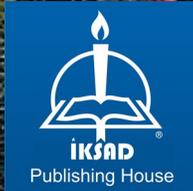


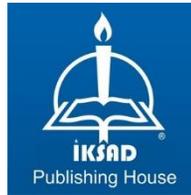
# Micro Economic Terms and Theories

Dr. Öğr. Üyesi İsa ALTINIŞIK



# **Micro Economic Terms and Theories**

**Dr. Öğr. Üyesi İsa ALTINIŞIK**



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## **PREFACE**

The book differs from other books in form, content and method.

A study was conducted in the form of an economics dictionary so that students who take an economics course can easily find the basic economic theories and theorems they learned in the microeconomics course, unlike the textbooks.

The book is limited to microeconomics only.

I would like to thank my colleagues Naci Büyükkaracığın, Mehmet Nuri Ödük and Yavuz Çakmak, who supported the creation of this study with their ideas.

İsa Altınışık



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## **Introduction**

Economics is a social science. For this reason, it aims to explain some facts about society. In this sense, economics has some aspects in common with psychology, sociology and political science. Economics cannot cover all aspects of human behavior. It is the subject of all social sciences with all aspects of human behavior. Economics deals with the economic activities of human beings or deals with the economic aspects of social activities. According to the classical approach, economics deals with the social activities related to the material elements of welfare.

The purpose of welfare is to have wealth and wealth. So, according to this criterion, economics is a science that examines the social activities related to the acquisition and use of wealth. This approach was valid in the examination of economic events before the economics gained the nature of science and in the period when it gained the nature of science, and it constituted the basis of economics for a long time.

This classical view, which considers economics only as the science of wealth, was not found sufficient and was criticized. First of all, if this approach is accepted, the subject of economics will be limited only to the study of the material elements of welfare. On the other hand, it is not possible to find a precise and objective measure of which of the human activities are intended to provide the elements of welfare. The basis of the second approach, which is put forward in determining the subject of economics, is based on the view that social activities have an

economic aspect and the economist will examine social events from this aspect. According to this approach, which is described as analytical, the reason for the existence of economics is the examination of the behaviors, principles, rules and environment necessary for the solution of the economic problem that every society faces to one degree or another, namely the problem of scarcity. In other words, every social event has an economic aspect.

This aspect is the value relations hidden behind the events and the preferences and choices made based on this. This choice or choice problem is called the economic problem. (Şahin, 2006, p.1-2)

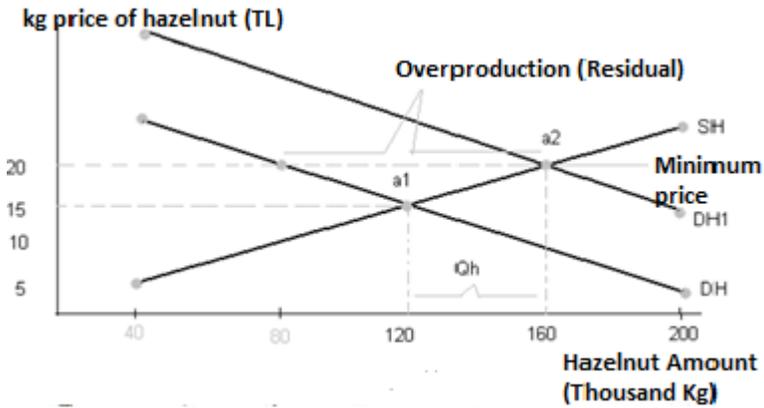
We can define economics as follows, as a science that studies how to meet the infinite needs with scarce resources in the most efficient way. Indeed, all the resources we see or imagine in the world are scarce. These resources that enable production to take place are called factors of production. Needs are so many that they can be said to be endless. (Çelik, 2009, p.1)

Microeconomics, on the other hand, is the section of economics that studies human behavior and people's preferences in relation to relatively small units such as markets, industries, firms, and individuals. The analysis tools of microeconomics are like microscopes. The basic topics of microeconomics include making individual economic decisions, resource allocation, prices, production and determination of income distribution. (Yıldırım, 2014, p.9)

In this book, general economic and microeconomic terms are given in the form of a dictionary, not a topic.

## 1. Agricultural Support Prices

In many countries of the world, agricultural support policies are implemented in order to develop the agricultural sector. The most common agricultural support policy is the determination of support purchase prices for some agricultural products (tea, tobacco, cotton, wheat) that the state considers critical. Agricultural support price is a base price application, just like the minimum wage policy. This practice prevents transactions in the market below a price level determined by the state. In this case, the surplus that will arise, that is, the excess supply, will be purchased by the state.

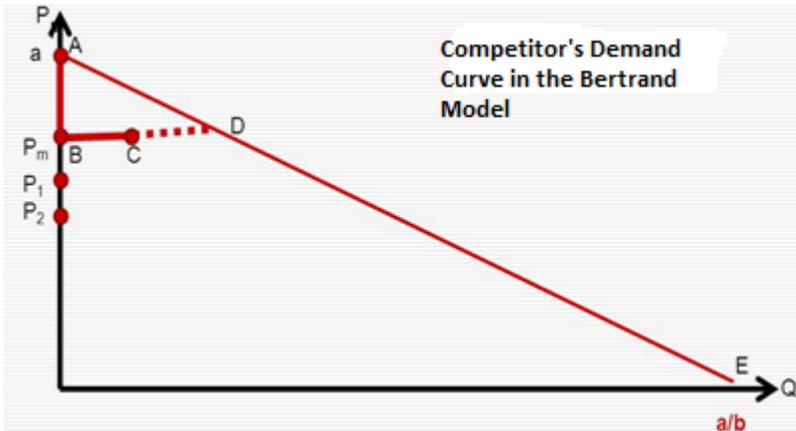


**Figure 1.** Agricultural Support Price Alkin vd., 2003)

The state declared the base price per kg of tea as 20 TL. This new price level is 5 TL above the equilibrium price. The price increase will decrease the quantity of tea demanded to 80 tons and cause the quantity supplied to increase to 160 tons. Since the government has promised to buy the excess supply, it will perform a market clearing by creating a demand that will destroy the residual region in the figure. In other words, the state will enter the market as the buyer of Qh. As this will mean an increase in the number of potential buyers, the demand curve will shift to the right. Thus, equilibrium will occur at the floor price level.

## **2. Bertrand Model**

It is the model developed by the French economist and mathematician Joseph Bertrand in his book published in 1883. Unlike Cournot, Bertrand assumed that two duopolists producing a homogeneous good compete on price, not on quantity of output. In other words, in the Bertrand model, it is assumed that while each duopolist determines the profit-maximizing production level, the other duopolist will not change the current production level, but will not change the current price level. In addition to this assumption, which distinguishes the Bertrand model from the Cournot model, it is also assumed that each duopoly has the capacity to meet all of the market demand.



**Figure 2:** Bertrand Model (<https://slideplayer.biz.tr/slide/3626875/>)

Firm A initially produces half the market demand and sells it at the monopoly price  $P_m$ . In the Bertrand model, when Firm B enters the market, it sets its own price level, assuming that Firm A will not change its price level. Firm B is faced with three alternatives in this context. The first two are firm B charging a price higher than or equal to firm A's price. In the first alternative, firm B cannot sell any goods, and in the second alternative, it captures the other half of the market demand that is not met by firm A. The third alternative faced by firm B is to charge a lower price than firm A charges. In this case, firm A meets all market demand at the price charged. Therefore, firm B faces a market demand curve below the price level applied by firm A. These options that Firm B faces are illustrated in the Figure. Firm B faces discontinuous demand curve ABCDE as the monopoly price applied by firm A is denoted by  $P_m$ . Part AB of this curve indicates that the quantity of goods demanded by the firm at prices higher than  $P_m$  is zero, part CD indicates that the firm faces the other half of market

demand at price  $P_m$ , and finally part DE indicates that the firm faces market demand at price levels lower than  $P_m$ . (Ünsal, 2012, p.538-539)

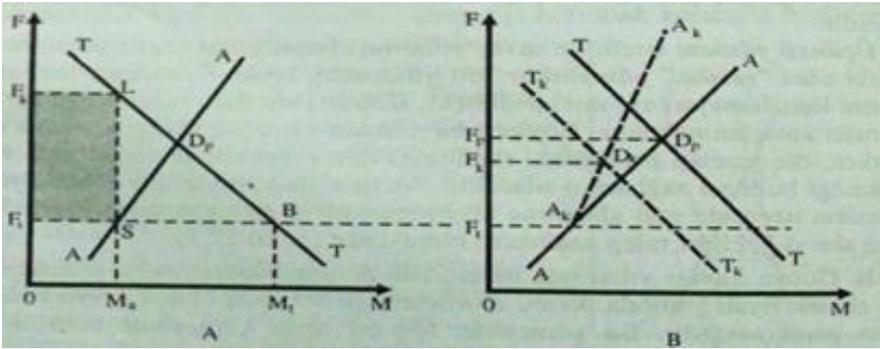
### 3. Black Market

In a market where the ceiling price is announced and shopping above this price is prohibited, a second market will emerge, even if it is illegal, as long as there are people who want to buy the goods above the said price. In this market, which is called the "black market", secret sales are made at a price above the ceiling price.

Before explaining how and at what level the black market price is formed, let's assume that all goods purchased at the ceiling price are resold at the black market price. In such a case, as shown in Figure A,  $Ma$  purchased at the ceiling price  $F_t$  can be resold at the price  $F_k$ . Assuming that all the goods up to  $Ma$  purchased from the ceiling price are sold at the price  $F_k$ , the total sales profits of the black marketers will be the area of the rectangle  $F_kLSF_t$  (shaded area).

However, in addition to the legally purchased goods in the market, there are also goods ready to be sold under the counter (obtained through the abuse of officials, theft, smuggling, etc.). As these goods are sold underhand, a black market supply is created. However, since black market selling is legal and therefore risky (and also entails some additional costs other than normal costs), black market supply lies to the left of the supply curve, in the form of  $A_kA_k$  (Figure B). On the other hand, the black market demand curve ( $tktk$  curve) is more to the left than the market demand curve. The reason why the black market

demand curve is to the left of the market demand curve is, on the one hand, the psychological reaction to the ban, and on the other hand, the people who can be willing to buy at the said high price have bought a part of the goods they need at the ceiling price.



**Figure 3.** Black Market

([https://www.ekodialog.com/Konular/tavan\\_fiyat\\_uygulamasi.html](https://www.ekodialog.com/Konular/tavan_fiyat_uygulamasi.html))

At the  $D_k$  point where the black market supply curve ( $A_k A_k$ ) and the black market demand curve ( $T_k T_k$ ) intersect, equilibrium will be established in the black market market and the black market price will be at the level of  $F_k$ . As seen in Figure B, the black market price ( $f_i$ ) is smaller than the free market equilibrium price ( $F_p$ ) but above the ceiling price. Depending on the location and elasticity of the black market supply and demand curves, the black market price may even exceed the free market equilibrium price. (<https://avyomu.edu.tr/storage/app/public/sinan.emirzeoglu/132431/8.%C3%9CN%C4%B0TE.docx>)

#### **4. Cartels**

By preserving their legal personality, the companies agree to act jointly on the issues specified in the cartel agreement, and they agree to take decisions on their own within a certain period of time and to restrict some of their powers. This agreement can be made in writing or orally. The purpose of establishing a cartel is to increase joint profits by preventing trade war and price competition between companies. Cartels do not last long and their success is limited.

There are two types of cartels, price and quantity cartels. Price cartel, companies agree on a single price and act jointly in order to capture a portion of the consumer surplus. If the price cartel is established in the factor market, the firms buy the inputs they will buy at a single price. Quantity cartel is agreements to reduce the production and sales quantities of the goods subject to the cartel agreement. The aim here is to prevent the price of the manufactured goods from falling. For example, the effort of OPEC members to limit their oil production to certain quotas is to prevent the oil price from falling.

#### **5. Budget Line**

Indifference curves show us the combinations of goods that the consumer would like to choose and behave in order to maximize utility in line with their tastes. Accordingly, if the consumer is not against any income and price constraints, he will be able to choose any combination of goods on the highest indifference curve he wishes. He will consume the goods until his marginal utility is zero. In reality, the conditions of

scarcity apply both individually and socially. The consumer is under constraint and cannot always reach the desired combination of goods. The rational consumer will be in an effort to reach maximum satisfaction by using his limited possibilities in the best way. In other words, the consumer will want to buy the combination of goods that will provide him with the maximum benefit within the limits set by his income and the prices of the goods and services he will buy. Possible choices for the consumer will be determined by the budget line. (Şahin, 2006, p.130)

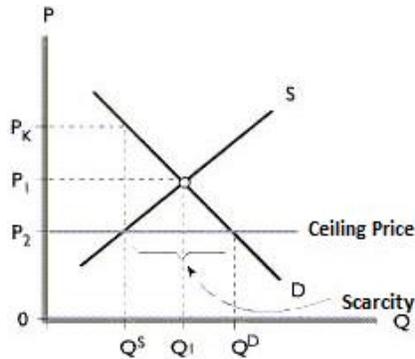
## **6. Cardinal Benefit**

In the cardinal utility approach, it is assumed that consumers are rational and aim to maximize their utility with their limited income. It is also the assumption of the approach that the benefit obtained from each good can be measured and the most appropriate tool in terms of this measurement is util. (Editörler: Dikkaya ve Azyakışır, 2013, p.93)

## **7. Ceiling Price**

The physical imbalances between supply and demand, especially in agricultural products in some years, can be effective until prices increase excessively, encourage inflation, and even give up on producers to produce this product. In such cases, the state can intervene to correct the imbalance between supply and demand. It can do this by influencing the price mechanism. (Uludağ vd., 1999, p.228). With the ceiling price application, the state determines the highest price to be

applied. The aim is to support consumers who find the equilibrium price high.



**Figure 4:** Ceiling Price (Ertek, 2005)

Equilibrium price occurs at  $P_1$  when there is no government intervention. The government finds this price high for consumers and sets a price below the equilibrium price ( $P_2$  price).  $P_2$  price is the highest price at which the good will be sold. This applied price will cause excess demand, that is, scarcity.

Scarcity, brought about by a binding floor price, raises the issue of rationing. Rationing is the solution of the sharing problem with administrative decisions by deactivating the market mechanism. For example, rationing will be implemented, and as a result, each consumer will be able to buy a certain amount of goods and not be able to buy more. Experiences show that this will lead to the formation of long queues and cause loss of time for consumers. On the other hand, as a result of deactivating the price mechanism in the solution of the sharing problem, immoral sharing methods may also come into play. For

example, vendors can create confusion by prioritizing their customers and their relatives. Another problem caused by the ceiling price application is the formation of black market prices, especially in developing countries. Thus, people have to accept a price determined according to the agreement between the black market price (PK) that is outside the control of the state and the ceiling price (P2) applied. In this case, it will cause the confidential sale of the goods. Another problem is that no effort is made to improve the quality of the goods sold at this price level, and companies tend to lower quality in order to reduce costs.

### **8. Ceteris Paribus**

Ceteris Paribus is an assumption used when analyzing the effect of one economic decision unit on another decision unit, in order to isolate other factors from the analysis. In this context, prices of substitute and complementary goods, tastes and preferences, consumer income, etc., which affect the quantity demanded of a good. Although there are many factors such as these, it is possible to consider only the price in the analyzes in order to make the subject more concrete/understandable, with the assumption in question.

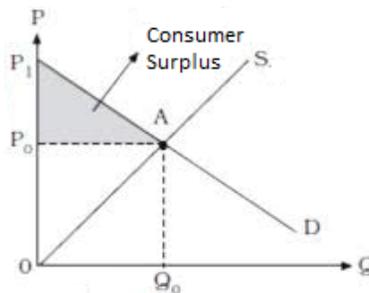
### **9. Chamberlin model**

It was introduced to the literature in 1929 by the American economist Chamberlin. The weakness of Cournot, Bertrand, and Edgeworth's duopoly models is that firms are too naive to learn from the past. In this model, firms are assumed to be interdependent. Therefore, companies determine their own behavior by taking into account the behavior of

their competitors. Based on the duopoly statement, Chamberlin argues that firms can learn from the past, evaluate the situation and act in a way that maximizes industry profits, and thus reach a stable equilibrium that ensures maximum monopoly profit. Accordingly, firms determine the monopoly price without making any agreement and share the monopoly profits equally. Except for this assumption, all assumptions show similarities with the Cournot Model. (Çoban, 2019, p.251). It can be used in real estate valuation. Real estate valuation is defined as the whole of the processes necessary to determine the real estate value by evaluating factors such as the quality, benefit, environment, usage conditions of a real estate in an objective and impartial manner. (Büyükkaracıgan, 2021).

## 10. Consumer Surplus

Consumer surplus is the positive difference between the market price faced by the consumer who is ready to pay a price above the market price for a particular good.



**Figure 5.** Consumer Surplus (<https://silo.tips/download/4-pyasa-denges-89>)

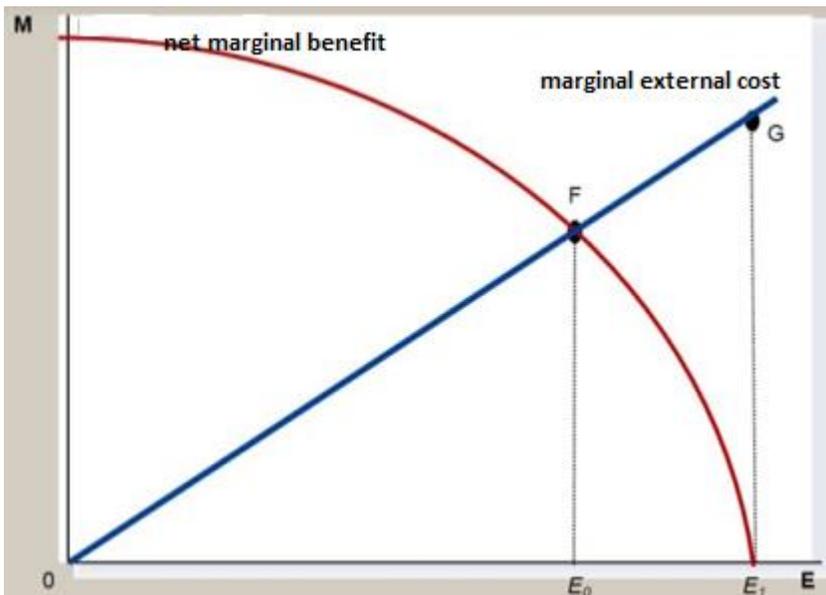
Supply and demand intersect at point A and equilibrium occurs. While the consumer is willing to buy the good at the P1 price, the price in the market is formed at the P0 price. In this case, the consumer surplus is equal to the producer Po-P1-A area.

## 11. Coase Theorem

Coase's theorem states that in a situation where a negative externality exists, placing a price on the externality will have the same effect on behavior, regardless of which party bears the cost. Applies only if there are no transaction costs. The theorem is important in fields such as environmental policy because it suggests that there is more than one way to deal with negative externalities such as pollution. Ronald Coase's theorem proposal in his 1960 article, The Social Cost Problem, prompted the economic community to reassess its reliance on quantity regulation and Pigouvian taxes as the only means of reducing quantity externalities. (<https://www.netinbag.com/tr/business/what-is-the-coase-theorem.html>)

According to Coase, it is the theorem that asserts that externalities can be resolved by mutual agreement of the parties or by the payment of compensation by the party emitting the negative externality to the injured party. In the solution of externalities, in the Coase theorem, also known as the market solution, there is no need for government intervention as in the Pigou tax. By mutual agreement, the parties can solve the damage caused by the externality by mutual agreement without state intervention.

We can explain the Coase theorem with an example; Let's say that an old woman living alone lives on the 10th floor of a 12-storey apartment building. This old woman, who cannot throw away her garbage because there is no doorman in the apartment for a long time, always puts her garbage in front of the door of the next apartment. No matter how disturbing this situation is, the individuals living in the flat can agree to solve this problem. Assuming that students live in the next flat, the old woman may offer to give the students 250 TL per month in exchange for putting their garbage in front of the door of the next flat. In this case, students can accept this offer and eliminate the external damage by “receiving compensation”. (<https://nedir.unibilgi.net/coase-teoremi/>)



**Figure 6:** Coase Theorem (<https://nedir.unibilgi.net/coase-teoremi/>)

## 12. Co-Product Curves

Iso-Product Curves are curves that show the geometric location of the factors of production that provide the same amount of output under the assumption that firms use only two variable factors of production for production.

## 13. Cross Demand Elasticity

$$\text{Cross Demand Elasticity (E}_c\text{)} = \frac{\frac{Q_1^a - Q_0^a}{Q_0^a}}{\frac{P_1^b - P_0^b}{P_0^b}}$$

$$\text{Cross Demand Elasticity (E}_c\text{)} = \frac{\frac{\text{Good A New Quantity} - \text{Good A Old Quantity}}{\text{Good A Old Quantity}}}{\frac{\text{Good B New Price} - \text{Good B Old Price}}{\text{Good B Old Price}}}$$

The state of the cross elasticity of demand relative to 0 (positive or negative) gives an idea of the relationship between goods.

If  $E_c > 0$  (the output value is positive), it means that when the price of good A increases, the demand for good B increases. Goods A and B are substitute goods

If  $E_c < 0$  (the output value is negative), it means that when the price of good A increases, the demand for good B decreases. In this case, goods A and B are complementary goods.

If  $E_{\zeta}=0$ , it means that the increase in the price of good A does not affect the demand for good B. Such goods are called unrelated goods.

#### **14. Complementary Goods**

Complementary goods are goods that cannot be used without the other, or are used together to meet a need, and for which one is useless without the other. Product pairs such as automobile-gasoline, tea-sugar, fountain pen-ink can be given as examples.

#### **15. Consumer Goods**

Consumer goods are goods that directly respond to the desire to consume. Consumer goods are also called final goods. The automobile and the clothes we wear can be given as an example.

#### **16. Control Economies System**

In command economies or central plan economies, decisions on basic economic questions (what, how, for whom) are made by the central authority. Those who are in control of the government control which activities the economic units will participate in, the production and consumption preferences and the distribution of income within the framework of the central plan.

In command economies, most prices are set by the government, resulting in inefficiencies in the economy. For example, in the former Soviet Union, because the price of bread was set very low, farmers fed their cows with bread. Because the policies followed encouraged people

to behave in this way. As we know that cows normally ate grass or grain, this was a waste of resources in the former Soviet Union. Because, although bread required a much higher price in terms of production cost, the fact that the price of bread was determined far below its cost by central decisions made the use of bread cheaper compared to the cost of other feeding methods. Therefore, due to production carried out far from efficiency, the economy was operating under the limit of production possibilities.

Public ownership, which is also common in command economies, is not an incentive for people. Because if people earn income according to their needs and not in return for their efforts, if they cannot freely have the resources they desire, their efficiency will decrease. For example, if an inventor does not have a right on his invention, he will not make much effort for such an invention. Therefore, there will be fewer inventions, and the society will not be able to develop enough. As a result, activity will continue under the production possibilities frontier curve.

Centrally planned economies comprised almost half of the world's population in the mid-20th century. Countries such as Eastern European countries, the former Soviet Union, and China were centrally planned economies. Today, this field has narrowed considerably. At the end of the 20th century, command economies attempted to return to market economies. (Yıldırım vd., 2006:p.47-48)

### 17. Cournot Model

The French economist and mathematician Antoine-Augustin Cournot put forward the first formal model of oligopoly in 1838. Cournot explained how oligopolistic firms would behave if they simultaneously determined how much they would produce. These firms have independent behavior and incomplete information about their competitors. Each firm has to adjust its output before it knows how much to determine the output of other firms. The output produced by one firm directly affects the profits of other firms. Because the market price depends on the total output. Thus, each firm must consider its own ideas about the output that its competitors will sell when choosing the strategy that will maximize its profits. The concept of equilibrium introduced by Cournot is the same as the Nash definition of firms adjusting their output. (Perloff, Çev. Çakmak vd., 2013, p.447)

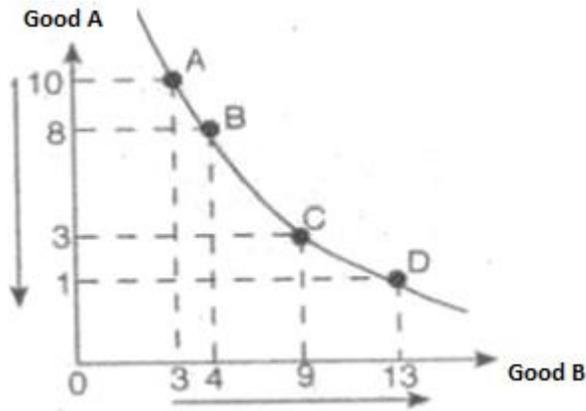
### 18. Decreasing Marginal Rate of Substitution

It is the amount that must be substituted for another good when one unit of a good is given up to obtain the same utility.

Amount given up on consumption

**D. M. R. of S.** = -----

Amount substituted



**Figure 7.** Decreasing Marginal Rate of Substitution  
([https://www.ekodialog.com/Acik\\_ogretim\\_iktisat/farksizlik\\_egrileri\\_analizi.html](https://www.ekodialog.com/Acik_ogretim_iktisat/farksizlik_egrileri_analizi.html))

In composition A, the consumer consumes 10 units of good A and 3 units of good B. The consumer passing from A to B gives up 2 units of good A and reduces the consumption of good A to 8 units, and increases the consumption of good B from 3 units to 4 units to achieve the same benefit.

The marginal rate of substitution between good A and good B as the consumer moves from A to B,

$$D. M. R. \text{ of } S. = 10-8 / 4-3 = 2 \text{ dir.}$$

If the consumer moves from B to C, he can reduce his consumption of good A from 8 to 3 units, and maintain the same level of utility by increasing his consumption of good B from 4 to 9. In this transition, the marginal rate of substitution between commodity A and commodity B would be 1, since 5 units of commodity B were substituted for the 5

forsaken units, D. M. R. of S. =  $8-3 / 9-4 = 1$  , the consumption of good A will decrease from 3 units to 1 unit, that is, the consumer will give up 2 units of good A, on the other hand, he will increase his consumption of good B from 9 units to 13 units and demand 4 more units of good B. In this case, the marginal rate of substitution is D. M. R. of S. =  $3-1 / 13-9$  would be 0.5.

As can be seen from this example, as you move from top to bottom on an indifference curve, the marginal rate of substitution of the good on the vertical axis with the other good decreases. In the example, it decreased from 2 to 1, from 1 to 0.5.

## **19. Demand**

Demand is the quantity of a good or service that consumers are ready to buy at different price levels in a given time period, assuming other variables are constant. The fixed assumption of other variables in this definition states that consumers' desire to buy a good depends on variables other than price.

## **20. Demand Elasticity**

The sensitivity of demand to price changes is called elasticity of demand.

## **21. Duopoly**

Duopol means two sellers. In the case of a duopoly, these two firms meet the market demand. In the case of two sellers, either the firms set

the price together and share the sales quantity, or they set the sales quantity and the price is left to the discretion of each firm. If the goods are homogeneous, if the firms choose the price as a means of struggle, the competition between the two firms will cause the price to fall. Because if one of the competitors lowers the selling price, the sales of the enemy firm will decrease and it will have to follow the same path.

In case of volatility in prices, the two firms cannot reach an equilibrium regarding the sharing of the sales amount. But if firms set the price upfront, a quantity duopoly arises. In a quantity duopoly, firms can find equilibrium in dividing the market.

## **22. Duopson**

In these markets, there are many sellers, but only two buyers. Suppose there are two factories in a town. Assuming there are no other job opportunities, this town has a duopson market in the labor market. Because the townspeople who are looking for a job, that is, who want to sell their labor, will find only two workplaces that demand labor (that is, those who want to employ workers).

## **23. Duplicable Goods**

Goods whose quantity can be increased by production are called reproducible goods.

## **24. Durable Goods**

Needs are satisfied by using the services of these goods for a long time. These goods are also called durable goods.

## **25. Economic Decision Units**

We call the economic units that reflect the economic preferences and decisions to the market as buyers and sellers. Economists divide economic units into four groups. These are households, firms, the state and the outside world.

### **a. Household**

It can be defined as all people living under the same roof and making joint financial decisions. Households may consist of one person or more than one person. In addition, the people who make up the household do not have to be relatives. For example, students staying in the same house. Households are consumers of goods and services produced and owners or suppliers of productive resources. Households as consumers buy goods and services produced by firms. The amount of goods and services purchased by consumers is constrained by the limited incomes of consumers and the prices of goods and services. The consumer tries to get as much satisfaction as possible from every dollar spent with a certain purchasing power. As factor owners, households sell their factors or resources to firms and in this way try to maximize their income.

### **b. Companies**

They are the organizations that supply the goods and services desired by the society to the market in order to make a profit. The aim of the companies is to ensure the effective use of resources by providing entrepreneurship, division of labor and specialization. (Yalta and Yalta, 2019: p.18) Firms are units that use factors of production to produce goods that they sell to other firms, households or central authorities (the government). There are two main roles that firms play in the economy. These are buying the factors of production and selling the goods they produce.

### **c. State**

It buys some of the goods produced by the firms. It collects a portion of households' income as taxes. The state can also produce various goods and services itself. In addition to these, the state regulates property rights and especially by making regulations regarding the markets in which the companies operate; implements all regulations regarding companies, consumers and resource owners.

### **d. Outer Realm**

The economic relations of a country with other countries and all kinds of commercial activities are tried to be explained with the concept of the foreign world. In this context, the sale of goods and services by a country to other countries, that is to the foreign world, is called export,

while the purchase of goods and services from other countries is called import.

## **26. Economic Goods**

Goods that require a certain effort or a price to be paid are called economic goods. Goods such as bread, table, refrigerator can be given as examples. Economic goods are not freely available in nature.

## **27. Economies of Scale**

The shape of long-run average cost curves is determined by economies of scale. This is why they are also called scale curves.

## **28. Edgeworth Model**

It was developed by the Irish economist Edgeworth in 1897. In this model, it is stated that the production capacities of the firms are limited, so they only meet a part of the market demand. In other words, it is assumed that each duopoly has the capacity to meet a part of the market demand, not all. In this model, it is stated that the cost of production is zero, both firms produce a homogeneous good, and the firms are affected by each other's behavior. However, when there is a fluctuation in prices, the model does not have a stable and definite result. The most striking thing in classical duopoly models is that companies do not learn from past experiences. It is assumed that when one firm changes the price, the other firm will not change the price, but every time the firm sees that this behavior is wrong. When a capacity constraint is added to this behavior, a stable balance cannot be reached. (Çoban, 2019, s.251)

## **29. Effective Use**

In addition to the problem of using all of the scarce resources for production, another important problem is the allocation of existing resources to production in a way that best meets the needs of the society. The fact that there are alternative uses of scarce resources brings the problem of making the right decision in putting them into production. What are these selection decisions to ensure the effective use of scarce resources lies in answering three basic questions. Which goods and services will be produced and how much will be produced? How will production be made with which production methods? For whom will the goods and services be produced? Regardless of which economic system it accepts, these questions must be answered in the healthiest way in every society. Decisions and opinions on what, how and for whom to produce are different in every economic system. (Dinler, 2007:p.14-15)

## **30. Elasticity**

Elasticity is the name given to the effect of the proportional change in one of the variables in a bivariate model in the economy, on the proportional change on the other variable.

## **31. Elasticity of Supply**

Elasticity of supply measures the effect of a change in the price of a good on the quantity supplied of the good in %. Elasticity of supply measures the sensitivity of producers to price changes. It explains that

if the price change is high, the producers will increase their production by a large amount if the prices increase. The low elasticity of supply indicates that when the price rises, producers can increase their output only slightly.

$$E_S = \frac{\% \Delta Q}{\% \Delta P}$$

$$E_S = \frac{\frac{Q_1 - Q_0}{Q_0}}{\frac{P_1 - P_0}{P_0}}$$

### Elasticity Supply

$$(E_S) = \frac{\text{Proportional (percent) Change in Quantity Supply}}{\text{Proportional (Percent) Change in the Price of the Good}}$$

$$\text{Elasticity Supply } (E_S) = \frac{\frac{\text{Change in Quantity Supply}}{\text{Initial Quantity Supplied}}}{\frac{\text{Change in Price}}{\text{Starting Price}}}$$

$$\text{Elasticity Supply } (E_S) = \frac{\frac{\text{New Quantity} - \text{Old Quantity}}{\text{Old Quantity}}}{\frac{\text{New Price} - \text{Old Price}}{\text{Old Price}}}$$

The high or low price sensitivity of the supply (whether it is elastic) is found by comparing the found value with 1.

$E^d < 1 \rightarrow$  inelastic demand

$E^d = 1 \rightarrow$  unit elastic demand

$E^d > 1 \rightarrow$  elastik demand

$E^d = \infty \rightarrow$  perfectly elastic demand

$E^d = 0 \rightarrow$  full inelastic demand

### **32. Equivalent Cost Curves**

The iso-product curves show the factor components that can be used to produce the same amount of product. However, when producing the same product with different factor components, the same amount of product can be produced with different cost values. In this case, producers will need iso-cost curves as well as iso-product curves in order to determine the optimal factor components. The iso-cost curves show the amount of factor components that producers can buy with a given budget at a given price.

### **33. External Economy**

The gains and losses that affect the costs of the firm, but that the firm derives from the industry it is in, are called external economies. External economies are divided into negative and positive.

### **34. Factors Affecting Price Elasticity of Demand**

#### **a. Substitutability**

If the good whose elasticity of demand we measure is a good with abundant substitutes, demand elasticity will be high. Sample; rice and bulgur. If it is a good that has no substitute, the elasticity of demand will be low. Sample; Since there is no alternative to salt, its use continues even if the price of salt increases.

#### **b. Percentage of Income**

If the item is very low in our budget, we don't pay much attention to price changes, so flexibility is low. However, if the goods have a large place in our budget, if we allocate a large part of our budget to this product, we will be very sensitive to price changes, that is, the elasticity of demand will be high.

#### **c. Necessary Goods-Luxury Goods**

The elasticity of demand for essential goods is low. No matter how much the price rises, our demand will fall very little, because we have to consume that good. For luxury goods, demand elasticity is high. We do not have to consume luxury goods, so we are more sensitive to price changes.

#### **d. Time**

Elasticity is lower in the short run and higher in the long run. In general, the price elasticity of demand is low immediately after a price change. However, it starts to increase after a certain period of time. After the increase in the price of cigarettes, smokers cannot give up their habits immediately, but they can quit smoking over time. (Parasız, 2006, p.80)

### **35. Factors Affecting Elasticity of Supply**

#### **a. Time**

The production process is analyzed in 3 different periods. These; market period is short-term and long-term. The market period refers to the period so short that the production cannot be increased even by one unit. For example, let's assume that the price increases in the market, this will motivate the producers to produce more. However, it is not possible to increase production in a short time. In particular, the increase in agricultural production requires at least 1 season. Therefore, supply cannot keep up with price changes in the short run. The flexibility of production is low. In the short run, the elasticity of supply is low. But the flexibility is slightly higher compared to the market period. In the short term, production can be increased within the capacity. In the long run, the elasticity of supply is high. It refers to the time sufficient to make any kind of investment.

**b. Existence of Substitutes in Production**

If the producing company can produce other goods in the same facilities, the elasticity of supply is high, if it cannot produce, the elasticity of supply is low. When the price of a good decreases, it can decrease the production of that good and increase the production of the other good. In a white goods factory, it can produce washing machines and dishwashers instead of air conditioners, whose price decreases during the winter months. Substitution is difficult in agricultural products.

**c. Stocking Cost**

If a good can be easily stocked and the stocking cost is low, the elasticity of supply is high. Goods that are easily perishable and cannot be stocked, and which have a high stocking cost even if they are stocked, have low elasticity of supply.

**d. Whether the Owner Is Tolerant to Wait**

When the producers or sellers supplying the goods need urgent financing, the elasticity of supply will be low, as they will want to immediately convert the goods into cash. In the opposite case, the supply of that good will be more elastic, as manufacturers or sellers will not be in a hurry to cash out their goods if they do not have urgent financing needs.

### **e. Future Expectations**

If producers expect the price change to be temporary, increasing output does not benefit the producer, so supply elasticity is low. However, if the wait for the price change will take a long time, the producer will be able to adjust his production according to the new price. Therefore, supply will be more elastic.

### **36. Free Goods**

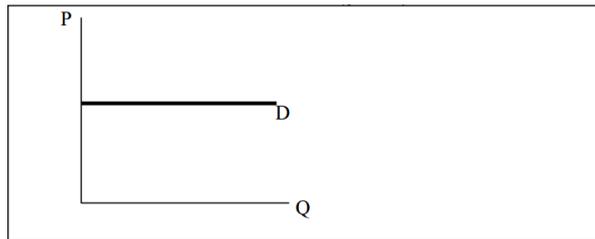
Goods that do not require any effort or sacrifice to be obtained and that are freely available in nature to meet needs are called free goods. Air, sea, sunlight can be given as examples.

### **37. Full Usage**

Every country has its own factors of production. These factors are not evenly distributed across countries. In some countries, there are very rich mines such as oil and gold, while in some countries there are arable lands, rivers, seas and lakes. Countries want to make full use of the resources they have first. Because when all resources are used, the amount of goods and services to be produced will increase accordingly. The increase in production means meeting a larger part of the needs, which can be said to be infinite, and increasing the welfare of individuals. The situation in which all the factors of production are used is called full employment. Underemployment is the situation in which all the factors of production are not used and some of the factors of production remain idle. In a full-utilization economy, all factors of

production are harnessed and working. Unemployment of the workforce is zero, the capacity utilization rate of the factories is 100%, all natural resources are being processed and all entrepreneurs have established their businesses. (Çelik, 2009:p.55-57)

### 38. Full Elastic Demand

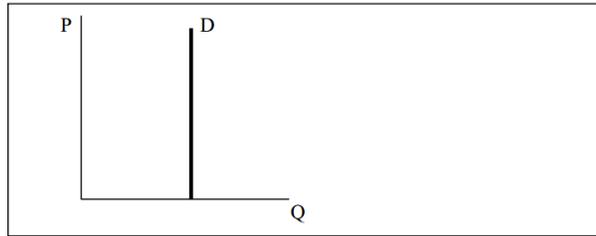


**Figure 8:** Full Elastic Demand

(<https://www.economicdiscussion.net/elasticity-of-demand/5-types-of-price-elasticity-of-demand-explained/3509>)

Demand is plotted parallel to the horizontal axis, meaning that it keeps pace with price changes. So much so that demand changes completely with price changes. The elasticity of demand for the goods of a firm operating in a perfectly competitive market is infinite. The price is data for the firm. The firm can sell all of its goods at the given price, it does not need to lower the price. Conversely, if he raises the price, his sales (demand for his good) fall to zero.

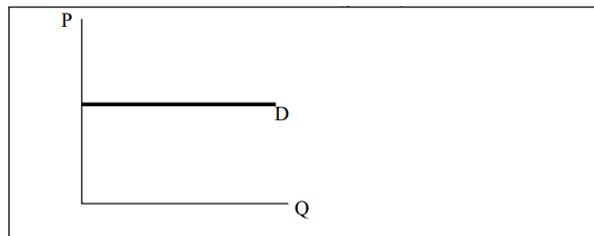
### 39. Full Inelastic Demand



**Figure 9:** Full Inelastic Demand (<https://investing.in/why-rising-chocolate-costs-wont-bite-into-sales/>)

Demand is parallel to the vertical axis. This means that no matter how much the price increases, the quantity demanded will not change. In other words, if it is a very necessary good for consumers, such goods are price insensitive. E.g; Medicines that are used compulsorily in the treatment of certain diseases can be given as an example.

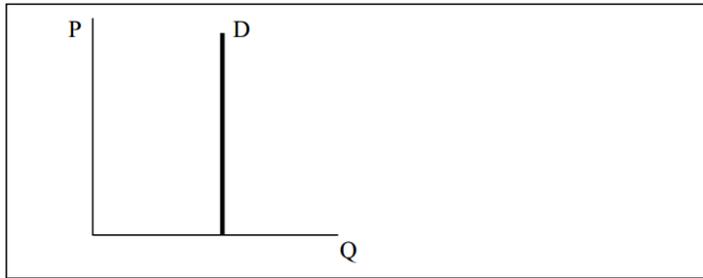
### 40. Full Elastic Supply



**Figure 10:** Full Elastic Supply  
(<https://thismatter.com/economics/supply-elasticity.htm>)

In this case, sellers are ready to sell as many goods as requested at a certain price.

#### 41. Full Inelastic Supply



**Figure 11:** Full Inelastic Supply

(<https://ibguides.com/economics/notes/price-elasticity-of-supply-pes/>)

It is impossible to increase production, no matter how much the price increases, especially in agricultural products (products that are not durable and cannot be stocked). Again, it is not possible to remake paintings, antiques and historical artifacts whose painter has died.

#### 42. Fusion and Unification

It is formed as a result of the merger of two or more companies with all their tangible and intangible assets under a single legal entity. The large firm becomes a monopoly when the small firm buys its assets. Before the merger, short and long-term commercial, financial, technological and personal relations are established and the paths for the final merger are opened.

#### 43. Game Theory

In oligopoly markets, few firms are in interdependence and relationship. Game theory, developed in 1944 by the US economists J. Neumann and

O. Morgenstern, explains that a firm determines its behavior by taking into account how other firms will respond to its decision. Accordingly, it is possible to analyze the decisions taken by oligopolistic firms on issues such as price-production-advertising, with a game theory approach. A firm's behavior in oligopoly markets depends on how its competitors think about its strategy. A firm uses game theory to determine the best strategy to implement based on its assumptions about the behavior of rival firms. Accordingly, every oligopolistic firm acts in a way that maximizes its own profits, and knows that its competitors will act in a way that maximizes its own profits. The application of game theory is seen in many fields such as politics, war, gambling, biology, international politics, psychology, and it does not concern only economics. (Ülgen, 2014, p.290-291)

#### **44. Giffen Goods**

Goods whose demand causes an illegal situation to arise are called giffen goods. The demand curve for normal goods is negatively sloped, while the demand curve for giffen goods is positively sloped. For example, it can be said that in the period when bird flu emerged, chicken meat became a giffen good for consumers because people consumed less chicken meat despite the decrease in chicken meat prices. (Çoban, 2009:p.15)

#### **45. Gini Coefficient**

The Gini Coefficient is a tool used to measure inequality in income distribution. It was developed in the early 20th century by the Italian

economist and statistician Corrado Gini. According to this coefficient, which varies between 0 and 1, the difference between the richest and the poorest in the society can be revealed. It is understood that as the coefficient approaches zero, the income distribution improves, and as it approaches one, the income distribution becomes unjust.

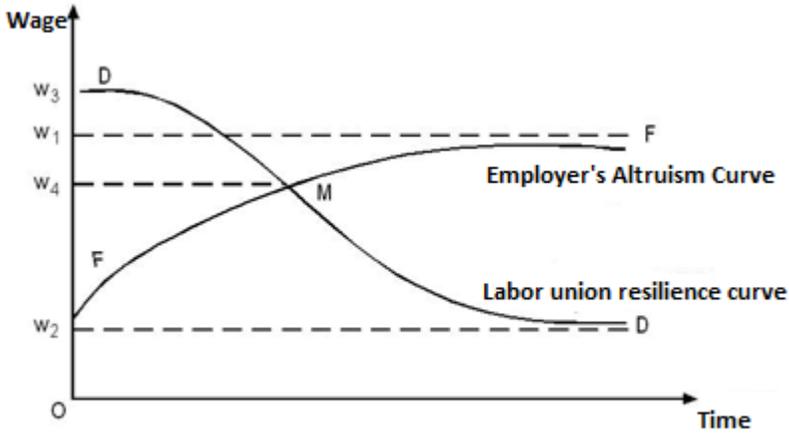
#### **461. Goods**

The physical assets that are ready to be used for this purpose, which have the feature of meeting human needs directly or indirectly, are called goods. Like water, bread, clothes, cars.

#### **47. Hicks Analysis**

As worker and employer groups are organized, wage level occurs in bilateral monopoly conditions in the labor market. The level of wage determination in this market depends on the bargaining power of the parties. The point that needs to be expressed here is that the wage level cannot be lowered below the subsistence minimum as a result of bargaining, and that the marginal productivity of labor cannot be increased. Determination of wages by bargaining between worker and employer groups in labor markets is described as collective bargaining. In the negotiations to determine wages and working conditions, labor unions use tools such as strikes and employers use lockouts. If the parties cannot reach an agreement as a result of bargaining, they can go on strike or lockout. The level at which the fee will be determined and how long the dispute will last depend on the endurance and self-sacrifice tendencies of the parties. Hicks examined the level of wages

in the case of bilateral monopoly conditions in the labor market. According to Hicks, wages occur at the intersection of the resistance curve of the labor union and the sacrifice curve of the employers.



**Figure 12:** Hicks Analysis ([https://cdn-acikogretim.istanbul.edu.tr/auzefcontent/20\\_21\\_Guz/genel\\_iktisat/12/index.html](https://cdn-acikogretim.istanbul.edu.tr/auzefcontent/20_21_Guz/genel_iktisat/12/index.html))

While the wage level offered by the employers at the beginning of the bargain is  $w_2$ , the wage demanded by the labor unions is  $w_3$  and there is a significant difference between them. With a wage higher than  $w_1$  level, it may be possible for the employer to make a loss and close the workplace. A trade union demanding a higher wage than  $w_1$  may also decide to strike. The prolongation of time decreases the endurance power of the parties and increases their tendency to sacrifice. In this case, the proposals of the parties approach each other and the dispute is ended by agreeing on a common point.  $D$  resistance curve, which is shown as the endurance curve of the workers in the figure, falls to a

level acceptable to the labor union. On the other hand, while the strike continues, employers are willing to pay higher wages and tend to raise wages in line with the F sacrifice curve starting from the wage level  $w_2$  they propose. Thus, the wage level is determined at the point (M)  $w_4$  where the resistance curve of the labor union and the sacrifice curve of the employer intersect and the disagreement comes to an end. It is seen that the mutual bargaining power of the parties is in a variable state. This causes the uncertainty of the wage level. The duration of the bargaining varies depending on the financial situation, the bargaining abilities of the parties, the strength of endurance, the behavior of the public and the political power in favor of one party. (Ülgen, 2010, p.269-271)

#### **48. Holdings**

One of the most common types of oligopolistic organization today is holdings. In this configuration, a parent organization exercises control over several firms. However, its effect on the companies within the holding is not as strong as in the trust. The holding company can maintain control over the companies by acquiring less than half of the shares of the related companies. Holdings are usually based on a financial institution.

#### **49. Import Quotas**

An import quota is a ceiling on the quantity or value of the product to be imported over a period of time. The primary purpose of import

quotas is to protect national industries from competition from other nations' producers and to reduce balance of payments deficits.

### **50. Indifference Curves (Co-Utility Curves)**

Indifference curves first of all show the combination of consumption points that provide the same level of utility. That is, every point on the curve represents the same level of utility. This emphasizes that the consumer cannot determine priority between two points on the curve, that is, he will be indifferent between both consumption points. Hence the name of the curve is the indifference curve

Indifference curves have four basic properties:

(i) Indifference curves represent a single level of aggregate utility.

Even if each of the randomly selected points on an indifference curve shows different consumptions of X and Y, the total utility provided by all of them will be the same.

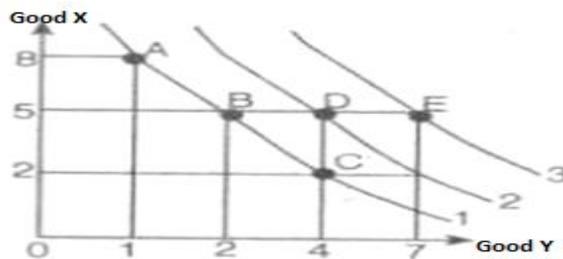
(ii) Indifference curves represent higher levels of total utility as they shift up and to the right, and lower as they shift down and to the left.

What is meant by higher or lower here is not that the total utility represented by the indifference curve is countable. What is meant here is that indifference curves have higher priority or lower priority in the consumer's order of preference.

(iii) Indifference curves are generally convex with respect to the origin. Any two points on this curve show more total, meaning that average values are preferred to extreme values. (benign indifference curves)

This definition applies particularly to benign indifference curves. These curves are modeled on the basis of the behavior of an average and representative consumer representing the general population. Thus, except in special cases, indifference curves in consumer theory are assumed to be benign indifference curves.

(iv) Indifference curves are parallel to each other and do not intersect each other. ([https://cdn-acikogretim.istanbul.edu.tr/auzefcontent/2021\\_Bahar/iktisadi\\_analiz/3/index.html#konu-2](https://cdn-acikogretim.istanbul.edu.tr/auzefcontent/2021_Bahar/iktisadi_analiz/3/index.html#konu-2))



**Figure 13:** Indifference Curves

(<https://quizlet.com/122180254/combo-with-econ160-ch7-utility-maximization-and-1-other-flash-cards/>)

## 51. Income Effect

When other variables affecting demand remain constant, when the price of a good increases, the purchasing power of income decreases as income remains constant. Because with the same income, fewer

purchases of this good are made. These two effects together use it to explain why the demand curve has a negative slope. The relationship between the quantity demanded and the price of a good can also be explained with a table or graph.

## 52. Income Elasticity of Demand

The income elasticity of demand is the percentage change in the amount of demand caused by the percentage change in the monetary income of consumers is called income elasticity.

$$\text{Income Elasticity (E}_I\text{)} = \frac{\frac{Q_1 - Q_0}{Q_0}}{\frac{I_1 - I_0}{I_0}}$$

$$\text{Income Elasticity (E}_I\text{)} = \frac{\frac{\text{New Quantity} - \text{Old Quantity}}{\text{Old Quantity}}}{\frac{\text{New Income} - \text{Old Income}}{\text{Old Income}}}$$

The income elasticity of demand relative to 0 (positive or negative) enables us to make decisions about the quality of the good.

If  $E_I > 0$  (the output value is positive), it means that we use more of this good as our income increases. Such goods are called normal goods.

If  $EI < 0$  (the output value is negative), it means that we have decreased the consumption of this good even though our income has increased. Such goods are called poor goods.

If  $EI = 0$ , all goods generally have zero elasticity in high-income countries. Even if their income increases, they have a certain level of consumption, they do not consume more.

### **53. Invisible Hand Theory**

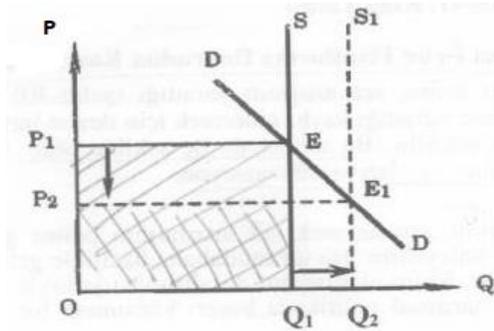
One of the famous economists, Adam Smith, in his work called Wealth of Nations, claimed that there is harmony and order in the economic system and called it the theory of the invisible hand. According to this theory, when each individual pursues his own interests, everyone's interest will be achieved through the invisible hand. According to this view, there is no need for the state or any other institution to interfere with the functioning of free competition. The concept of free (perfect) competition is used to express the situation where no producer or consumer has any personal influence on the price. On the other hand, if any of the producers has enough goods to affect the price, perfect competition will disappear and the advantages of the invisible hand theory will be limited.

### **54. King Theorem**

It is a phenomenon that is more common in agricultural markets. It is seen as a situation caused by a small change that may occur in the supply of goods in cases where demand elasticity is weak and the

market is saturated. In periods when the product is abundant, the price drops so much that the income from the sale of the surplus product due to the price decrease cannot compensate for the loss of income due to the decrease in the price. In the following periods, no manufacturer can be found to produce the aforementioned product due to these losses. Again in the same direction, in some years, the price rises so much due to the shortage of products that this time the consumer will be a victim. The reason for the emergence of all this aforementioned event is that the supply and demand of agricultural products are rigid. The economist who noticed this event for the first time was Gregory King (1648-1712), who lived in the 18th century, and this law began to be called the King's law. (Altınok, 2009, p.155)

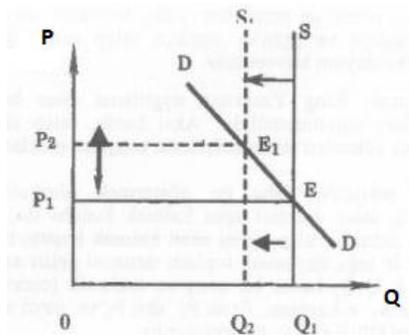
As can be seen in the figure below, provided that the quantity demanded remains the same, an increase in the supply quantity from  $Q_1$  to  $Q_2$  (provided that the demand curve remains constant, the supply curve shifts to the right with all dimensions), has a result that reduces the total agricultural income. An increase in supply by  $Q_1Q_2$  and a shift of the inelastic (inelastic) supply curve from  $S$  to  $S'$  lowers the price from  $P_1$  to  $P_2$  and the gross sales revenue from  $OPIEQ_1$  to  $OP_2E_1Q_2$ .



**Figure 14: King Theorem**

([http://www.ekodialog.com/konular/king\\_yasasi\\_teoremi.html](http://www.ekodialog.com/konular/king_yasasi_teoremi.html))

On the other hand, as can be seen in the figure below, when the supply decreases, that is, when the supply curve shifts from  $Q_i$  to  $h$ , prices rise, provided the demand does not change, resulting in an increase in the total agricultural income of the producer. At point  $E_1$ , the total income  $OPIEQI$  area,  $E_1$  At this point, it is the  $OP_2E_1Q_2$  area, and the weak elasticity of demand makes the second area larger than the first.



**Figure 15: King Theorem**

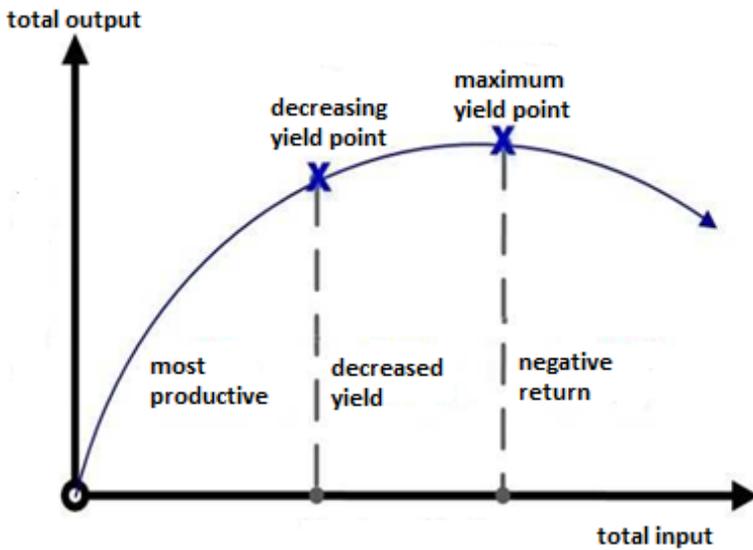
([http://www.ekodialog.com/konular/king\\_yasasi\\_teoremi.html](http://www.ekodialog.com/konular/king_yasasi_teoremi.html))

### **55. Law of Demand**

The Law of Demand states that at higher price levels, the quantity of goods and services demanded will be lower, while other variables other than price are constant, while at lower price levels, the amount of goods and services that consumers are ready to buy will be greater.

### **56. Law of Diminishing Returns**

It is the law that states that marginal productivity will first increase and then decrease as the amount of variable input is increased in the short run, all other conditions being constant. According to this law, increasing the amount of a factor of production creates an increasing effect on the total production, but the effect of each additional unit of variable input used decreases gradually, and after a while, it affects the production amount negatively. For example, while other factors are constant in a workplace, if the number of employees is increased, the contribution of new employees to production will gradually decrease after a certain point. Even after this point, if the number of employees continues to increase, the working capacity of the factory will be exceeded, the productivity of other workers will decrease and the total production will begin to decrease. (<https://piyasarehberi.org/sozluk/azalan-verimler-kanunu>)



**Figure 16:** Law of Diminishing Returns  
 (<https://personalexcellence.co/blog/diminishing-returns/>)

### 57. Law of Supply

The law of supply states that the quantity of goods and services supplied will be higher at higher price levels, while other variables affecting supply are constant; it means that at lower price levels, the quantity of goods and services that producers are ready to offer will be lower.

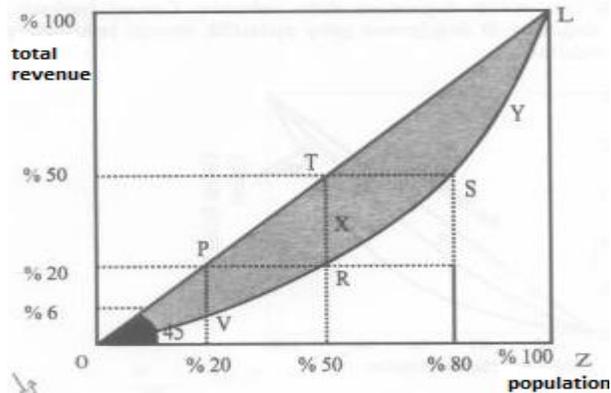
### 58. Lorenz Curve

The Lorenz Curve is a curve developed to examine the income distribution in a country. German-American economist Max Otto Lorenz (1876-1959) developed this model, which is named after him,

in order to examine the relationship between income distribution and population distribution in 1905. Known as the Lorenz Curve, this graph has the percentages of total national income on the X-axis. On the y axis are the percentages of the total population. Thus, it is possible to see what percentage of the population has what percentage of the income.

Equality in income distribution is shown as a 45-degree line, not a curve. In such a case, 20% of the income belongs to 20% of the population, 50% of the income belongs to 50% of the population, and 80% of the income belongs to 80% of the population. But this is an ideal situation that can be described as utopian. Vilfredo Pareto, in his work known as the Pareto Principle, has shown that the opposite is actually the case. In this graph, the curve under the diagonal known as the Absolute Equality or Perfect Equality Line is the Lorenz Curve. The further the Lorenz Curve moves away from this diagonal line, the greater the inequality. The Lorenz Curve is a very useful model that is used to analyze income distributions between countries comparatively, as well as to present the past and present situations of a country and its future targets concretely. The Lorenz curve is called "perfect equality line" to express that everyone gets an equal share of income if there is an equality in the distribution of income. In other words, if incomes are evenly distributed among individuals, the Lorenz curve will coincide with the absolute equality line and take the form of a 45° line. In this case, for example, N% of income earners will receive N% of total income. The fact that the Lorenz Curve starts to move away from the full equality line and becomes more hollow means that there is

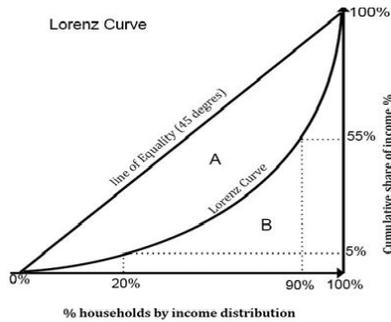
inequality in income distribution and in real life, personal income distribution is far from absolute equality. In other words, the more unequal the income distribution, the larger the area between the Lorenz curve and the equidistribution line will be.



**Figure 17: Lorenz Curve**  
 ([http://www.ekodialog.com/konular/lorenz\\_egrisi.html](http://www.ekodialog.com/konular/lorenz_egrisi.html))

As long as there is inequality in income distribution, the lowest income group, for example, after the V point where the lowest income 20% of the population receives 6% of the total income, then the R point where 50% receives 20% of the total income and 80% of the total income. The S point reveals that you have received 50. The richest 20% of the population receives the remaining 50% of the income. This situation shows the existence of a very unequal income distribution. Lorenz curves can be used to compare the income distribution of various countries, as well as to determine the changes in income distribution of a country over a specified period of time or over a long period of time. When comparing two income distributions, if the Lorenz curve of one

distribution is above the Lorenz curve of the other distribution at every point of the distribution, the first distribution is less unequal. If we call the first distribution the A distribution and the second distribution B, the positions of the two distributions relative to each other will be as follows. In this case, the A distribution is "Lorenz dominant" to the B distribution.



**Figure 18:** Lorenz Curve

(<https://www.economicshelp.org/blog/glossary/lorenz-curve/>)

## 59. Market

A market is an arrangement that brings buyers and sellers together and enables them to exchange information and do business. (Ertek, 2005, p.32).

## 60. Market Economies System

In a market economy, the subject of what, how and for whom to produce depends on the decisions of individual consumers, producers, the state and other organizations, and they interact with each other in the markets. In this system, the basic coordination provides the prices

determined in the market. That's why the free market system is often called the price system. Freely formed prices play important roles in a market economy, these are:

- Prices act as signals about what to produce and consume
- Prices form an incentive mechanism for people's consumption and production.
- Prices play an important role on the distribution mechanism.

Can be listed as. Let's start with an example to explain these roles. Let's assume that a new trend has started for university students to buy and use computers and internet cafes are now preferred instead of coffee houses. Let's look at how prices affect the decisions of economic agents under this assumption.

First, we can examine how this change in preferences gives a signal about which service will be produced more. The more students go to internet cafes, the higher the price of the service produced there, due to their demand. The high price prompts firms to open more internet cafes, because the firms have received the signal that there is a profit. Moreover, the demand for some sub-branches related to this service (such as computer and computer consumables, computer programs and maintenance materials) increases. Therefore, both their production and prices increase. Thanks to this increase in demand, an increase is observed in the wages of people working in computer production. As a

result, prices act as signals to everyone, from consumers to computer workers.

Now let's look at how prices are an incentive factor. Increasing prices for internet cafe services encourage other companies to turn to this area. The effort to get a bigger share of the higher profits strengthens the competition and increases the quantity and quality of service production. If low prices are in question, it signals that earnings are low and production will decrease, thus preventing entry into the market.

Finally, prices also affect income distribution. The high prices are also an indication of the high demand in this industry in general. This is an indication that income is increasing in the industry and that workers can be paid more. On the other hand, if prices are low, income will also be low. Again, in cases where prices change rapidly, income distribution is affected very quickly. Especially those who do not have the opportunity to adjust their income (such as civil servants) may suffer losses. For the market economy to function well, the price level must be stable. On the other hand, it is among the requirements of a market economy that economic units have property rights and that the public authority does not interfere with the markets. Thus, efficiency will be ensured and the economy will be located on the production possibilities frontier. The fact that prices are freely determined in a market economy and that economic units can do domestic and foreign trade freely does not mean that the state has no role in market economies. In market economies, the state contributes to the healthy functioning of the markets and the formation of property rights, as well as providing

internal and external security. However, the role of the state in the economy is limited and it is accepted that it only intervenes in case of market failures. (Alkin vd., 2003:p.44-45)

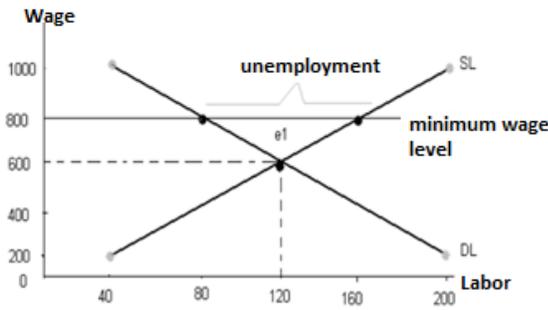
### **61. Microeconomics-Macroeconomics**

In terms of word meanings, micro means small and macro means large. Microeconomics studies the economic behavior and activities of a unit that makes up the total economy, such as a consumer, a family, and a firm. On the other hand, macroeconomics examines the economic preferences and decisions, economic behavior and activities of the society as a whole. For example, microeconomics examines how a person's income, how much he saves, and how he distributes the amount he spends among the goods and services he needs, while macroeconomics examines the ratio of the national income, that is, the national income, between spending and saving. A community economy consists of units such as individuals, families and firms. After examining and determining the economic behaviors, decisions and preferences of these economic units, applying it to the community economy may give erroneous results. Many times the behavior of society differs from the behavior of the individuals who compose it. For this reason, it is necessary to examine the economy by distinguishing between microeconomics and macroeconomics and to deal with the issues within these two separate models. Price theory, production theory, distribution theory and welfare theory fall within the scope of microeconomics. On the other hand, employment and national income

theory and economic growth and development theories are also included in the research area of macroeconomics. (Pekin, 2006:p.13)

## 62. Minimum Wage Policy

In the absence of government intervention, the equilibrium employment and production level in the labor market are determined by supply and demand conditions. In the labor market, those who supply labor are households, while those who demand labor are firms.



**Figure 19:** Minimum Wage Policy

(<https://www.ekonomizm.com/2014/04/devletin-fiyatlara-mudahalesi-ve-denge.html>)

According to the law of supply and demand, initially equilibrium in the labor market will occur at point E, where the labor supply curve (SL) and the labor demand curve (DL) intersect. If we accept that the wage required to meet the minimum needs in this economy is 800 YTL, it is seen that the labor market comes to equilibrium at a wage level of 600 YTL and a labor amount of 120 million hours. If the state, believing that this wage level is insufficient, declares the lowest wage level as 800 YTL, the amount of labor demanded will decrease to 80 million labor

hours, while the amount of labor supplied will increase to 160 million labor hours at the minimum wage level. Between the quantities of labor supplied and demanded (160-80) 80 million labor hours would be surplus. This residual in the labor market is defined as unemployment.

Two main results emerge regarding the minimum wage policy: Raising wages as a result of these policies increases the welfare level of the currently working wage earners, while reducing the welfare level of those who cannot find a job or lose their job due to high wages.

### **63. Mixed Economy System**

None of the economic systems that can be observed in the world fully coincide with the free market and command economies system we have explained above. However, by adopting some elements of both systems at the same time, countries generally continue their activities in a mixed economic system. However, this mixed state is not homogeneous. In other words, the combinations of public and private sectors are applied differently for each country.

In short, the mixed economic system is a system that accepts public ownership as well as private ownership, can absorb intervention as well as market mechanism, and tries to implement central plans besides the price mechanism. However, this situation differs from sector to sector, from economy to economy as stated before. However, with the 21st century, the weight of market economies has tended to increase in these mixed systems. (Yıldırım vd., 2014: p.49)

## **64. Monopolistic Competition**

In the monopolistic competition market, there are many firms competing with each other, similar to the perfectly competitive market. However, these firms produce differentiated goods that can easily be substituted for each other instead of a homogeneous product, as in a perfectly competitive market. The production of differentiated goods, in other words product differentiation, is the most important feature of the monopoly competitive market, and it also provides a kind of monopoly power to the firms that compete with each other. However, since there are many firms in the market and therefore the market share of each firm is small, the price policy of a firm does not affect other firms much. Product differentiation is achieved in a variety of ways, such as branding, packaging, place of sale, customer service, installment sales, and advertising. The important thing is that the goods are preferred and easily indispensable in the eyes of the buyer over the goods of other sellers. Due to product differentiation in a monopolistic competitive market, each firm will have a partial monopoly power, and therefore there will be a downward sloping demand curve for each firm's product. Since each firm will set its own price to maximize its profit, there is no supply curve for the market. (Ertek, 2005, p.259-260)

## **65. Monopoly Market**

A market in which a good with no close substitutes is sold by a single firm is called a monopoly. Monopoly is a market where there is only one seller despite many buyers. There are no other goods in the market

that can be substituted for the good sold by a single firm. Since the whole market is under the domination of a single firm, the monopoly market is also expressed with the concept of monopoly. Since only one firm operates in the market, it is not possible to talk about price competition. The firm has the chance to increase the price of the goods it produces at the rate it desires. This is one of the most important differences between a monopoly market and a perfectly competitive market. In the perfectly competitive market, the sellers were taking the price determined in the market as data. Whereas, in a monopoly market, the firm is in a price-setting position. However, in real life, the firm, which acts with the profit maximization motive, has to act extremely cautiously while increasing the price of the goods it produces. Because, high prices, depending on the nature of the good, may lead to a decrease in the sales of the firm and thus a decrease in the profit rate. Therefore, monopoly firms have to make detailed analyzes about market demand while determining their price strategies. In real life, it is not possible to come across a pure monopoly type. Firms dealing with local electricity, water, natural gas distribution or manufacturing some information and communication technology products are examples of pure monopoly. Besides pure monopoly, sometimes several firms operating in a market can come together to form a monopoly power. Accordingly, firms trying to maximize their interests may act as one firm in determining production and price decisions, uniting against buyers. (Orhan and Erdoğan, 2015, p.126)

## **66. Monopsony**

A market with a single buyer versus many sellers is called a monopsony market. The large number of sellers means that they alone cannot influence the price. (Alkin, 1984, p.89)

## **67. Mutatis Mutandis**

Mutatis Mutandis means "change of things that need to be changed" or "under the condition of making necessary changes". This concept describes the situation that occurs when the value of a single variable changes, all other things being equal, in order to simplify comparisons between variables in datasets with a large number of variables. Although it is a concept generally used in economics, it is also used in different fields of science such as law and philosophy.

## **68. Negative Economies of Scale**

The loss of effectiveness of the method in traditional economic theory is counted as one of the reasons for the rise in long-term average costs. Another factor that causes the long-term average costs to rise if the firm goes above a certain scale is the fact that the workers begin to be unaware of what they are doing as a result of the excessive division of labor and specialization, and their productivity begins to decrease due to the monotony and nervous wear caused by the same job. Economies of scale are the cost advantages and disadvantages of the firm's own activities in the long run.

**69. Negative External Economies**

As any industry develops and grows, it can cause the costs of firms in the industry to rise. Such economies are called negative external economies. Especially; The increase in environmental pollution will cause companies to create waste facilities.

**70. Non-Duplicate Goods**

Goods that cannot be increased by production are called non-reproducible goods.

**71. Normal Goods**

Goods whose consumption increases when the income of the consumer increases and whose consumption decreases when the income decreases are called normal goods.

**72. Oligopoly Market**

An oligopoly market is a market in which more than two but few firms make the same or similar goods. It means that firms in an oligopoly situation can affect each other's prices because they usually sell the same good. In this respect, they do not engage in a price competition. However, competition between various goods also affects prices. Not every firm will want to lower the price. Because the other company can lower the price. As the number of firms increases, interdependence decreases, and as the number of firms decreases, interconnectedness increases. Each firm also limits the amount of goods it will put on the

market. Because there is a concern that the price will be lowered with excess goods. When one of the firms raises the price, it cannot be expected that the other firms will increase the prices. But when the oligopolistic firm lowers the price, other firms also lower prices. When one firm raises the price, other firms can attract more customers and make more profits. If the firm lowers the price, then the firms will also have to lower the prices or they will lose their customers. Therefore, in an oligopoly market, a firm's increase in prices will not concern other firms, but a firm's lowering of prices will affect other firms. (Özgüven, 1991, p.302-303)

### **73. Oligopsony**

If there are many sellers in a market, whereas buyers are more than two but in limited numbers, then the market form in question is oligopsony. The leaf tobacco market in our country can be given as an example to these markets.

### **74. Opportunity Cost and Rational Behavior**

Finding limited resources in the face of unlimited needs requires the sacrifice of some needs. Which needs will be met and which will be sacrificed depend on the choice made, and the choice is achieved at the expense of other alternatives. E.g; A family going on vacation will be faced with the following alternatives on a vacation day. First alternative; going to the sea, the second alternative; visiting historical places, the third alternative; having a picnic. If the family chooses the second alternative, the opportunity cost of visiting the historical places

chosen by the family is going to the sea and having a picnic. Opportunity cost, in the sense of wasted opportunities, for the alternatives that are given up in the face of the chosen choice. (Altınok vd., 2016:p.32)

### **75. Ordinal Utility**

In the ordinal utility approach, it is based on the principle that utility cannot be measured but goods can be ranked in terms of utility. By comparing the goods in terms of utility, the consumer will prefer the one with more benefits or if they provide the same benefit, he will be indifferent between the goods and will not see any difference in choosing one of the goods. In the consumption of two or more goods, he will be indifferent to choose one of the combinations of goods that provide the same utility, but will prefer combinations of goods that will reach higher levels of total utility with his limited income. (Daşdemir, 2014, p.52)

### **76. Pareto Optimality**

Pareto analysis, which is considered as a problem solving technique, dates back to 1897. This method, which is used for solving problems, is based on the principle of separating the most important causes of the problem from the unimportant ones. Pareto analysis, named after the Italian economist Wilfredo Pareto, is a technique that was introduced in 1897. While developing this technique, economist Pareto's aim is to bring the income inequality in his country at that time to the agenda and to seek a solution to this situation.

According to this approach of Pareto, 80% of all income of Italy, only 20% of the country's population. The remaining 20% of income is distributed among 80% of the population. This approach of Pareto was not limited to Italy only. 10 years later, the American economist M. C. Lorenz developed this approach and produced a supporting graph. This graph, which expands the 80-20 principle, has made the Pareto analysis known as the 80-20 rule today. Accordingly, 80% of the consequences of an event are due to 20% of the causes. So it assumes that by solving only 20% of a problem, we can solve 80% of the whole problem. This principle can be applied to almost any situation you can think of.

Pareto analysis allows you to reveal the most important factor on the problem you want to solve. Listing the causes of the problem will help you both make comparisons and take more concrete steps. Reveals error numbers. Displaying it on a graph allows you to visualize the problem and its causes. It determines the path to be followed and the responsibilities to be undertaken in a teamwork. (<https://www.ofmark.com/blog/pareto-analizi-nedir-neden-onemlidir/>)

### **77. Perishable Goods**

Goods that are used up once and cannot be reused are non-durable goods.

### **78. Perfect Competition Market**

A perfectly competitive market is a model market that is very difficult to find in real life. It is an ideal form of market where there is no outside

interference and prices are formed freely according to supply and demand. The most important feature that distinguishes the perfectly competitive market from other markets is that buyers and sellers have no influence on prices on their own. In a perfectly competitive market, it means that buyers and sellers do not have control over product prices. A perfectly competitive market refers to an environment in which buyers and sellers exchange without any barriers. In a perfectly competitive market, it is not possible for the firm to control the price of the goods it sells or to set the desired price for the goods. It is not possible to come across a perfectly competitive market, which is explained based on assumptions, in real life. Four conditions are required for the formation of a perfectly competitive market.

**a. Having a large number of buyers and sellers in the market  
(Atomicity)**

For a market to be perfectly competitive, the number of buyers and sellers must be so large that neither of them can affect the market alone. We call this the atomicity assumption. In such a market, a buyer's refusal to buy a product, or a seller's withdrawal from the market, has no effect on the price of that good. Because both buyers and sellers are so numerous that none of them alone can influence the market. These buyers and sellers are in the position of only accepting the price formed in the market.

**b. Homogeneity**

In order for a market to be perfectly competitive, the goods sold must be exactly the same, and there must be no difference between them in terms of quality and other issues. We call this the homogeneity assumption.

**c. Freedom of entry and exit to the market (Mobility)**

Freedom of entry and exit to the market means that buyers, sellers and production factors are not subject to any restrictions on their entry and exit to the market. Buyers are free at the point of purchasing the goods and services they want, and they can easily give up on purchasing. There can be no restrictions in this regard. Likewise, sellers are completely free to sell or not sell the goods and services they want. On the other hand, the owners of the factors of production have the freedom to use their production factors in the most income generating options.

**d. Buyers and sellers have full knowledge of the market (Openness)**

Buyers and sellers have all the information about the quality, cost and demand of the good. Consumers and companies know who is selling what at what price and with what features. In other words, consumers and firms have all kinds of information about the goods. It is essential in terms of competition that buyers and sellers have full information about prices and quantities in the market.

## 79. Pigou Effect

The effect of the increase in real wealth as a result of the decrease in prices on consumption expenditures is called the pigou effect. Pigou tried to explain how the economy would reach full employment without government intervention in the economy. He argued that full employment could be achieved if monetary wages were flexible. If the general level of prices decreases with the decrease in monetary wages in the economy, the real value of the previously accumulated savings will increase and individuals will therefore save less and increase their demand for consumer goods with falling prices. This savings-reducing or total expenditure-increasing effect, which occurs when prices decrease and wealth increases, is called the "real balance" or "Pigou Effect". The effect that occurs when the decrease in the general level of prices increases the expenditures on goods and services. Pigou has worked on the issues of employment and national income, in contradiction with the Keynes model and in line with the Classical school. Piogue was the first to explain the Real Money Balance Effect. For this reason, this effect is also called the "Pigou effect". The Pigou effect is the recovery of employment as a result of an increase in the real value of money balances. The mechanism for this is as follows. Individuals establish a desired fixed relationship between their real money balance and their expenditure on goods and services. Therefore, a decrease in prices increases the real value of their liquid balances. With some of this increase, they increase their consumption, thus increasing income and employment. This mechanism is one of the ways to achieve full employment through the fall in real wages in the

Classical model. The Pigou effect is relevant only to markets for goods and services. In this respect, it differs from the Keynesian effect, which argues that the mechanism operates through the securities market. Due to these features, it also differs from the real balance effect operating in both commodity and securities markets.

### **80. Point Elasticity**

This elasticity shows the changes in the demand of the good in response to price changes. Here, elasticity of demand is found by the ratio of % change in quantity demanded to % change in price. (Öçal, 1984, p.176)

$$\text{Point Elasticity (E}^{\text{P}}) = \frac{\frac{Q_1 - Q_0}{Q_0}}{\frac{P_1 - P_0}{P_0}}$$

$$\text{Point Elasticity (E}^{\text{P}}) = \frac{\text{Proportional (percent) Change in Quantity Demanded}}{\text{Proportional (percent) Change in Price}}$$

$$\text{Point Elasticity (E}^{\text{P}}) = \frac{\frac{\text{Change in Quantity Demanded}}{\text{Initial Quantity Requested}}}{\frac{\text{Change in Price}}{\text{Starting Price}}}$$

$$\text{Point Elasticity (E}^{\text{P}}) = \frac{\frac{\text{New Quantity} - \text{Old Quantity}}{\text{Old Quantity}}}{\frac{\text{New Price} - \text{Old Price}}{\text{Old Price}}}$$

The high or low price sensitivity of demand (whether it is elastic) is found by comparing the value with 1.

$E^d < 1 \rightarrow$  inelastic demand

$E^d = 1 \rightarrow$  unit elastic demand

$E^d > 1 \rightarrow$  elastikc demand

$E^d = \infty \rightarrow$  perfectly elastic demand

$E^d = 0 \rightarrow$  full inelastic demand

### **81. Poor Goods**

Goods whose consumption decreases when the income of the consumer increases and whose consumption increases when the income decreases are called poor goods.

### **82. Positive Economics- Normative Economics**

Investigates the principles and laws of the relationship between cause and effect. For example, when we say that prices rise when the volume of money in the market increases, positive economics investigates how and under what conditions the money supply will increase prices, and tries to reveal its principles. If the price of a good rises, the demand for that good decreases. Here, since the price increase is a cause and the decrease in demand for the good is the result, positive economics tries to determine the relationship between cause and effect. (Türkbal, 2005:48)

It is a science that determines economic decisions and preferences, proposes measures and brings solutions. It is not possible to make arbitrary suggestions while doing these. Each offer must be consistent in its aims and means and must not conflict with other aims. For this, normative economics has to base its recommendations on positive economics. For example, if unemployment is to be reduced, total global spending will need to be increased. This will lead to price increases. These cause-effect relationships are the subject of positive economics. Normative economics, then, explores ways of making use of positive economics. The application of certain economic results is called economic policy. Normative economics examines the measures to be taken so that policies can be consistent and effective, based on economic theory. (Acar, 1994: p.14)

### **83. Positive Economies of Scale**

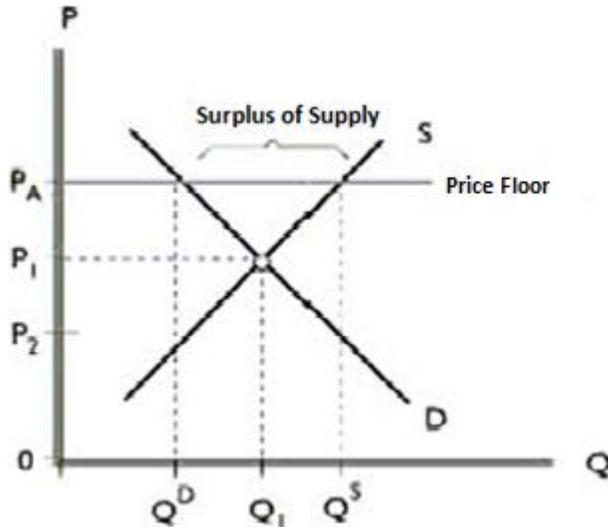
It expresses the savings and cost advantages provided by the firm as a result of the increase in production scale. Positive economies of scale are also called simply economies of scale. Economies of scale are divided into two basic classes, real and discretionary. Real economies express the increase in productivity as a result of the growth of the scale of production and the decrease in the share of fixed costs in the production unit. Discretionary economies, on the other hand, result from the fact that factors used in production and distribution are paid a lower price as the size of the firm increases, as they are purchased in larger quantities.

**84. Positive External Economies**

As an industry develops and grows, in other words, as the number of companies operating in the industry and therefore the total production volume increases, advantages that cause the costs of companies operating in that industry to decrease will emerge.

**85. Price Floor**

The floor price is the government's determination of the minimum price to be traded in the market in order to protect the suppliers of goods and services. As a result of this practice, the state determines the minimum or base price for a good or service. At a price below this price level, no transaction takes place in the market. The purpose of the floor price application is to protect the suppliers (producers) of goods and services. For example, while the low-income people are protected by paying the minimum wage, it is aimed to protect the farmers with support purchases.



**Figure 20:** Price Floor (<https://www.quora.com/Who-benefits-from-price-ceiling-and-price-floor>)

Equilibrium price occurs at  $P_1$  when there is no government intervention. Since the government finds the equilibrium price to be low, it sets a price above this price. ( $P_A$  price) If the government sets a floor price above the equilibrium price with such an application, there will be excess supply. The state must buy and stock this surplus. However, any price above  $P_1$  causes excess supply.

## 86. Private goods Goods

Goods produced by privately owned firms are called private goods.

## 87. Production

Production is all efforts to increase the quantity and utility of goods and services to meet our needs. In nature, goods are not always ready to

meet our needs. It is necessary to make them meet our needs, or if they are in a position to meet our needs, to make them more useful this time, it is necessary to undergo some processes. We call all these efforts production. Production is not simply increasing the quantity of a good. While the amount of any good remains the same, increasing its utility is also considered production.

**a. Production by shape change**

In this type of production, the shape, physical and chemical structure of the goods are changed and the benefit is increased. E.g; like cutting the fabric into a dress.

**b. Production through change of location**

Taking a product from the production area where it is abundant and transporting it to the region where it is scarce and presenting it to the people in need is production by increasing the space utilization. E.g; Fruit brokers, transport companies, wholesalers and retailers who contribute to the transport of oranges from Antalya to SivasKonya and presenting them to the consumers will also be engaged in production activities.

**c. Production through time change**

It is also production that the goods are stored in periods when they are abundant or stored in any way and put on the market when they are

scarce. Storage of foods by freezing or drying, canning and greenhouse cultivation are also typical forms of production through time change.

#### **d. Production through change of ownership**

All kinds of trade and brokerage activities that help a property change its owner are also considered production. Because, thanks to these, a commodity passes from those who need it less to those who need it more. This increases the utility of the goods in question. E.g; When we consider the economic contribution of the sale of an unproductive field to a company and the establishment of a factory there, we can easily see the positive effects of the change in ownership. Those dealing with real estate and commission business, which mediate this change of ownership, also participate in the production activity. Production is not always the production of material things, the services of a lawyer, a doctor, a consultant and an artist are also production.

### **88. Production Factors**

The inputs needed while performing production activities are called factors of production.

#### **a. Labor**

The human power involved in the production activity is called labor. It is a physical and mental activity done in a planned way with the aim of producing a useful good and service. For example, a child digging the ground to play is different from the farmer digging the ground. Both

physical strength and mental ability of man constitute the basic element of production. A teacher who teaches and a worker in the mine contribute to the production in proportion to their labor. Labor is distinguished from other factors in that it is a resource offered by man and is measured by the time allotted for a certain period of time. Considering the nature of labor, labor is divided into two as skilled and unskilled. While mental power is at the forefront rather than physical power in skilled labor, physical power is in the foreground in unskilled labor. The income earned by labor as a result of its participation in production is called wage. (Ünlüören and Tayfun, 2012: p.16-17)

### **b. Capital**

The means of production, such as all kinds of tools, machinery, equipment, buildings, which contribute to the increase of the productivity of labor in the production process, which were previously produced by people, are called capital. Capital in the language of economics; They are real value, physical properties and produced by labor. It is useful to explain one point here. When capital is mentioned in the colloquial language, instruments such as money, stocks and bonds come to mind. These are actually among the wealth of individuals and are called financial capital in terms of economics. The return of capital in return for its participation in production is called interest. (Berber and Bocutoğlu, 2016: p.19)

### **c. Natural resource**

In the fight against famine, in the production of goods and services that serve to meet the needs, the place where labor is applied, soil, forest, underground wealth, rivers, lakes and seas, solar energy constitute natural resources. We can define natural resources as “all the useful elements that man finds in nature during production or that nature offers him for production. Since the most important of natural resources is arable land, natural resources are sometimes referred to as land for short. The spatial distribution of natural resources is not homogeneous. There is great variation in the distribution of natural resources between regions and countries. Countries rich in natural resources have the chance to develop earlier. The first reason for the difference in development between Eastern Anatolia and Western Anatolia is the imbalance in the distribution of natural resources in favor of the West. However, natural resources, which are impossible to reproduce, are divided into two in terms of whether they are renewed or not. Some natural resources are renewable. For example, used water returns to the earth as rain. Destroyed forests are re-cultivated. Soil can always be regenerated. Some of the natural resources are non-renewable. Underground resources such as oil, natural gas and coal, which cannot be returned after consumption, are called non-renewable resources. Their amount in nature is limited and it is not possible to replace the consumed part. The income obtained by the natural resource due to its contribution to production is called rent. (Dinler, 2006:p.16)

**d. Entrepreneur**

The person who produces by bringing together other factors of production is an entrepreneur. For this reason, it is the person who finds the entrepreneurial capital, buys the inputs, and produces according to the market conditions. The aim of the entrepreneur is profit, but since the entrepreneur has no guarantee of profit, he can also make a loss. For this reason, an entrepreneur is a risk-bearing person. As an individual can be an entrepreneur, a company and a state can also be an entrepreneur. (Unay, 2000: p.13) The income earned by the entrepreneur due to her contribution to production is called profit.

**e. Technical Data**

Technical knowledge, which can be defined as the knowledge, skills and experience necessary to produce goods and services, has also started to be counted among the factors of production in recent years. As the level of technical knowledge increases and more efficient techniques are used in production in an economy, it will be possible to produce more goods and services with the same quantity and quality of nature, labor and capital factors compared to the previous one. Technical knowledge, then, is an important variable that determines the productive power of an economy. Undoubtedly, technical knowledge is also a limited, in other words scarce factor. Especially developed countries make great efforts to develop their knowledge and technologies with the large money they spend on research and development and to win the existing race between countries in this

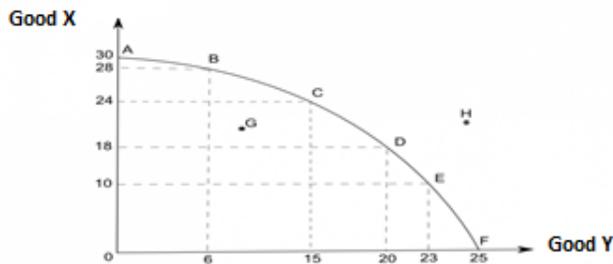
regard. Countries running at the forefront in this regard, by producing more and better quality goods and services, increase the welfare level of the people.

### 89. Production/Investment Goods

Production goods, on the other hand, indirectly meet human needs. Goods used in the production of consumer goods. The factory building, the fuel that enables the machine to work, is a production product.

### 90. Production Possibilities Curve

The production possibilities curve is the curve that shows the various combinations of output (products) that the economy can produce at the maximum level in a given period, given the available factors of production and production technology (*ceteris paribus*).



**Figure 21:** Production Possibility Curve

([https://www.investopedia.com/terms/p/productionpossibilityfrontier.a](https://www.investopedia.com/terms/p/productionpossibilityfrontier.asp)  
sp)

Given the production possibilities curve, available factors of production, and production technology (*ceteris paribus*), the production possibilities curve shows the consequences of scarcity, choices in the economy, and the opportunity cost of each choice. The dots on the curve (A, B, C, D, E, F) indicate the maximum production quantities that can be produced with the scarce resources available. For example, at point B, 28 units of Goods X and 6 units of Goods Y can be produced by using all the resources in the economy (all labor, all capital, all land). Points inside the curve (such as the G point) are something we can do with our available resources. However, this production cannot be a rational production, because not all of the resources we have are used. In other words, the points inside the production possibilities curve indicate that there is unemployment or idle (unused) capacity in the economy. The points outside the curve (such as the H point) show the production level where our current resources (labor, capital, land) are not sufficient, that is, the lack of resources. It is the curve that shows the various output (product) combinations that the economy can produce at the maximum level in a given period.

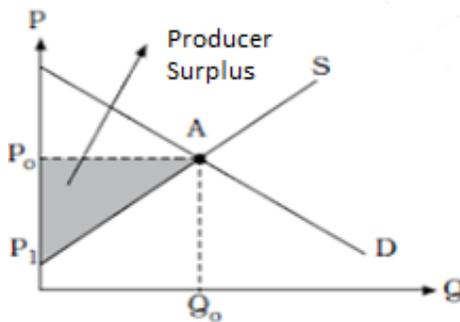
### **91. Production Quotas**

Production quotas are an application that allows the said goods and services to be sold above the equilibrium price established in the market by limiting the amount of goods or services supplied to the market in order to protect certain producers of goods. If the government limits the amount of production and determines the amount of goods and services in the market below the equilibrium amount that will occur under

market conditions, there will naturally be a contraction in the market. The natural result of this happens in the form of an increase in price. Despite the restriction in the equilibrium quantity, the increase in the equilibrium price creates an increase in the income of the producers on the one hand, and prevents new producers from entering the market on the other.

## 92. Producer Surplus

Producer surplus is the difference between the lowest price at which the producer is willing to sell a particular good and the higher price in the market.



**Figure 22.** Producer Surplus

(<https://economictimes.indiatimes.com/definition/producer-surplus>)

Supply and demand intersect at point A and equilibrium occurs. While the producer is willing to sell his product at the price of  $P_1$ , the price in the market is formed at the price of  $P_0$ . In this case, the producer surplus is equal to the producer  $P_0-P_1-A$  area.

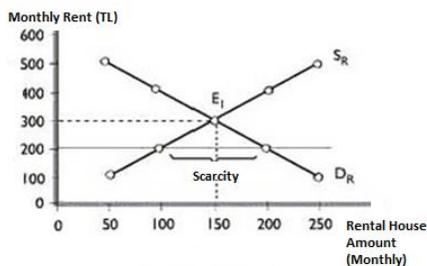
### 93. Public Good

Goods that are produced by public sector firms and are open to public use are called public goods. Public goods, also called social goods, are goods that are subject to the common and equal consumption of the society.

### 94. Rational Behavior

The ability to use goods or the means of production for obtaining them in different places and for different purposes not only gives people the power to make economic decisions or choose between alternatives, but also imposes the need to act rationally in their decisions. The imbalance between needs and means requires the most appropriate behavior to be shown, the most appropriate choice to be made, and the most appropriate decision to be taken. In order to make this choice, we make comparisons and make decisions, consciously or unconsciously. This type of behavior is called rational behavior or economic behavior.

### 95. Rent Controls



**Figure 23:** Rent Controls

(<https://www.opentextbooks.org.hk/ditatopic/7450>)

In the graph where the rental housing demand curve (DR) and supply curve (SR) are shown, the equilibrium occurs at point E in an environment where the government does not interfere with the market. In equilibrium, the rental fee is 300 YTL, while the amount of rental houses is 150. However, if we consider that the local government has determined a rent ceiling of 200 YTL for housing rents through rent control, since this is perceived as a decrease in housing rents in the market, the amount demanded in the rental housing market increases to 200, while the quantity supplied decreases to 100. As a result, the rental price determined below the balance with the state intervention will cause a shortage problem in the market.

## **96. Service**

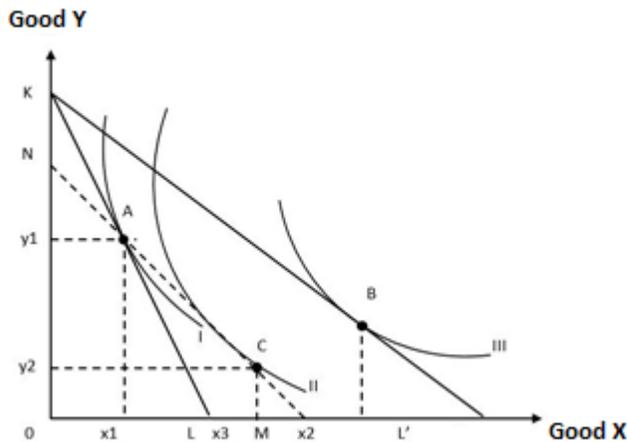
The activities that meet the needs but do not have the characteristics of physical existence are called services. The doctor's examination of his patients, the teacher's lecture, the lawyer's service can be given as examples.

## **97. Scarcity**

The resources each society has at a given time are limited. However, the demands of these societies are unlimited. This imbalance between wants and the resources and goods used to meet them is called scarcity when resources and goods are less than desired. (Ünsal, 2013, p.11)

## 98. Slutsky Method

Another approach to explaining the change in the real income of consumers was developed by the Russian economist Eugen Slutsky (1880-1948). Slutsky also explained the effects of substitution and income on demand like Hicks, but the difference of the Slutsky Approach from Hicks is that it uses a method of keeping the purchasing power of consumers' money constant in order to keep the real income of consumers constant.



**Figure 24:** Slutsky Method (<https://owlcation.com/social-sciences/The-Hicksian-Method-and-The-Slutskian-Method>)

- The consumer, who initially demands certain quantities of goods X and Y, is in equilibrium at point A.
- • When the price of good X decreases, the real income of the consumer increases and the consumer's equilibrium shifts to point

B. In this case, the amount demanded by the consumer from good X increases by  $x_1x_3$ . This increase is called the total effect.

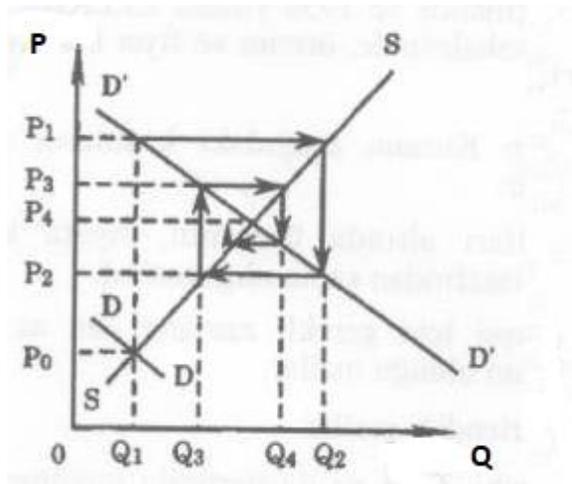
- As a result of the decrease in the price of good A, the consumer gives up  $y_1y_2$  of good Y in order to buy more good X. This is explained by the substitution effect.
- While the consumer is in equilibrium at point C, if his income increases, he will come to equilibrium at point B, which offers more satisfaction. In this case, the demand for good X will increase by  $x_3x_2$ . This increase is due to the income effect. ([https://cdn-acikogretim.istanbul.edu.tr/auzefcontent/20\\_21\\_Guz/mikro\\_iktisat\\_ss/3/index.html](https://cdn-acikogretim.istanbul.edu.tr/auzefcontent/20_21_Guz/mikro_iktisat_ss/3/index.html))

### **99. Cobweb Theorem**

It is the theory that explains the fluctuations in the goods market, whose supply is determined by the prices in the previous production periods. Such fluctuations are encountered in agricultural goods markets, where the time difference between making the production decision and obtaining the product is large. The supply decisions of the producers are determined by the price expectations of that period by looking at the prices of the previous period. Therefore, the amount of product supplied in that period varies depending on the expectations of the producers regarding the price of the product in that period. In the course of time, changes may occur in demand. Thus, there are great fluctuations between product quantity and prices from one period to the next. (Ülgen, 2014, p.106)

**a. Stable Balance**

In the figure, when an equilibrium price is formed in the market of any agricultural product x, for example, let the demand curve shift to the right due to the increase in income. In this case, the equilibrium price and the buying-selling quantity will rise. If the supply function were lag-free, supply would immediately respond to an increase in demand. However, the delay in supply will cause the price to fluctuate around this equilibrium point on the way to the equilibrium point.



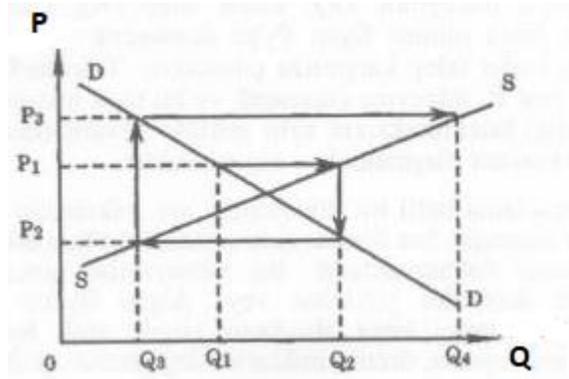
**Figure 25:** Stable Balance (<https://policonomics.com/lp-perfect-competition2-cobweb-model/>)

In the first period, the price level is  $P_0$ . At this price level, there is demand as much as  $OQ_1$  and supply as much as  $OQ_2$ . So there is as much excess supply as  $Q_1Q_2$ . This excess supply will cause prices to fall to the  $P_2$  level. In the next period, the market demand is at  $OQ_2$  while producers supply  $OQ_3$  at this low price like  $P_2$ . Excess demand

by Q3Q2 will raise prices to P3. In the next period, at this P3 price level, there is demand as much as OQ3 and supply as much as OQ4. That is, there is an excess of supply of Q3Q4. This excess supply will again cause the prices to fall, and this ongoing formation will ensure that the market balance is established at an equilibrium point such as P4.

### **b. Unstable Equilibrium**

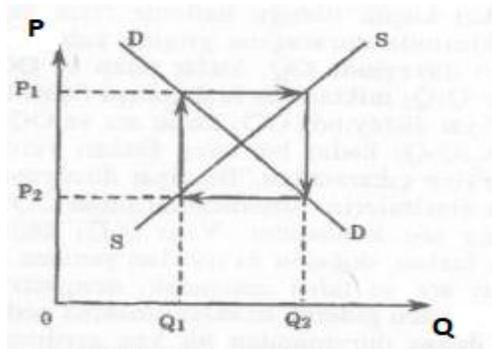
In the figure, when the slope of the demand line is less than the slope of the supply line, price fluctuations become more and more intense instead of decreasing and stopping at an equilibrium point. In the first period of the figure, there is demand as much as OQ and supply as much as OQ2 at the price level P. The excess of supply over demand by QIQ2 will lower the price at the P2 level. At this price level P2, there is as much supply as OQ3 and demand as much as OQ4. That is, there is an excess demand of Q3Q2. This excess demand will push the price to P3. At this price level, since the producers will increase their production with the increase in prices, there is demand as much as OQ3 and supply as much as OQ4. So there is an oversupply of Q3Q4. This excess supply will naturally reduce prices again, and these price fluctuations will further destabilize the imbalance between supply and demand, causing it to move away from the market equilibrium. In such a condition, once the equilibrium state is left, it will not be possible to re-establish the market equilibrium.



**Figure 26:** Unstable Equilibrium (<https://policonomics.com/lp-perfect-competition2-cobweb-model/>)

**c. Neutral Balance**

Since the elasticity of demand and supply curves in the figure are the same, price fluctuations continue with equal intensity. But again, it is not possible to reach a new balance point; There is no gradual drifting away from the balance.



**Figure 27:** Neutral Balance (<https://policonomics.com/lp-perfect-competition2-cobweb-model/>)

In the figure, at the price level P1, there is demand as much as OQ and supply as much as OQ2. The excess supply will reduce the price to P2, and this time we will encounter OQ1 supply and OQ2 demand. An excess of demand by QIQ2 will raise the price to P again, and this price fluctuation and supply and demand imbalance will continue in the same way, but it will not be possible to reach the equilibrium point.

The above explanation is based on the assumption that the amount of supply in a certain period is based on the previous price, and that the product obtained in each period is sold within that period. These assumptions may not fit real life. If the producers do not believe that the rising or falling price will continue, if the sellers or buyers have stocks, if exports and imports are made, they may not change the amount of production.

### **100. Spring (Arc) Elasticity**

If the absolute change in price is large, there are hundreds of price elasticities between two points, and the elasticity will be different at each point. In order to eliminate this inconvenience, "arc elasticity, in which the average elasticity between two points is measured" is used.

$$\text{Spring (Arc) Elasticity } (E_A) = \frac{\frac{(Q_1 - Q_0)}{(Q_1 + Q_0)}}{\frac{(P_1 - P_0)}{(P_1 + P_0)}}$$

$$\text{Spring (Arc) Elasticity (E}_A\text{)} = \frac{\frac{\text{Yeni Miktar} - \text{Eski Miktar}}{\text{Eski Miktar} + \text{Yeni Miktar}}}{\frac{\text{Yeni Fiyat} - \text{Eski Fiyat}}{\text{Eski Fiyat} + \text{Yeni Fiyat}}}$$

### 101. Stackelberg Model

Stackelberg is a game theory model in 1934 that criticizes the Cournot duopoly model. According to the model, one of Cournot's two duopoly firms can anticipate that its rival will act on the Cournot assumption. For this reason, the first company to enter the market (leader company) determines the best response function instead of the final production amount of its competitor and creates its own profit function accordingly. This model is not a static game theory model under complete information like the Cournot model, but a dynamic game theory model under complete information. In the model, the leader firm that enters the market first, determines its own production amount, then plans that the firm that enters the market later will act according to its own production level and determines its production accordingly. (<https://www.sefaerkus.com/wp-content/uploads/2019/12/stackelberg.pdf>)

### 102. Substitute Goods

Goods that can be used interchangeably to satisfy the same need are called substitute or rival goods. Product pairs such as tea-coffee, butter-margarine, rice-bulgur can be given as examples.

### **103. Substitution Effect**

While other variables affecting demand are constant, when the price of a good rises, its relative price increases compared to the prices of other goods. Consumers substitute goods with lower prices for this good. This behavior is defined as the substitution effect, which decreases the purchase of the good whose price rises.

### **104. Supply**

While other variables affecting supply are constant, the amount of goods and services that producers are ready to sell at different price levels in a certain period of time is called supply.

### **105. Tax Applications**

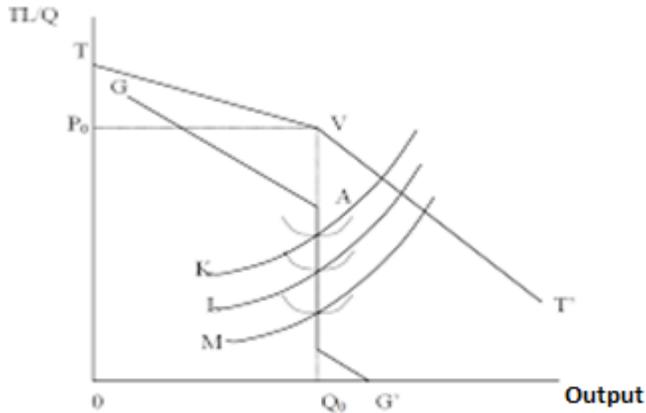
Tax is money that governments collect to cover expenditures to enforce laws and rules, perform defense services, build roads, schools, hospitals, and generally run the country or local community. Taxes may vary in type and amount according to the economic structure of the countries, the level of economic development of the country, the diversity of economic activity in the country and the services they provide to the society in return for taxes. For example, while activities such as health and education services are provided free of charge in some countries, they may be paid in some countries. Taxes can sometimes be in the form of a fixed amount, and sometimes in the form of a certain rate depending on the type of economic activity or goods. Some taxes are fixed and independent of economic activities, while

others are variable according to the type of economic activity. Fixed amount taxes are called head taxes. Indirect taxes are taxes paid under the names such as VAT, special consumption tax, special communication tax paid during the purchase of services and goods. Direct taxes are taxes on rental income, taxes on business income, and deductions from wages and salaries of wage earners. Taxes levied on a certain unit of measure are defined as specific taxes. Taxes calculated as a percentage of a certain monetary value are ad valorem taxes. An example of an ad valorem tax is that the state charges a certain amount of tax for each pack of cigarettes and liquor, while paying a certain percentage of the amount of products used, such as electricity, natural gas, as tax. (Şener, 2010, p.109-110)

### **106. The Sweezy Approach (Kinked Demand Curve Model)**

According to Sweezy, the most important feature of the oligopoly market is that if any oligopolist raises or lowers the price according to the price change, the reactions of the competitors will be different. If the oligopolistic firm raises its price, other firms' earnings will increase. Conversely, if the oligopolistic firm lowers its price, other firms' earnings will decrease. Because if the firm raises the price, the customers of that firm will shift to other oligopolistic firms. If the firm lowers its price, customers of other firms will become customers of that firm. Therefore, the firm's price increase will not be followed by other oligopolistic firms, whereas price reductions will be followed by other oligopolistic firms. (Divitçioğlu, 1982, p.232) In other words, if the

oligopolist changes the price, the attitude of the competitors will differ according to the direction of the price change. (Çevik, 1995, p.212)



**Figure 28:** Kinked Demand Curve Model

(<http://econknowhow.blogspot.com/2012/04/oligopoly.html>)

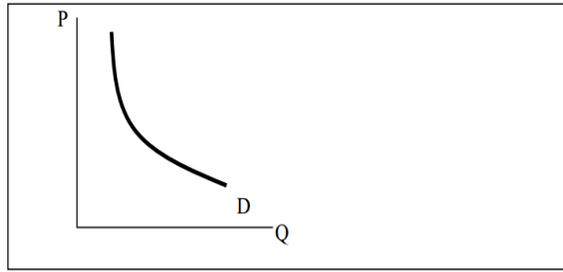
The demand curve of the oligopoly firm is TVT. The product price is  $OP_0$ . Since the demand curve bends (changes in elasticity) at the point V, the marginal revenue consists of line segments GA and BG', it does not show continuity. The firm's marginal cost curve (M) will not equal marginal revenue at any level of output. But it can be shown that the most profitable amount of output for the business is  $OQ_0$ . In addition to all this, even if the marginal cost changes (K, L or M), output quantity  $OQ_0$  remains the most profitable level of production and price  $OP_0$  remains the most profitable price level. As a result, the level of production in an oligopoly is more stable than in a perfectly competitive or monopoly market. Also, if the bend point of the demand curve does not change, output quantity  $OQ_0$  remains the most profitable level of production and price  $OP_0$  remains the most profitable price level, even

if demand changes. Under these conditions, the price level is stable, but changes if there is a large increase in expenses. Initially, Sweezy's theory was credited as a complete model of the oligopoly market, but later research has led to the model's validity being debated. For example, George Stigler has shown that businesses in seven different oligopoly markets are generally not indifferent to price increases. The existence of an angled demand curve in these sectors is controversial. More importantly, the OP0 level where the price is stable also has no explanation. This price level is assumed to be the current price level, but the reason is not discussed. As a result, Sweezy's theory is not a complete model of the oligopoly market. ([https://personel.omu.edu.tr/docs/ders\\_dokumanlari/7196\\_83647\\_2021.pdf](https://personel.omu.edu.tr/docs/ders_dokumanlari/7196_83647_2021.pdf))

### **107. Trusts**

It is the agreement of two or more legal entities to act together in production and sales issues. In this organization, companies protect their legal personality. Trust organizations control 51% of the capital of the companies that are their members through financial mergers and ensure that the economic power in the market is concentrated in certain hands. Such structuring ultimately has negative effects on resource allocation and public welfare. For this reason, trusts are prohibited by antitrust laws in our country and other countries.

### 108. Unit Flexible Demand



**Figure 29:** Unit Flexible Demand (Ertek:2005)

Demand is a hyperbola as shown in the figure below. In this case, 1% changes in price always affect demand by 1%.

### 109. Utility

Utility is the satisfaction that an individual gets from the consumption of any good. E.g; Thirst is a need, and water has benefits because it satisfies the need. The concept of utility is subjective. The utility of a particular good may vary from person to person. E.g; The benefit of a pen is more for a student than for an ordinary person. In fact, the benefit of the same good for the same person can be different even at different times. The benefit of any good or service begins with the desire for that good. If the goods are not needed, the benefit of that property cannot be mentioned. In economic terms, the concept of utility sometimes differs from its meaning in everyday language. For something to be useful, it does not have to comply with morals and laws. The important thing is that the object that will benefit is capable of meeting people's needs.

E.g; Although using drugs is against morality and law, it is a useful substance for the addict.

### **110. Value Paradox**

The existence of some goods that can find buyers at very high prices, although they are not important in human life, have always caught our attention and puzzled us. I wonder why a diamond ring or a painting whose painter has died, which is not important for human life, is bought and sold at very high prices, while water or many foodstuffs, which are extremely important for our life, are very cheap. Adam Smith (1776) and some classical economists tried to explain the differences between the prices of important goods for our life and many goods, especially jewelry that meet the need to show off. The view put forward by some economists that the cost of a good will determine the value of any good has not clarified the issue. On the other hand, Adam Smith argued that in determining the value of a good, a distinction should be made between the use value and the exchange value of that good, and that only the exchange value will determine the value of the goods. However, in these periods, when supply and demand analysis was not yet known, the views on explaining the value of goods remained far from explaining the high price of scarce goods, especially jewellery. According to those who support this view, the value of any good or service is determined not by the utility of that good, but by the benefit from the last unit used from that good, that is, the marginal utility of that good. As the amount owned by the consumer of any good increases, the marginal utility of that good decreases. Thus, it is possible to explain

why the very small amount of jewelry is much more valuable than the basic foodstuffs necessary for the continuation of life, that is, the value paradox. (Dinler, 2000, p.42-43)

### **111. Walrasian Equilibrium**

While the subjective theory of value is as complex as possible in Walras, the following idea simplified by Walras in the final analysis in terms of production gains importance: Additions must be made to a certain type of investment so that the marginal productivity of each additional factor is equal to the market rate of interest. This thinking marks the emergence of the first draft of the marginal productivity theory, which is more important than the consumer maximization or optimality approach. In other words, the fact that the factors of production receive a share or are priced according to the equilibrium situation in each production branch in accordance with their marginal productivity has led to the thought that the same monetary values cannot be created due to the differences in the sector and productivity level.

Walrasian analysis, undoubtedly, made great contributions to the development of economics due to the search for methods mentioned above. However, the input-output table that emerged from the systems of equations, which is a very important analysis tool, provided great benefits, not as an analysis technique in free market economies, but as a useful method in planned socialist economies. Although Walras's efforts were aimed at simultaneously explaining the body of observable economic events in the market economy and confirming the liberal

doctrine, it is difficult to say that these attempts have been successful today. Speaking of the sterility of the Walrasian system, J. R. Hicks, one of the contemporary admirers of Walras, says: While this structure in its entirety evokes the effect of a fascinating palace that satisfies the imagination, it falls short of solving the fundamental problems. Again, Walras states that exchange values occur at the point where consumers equate the marginal benefits of the goods they consume with the ratio of the prices of the goods, and this also explains the scarcity phenomenon. The exchange value explained by the scarcity factor can only be explained by the scarcity factor if the two events coexist and the values are determined in exact proportions, and such a price determination process re-emerges the cost factor. ([https://www.turkcebilgi.com/leon\\_walras\\_ve\\_genel\\_denge](https://www.turkcebilgi.com/leon_walras_ve_genel_denge))

The general equilibrium model that Walras tried to establish is nothing but the mathematical expression of the saying that all social events in society are related to each other. Walras started from the premise that there are interrelations between markets. For Walras, for example, if there was an excessive demand for a good, it was a clear indication that the other goods were in excess supply. In his model, the situation in which all markets in the economy come to equilibrium is analyzed. (<https://iktisadianaliz.wordpress.com/2012/10/28/walrasin-genel-denge-analizi-ve-marshallin-kismi-denge-analizi-arasindaki-fark-nedir/>)

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