

**Module 6**  
**Recent Developments**  
**(Lectures 37, 38, 39 & 40)**

**Topics**

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## Module 6

### Lecture 37

#### Topic

#### 6.1 Recent Developments in Microeconomics

##### 6.1 Recent Developments in Microeconomics

- Recent revolutions in microeconomics occurred in three phases: Non cooperative game theory, information economics and behavioral and experimental economics.
- **Game theory** is a tool to predict the outcome of an interaction between a number of players (individuals, firms or organizations).
- The players have to take some actions.
- Based on the actions taken by a player and her opponents each player gets some payoff.
- The object of the game theoretic analysis is to predict the expected outcome when each players is trying to maximize the best possible payoff for herself.
- The outcome that is expected in game is known as Nash Equilibrium { a combination of actions where no one can increase his payoff by unilaterally changing his action.
- There are various applications of game theory in all fields of economics. Here we discuss a specific game: **Hawk-Dove game** and analyze the evolution of property rights.
- Hawks are the players who always fight whenever they encounter a rival for a resource.
- Doves cede whenever they meet a hawk and cede half the time when they meet a dove.

- Hawks do better than doves do against themselves. Hence, Hawks would proliferate in a population consisting mainly of doves.
- Proliferation would take place through learning and imitation of strategies with higher pay off or simply because those with higher payoff's have genes with greater fitness.
- On the other hand, doves do better than hawks do against themselves because they escape the destruction inflicted by fights. Therefore, doves proliferate in a community mainly consisting of hawks.
- The strategy which is a mixture of *playing dove* and *playing hawk* are known as evolutionary stable strategy -- this equilibrium is a variant of Nash equilibrium with an additional stability property.
- This outcome is inefficient because in equilibrium fighting takes place leading to wastage of resources.
- We can think of another strategy known as the bourgeoisie strategy: fight if in prior possession of the resource, yield if not in possession.
- The bourgeoisie emerge as the winner as they are less conflicting than the hawks (there is a fight with a hawk only if the bourgeois is in prior possession) but more aggressive than doves (it always wins the resource if it is in prior possession and gets the half otherwise)
- This example shows how we can use game theory to understand the evolution of societies.
- Unlike the other two recent developments -- game theory and information economics, behavioral economics questions the premise of self-seeking, rational individual.
- There is a general skepticism among the economists that if the fundamental assumption of self-seeking individual is given away, wishful thinking will replace rigorous analysis.
- The new generation of behavioral economics introduces a more formal analysis than their predecessors to get away with this problem.

- In these models, behavior of agents is not always constrained by the postulate of self-interest; instead, it is constrained by the requirement of resolvability under a well-specified selection process and hard, usually experimental, evidence.
- **Information economics** is the other strand of microeconomics which was developed in 1970s. We will have a detailed discussion on this topic in later lecture. Here we will discuss the basic idea of information economics.
- There are two major issues related to information economics known as adverse selection and moral hazard. These situations arise when the quality of product/service cannot be verified.
- Adverse selection is the situation when the buyer does not know ex-ante the quality of the product while the seller knows. A very common example is the quality of an old car -- the buyer does not know the actual quality of the car while the seller knows it.
- The situation of moral hazard arises if the one party behaves in an opportunist way after the contract is made, and the other party cannot detect that.
- Insurance is a typical example of moral hazard scenario. After an insurance contract is signed the insured person has incentive to assume unnecessary risk which will adversely affect insurance company and future contracts.
- Asymmetric information leads to *non-contractibility* which leads to incompleteness of markets.
- Non-contractibility in labor market means that it is not possible to contract over the quality of labor supplied. Incomplete labor and capital markets have far reaching implications.
- Workers can only be induced to work by giving them salary strictly higher than their next best option. This wage differential is known as *job-rent*.
- The employer is said to have *short-side power*. This comes out of the fact that the employer is indifferent between the current employee and anyone from the pool. The employee, on the other hand, strictly prefers working for this employer to being fired.

- One criticism of this type model published in 1980s says that the employers should be able to recover the job rent by auctioning these higher paying jobs to prospective employees.
- Behavioral economics can answer the question effectively why there is no such job sell. Workers' motivations to pay back to the employers make them work hard.
- This motivation cannot be captured by the standard neo-classical theory which based on the premise of self-seeking individuals.
- Non contractibility in the credit market also has important implications.
- This means that at a given interest rate the amount a borrower can borrow will increase with his wealth. This is because the more money a borrower puts in a project the less (unwarranted) risk she will take.
- The lender does not know the quality of a project. The borrower's capital works as collateral.
- Hence the wealthy are more likely to obtain loans and become employers and exercise short-side power in the labor market.
- Nevertheless, poor are more productive when they own the productive assets (land, capital).
- Hence, redistribution of wealth will increase both efficiency and equity.
- Economics in general is based on the assumption of utility maximizing rational individuals without explaining the basis of such assumption.
- Despite economics' success in building effective behavioral models, the assumption of self-seeking individuals remained ad-hoc.
- Evolutionary models of behavioral economics came up with explanations for such assumption.
- In some more recent work we see increasing interactions between economics and other social sciences leading towards more complete behavioral models.