Job Market Signaling
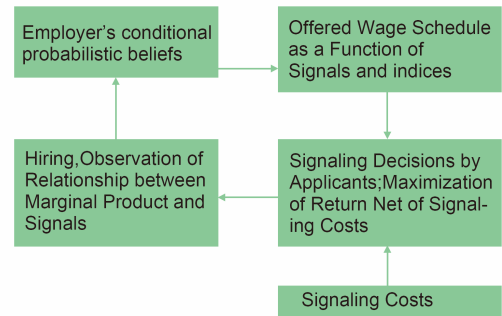## by Michael Spence

Ju Zongqi
1155085001

WHAT IS THE MAIN ARGUMENT OF THIS PAPER?

The market in the real world is such an incomplete information market, and the incomplete information market means that people in the market cannot understand the situation of everyone in the market. However, the incomplete information refers not only to the incompleteness in the absolute sense, that is, because of the limitation of cognitive ability, it is impossible for people to know that any situation occurs at any time and anywhere, and it refers to incompleteness in the sense of "relative". That is, the market economy itself cannot produce enough information and configure them effectively.

The authors give examples of educational signals. In the labor market, the employer does not understand the real situation of the job seeker. Based on the job seeker's ability, he provides different wages for different levels of education. Since education has signal costs, job seekers will choose the most favorable level of education according to the salary scale and education cost, and apply for a job. The employer compares the actual ability of the worker and the expected ability of the employee, and decides whether to update the salary list in the next round of recruitment. This formed a cycle in which the market reached a state of equilibrium when the actual productivity of the employees met expectations.

- Employer's conditional probabilistic beliefs → Offered Wage Schedule as a Function of Signals and indices
- Hiring, Observation of Relationship between Marginal Product and Signals
- Signaling Decisions by Applicants; Maximization of Return Net of Signaling Costs
- Signaling Costs

HOW DOES THIS PAPER EXPLAIN HIS POINT OF VIEW?

Firstly, by introducing some assumptions

Critical assumptions:

1. Signal cost and production capacity are inversely related. In simple words, "smart people learn fast". For example, some talented students can complete college studies in one to two years.

2. The labor market is fully competitive. In equilibrium, wages equal labor productivity and corporate profits are zero. Thus, for a risk-neutral employer, the wage given is exactly the mathematical expectation of the employee's labor productivity.

3. Assume that the job seeker is completely rational. The purpose of receiving education is to have the right signal to earn more, so he will adjust his education strategy according to the given salary function $w(x)$.

Implied assumptions:

Education does not improve human productivity, which sounds ridiculous, but it is also quite a lot in real life. Education is a signal with signal costs.

The sender selects the education level as a signal and selects the appropriate strategy based on the wage function given by the employer, that is, chooses to accept the education at the y level, and strives to maximize the difference between the wage and the signal cost. After receiving the signal, the employer decides whether to hire.

Secondly, by building a mathematical model

Two curves are established on the coordinate axis: the given wage curve and the education cost curve. By comparing the difference between the two, the market situation under the equilibrium state of the game is studied.
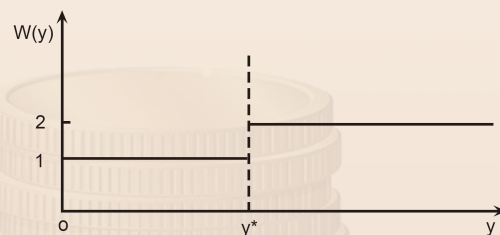

The author first considers academic qualifications as a single signal. After a simple calculation, the author gives the following several scenarios that may appear in the market:

Scenario 1: the signal can be effectively communicated, that is, high-productivity workers and low-productivity workers can be distinguished

Optimaly for Group II
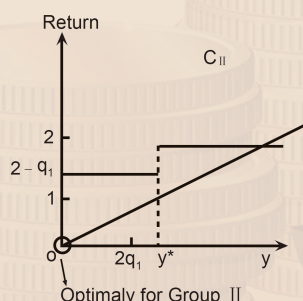
Scenario 2: the signal cannot be effectively transmitted, everyone does not receive education, there is a reverse choice, because the net benefit of receiving education is not significant

Optimaly for Group I
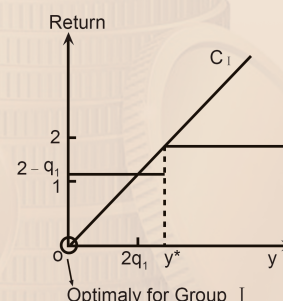
This result gives us the following enlightenment

The signal is only valid under certain circumstances. Only when the marginal cost of the two groups of people has a large gap, the signal can effectively distinguish.

The equilibrium state in the sense of game theory does not mean the maximization of welfare. Asymmetric information can cause losses to the market, so it can be said that information has value.

Some questions we may concern

What is the significance of this article?

What is the historical limitation of the article?

What is the relevant research triggered by the paper?