

Lesson 5.

Topic **The effect of basic economic laws on the pharmaceutical market.**

The law of supply.

Questions for discussion in the classroom

1. Product offer on the consumer goods market. The value of the offer.
2. The law of supply. Elasticity of the offer.
3. Price and non-price factors of the offer.
4. Market equilibrium.
5. Consequences of price deviation from the equilibrium position.

1. Product offer on the consumer goods market.

The value of the offer.

A product offer is a mass of goods intended for sale on the market, i.e. it is a product that is on the market or can be delivered to it.

The product offer is an economic category, one of the main elements of the market, which is the material basis for meeting the needs of the market in consumer goods. A product offer is an economic category that characterizes the quantity and quality of goods presented on the market for sale.

The number of products offered for sale depends on a number of general conditions:

- the volume of production of goods,
- methods of their distribution (distribution channels and distribution of goods),
- assortment and
- quality of goods,
- economic situations developing in the market, etc. The

supply can be measured quantitatively. The value of the offer shows the quantity of goods offered on the market at a given price level.

Several factors influence the behavior of manufacturers and sellers, their desire and ability to present goods to the market:

- # production costs,
- # prices that really add up to the products offered,
- # prices for other products competing in the market

prices for related goods (interchangeable, complementary).

number of competing firms

Production costs largely depend on several conditions:

- prices for raw materials, labor resources, for the production of goods,
- technologies of production of goods,
- tax policy in the state and some other factors.

At the same time, the relationship between production costs and the conditions outlined above develops in different ways. The closest direct relationship exists between resource prices and production costs: the lower the prices, the lower the costs, and vice versa. Production costs and taxes are in the same relationship.

The nature of changes in production costs is significantly affected by the level of technological developments. The introduction of modern production technologies into production reduces costs and increases the supply of goods.

These factors can contribute to both the growth of supply and its reduction. If the combined impact of factors (prices for resources, production technologies, taxes and subsidies) reduces production costs, then while maintaining the market price of goods at the same level, producers tend to increase their supply on the market. As production costs increase, the supply of goods on the market will decrease.

Graphically, this can be represented as follows (Fig. 1).

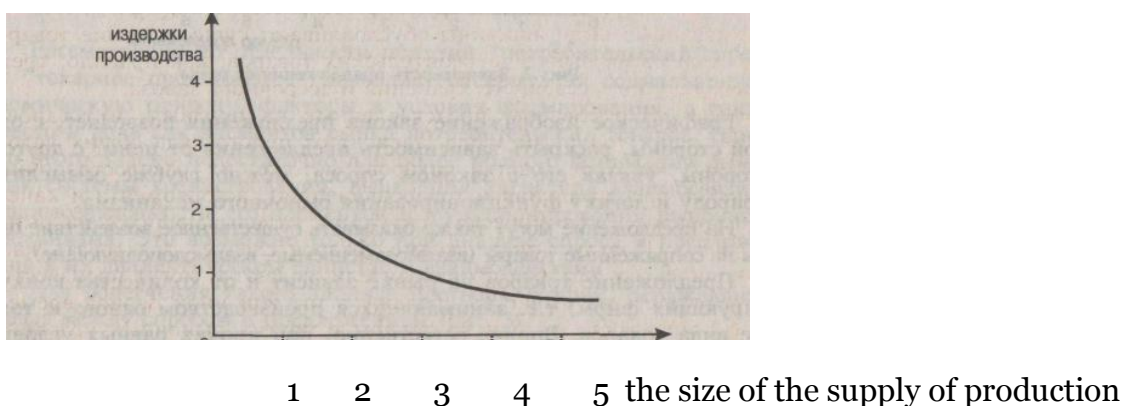
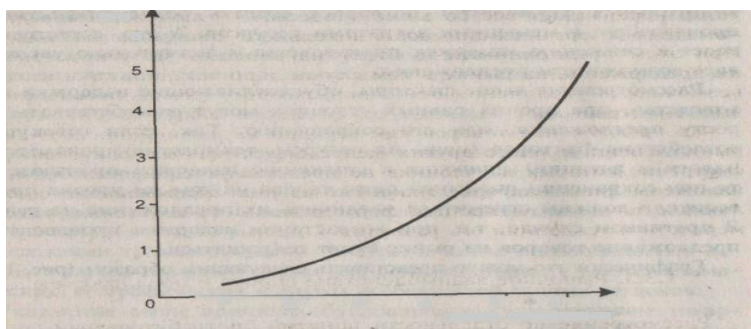


Fig. 1. The dependence of the supply of goods on costs

There is a direct positive relationship between the size of the product offer and its price: with an increase in the price on the market for the offered product, the supply of this product from manufacturers (sellers) increases accordingly; with a decrease in the price of the product, the supply decreases. The dependence of the supply on the price can be graphically represented as a curve.

This curve indicates that producers are willing to offer more goods to the market at a high price and are less interested in increasing the output and supply of goods when prices become low (Fig. 2).



1 2 3 4 5 the size of the production offer

Fig. 2. The dependence of the offer on the price

The value of the offer may vary depending on the goal set by the manufacturer and the seller. If the goal is to achieve maximum profit, the offer depends on the benefits that the entrepreneur plans to receive when selling his goods. If the goal is to establish itself in the market or to master new markets, then we should expect it to expand production and consolidate positions in the market by reducing prices for goods.

Further, the number of goods on the goods market depends on what prices the entrepreneur can set. If the market is actively expanding at the current price of goods, the entrepreneur additionally produces goods. The entrepreneur will increase the output of goods as long as there is an opportunity to increase prices that cover costs and bring him profit.

In the pharmaceutical market, the product offer is defined as the number of medicines, other pharmacy products, pharmaceutical services that can be offered to consumers for a certain period of time at a certain price. The supply of pharmacy products is influenced by many other significant factors.

2. The law of supply. Elasticity of the offer.

The dependence of supply on price also reflects one of the main economic laws.

The law of supply: - with an increase in price, the value of the supply increases, with a decrease in prices, the supply decreases (all other things being equal).

The dependence of the offer on the price is characterized by the coefficient of elasticity of the offer.

The coefficient of elasticity of supply shows how the supply of goods on the market will change when the price of this product changes by 1%.

If the change in the value of the offer and the price are expressed as a percentage, we get

$$E_d = \frac{\Delta Q}{\Delta P},$$

where E_d is the coefficient of price elasticity of supply;

where ΔQ is a sentence change, %;

ΔP — price change, %.

Example. Antiviral drugs are available on the market. During the season of increased morbidity, the price of the drug increased by $\Delta P = 20\%$. Manufacturers are increasing their offers to the market by $\Delta Q = 25\%$, and all these drugs have been sold. Make a calculation of the elasticity coefficient of the offer E_d .

For this calculation, it is necessary to correlate the change in the offer with the change in price.

$$E_d = \frac{\Delta Q}{\Delta P},$$

We get the coefficient of elasticity of the offer. **25 : 20 = 1,25.** **$E_d = 1.25$**

The coefficient is greater than 1. This means that in this case the offer is elastic, that is, the number of product offers depends on the price of this product.

3. Price and non-price factors of the offer.

The factors affecting the value of the offer can be divided into price and non-price

Price factors include:

- the share of the product in the market;
- time to adapt to changes in the market situation;
- properties of the product as a basic necessity and more.

The influence of price factors graphically changes the slope of the supply curve.

Non-price factors include:

prices for raw materials and materials for the manufacture of goods

- taxes on the production of goods;
- prices for interchangeable and related products;
- prices for similar products from competitors;
- the number of competitors in the market;
- expected price change in the market.

Non-price factors shift the supply curve to the right or left without changing the angle of the curve.

4. Market interaction of supply and demand

The maximum price at which a consumer agrees to purchase goods is called the demand price (P_d). At the same time, consumers tend to minimize their drug costs.

Manufacturers and sellers of wholesale and retail pharmacy services tend to sell goods at high prices. As a result, the price is set at which sellers are still ready to release drugs and IMN to patients. This price is called the offer price (P_i). The offer price should cover costs and bring profit, otherwise the work of pharmacy organizations and manufacturers will be inefficient

A joint analysis of the behavior of buyers and sellers determines a situation of economic equilibrium in which the interests and desires of both parties coincide. This situation is called market equilibrium. Market equilibrium assumes the equality of the demand price (P_d) to the supply price (P_i) and, accordingly, the demand value (O_d) to the supply value (Q_s). (Fig. 3).

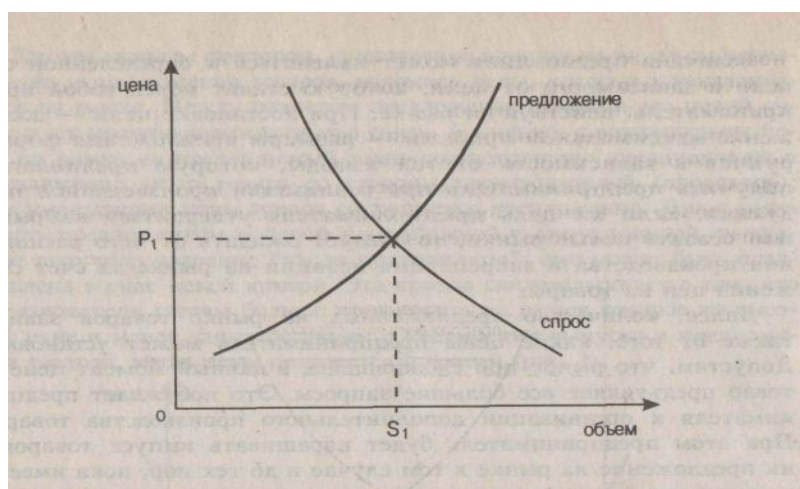


Fig. 3. Interaction of supply and demand

3 shows that the demand curve and the supply curve intersect at some point corresponding in quantity to the volume of demand and product supply S_1 and the value of the price P_1 . With this ratio of supply and demand, producers and sellers want to produce and sell on the market S_1 a quantity of goods at the price of P_1 ; and buyers want to buy this quantity of goods at the same price. The price at which supply equals demand is called the equilibrium price. The equilibrium price (P_1) reflects a certain "normal" price at which the marginal social utility and the marginal social costs balance each other.

The point of intersection of the supply and demand curves corresponds to the equilibrium quantity (S_1). Only the achievement of an equilibrium state ensures the stability of the market and the largest volume of sales.

5. Consequences of price deviation from the equilibrium position.

At any price other than the equilibrium price, or at any volume of production other than the equilibrium, the market is in an unbalanced state. This affects the production of goods and sales volume.

If the real price is higher than the equilibrium price, there is an excess of commodity mass (excess supply), overproduction on the market. This leads to a reduction in the price.(Fig.4)

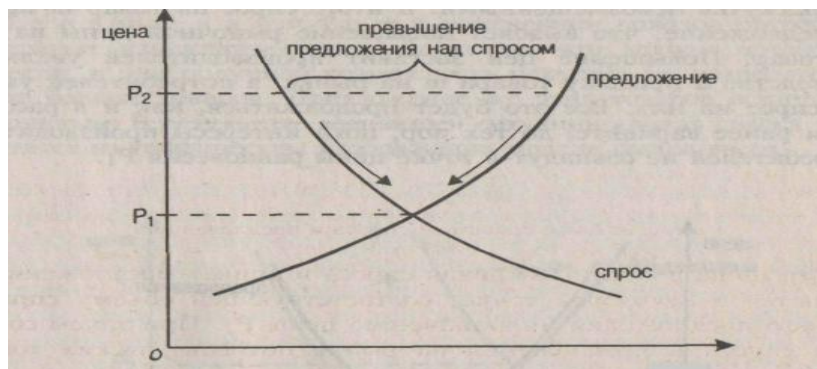


Fig. 4. Excess of supply over demand

If the market price is lower than the equilibrium price, there is a shortage of goods (excess demand), in which buyers will prefer to pay a higher price for the necessary goods. Excess demand generates an increase in the price of goods (Fig.5).

With the change in the price of a product, there is a movement of supply and demand. On the other hand, in the process of this movement, the correspondence of supply and demand affects the price level.

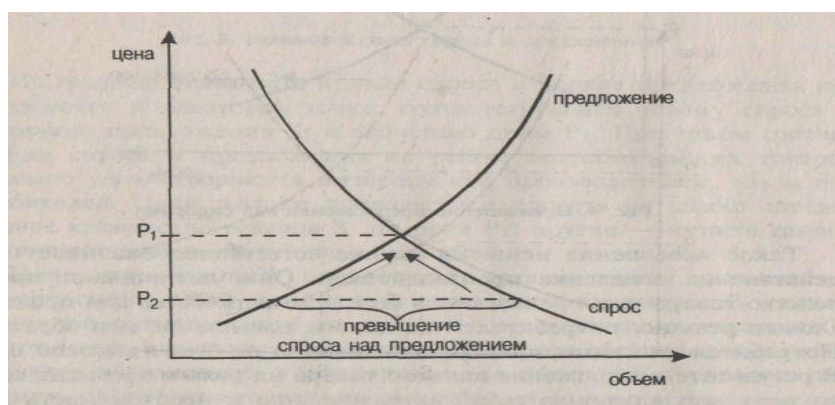


figure 5. Excess of demand over supply

Let's consider examples of changes in supply and demand in the market of goods and services

Example 1: with the change in consumer incomes, there are changes in demand. If consumers' incomes have increased, they have been able to buy more goods. The offer of these goods remains unchanged for the time being. As a result, the demand curve (Fig. 6) will shift upwards in the graphical representation of the market model.

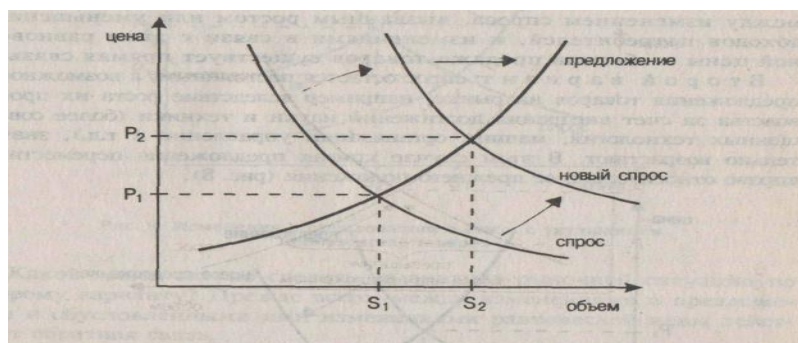


Figure 6. Changes in demand due to income growth

This shift in the demand curve generates, as a consequence, an increase in the equilibrium price of consumer goods and an increase in the volume of sales of goods without changing the supply curve.

If the income of consumers decreases, the demand curve will shift down (Fig. 7). At the same time, there is an effect of reducing the equilibrium price and quantity of goods sold on the market

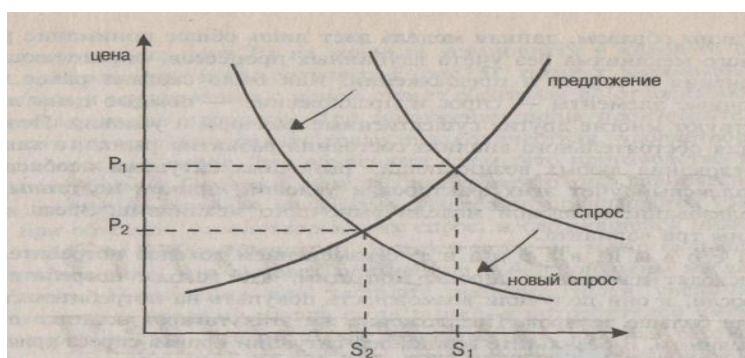


Fig.7. Change in demand due to a decrease in the income of buyers

In this example, we see that there is a direct relationship between changes in demand and changes in the equilibrium price: demand is higher - the price rises.

Example 2: demand remains constant, and the possibilities of offering goods on the market are significantly increasing, for example, due to the introduction of scientific and technological achievements into production. In this case, the supply curve will move to the right relative to its previous position (Fig. 8).

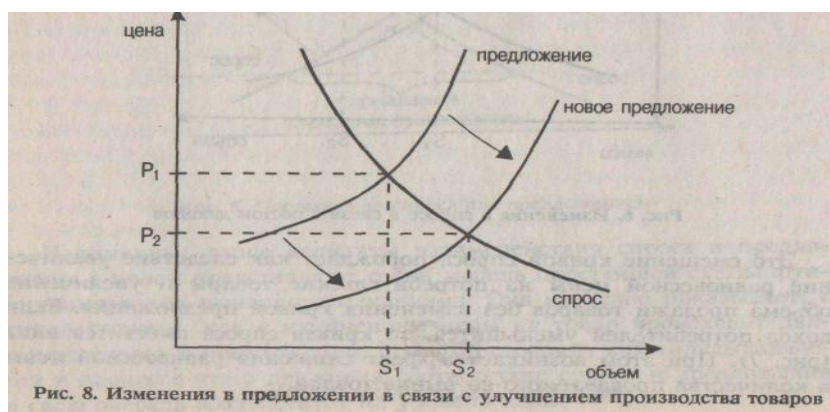


Рис. 8. Изменения в предложении в связи с улучшением производства товаров

With an increase in the supply of goods and a reduction in the costs of their production, the market price decreases, the number of sales of goods increases. If the conditions for the production of goods deteriorate and production costs increase (for example, due to equipment obsolescence, higher taxes or resource prices), then the supply of goods will decrease and their market price will increase. In this case, the supply curve on the graph will shift to the left (Fig. 9).

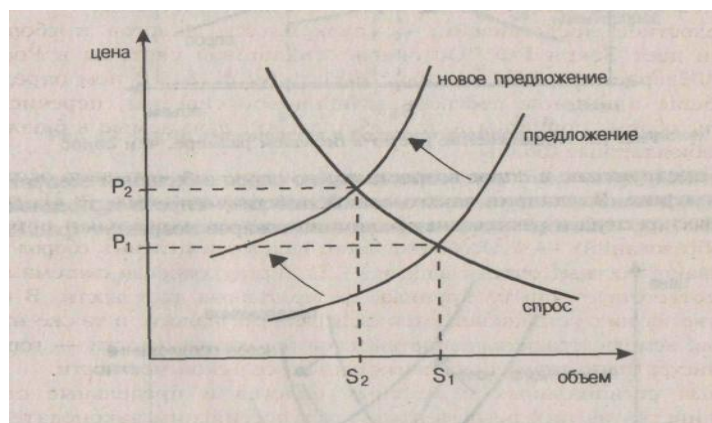


Fig. 9. changes in the supply due to the deterioration of the production of goods

In the second example, we see that there is a feedback between changes in the supply and changes in the equilibrium price: there are more offers – the price decreases.

Situational and computational tasks

2. Calculate the coefficient of income elasticity of demand and make a conclusion about the category of goods if the real income of consumers decreased by 80%, and the demand for ascorbic acid (dragees) increased by 20%.

Tasks on the topic of lesson 5.

Task 1. In the workbook, write down the questions and your answers to them.

1. What is a product offer. Write a definition.
2. What conditions affect the quantity of goods on the market?
3. What does the value of the offer show?
4. What factors influence the behavior of producers?
5. Write the definition of the law of supply
6. What does the elasticity of supply coefficient show?
7. List the price factors of the offer
8. List the non-price factors of the offer
9. What is the price called the demand price?
10. What is the price called the offer price?
11. What characterizes the market equilibrium?
12. What is the equilibrium price?

Task 2.

Plot the supply and demand curves, determine the equilibrium point using data on the prices of the Vitrum drug and its demand and supply in the pharmaceutical market. The data is presented in tabdlice:

indicator quantity

Price, rub.	800	700	600	500	400	300	200
Demand, units	50	100	150	200	250	350	450
Offer, units	500	475	430	400	350	280	200

Task 3.

The price of the drug is 25 rubles. The amount of demand at this price is 20 LLC packages. With an increase in the price to 40 rubles. the volume of demand fell to 15 LLC packages. Determine the amount of demand for LP when the price for it increases to 45 rubles. Use analytical and graphical (linear demand function) methods.

Task 4.

1. Calculate the coefficients of price elasticity of supply and demand for the drug. Plot supply and demand graphs. Show whether this medicine will be in excess or deficit on the market. Medicine prices decreased by 30%, output decreased by 15%, and demand increased by 40%.