Economic Environment and Business Strategy
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Week- 01
Lecture- 02

Market Mechanism

Hello, everyone. Welcome to this session. In the previous session, we discussed the three major types of economic systems. One is the market mechanism, also known as capitalism; the second is socialism, and the third is a mixed economy, which combines elements of both capitalism and socialism. Of these, capitalism, also known as a free-market economy, operates primarily based on market principles. In this session, we will discuss how the market system works. To understand how the market system functions, we mainly use two tools: demand and supply. These are two important tools we rely on.

This is also known as the market mechanism. Through the free interaction of demand and supply, most of the fundamental economic questions are answered: what to produce, how to produce, and for whom to produce. This core economic problem is addressed by a market mechanism. Simply put, this means the demand and supply framework.

Before I proceed, I would like to emphasize that the market mechanism of a free-market economy operates based on individual rationality. Consumers aim to maximize their utility, producers seek to maximize their profit, and the government strives to maximize social welfare. In this way, each economic agent acts rationally. Therefore, within this framework, the market mechanism plays a vital role.

In this session, we'll explore the market mechanism in detail. So, what do demand and supply mean? You might have heard about demand and supply from various sources. In today's lecture, we will clearly define what demand and supply are and explain how they function in an economy. Using demand and supply analysis, we will discuss how market prices are determined through the interaction of demand and supply. To simplify and clarify the discussion, we will begin by examining how prices affect consumer behavior.

This means that when we discuss at that time, we'll focus on the demand side of the economy. Then, similarly, how prices influence the behavior of producers relates to the supply side of the economy. Later, once we finish this discussion, we will explore how demand interacts with supply and how these interactions determine prices. This is the framework through which we will conduct our discussion. Now, let me proceed to some of the fundamental decision-making units within an economy.

There are mainly two economic agents: firms and households. Firms are the primary production units in an economy; they are organizations that transform inputs into outputs. A firm is a single business entity, and you may have heard the distinction between firms and industry. While a firm is a single business, an industry is a broader category that includes multiple firms producing similar goods or services. For example, firms operate within an industry that encompasses many similar businesses.

In the phone industry, companies such as Sony, Samsung, Apple, Oppo, and Vivo are involved, but the industry itself refers to the entire phone sector, distinguishing individual firms from the broader industry. Another key decision-making unit is the household, which is generally seen as the primary consumer entity in an economy. To understand how these two groups interact, it's mainly through the output and input markets, with their interaction best explained by a circular flow. This circular flow illustrates that firms and households primarily interact in two types of markets: the output market and the input market, also referred to as the factor market.

Before we proceed, let me clarify what the factors of production are. The inputs are the factors, and there are mainly four key factors: land, labor, capital, and entrepreneurship. Is there a labor market? That means the input market where households supply labor to firms in exchange for wages.

There are also capital markets, where households supply their savings in exchange for interest or claims to future profits to firms. The third market is called the land market; in this market, households supply land and natural resources in exchange for rent. Finally, we have entrepreneurship, which involves the organizer who manages the production process. There are four factors of production that we broadly categorize into two groups: labor and capital. For simplicity and clarity, we group them into labor and capital.

Labor encompasses the labor market, workers, and entrepreneurship, while capital comprises the capital I mentioned, as well as land. To gain a clear understanding of how firms and households interact in this market, I am presenting a circular flow diagram. Through this, you can see how input and output markets are connected. First, I'm showing you this diagram; these are the households, one of the decision-making units in an economy. Households are the owners of all factors of production: land, labor, capital, and organization that belong to this household.

Firms are another decision-making unit; they organize production and convert inputs into outputs. Since households own the factors of production, they supply all four factors to the firm. These households are the suppliers, and firms are the demanders, meaning the inputs reach the firm. Firms then transform these inputs into outputs; for example, using these inputs, they produce goods and services worth $100 billion. When $100 billion in

goods and services is produced, this amount is distributed among the four factors of production in the form of wages and rent.

Interest and profit are distributed as follows: suppose the distribution is 60 percent for wages, 10 percent for rent, 5 percent for interest, and the remaining 15 percent becomes profit for the entrepreneur. Here, goods and services worth one hundred billion dollars are produced, and when this level of production occurs, the corresponding factor income is generated and distributed to households. This means that $100 billion worth of factor income, including wage income and interest income, is generated. The rent income, interest income, and the remaining amount constitute the profit for the entrepreneur. When one hundred billion dollars' worth of goods and services are produced, it results in equivalent income, with factor income being generated. Households then use this income to buy goods and services from the firms, which are produced in the goods market. As a result, these one hundred billion dollars flow back to the firms, which in turn provide goods and services in return.

in that way, what happens is that this circular flow will automatically continue to move further and further. This means it is an automatic process. We don't need any external intervention because households own the factors of production, and firms produce goods and services. If more factors of production enter the system—say, due to population growth—that means more factors of production are available. These will be distributed to the firms, which will then produce the corresponding goods and services.

Then, equivalent factor income will also be generated and demanded. As a result, this flow will continue, and the economy will continue to move forward. If there is an increase in additional factors of production or improvements in technological advancement and productivity, more goods and services will be produced, leading to more factor income generation. Consequently, the standard of living for people will rise. My primary objective is to demonstrate that this framework is the mechanism through which firms and households interact in the output and input markets. This is how firms determine, and I forgot to show this, how households decide on the types and quantities of products demanded and the types and quantities of inputs supplied.

Since I gave you a brief introduction about the input and output markets using this framework, let's discuss one of the markets in detail. We'll start with demand in the product market because, as I've already introduced the circular flow diagram, I've used terms like demand, supply, and so on. So, let's begin with one of those terms: demand. What does demand mean? Let's define and understand it, then use it in our discussion.

Starting with the basic question: what is meant by demand? This is a term you often hear from multiple sources: there is demand for goods and services, and there is also less demand for them. What does it mean? When we say demand, we mean the quantity

demanded, which is the amount of a good that buyers are willing and able to purchase. Two main conditions must be met: the willingness to buy and the ability to buy. For example, if someone has a willingness to buy a Mercedes car, that doesn't constitute demand unless they have the ability to pay. Therefore, a poor person demanding a Mercedes car or a jet flight doesn't count as a demand because, even if they are willing to buy, they do not have the ability to do so.

Similarly, a wealthy person who has the ability to buy everything but chooses not to buy anything also does not create a demand. Importantly, demand means there should be both a willingness and an ability to buy; both conditions must be met. Moving to the second related point, known as the law of demand, I have shown you two pictures, or emojis. What they illustrate is that when the price is low and declining, demand increases, and when the price is high, demand decreases. So, what does it mean that demand rises as the price falls and drops as the price rises? It indicates an inverse relationship between the price of a good and its quantity demanded; this is called the law of demand, which explains the inverse relationship between a good's price and its quantity demanded.

Regarding the law of demand, since it has an inverse relationship, when plotted on a diagram, it becomes clear. For example, it appears as the demand curve, with price on the y-axis and quantity demanded on the x-axis. When we plot this relationship, we observe that when the price is very high, at 15, the quantity demanded is very low. Conversely, when the price is 7, the quantity demanded is higher.

When the price drops to 3.5, the quantity demanded increases. This shows an inverse relationship, known as the law of demand, which indicates a negative correlation between price and quantity demanded. This is how, when we plot this relationship on a schedule, we refer to it as a demand schedule. In the demand schedule, you can read it either from top to bottom or from bottom to top. For example, if you read downwards—that is, from top to bottom—it means that when the price increases, the quantity demanded decreases.

Alternatively, when the price increases, the quantity demanded decreases, indicating an inverse relationship. I have already explained this schedule, table, and demand curve, which also have other interpretations. For example, when the price is $10, a typical consumer, the representative consumer we're discussing, is willing to buy one unit of the good. When the price drops to $7, they are willing to buy three units; and at $3, they are willing to buy seven units. This means that along the curve, each point shows the consumer's willingness to pay. For instance, when the price is $10 for one unit, they are willing to pay $10; for seven units, they are willing to pay $7; and for the current point, only $3.50. Since these are in dollar units, interpret accordingly. At 25 units, they are only willing to pay $0.

Therefore, each point along this demand curve represents the willingness to pay and the value that consumers place on the product. This is the marginal valuation of the product's benefits by consumers. In other words, each line represents both the willingness to pay and the marginal benefit valuation of the product for consumers along this curve. When I plot a linear demand curve, it appears as follows: on the y-axis, the price is represented, and on the x-axis, the quantity demanded is shown.

First, we will write a demand equation. In this equation, quantity demanded is the dependent variable, shown as Qd equals 40 minus 2p. To express p as a function of q, we can also find the inverse demand function, which means p as a function of q. Here, we wrote q as a function of p, but you can also express it as p as a function of q.

This can be achieved by rearranging this, which results in p equal to 20 minus 0.5 times qd. That gives us the inverse demand function. When plotting the inverse demand function, with price on the Y-axis and quantity on the X-axis, the slope of this line is determined by this value.

This is the slope between this and this. This is a minus. The slope we are obtaining here is minus 0.5. The demand curve's slope is minus 0.5 because, as you can see, it has a negative slope from left to right.

The slope here is -0.5. When discussing demand in product markets, we can see from this diagram that two key points are present: first, there is an intersection with the price axis; second, the demand curve crosses the price axis. On the y-axis, it intersects the price, and on the x-axis, it also meets. So, what does this mean? How should we interpret this intersection? The intersection with the price axis indicates that the maximum price in this example is 20. What does this imply? We have already noted that this represents the marginal valuation or the willingness to pay of a typical consumer for that specific product.

Right. Given their limited income, wealth, and personal valuation, what is it worth? This represents their maximum willingness to pay. They don't see the price per unit. They are not willing to pay more than $20. They view any amount above $20 as not worth it, or they simply cannot afford it. So, due to their limited income and wealth, along with their marginal valuation, they believe the maximum willingness to pay is $20.

When the price is $21, it doesn't happen at $20 itself; they will demand only zero, which means that is their maximum willingness to pay. For any commodity, there is always a price above which a household cannot and will not pay, so even if the good or service is essential, all households are ultimately limited by income and wealth. The second point is the intersection with the quantity axis. In our example, the maximum quantity is 40. Therefore, the quantity demanded in each period is limited, even at a price of zero.

Even when the price is zero, they are willing to consume a maximum of 40 units. For example, the mobile phone call that you are making is important. Even when the price is zero, if the price drops, you will not be able to make unlimited calls. There is a certain quantity you will consume; you will make a certain number of calls, but beyond that, you don't want to. Even if the price is zero, there is a maximum limit, so at that point, it intersects with the x-axis.

We observe here that the demand curve slopes downward from left to right, and we examine why it does so. There are primarily two factors that influence this; one is called the Ingham effect. The Ingham effect states that when the price of a good falls, the purchasing power of an individual with a given fixed income increases, enabling more purchases. For example, if the price drops from 10 to 5, imagine a situation where you were previously paying 10 rupees per cup of tea, but now you only need to pay 5.

So, you can see that by buying one cup of tea now, you have saved $5. This means your income has effectively increased because of the drop in prices, which boosts your real income and purchasing power. As a result, you can now buy more of this item—perhaps two units—when you were only able to buy one unit at the price of $10.

Now, prices have fallen by half. Now you can afford two. So, why? Because of the increase in real income. That is one reason, and we refer to this as the Ingham effect. Therefore, the Ingham effect clearly indicates an increase in real income or purchasing power here. The second reason is that as the price of a commodity decreases, an individual typically buys more of that good, since they are likely to substitute it for another good whose price remains unchanged.

Let's consider the example of tea and coffee. Suppose the product we are discussing is, for instance, tea; in this scenario, assume the price of tea drops from 10 to 5. If the price of coffee stays the same at 10, then when the price of tea decreases from 10 to 5, and coffee remains unchanged, you will demand more tea and less coffee. Seeing that tea is much cheaper, people will shift their consumption to it. For example, if you have been drinking five cups of coffee and five cups of tea daily, this price change might lead you to drink around nine cups of tea and only one cup of coffee. The decline in tea's price causes some consumers who previously drank coffee to switch to tea, resulting in increased demand for tea because of this price change.

As a result, we can say that there is an increase in the quantity of tea demanded. This is called the substitution effect. In this example, a single point on the demand curve represents a specific combination of price and quantity demanded. The entire demand curve illustrates the full relationship between price and quantity demanded. When we discuss this, our demand curve and demand schedule are based on the ceteris paribus

assumption, which means that other factors remain constant, such as income, wealth, tastes, preferences, and the prices of related goods.

what if we change the ceteris paribus assumptions? As you already know, consumers' household demand for a particular good or service depends on several factors. One factor we've already discussed is the price of the product in question. What if there are changes in income—the income available to the consumer—or in accumulated wealth, the prices of other related products, or household tastes and preferences? All these factors can influence demand.

Including their expectations about future income, wealth, and prices, all these factors will cause some changes in the quantity demanded, even when the price of the product remains constant. Therefore, we need to demonstrate that this aligns with our previous discussion: the inverse relationship between price and quantity demanded. This means that an increase in quantity demanded, as previously discussed, occurs when the price decreases.

Suppose the price remains the same, say at 7.5. When income increases, how do we show this? Here's how: imagine the price is $7.50. For example, if they demand five units at this price, their income has risen, and they will demand more at the same price due to this increase. Now, they might demand, say, 20 units. This illustrates how the curve shifts to the right, showing an increase in demand.

We need to clarify the difference between these terms in the two cases. When only the price changes, we say there is an increase in quantity demanded. When the price stays the same, and other factors change, we say that there is an increase in demand. This is how we illustrate it: when demand increases, the curve shifts to the right. The typical representation of what we've discussed so far is shown here. The curve will shift to the right when income increases from $300 to $600 per month.

That means they are now demanding more at the same price. This is how the extended demand equation looks when we include other factors. It simplifies the demand function; besides its own price, it also depends on many other factors. So far, we have discussed individual demand, such as demand by household A. When the price is 3, they demand 4 units. Likewise, for this household, when the price is 3.5, they demand 0. When the price is 3.5, they demand 4 units. Suppose there are only three households in an economy. At a price of 3.5, what is the total market demand? What is the total quantity asked for by all households at this price? As you see, when the price is 3, the market demands 8 units, since 4 + 0 + 4 equals 8. That's the market demand. When we plot this data, we see how price relates to the total quantity demanded by all households. This helps us understand the market demand curve. Next, let’s move on to another related topic: supply in the product market.

Supply is mainly provided by firms, which engage in the production and supply of goods and services. A key question is why firms produce these goods and services: to maximize their profits. Profit is defined as the difference between total revenue and total cost. So, what determines revenue? Revenue refers to the total amount of money earned, calculated by multiplying the price of a product by the quantity sold or supplied. In other words, total revenue equals price times the quantity sold.

And what are the determinants of costs? The determinants are the inputs or factors of production used in the process, along with their corresponding prices. Our discussion about supply will be much simpler because we have already thoroughly covered the concept of demand. In this context, by supply, we mean the quantity supplied—that is, the amount of a particular product a firm is willing and able to sell at a specific price during a certain period. Similarly, we can interpret the law of supply.

Low supply indicates that when the price rises, firms are willing to supply more, and when the price falls, they are willing to supply less. This means that an increase in market price will lead to a higher quantity supplied, while a decrease in market price results in a lower quantity supplied. This supply schedule is straightforward, and similarly, the supply curve slopes upward from left to right.

However, after a certain point, the graph becomes vertical. Vertical means it is limited by the capacity to produce. For example, a firm's ability to increase output is limited by its production capacity, meaning it may want to supply more laptops at a certain price but is constrained by its factory's capacity. Similarly, a firm's decision on how much to supply depends on price, production costs, and the prices of related products. I'll keep it brief: since the cost of production, regardless of the price the firm receives, must be less than the revenue for the firm to make a profit. Therefore, the supply decision is likely to change when production costs change, which depends on factors such as technology, input prices, and input quantities.

So, if technology can have a significant positive impact on production costs over time, you may be aware of the invention of nitrogen fertilizer, which led to a breakthrough in agriculture. The cost of production in agriculture decreased, and the production of agricultural products increased dramatically. There was a significant increase; similarly, many other factors, such as GM crops and technological advances in computers and smartphones, also play a role. Therefore, because the cost of production drops, the supply of output increases. For example, at a given price—let's say this is the set price—they produce this much. Due to the Green Revolution, production costs have declined.

Now they are producing more, right? At the same price, they are producing more here, which means the curve is shifting to the right. So, the prices of related products also influence the supply curve. I'm just showing you some slides here.

These points are all self-explanatory. I won't go into further detail. Just as we discussed the supply and demand curves, we can also talk about what we have covered so far regarding individual supply. Similarly, each firm in an economy, at a given price, determines how much it is willing to supply.

For example, there are three firms: Firm A, Firm B, and Firm C. When we sum their supply at a given price—say, when the price is 5—we see what each firm is willing to supply at that price. Summing their individual supplies gives us the market quantity supplied. So, when we plot this, we get the market supply curve. This is the market supply that we will observe. Thank you. In the next session, we will explore how supply and demand interact in the market and how prices are determined by the interplay of these forces. Thank you.