

A Model of Herding

Banerjee [1] looks at a model in which there is a large number of individuals who each make a choice, in sequence, taking into account both the choices of others who came before them and private signals that they receive. In the Bayesian Nash equilibrium*, individuals may discard their own private information and follow the herd. Because of this, the probability that no one selects the right option is non-trivial which contrasts sharply with what would happen in a large population if every individual only relied on private information.

To see how this works, Banerjee (1992) presents a simplified example where individuals choose between two restaurants: A and B. Assume that 100 individuals need to each choose which restaurant to eat at. These individuals have prior beliefs that A may be better than B, though this difference is small. Individuals choose which restaurant to eat at in sequence and when an individual arrives, she can observe the choices of her predecessors and also gets a private signal as to which restaurant is better. Even if 99 of the individuals receive signals that B is the better restaurant, if the individual who receives the signal that A is better goes first, herding will occur. The second decision maker, whose private signal favours B, knows that the first diner's signal favoured A. Together with the fact that the prior belief mildly favoured A, even the second diner eats at A. Now consider the third decision maker. She too has private information that B is better, but in her position, it is rational to choose A having observed two diners at A. After all, given that there are two diners there, it is more likely that A is the better restaurant and her signal is incorrect. In this way, every individual will then pick A even though if all decision makers were able to share their signals they would plainly see that B is the better choice.

* A Bayesian Nash Equilibrium is a Nash Equilibrium of a Bayesian game – that is, a game in which participants do not have complete information about the types of other players.

[1] Abhijit V Banerjee, A Simple Model of Herd Behavior, *The Quarterly Journal of Economics*, Vol.107, No.3, pp.797–817, 1992. doi: 10.2307/2118364

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