Chapter 23

Asymmetric Information: Silence Signaling And Suffering Education

We look at two settings with asymmetric information; one side of a game knows something that the other side does not. We should always interpret attempts to communicate or signal such information taking into account the incentives of the person doing the signaling. In the first setting, information is verifiable. Here, the failure explicitly to reveal information can be informative, and hence verifiable information tends to come out even when you don't want it to. We consider examples of such information unraveling. Then we move to unverifiable information. Here, it is hard to convey such information even if you want to. Nevertheless, differentially costly signals can sometimes provide incentives for agents with different information to distinguish themselves. In particular, we consider how the education system can allow future workers to signal their abilities. We discuss some implications of this rather pessimistic view of education.

Asymmetric Information Signaling

Verifiable Information Eg Cournot. Firm B has costs c^m. Firm A has costs c^h = c^m +x or c^m or c^l = c^m - x. Firm B knows only its costs. But, firm A knows both costs. Firm A can costlessly and verifiably reveal it's cost to B. If c^l then reveal. Therefore c^m reveals as well to prevent being mistaken for c^h. Therefore c^h is revealed. Informational unraveling.

Lesson: Lack of a signal can be informative. Silence can speak volumes.

Not Verifiable - Costly Model

Good workers - 50 - 10%.

Bad workers - 30 - 90%.

Firms compete for workers so pay 50 to workers they identify as good and pay 30 to workers they identify as bad. Pay 32 to a worker they cannot identify.

Main signal is education (Spence).

Suppose that the cost per year of MBA education is 5 if good worker. Suppose that the cost per year of MBA education is 10 if bad worker.

There is an equilibrium in which degrees take 3 years in which the good workers all get MBA and the bad workers do not and the employers identify MBA equals good and not MBA equals bad.

To check

1. Need to check that no type will deviate.

Good workers get MBA. They are identified as good and their payoffs is 50 - 3 * 5 = 35. If they deviate they employers think they are bad and their payoffs is 30.

Bad workers in equilibrium dont get MBA are identified as bad and have payoff 30. If they deviate then they get MBA identified as good workers and their payoff is 50 - 3 * 10 = 20.

2. Need to check that the employer's beliefs are consistent with the equilibrium behavior.

Separating equilibrium.

How about a one year MBA.

Not an equilibrium, Bad workers in this supposed equilibrium not get MBA and get payoff of 30. If they deviate they get MBA identified as good and get payoff of 50 - 1 * 10 = 40.
A two year MBA works. We need enough difference in cost for good workers to get the degree and for bad workers to not get the degree.

Lesson

1. A good signal needs to be differentially costly across types.
2. Qualification inflation.

Lessons in education

1. Pessimistic model of education.No learning only pain.
2. Socially wasteful. Use the professors elsewhere.
3. Education increases inequality. Hurts the poor.