited with a certain probability. The number of ants that assimilate the information per unit time is the number of ants that gather around a particular food source per time. The differential equation governing the spread of the information was uncovered from these observations. Another form the recruitment mechanism took was that idealised by Ellison and Fudenberg (1995).

Under the heading, "Word-of-Mouth Communication and Social Learning" Ellison and Fudenberg (1995) formulated a model where, agents learn about their environment by communicating with other agents in the economy. Each agent observes payoffs based on their experiences and idiosyncratic shocks from consuming a particular good. As agents communicate, each agent will have information on the payoffs of a random sample of agents from the population per unit time. Each agent then finds the average of these payoffs and since the shocks are

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[1] Kosfeld, M. (2005) Rumours and Markets, *Journal of Mathematical Economics*, vol. 41, pp 646-664.