Module 6

Lecture 38

Topics

6.2 Information Economics

6.2.1 Adverse Selection and Moral Hazard

6.2.2 Example and Application

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6.2.4 Importance of information economics

6.2 Information Economics

- Information economics was pioneered by George Akerlof (1940-) who later won the Nobel Prize for this
- This was a major breakthrough in the standard neo-classical paradigm which is based on competitive markets.
- The standard neo-classical paradigm assumes that information all agents possess perfect information about the quality of the products. A market cannot be perfectly competitive without this assumption.
- However, in real life we often face situations where one party knows more than the other. For example, buyers of health insurance know more about the condition of health than the insurance companies. Similarly owner of an used car knows more about her car than a buyer.
- In fact, Akerlof in his seminal paper tackled the problem of used car market.
- In the US jargon good cars are often referred to as Peach and bad cars as Lemons.
- An individual does not know the quality. Knows that with probability q it is a good car. And with probability (1-q) it's a bad car.
- The seller knows more accurately whether a car is a lemon.
- Suppose good car sells at 1, 0000 and a bad car sells at 40,000.
- If $q = \frac{1}{2}$, the buyer will pay= 70,000 < minimum acceptable price of good car.

- Only bad car will be brought to the market.

6.2.1 Adverse Selection and Moral Hazard

- The problem described above is the problem of adverse selection where there are different types of goods (or individuals) in the market and the buyer (or employer) has no a priori information about the true quality of the product (or service). The above example shows this lack of information can lead to the breakdown of the market.
- There is a second set of problems related to the information asymmetry known as the problem of moral hazard. In this case there is no a priori quality difference across individuals. But after the contract is made, an individual may deviate from the contracted behavior.
- Such problem can be found in the case of insurance market where after getting a health insurance one may indulge himself in smoking and drinking. Similarly after one insures one's car for mechanical defect she may not take enough care of her car.
- Another example of the moral hazard problem can be the case of shirking employing or defaulting debtor.
- The existence of *one-sided-information* about the quality of goods or services makes the contracts vulnerable which can lead to breakdown of the markets.
- The information economics provides a critique of the perfect information, standard neo-classical model. We have already discussed the information economics critique of the general equilibrium models.

6.2.2 Example and Application

A. Elderly people have higher health risk and they are the people who are prone to use insurance making the insurance market fail.
B. Employment of under privileged categories may result into lower productivity simply because under privileged groups may not have attended quality school.
C. Dishonest practices in underdeveloped world -> lack of quality control -> think of medical practitioner giving unnecessary drugs
D. Credit market →difficult to get know who is a good risk

6.2.3 Solution

- The question remains that how we solve this problem.
- The problem of adverse selection (i.e. knowing who is good and who is bad) can be solved by signaling mechanism pioneered by Spence in 1976.

- In this mechanism individuals have to send signal about their ability. A successful signaling requirement is one which the more able people can send but the less able cannot. The equilibrium emerging in this case is known as the separating equilibrium.
- If signals are too easy for both more able and less able type or too difficult for both of them then it is not good to solve the adverse selection problem. The equilibrium emerging in this case is known as the pooling equilibrium.
- But what are these signals?
- Signals can be anything that carries the information about one's ability
- In the problem of selecting a candidate for a job, the answers given in the interview acts as a signal. The answers written in the examinations are signal for student quality. There can be many more examples like this
- Let us now elaborate the concept of pooling and separating equilibrium.
- Suppose you need to select a student from the Xth standard who is good in algebra. The students can signal their ability through a test of algebra. Providing questions from the topics covered in Class X algebra can separate good students from the bad students (in terms of their proficiency in algebra). This is a separating equilibrium.
- If you give questions from class VII algebra book both good and bad students can answer them correctly. On the other hand, if you set question from B.Sc level algebra both the types will fail. These two are examples of pooling equilibrium.
- For solving the problem of moral hazard problem we need some technology for detecting one's inappropriate behavior (risky activity in the insurance case or shirking in a job) and provide punishment. However, the detection technology and punishment mechanism are part of the institutional set up.

6.2.4 Importance of information economics

- The information economics theories posed a challenge to the efficient market paradigm of neo classical economics.
- Unlike many other critiques such as institutional or Marxian, information economics critique was from within the mainstream economics – i.e. it is based on the premise of the self-seeking individuals making decisions about consumption or labor force participation.
- These theories also emphasizes the role of institutions particularly those which process information about the quality of products or individuals.
- Such institutions can be credit rating or quality control agencies. But it also sees the traditional community organizations as a new light. Such organizations can now be seen as information processing institutions which facilitate contract enforcements by providing information about community members.

- Following this development, a new genre of economic history and development economics emerged which see communities as institutions processing information which is critical for successful contracts in absence of any formal courts of law.