

### 3 Consumer Theory

#### Unit 3 : Market Exchange & Efficiency

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#### I Functions and Implications of Price

##### Functions of Price

Transmit Information : The preference of consumers is revealed by the price paid to the supplier, i.e. the consumers vote their preference through the acceptance of the market price.

Price also reflects the availability of resources and the production possibility. It collects all the information of the production process and transmits the information to the consumers.

Provide Incentive : It **penalizes or rewards** any decisions and encourages the **pursuit of personal benefit** under a private property right system. The forces of competition in a free market will eventually allow the keen competitors to win and the less efficient competitors to lose in the end.

Distribute Income : The winner(s) in the market will receive an amount equal to the price times the amount of quantity purchased by consumers, ceteris paribus. Income is distributed from the consumers to the producers and the circular flow of goods and services will continue as a result.

##### Implications of Price

- 1 It reflects the marginal use value of a consumer in equilibrium because price is equal to MUV at the margin. The consumer can maximize its net gain in use value ( consumer's surplus ) when  $P = MUV$ .
  - 2 It reflects the average exchange value ( AEV ) of a good or service in the market.
  - 3 It implies the maximum willingness to pay at the margin for any consumer.
- On the one hand, price is a very important element in revealing the preference and use value at the margin of the consumers. On the other hand, it also guides the action of the suppliers in the market. At a result, price acts as a guiding force in the market - the so-called "*invisible hand*" by Adam Smith. ***In a fully competitive market, the functions of price can be achieved and the competitive market becomes a free market.***

#### II Functions of A Market

Market is a device / environment / arrangement which buyers and sellers are able to maintain close contact with each other to voluntarily perform mutually beneficial exchanges.

##### Coordination of Economic Activities - Invisible Hand

Individual decisions and behaviour are highly differentiated, i.e. decentralized without common characteristics. Therefore, some types of arrangement are required to coordinate these diversified activities with their exchanging partners.

##### Allocation of Resources

Market is one of the many ways to allocate resources. Together with the presence of prices, a market

generates high-quality information at low cost because through competition, information can be transmitted through the market automatically.

### III Concepts of Exchange & Efficiency

#### A Concept of Efficiency

Efficiency refers to the acts of getting as much as possible out of the scarce resources available.

It depends on valuations, e.g. rod-fishing is not *efficient* compared with net-fishing to fishermen only but not to people who love fishing.

It may be defined as the ratio of the *value* of output to the *value* of input.

#### B Concept of Exchange

##### Traditional View

Many people think that exchanges are performed under equal values. This view implies that exchange is not productive.

Economists argue that any exchange cannot be of equal values. Otherwise, a rational maximizer would not perform any exchange at all !

An exchange must involve the transfer of *lower-valued* resources from a supplier/seller to a *high-valued* buyer. The total valuation as a whole after the exchange is higher than before. The exchange is efficient. In other words, the resources are used more efficiently than before.

So long as people have different marginal valuations, exchanges can create more value and more *wealth*.

Example : John uses his set of walkman to exchange a fashion watch from Tim.

In the eye of John,

The value of a fashion watch / the value of his set of walkman > 1

In the eye of Tim,

The value of a set of walkman / the value of his fashion watch > 1

If the exchange involves no other costs, it can **expand** the value of output !

#### C Efficiency & Opportunity Cost

If a nation becomes extra-ordinary good or efficient in producing one good, it is increasingly costly for the nation to produce anything else, i.e. the principle of comparative advantage.

It implies that exchange is necessary and exchange is also based on a consideration of cost.

#### D Middleman : To Reduce the Transaction Cost

Transaction costs refer to a whole range of costs due to the presence of an institution involving the existence of two or more people. This range of costs includes :

- the cost of collecting information on scarce resources ; &
- the cost of negotiation, the cost of making and enforcing contracts ; &
- the cost of monitoring performance of people related to the contracts ; &
- the cost of delineating and policing property rights ; &
- the cost of changing any institutional arrangements.

***Transaction costs refer to all those costs not directly related or incurred in the physical process of production.***

##### Characteristics of A Middleman

- 1 A middleman ( be a person or a firm ) moves the goods and services from the lower-valued owners to the hands of the higher-valued users. A middleman specializes in gathering information of the lower-valued owners and provides information to the higher-valued users.
- 2 Information itself is a **scarce** good or service. It affects the conditions and opportunity of exchange. A middleman, by specializing in the provision of information, bears a lower cost than the exchanging partners. In other words, a middleman promotes efficiency and increases wealth by acting as a low-cost producer on information.
- 3 A middleman can also ensure and certify the quality of goods and services for the buyers, thus reducing the search cost of the buyers. Property agents, brokers, some stalls in an arcade providing similar products

are examples of middlemen.

- 4 With the middlemen in reducing any information cost, a free market can economize on the cost of information and transaction. For example, a monetary economy reduces the transaction cost in exchanges compared with a barter economy.

Other Ways To Reduce Transaction Cost

- 1 Queue  
Queuing lowers the search cost and the cost of holding excess stock, e.g. many restaurants especially those Chinese restaurants.
  - 2 Inventory  
Inventory can reduce the information cost of marketing, e.g. stocks of newspapers are often seen in the newspaper stands.
  - 3 Stable Prices  
An arrangement of holding price stability avoids the cost of revising the purchasing plans by the consumers, e.g. the menu of many restaurants and some fast-food stores.
  - 4 Excess Capacity  
An excess capacity on some goods is **not** wasteful because instant production and perfect information on future conditions are more costly than a gradual rate of production and imperfect information, e.g. police patrolling in the streets, fire-extinguishers, first-aid kits, life-belts, spare tires & food supply in a buffet.
- E Marginal Valuation & Gain From Exchange

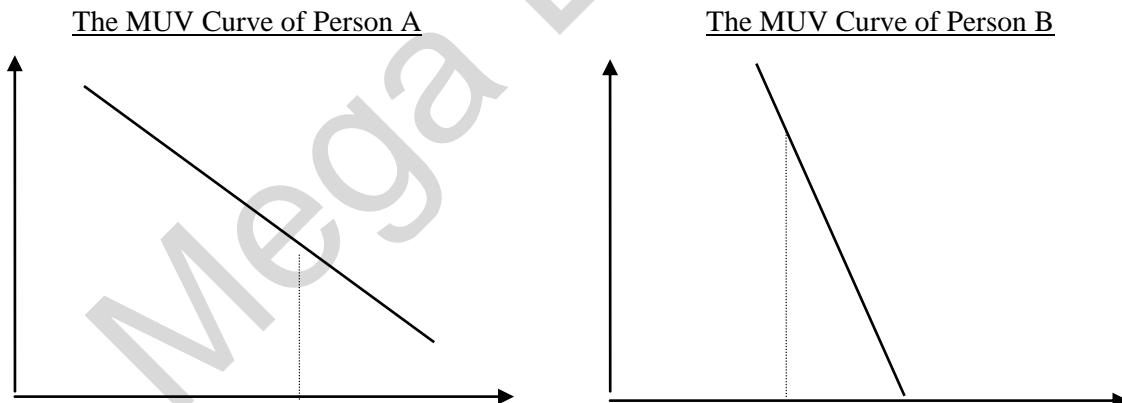
The Gain From Exchange Without Production - An Example

Given : 2 persons & 1 good, i.e. initially A has 24 units of good X and B has 10 units of good X.

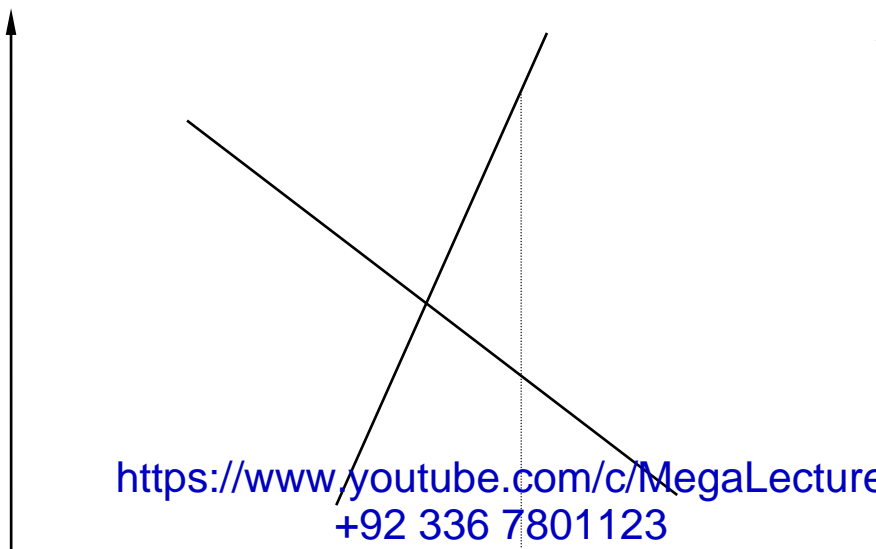
Assume : People are rational maximizers.

Voluntary exchanges occur so long as the marginal valuations of people are different, but not because of the existence of surplus goods of the people.

Whenever the marginal valuations differ among different people, there exists an opportunity to trade.



The MUV curves of A & B differ so that there exists an opportunity to trade between A & B.



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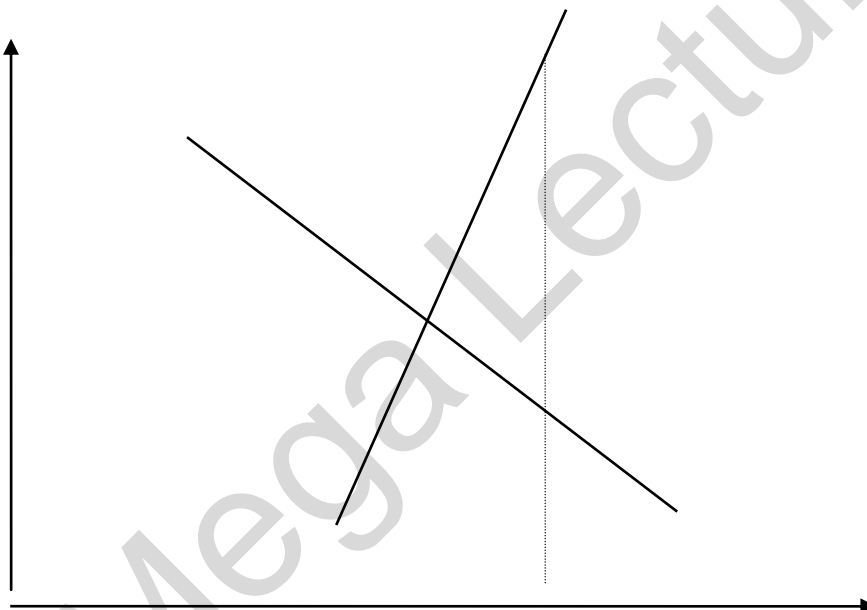
Assuming there is no extra cost during the exchange, both A and B gain by the areas shown.  
The price of the final unit of good X traded =  $P_0$  because  $P_0 = \text{MUV of A} = \text{MUV of B}$ .

However, the amount of gain of A **cannot** be compared with the amount of gain of B even though they are expressed in terms of money. The valuation on money may be different between A & B.

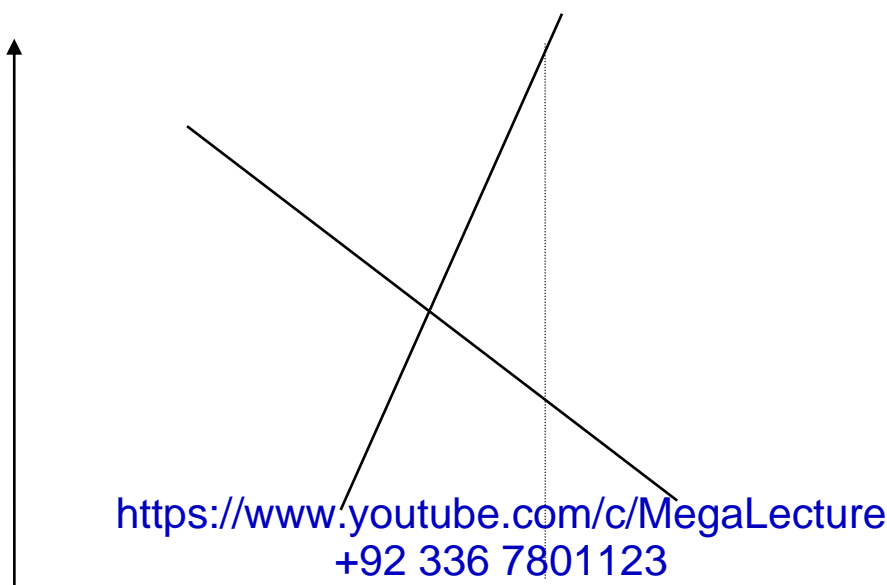
This mutually beneficial exchange depends on :

- They know each other first, i.e. there is **no need** for a middleman to arrange the exchange. It follows that they have sufficient information to learn about the MUV of each other.
- It is **not** too costly for them to perform the exchange, i.e. the transaction cost is relatively low compared with the price in exchange.

Exchange With Transaction Cost But No Middleman



Exchange With Transaction Cost & Middleman



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- \* Middleman exists to lower the transaction cost in exchanges.  
\* In the presence of transaction cost, buyers, sellers and middlemen can all gain from exchanges.  
\* Exchanges cease only when the gain from trade is totally captured, i.e. efficiency is achieved.

### Conclusion On The Gain from Exchange

- 1 Whenever there are differences in the marginal use values among people, there exists an opportunity to trade. A difference in MUV becomes a very important and **necessary condition** for exchange.
- 2 Other **sufficient conditions** to bring about exchanges are :
  - \* negligible transaction costs ( relative to the values of exchanges ) ; &
  - \* relatively low information cost about the MUV of exchanging parties ; &
  - \* well-defined property rights to allow exchanges successfully settled.

### F Theorem of Exchange

#### 1 Meaning of The Fundamental Theorem

Voluntary exchange is mutually beneficial because :

- traders can re-allocate existing goods and services so that each trader gets its most-preferred bundle of goods and services ; &
- traders can specialize in production so that the total amount of goods and services available to the economy can be increased.

#### 2 Definition of The Theorem

Based on the assumptions of rational maximization, negligible transaction cost and well-defined property rights in an economy :

The Theorem of Exchange states that trade occurs whenever marginal valuations are different. It occurs until the marginal valuations are equal.

#### 3 Implications Of The Theorem

Although MUV (like utility) is not directly observable and had to rely on a common variable - the market price - to represent it, the theorem of exchange can derive testable results that are **observable**.

The allocation of resources from the exchanges will be based on the difference in MUV, no matter how property rights are assigned initially. The initial ownership of goods or wealth will **not** affect the resulting re-allocation of resources.

The scientific value of the theorem of exchange lies in its use in deriving implications that are **observable** easily.

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Mega Lecture