**MICROECONOMICS**

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INTRODUCTION

Economics deals with the study of economics, i.e. a system whereby people produce, divide, exchange and consume economic goods. Economists try to find out how the economy is organized, analyze the behavior of economic subjects and the level of satisfaction of human needs. The complexity of economic reality requires respect for the logic of economics, otherwise there is a danger of false judgments and ineffective measures. (Dohnalová, 2014)

Economics, like any other science, seeks to objectively explore and explain economic phenomena. It uses scientific methods that economists have developed together with scientists in other disciplines. The process of shaping economics as a separate science has become a way of defining its subject. It also makes it possible to understand the importance of economics for man and leads to the understanding of the main economic problems of society.

Adam Smith (1776) is considered the founder of economics as a science. In the 20th century, economic theory became a tool of the state's economic policy. The initiator of state inter-vencianism was J.M. Keynes (1936). In economic thinking, since then, there has been a fundamental problem of which solution is sought in a political way. It is the relationship between "market and state", what is the efficiency of the market mechanism and what is the efficiency of the economic role of the state.

# 1 ECONOMIC THINKING

When making conclusions about phenomena in the real economic world, there are mistakes that can be caused by some mistakes in economic thinking. The most common are:

* **Ceteris paribus** "Under otherwise the same conditions" - means the study of the effect of a single factor on the economic phenomenon and assumes the abstraction from the influence of other factors. In other words, if we change the factor considered, we consider the other factors unchanging. If the wage increases in the economy, with no other phenomenon occurring, the ceteris paribus can be expected to increase consumption with this increase in real wages.
* **A "then" error can therefore be used to** "- when examining economic phenomena, there may be a lot of mistakes, especially because it may not be true:" if one event precedes the second, then the second event is the consequence of the first. " Economists from the "classical school" believed that the economy is offset by the "invisible hand of the market" and therefore it is not necessary to interfere with inequalities. But this mistake was later identified and identified by J.M. Keynes, who explored the global collapse of US markets. The result is a recommendation that the economy needs to be monitored. And if there is a significant market failure, it is more appropriate to intervene in the economy and not wait for the market to be cleaned up, which may mean, for example, a coup d'état or even a civil war. The next generation of economists subsequently found that Keynes' approach - primarily focusing on the elimination of unemployment through fiscal policy is not ideal because the economy can over-indebted. Generally speaking, every next generation of economists is based on the knowledge of previous economists and identifies their mistakes based on the real behavior of the economy. Based on these facts, they formulate new theories that are being upgraded due to these errors. In the future it can be assumed that current economic theories also have some "mistakes".
* **Everything is not always the sum of parts** - it may not be true that what applies to part of the whole must also apply to the whole. In economics we often come to the fact that the whole does not have to be a sum of individual parts. The whole is not always the sum of parts that can be interpreted as what is true for the individual does not have to necessarily apply to the whole group. If an individual has a higher wage, he will be better off than others. If everyone gets a higher wage, no one will be better off with others.
* **Subjectivity** - every economist brings his subjective view into the exploration and explanation of economic phenomena. It may happen that the view of several economists on objective reality can be quite different. Let's recall the situation when we and our friends are viewing the picture. Subjectivity to a certain extent is based on the theory of "error, then, therefore," where each economist draws on his knowledge and experience. Very often, therefore, when more economists come together they have different opinions and are unable to agree unanimously. For example, if Mr. M. Keynes, Adam Smith and Milton Friedman met, it is quite obvious that they would not agree with the solution of a specific economic problem.
* **Ignoring secondary effects** - it is a tendency to perceive only the immediate impact of a given decision on a particular group of people and does not pay attention to the secondary consequences of this measure. Secondary symptoms usually develop more slowly and are not always clear. Economic analysis must also include secondary effects that sometimes have a greater significance than the primary consequences of a given measure. Ignoring secondary effects, for example, can be explained as a long-term view of a specific hit in the economy. In the short term, it may look quite different from a long-term one. If the government lends money to reduce unemployment in the economy, in the short run, everything will look great - people will have the job and the economy will flourish. However, once the past debt has to be repaid, the government will have to take money somewhere (for example, one-time taxation, etc., which will be unpleasant for households)

The fundamental idea in economic theory is that we live in a world of rarity. Rare is a situation where human desires outweigh the means to satisfy those desires. It is supposed that human desires are endless. People usually want more, whether more cars, more food, more love, more happiness, more peace, more health care, more clean air, or more care for the poor. However, our capabilities and resources to meet these needs are limited. There is a limited amount of land, iron, workers, and years of life.

Rarely, there are several economic issues: What is to be produced? Who Should Consume? How is it to be made? When is it to be made? Many Americans (and non-Americans) would like to have a house or a summer apartment on the coast that stretches from Washington state to south California. Part of it also wants to use shipbuilding companies at ports, part of the Ministry of Defense wants for military purposes. There is simply not enough long coastline to satisfy all competing desires and possible uses. This means there is a conflict over ownership and use of the coast. There are several methods of conflict resolution. First, there is a market mechanism - the place will be the one who offers the most money, and he will also decide how to deal with it. Then there is a government decree - it will be the government who determines who will belong to the land and who will use it. Another option of determining ownership is a gift when there is an owner who arbitrarily determines income. Finally, violence is also a way of resolving the question of who will have the property rights to the coast - letting people get their weapons and use rights physically. Which method of dealing with conflicts about what is to be produced, how and when it is to be manufactured and who is to get it is best? Is it a market mechanism, government regulation, donation or violence? We asked what is the best way to resolve the conflict about what to produce, how and when to produce and which production should belong. Among the possible methods we have listed the market mechanism, government regulations, gifts and violence. The answer is - that economic theory on normative questions cannot match. Normative questions deal with what is better or worse. No theory cannot answer normative questions.

Economic theory is "objective" or non-normative and does not make value judgments. Economic policy issues, on the other hand, are normative or "subjective", and they mean the expulsion of value judgments. These are questions such as whether inflation or unemployment should be fought, whether more money should be spent on education, whether the capital gains tax should be 15 or 20 percent. And economists do not agree primarily in the area of ​​value judgments. It is important to constantly distinguish between non-normative and normative claims. It is important to always be aware of whether the issue is non-normative or normative, because while there are facts in the case of non-normative questions that can be judged by each case, such facts do not exist for normative questions. It is simply a matter of opinion and the opinion of one person can be just as correct as the opinion of the other. A practical key to recognizing whether it is a normative question is whether it contains the word "should". **(Williams, 2006)**

# ANALYTICAL APPARATUS OF MICROECONOMY

Microeconomics focuses on examining two main issues, namely:

* identification of optimal conditions of individual market entities,
* the search for balance in the interaction of market players.

Determining optimal conditions is the decision-making problem of market players. For example, a single person decides to consume the goods in order to maximize their benefits. The company is looking at a combination of inputs to production to minimize costs. Balance Issues - They are a solution to analyzing the interaction of supply and demand in markets. Here we follow the development of the dependent variable (Q, ie quantity) on the independent variables (P, i.e. the price). (Donhnalová, 2014)

## Graphs

When studying microeconomics, we often encounter graphical interpretations of the economic phenomena investigated. The graph shows the relationship between the two variables. We always start constructing the chart by showing the horizontal and vertical boundaries. These boundaries are called the graph axes. Normally, the vertical axis is referred to as the y-axis and the horizontal axis as the x-axis. We measure one of the variables monitored on each of them. In mathematics, the x variable x and the y-dependent variable y are often displayed on the x axis.). (Donhnalová, 2014)

The relationship between the two variables may be linear or nonlinear. The graphical representation of the linear function relationship between the variables is a straight line. The graphical representation of the non-linear function relationship is the curve.

# SYSTEMATIC ANALYSIS OF THE BEHAVIOR OF THE MARKET MECHANISM DEMAND

The theory of consumer behavior is the basis for analyzing demand in the goods and services markets. The basic problem in analyzing consumer behavior is finding answers to the questions why the consumer buys just a certain amount of goods and not others? What determines the optimal amount of purchased farm? (Soukupova et al., 2009)

Usually, for the things the consumer buys, we pay less than he would be willing to pay. Imagine that in the hot summer you go down the street and get a taste of beer. In the distance you can see the pub. You say, I hope that beer is not too expensive. The maximum you are willing to pay is 35 crowns, otherwise you will lose the beer and you will go further. You come to the pub and the price is 25 crowns. 10 crowns therefore make an overhang between what you were willing to pay and what you finally paid for the beer. This is what we call the surplus of the consumer and we buy things for it. It is proof for us that the thing will bring us more benefit than if we spend the money for something else. Decreasing the price increases us the surplus of the consumer and increases the amount of the purchased farm, where we have a surplus. When it's cheaper, people tend to buy more - otherwise the same - and vice versa. This law is called the law of demand. Demand is therefore a decreasing relationship between the demanded quantity on the one hand and the price of the farm on the other, the demand quantity depends on the price. The law of demand is for economics something like gravity law for physics. Why is that so? The price increase has two effects. One is called the income effect and the second substitution effect. Farming the farm changes real human income. The cost of bananas, for example, does not change the nominal size of our payment, but changes the amount of bananas that we can afford to buy for our paychecks. And if we can buy something more, we will also often use it. Banana discounts are also relatively expensive for other goods. Banana prices, of course, do not change the crown price of oranges, but the relative price is changing. When the banana costs 5 crowns and the orange costs 3 crowns, it means that the banana is priced at 5/3 of the orange and on the other hand the orange has a price of 3/5 banana. If the bananas are cheaper, the oranges are relatively rising. When the crown price of bananas drops to 3 crowns, the oranges will grow relatively - their price will not be 3/5 banana, but 1 banana.

When we have a budget of 30 crowns, a banana costs 5 crowns and an orange of 3 crowns, we can buy as many as 10 oranges and no banana or 6 bananas and no orange. Or some combination between these extremes. Let's say we buy five oranges and three bananas. After lowering the banana to 3 crowns, we will buy more bananas - and more or less oranges, depending on our preferences and whether there is a stronger income or substitution effect. This does not mean that the demanded quantity is not influenced by other factors. Yippee. And when these other factors outweigh, it may happen that something is cheap, and people will demand less. But that does not mean that it does not pay the law of demand, only other factors outweigh the relationship between the demanded quantity and the price. These other factors only change the tendency and position of demand. When people fall in revenue or stop eating oranges, the discounted prices will not increase. The declining demand curve must be respected by all retailers. While redeeming goods delivers more of each piece sold, it can lead to a drop in sales that does not pay off at all. When something is too cheap, our sales are low because the price of the product and the quantity sold is outweighed by the low price. When something is too expensive, our sales will also be low because the price of the product and the quantity sold is outweighed by the low sales volume. This should also be understood by the government when it thinks whether it will raise or lower taxes. Increasing tax on gasoline will always lead to a rise in government revenues from one sold liters of gasoline, but the liters will generally be sold less, and overall tax revenue may fall. The so-called The Laffer curve, which shows that with tax increases, tax revenue is still rising, and finally declines from a certain amount, it is an inevitable consequence of the demand law. Denying Laffer's curve is like denying the law of gravity. (Mach, 2013)

## Rational consumer behavior

The theory of consumer behavior is a prerequisite for rational consumer behavior. An individual decides on the basis of the effects (utility) that the product or service will bring to him, on the basis of the expenses he / she has to spend on the product or service. Every consumer deals with the question of how to earn a pension and how to spend it. (Soukupova et al., 2009)

The aim of a rational consumer is to maximize the benefits. The consumer chooses from different sets of goods and creates a so-called consumer basket. However, his decision to purchase is limited by the amount of the pension. (Soukupová et al., 2009)

***Case study – Old-age Pensions in the Czech Republic***

In consumer behavior theory, the old-age pension is a budget line, or a budget line (BL). In this case, it is assumed that the entire income will be spent on the purchase of two X and Y holdings, where the property prices do not depend on the quantity purchased, so they are constant. The points below the budget line form a so-called set of market opportunities, and the x-point intersection represents the spending of the whole retirement only on the purchase of one farm, X. Similarly, it is at the intersection with the Y axis. The line of the budget is also an important line of instruction we call the marginal substitution rate (MRSE). The limit rate of substitution in the exchange can be explained as "the ratio in which the consumer can trade X and Y goods on the market with full retirement."

The line of the old-age pension budget is also related to so-called pension valorization, which means raising the pension. If an old-age pension is revalued, it can either be an increase in the basic pension, an increase in the percentage increase or an increase of both these old-age pension components. For the year 2015, it is planned to increase the old-age pension by 180 CZK / month at the old-age pension of CZK 10,000 / month. If there is an increase in retirement, there will also be an increase in the budget line that seniors can use to buy additional goods. In this case, it is envisaged that the pension will be distributed in a symmetrical way between the two same goods (food and leisure activities). The senior consumer can increase the purchased quantity of both of these goods through this valorization.

However, if we take into account that farm X (food) is sufficient to support the elderly (under the ceteris paribus conditions), there will be an increase in spending on the Y farm, so the seniors will spend more on leisure activities.

Consumer behavior and purchasing decisions in addition to retirement also affect consumer preferences. Consumer preferences are influenced by a number of factors - biological, psychological, cultural, social, living standards, etc. For comparison, axioms, simplified assumptions are used. It is an axiom of completeness of comparison (possibility to sort basket according to preferences), axiom of transitivity and axiom of non-precision (larger quantity is always preferred over smaller).

The Czech Republic's statistical data for 2012 show that the seniors spend the most on food and housing (the same items of the consumer basket, which are the highest expenditures for working households). For recreation and culture, men spend 9% of their spending per year and women spend 8%. For women, it is also necessary to add the costs of education to 2%. (Czech Statistical Office, 2012)

If we consider the average annual expenditure per person for 2012 for single-person households of seniors without economically active members, men on average consumed CZK 24,853, females CZK 28,677, and men spent CZK 11,896 for culture and recreation, women CZK 10,350 (they paid an average of CZK 959 per year for education). (Czech Statistical Office, 2012)

***case study - rational behavior when buying cars***

In 2010, Filip Pokorný (Pokorný, 2010) examined the rational behavior of car purchases.

The sample examined proved to be highly differentiated already in the area of ​​experience with the car purchase process. For most respondents who have been asked, the purchase has been a recent experience. The reason for this difference is likely to stem from the use of the car. It turned out that if consumers are using the car for corporate purposes, they are also largely taxed by taxpayers, and after buying a car they buy a new car. By contrast, consumers who use a car purely for their personal use often take the purchase of a car as a long-term investment. For minor exceptions, the purchase of a car was associated with a change in the life situation for most respondents. Significant reasons were mainly the change in the number of members in the family or the change of employment. This resulted in the difference in perceived needs and the need to adapt them. Most respondents stated that at the moment they realized the need, they began to act immediately and did not wait. On the other hand, especially in the case of the under-funded families, the purchasing decision was in the order of months and access to the purchase was very hesitant. Consumers were more likely to buy a new car because there was considerable skepticism about the origin of the used car and the associated higher operating costs. Absolutely all consumers had either their own or mediocre experience with the use of a used car. Whatever the real exceptions, the experience was negative. A number of consumers in this primary decision influenced the competition of individual cars, which, as a result, meant a rapid fall in final prices. Most consumers, however, were aware of the fact that this would be directly related to the lower purchase price of the car in the instant of sales.

It is clear from the research that there are two approaches to the car itself. The first group of respondents perceives the car as a consumer item and emphasizes its functionality and utility. The car is only a means of transport for a given situation, and emotions are often eliminated during the purchase. The second group of respondents perceives the car as a hobby, exploring more thoroughly the provided level of equipment and comfort elements. These groups also consistently differ in perceptions of design. There was no clear correlation that would re-link the respondents in these groups. In each group there were families with low or high incomes. People who preferred both individual and family needs. There was even a rebuttal of the presumption of different technical knowledge among the different groups. The cause will therefore probably lie in the specific psychological processes of the individual. An overwhelming majority of consumers cited the Internet as the main source of information. The reason was mostly the availability of information, their clarity and the speed of finding. Consumers mostly used the services of independent web comparison interfaces to determine the required dealers and compare the cars immediately. From consumers, frequent access to specific sellers' websites has been reported, where consumers are informed about promotions. Interestingly, there was a low correlation between internet usage and the respondents' age. For consumers who bought a car at Auto Pokorný, s.r.o., I noticed a negative implicit expression on the clarity of the website and the availability of information. The proportion of consumers who, when choosing an automobile, are primarily oriented to the price or, respectively, budget was almost the maximum. In addition, consumers were divided into two subgroups. Respondents who demanded "the largest possible amount of a car", for the budget constraints prevailed. Common feature was the frequent use of a car for the transport of difficult-to-store items. Another group was people who preferred comfort elements. The priority for them, as a driver, is to feel the driving pleasure. Whatever the minimum exceptions, it was found that the car brand is not important to the consumer. Due to this fact, the focus on the budget, most of the bidders compare the offers of competing manufacturers, regardless of the country of origin. This finding is beyond the long-standing idea of ​​the poorer quality of Asian manufacturers in particular. Respondents have consistently expressed the view that these eastern cars see a significant shift in the quality and design of the car. Minority groups were car enthusiasts who, based on their personal experience, created a heart relationship for a particular car. Their link to the purchasing decision was thus conditional. A certain conjunction can be seen in the amount of income. This group behaves very well in the car and always prefers in the field of maintenance the more expensive, better quality alternative.

An interesting discrepancy in decision-making can be seen among the sexes. While men are largely unaffected by decision-making, women seem less determined in this area (Pokorný, 2010)

***case study - rational behavior when buying at Vaňovka Gallery***

The purchasing gradient and shopping habits of visitors to the selected shopping mall can be classified and classified correctly in the theoretical level (see above in the chapter on theoretical aspects). Some results may be generalized to centers of a similar type, but the reality of the field survey often discovers a number of de-tales and specifics that can hardly be grouped into a "system". However, the absence of central data does not allow any other approach than the survey and the results are interesting not only because of the potential for comparison and generalization with other entities, but also by their informational originality. The Vaňkovka Gallery is one of the mid-to-higher price centers of the inner city with a considerable ability to generate a strong indoor and outdoor shopping spree and to call for increased urban tourism coupled with shopping, relaxation and entertainment. Within the framework of the Czech Republic, it is one of the most well-known and most visited shopping centers. High visibility and popularity is, among other things, a reflection of the successful revitalization of the former dilapidated plant in an ideal location close to the historical center and between Brno's main train and bus stations. Partial results of the survey were continuously discussed throughout the text. The underlying findings, which could lead to the initiation of other similar research, rather than to make large conclusions, to allow for the results to be compared and evaluated:

• A higher number of younger women with graduation and higher education are going to shop in Vaňkovka.

• The majority of respondents shopping in Vaňkovka in Brno live or commute for work. On the other hand, there is a large share of people who go shopping, but they do not live in Brno or come to Brno to work above the regional impact.

• The average length of the trip in Brno lasts about 20 minutes, for the extra-mercenary 3,5 times longer.

• Longer time spent by young people and people in productive age, most of them living in productive age and families with children living outside Brno.

• The mode of transport is dominated by the car, the bus and Brno public transport.

• Occasional purchases are prevalent once or more than once a month, either as needed or on working days.

• The way to Vaňkovka is most often linked directly to your own purchase, to and from work, and to a business or private meeting; it is more about people with a higher educational attainment in working age. The Brno people are the ones who buy the most, and commuting to work in Brno most often join their trip from or to work.

• Women spend most of their time buying shoes, clothing and clothing accessories, men buying sporting goods, they also have an increased interest in entertainment and leisure activities - in both cases they are younger or medium-sized.

• A large proportion of visitors will also spend their purchases on basic foods, and they are more likely to be older people. Brunnets spend more time than buyers of basic foods who prefer entertainment and leisure.

• Half of respondents do not change their basic shopping habits in relation to advertising. The advertisements are most likely to affect people in retirement age.

Gallery Vaňkovka attracts visitors. It has become a phenomenon and a nationwide concept. People do not just go shopping, but they also have business or private meetings, which motivates them with very good parking facilities. However, Vaňkovka is not only a shopping center with dozens of specialized shops, but also a space with galleries and open areas where various exhibitions, exhibitions, cultural events, etc. are held. For more than 5 years, it has been a commercial but also a cultural and pleasant living organism dynamics and refinement are appropriately complemented. In the relatively near future, Vaňkovka will spatially and functionally integrate into the newly-built urban area of ​​the Southern Center and is likely to become its flagship. (Kunc, 2013)

## Utility

Measuring consumer satisfaction is one of the more complex economic issues. An economic variable, called utility (Utility, U), was created for its expression. Its purpose is in any way to express the amount of consumer satisfaction resulting from the consumption of a farm or group of estates. The benefit is, under otherwise unchanged conditions, the function of many consumed goods.

***Case study Learning curve:***

The learning curve works with the assumption that each additional piece of product will increase the experience of the workers, the company's overall experience with the production of the product, thus reducing the time consuming production of additional pieces. For this reason, the Learning Curve is mainly used to predict cost developments for newly proposed products. In the case of the production of a constant quantity of products, it is possible to predict an annual increase in the production experience of the given product, and consequently to deduct a decrease in production costs, the time required to produce one piece of product. (Pindyck and Rubinfeld, 2013)

According to the author, it is possible to apply the knowledge from the theory of utility, respectively. decreasing marginal utility, where the consumption of each additional unit of the farm is less important for the consumer, i.e. the overall benefit with increasing consumption is growing more slowly. If the same principle is applied to the issue of experience, it can be argued that with each year the production of a constant quantity of product, with each piece produced, there is an ever-increasing increase in "total manufacturing experience". Consequently, the production time, i.e. the cost of producing one piece, will be reduced in the long term, but the rate of cost reduction (or the production time of one piece) will be slower with each additional production year (or produced product).

### The Cardinal version of the theory of utility

Total Utility (TU) expresses the overall level of satisfaction of a consumer's needs. It is dependent on the amount of farm consumed. It is true that the growth of the volume of consumed farm is growing at a declining pace, up to its maximum. The development and size of the overall benefit is influenced by the subjective view of each consumer on a given farm.

Marginal Utility (MU) is an incremental variable that indicates how much the total benefit will change if another farm unit is consumed. It can be derived from the function of total benefit.

An interesting feature of the development of marginal utility is that the increase in the volume of consumed state is decreasing. The first unit of consumed farm will bring the greatest increase in satisfaction. Every other unit, under unchanging conditions, brings less consumer satisfaction. This marginal property is formulated in the law of decreasing marginal utility, which states that "MU with an increase in the volume of consumed property is declining."

The difference between total and marginal benefits when measured in cash is that the total benefit in consumption of a given farm is given by the maximum amount of money the consumer is willing to spend on the purchase. The limit benefit is determined by the amount of money that the consumer is willing to spend on purchasing additional units of the farm.(Dohnalová, 2014)

### Ordinalist version of the theory of utility

Contemporary economic theory tends to be the order of the theory of utility. According to which the benefit is not directly measurable. The consumer is able to tell which consumer situation he or she prefers, but not how big it is to benefit. Furthermore, it is possible to determine whether the total benefit increases with the growth of the amount of consumed farm and the marginal benefit is therefore positive, whether the total benefit decreases and the marginal benefit is negative.

It follows that the consumer is able to sort the combinations of goods according to their utility, but is unable to determine the size of the benefit of these combinations. Curves showing combinations

with the same utility we call indifference curves. The indifferent curve is the set of combinations of the X and Y domains with the same total benefit. (Dohnalová, 2014)

The indifference curves can be done in two ways:

1. based on utility (indifference curve represents a certain level of utility);

2. based on preferences (indifference curves show preferences).

The MRSC is the ratio in which Y is replaced by stat X without changing the level of satisfaction or total benefit.

Special shapes of indifferent curves. Until now, we have assumed that both goods are desirable for the consumer, and that they benefit from their consumption. Such goods are called desirable goods or goods with positive preferences. However, there are also farms with a different direction of preference. There may be a situation that a desirable farm necessarily brings a positive effect. In the whole of society, such a case is the choice of a certain combination of both industrial production and environmental pollution. Even in consumer behavior, we can find cases where we prefer smaller quantities of farms than larger ones. An example is the choice of the portfolio structure (i.e. the choice between different types of securities). (Hottest) In this case, they are unwanted goods or negatively preferential properties.

Besides goods desirable and undesirable, there are also goods that do not affect the consumer's benefit, their consumed quantity is indifferent to the consumer. Such goods are called indifferent goods or estates neutral. Indifferential curves are then in the shape of a straight line.

In reality, there may also be a situation where the direction of preferences changes with the change in consumption of the estate. Let us assume a farm that is desirable in a certain volume, but it changes from a certain amount to undesirable. (Dohnalová, 2014)

## Budgetary constraint on consumers

However, when deciding to purchase a farm, the consumer is limited by the amount of his / her income and the prices of the goods. If the consumer has a pension (I) at the given time and spends it all for the purchase of two X and Y goods, then the following equation, which is called the budget line or also the consumer's budget limitation, applies.

## Optimum consumer

The consumer chooses the optimal combination of goods according to their preferences and depending on their market possibilities, in order to maximize their benefits. The method of determining the optimum consumer depends on the possibility of measuring utility.

This method of optimizing the consumer's solution is called an internal solution. If the consumer consumes only one of the two goods, we select the so-called corner consumer optimal solution

The surplus of the consumer is the difference between the total benefit that the consumed quantity of a particular farm and the cost of obtaining it (the total amount he pays), or its market value. (Dohnalová, 2014)

## Application of indifferential analysis

Consumer theory can be applied in other decision making patterns of consumer choices, for example:

* Combination of current and future consumption;
* decision-making in conditions of risk and uncertainty
* decision-making between consumption and leisure time

### Combination of current and future consumption

If an economic entity earns income, it can spend it on the purchase of goods it normally consumes. Revenue is spent on current consumption. However, businesses may not spend all their income immediately on their consumption. That part of the retirement that we do not use to buy the goods will be marked as savings. Thus, the income of economic operators is divided into two parts: consumption expenditure and savings. The motives that lead economic operators to create savings can be different. One of the main reasons is the effort to increase your future consumption. If the economic operators temporarily reduce their consumption (i.e. they create savings), then they expect savings to be used in the future to increase their future consumption. This increase in future consumption may be temporary or permanent. (Dohnalová, 2014)

The optimal consumer decision on the amount of current and future consumption is given by:

* the limit of his time preferences (which determine the shape of indifferent curves),
* the magnitude of the real interest rate (which determines the market opportunity directive);
* the size of current and future consumer income and the price of farmhouse C in both periods. Rozhodování v podmínkách rizika a nejistoty

In the traditional model of consumer decision-making, the information barrier is not taken into account. People maximize their benefits under the conditions of certainty and perfect knowledge of the economic environment. They know perfectly all the circumstances of each market shuffle and make their choice from different alternatives without any risk. It is assumed that all necessary information is available at no extra cost. Under these assumptions, each decision has only one consequence, and it is known in advance. In reality, however, most decisions are made under conditions of uncertainty where decisions are more likely to have consequences which are not known in advance. (Dohnalová, 2014)

Certain uncertainty arises because we do not know the processes that make certain events conditional. However, even perfect knowledge does not provide a perfect prediction, because some economic events are determined by chance. They can, for example, be controlled by the nature of nature, such as weather developments, or by political decisions that are often unpredictable.

The case of the known decision results and their probability in economic theory is referred to as risk-taking. (Dohnalová, 2014)

### Consumer decision making on the job offer

When choosing an individual for the amount of hours worked, we will use an analogy with the consumer. Before what choice is the owner of the labor factor? The consumer decides whether to work or not to work, or what combination of work and leisure to choose to maximize his or her benefit. What is the individual involved in making decisions? Hours of one day. More specifically, an individual chooses between two "goods": between consumption (C) and free time (we denote him/her as H).

We assume that consumption can be realized only as a result of self-employment (L). The sum of hours of work and leisure during one day cannot be longer than 24 hours: L + H = 24. The optimal time-to-work breakdown means that an individual in a given combination of work and leisure maximizes his benefit, given by consumption of goods and leisure. (Dohnalová, 2014)

***Case study - Consumer decision making when choosing a health service***

A traditional model of maximizing benefits tells people that they know all the information and maximize their benefits under conditions of certainty. They also know the economic environment. They know perfectly all the circumstances of each market shuffle and make their selection from different alternatives without any risk. It is assumed that all necessary information is available at no extra cost. Under these assumptions, each decision has only one consequence, and it is known in advance. In reality, however, most decisions are made under conditions of uncertainty where decisions are more likely to have consequences which are not known in advance.

However, in health care, people are not far from complete information or able to predict how the situation develops. This is a situation where consumers - patients arrive at a health facility or doctors and already pay in advance through compulsory health insurance for services they are virtually unaware of. They pose a great risk that these services will not be provided according to their ideas.

However, the behavior of the consumer in a situation where he/she receives a service such as healthcare is heavily influenced. If we focus purely on microeconomic theory, the consumer, who usually shows a risk aversion to consumer situations, is willing to accept a fair bet in the consumer's case, or if the situation becomes more serious, the consumer becomes the risk of searching.

What is the consumer's benefit when deciding on treatment? There are two aspects that can be individual. The first occurs in every individual - the benefit is the cure and the health of the patient. A certain group of consumers may also benefit from their economic situation when they receive a minimum portion of their retirement for good quality and fast treatments. Such a group of consumers may understand medical performance as luxury goods for which it will be willing to pay more than mandatory health insurance if it means treatment faster or more comfortable. With the growth of retirement, it is more important for a person to be healthy and work at work, and a less expensive component of the cost of treatment becomes for him and his benefit at the "price" paid for health is not decreasing.

The consumer's problem is his uncertainty about the treatment and selection of health care facilities. This problem is caused by asymmetric information. The consumer needs medical treatment and is subject to the need to pay health insurance, and may also be subject to the need to pay a care fee, and he is also often given the option of using above-standard care. In today's system, however, the consumer cannot be fully informed and cannot be sure of what he or she will receive for his money and whether it will match what he/she expects.

Another major issue that has been resumed since the January 2014 cancellation was the fact that the consumer does not pay for the care directly or make a direct contribution to the payment. It only contributes to the scheme on the basis of mandatory health insurance and often as an employee does not even know how much these amounts are. The consumer can never realize how much overall care he or she cares about in the health care facility, how much the individual performance, staffing, diet, energy, medicine, and everything else needed to treat him. Often, the Czech healthcare system is referred to as a black hole, and the state cannot find the means to subsidize healthcare facilities.

The consumer also does not have to fully understand all the information provided and hence he often has to rely only on the doctor's recommendation or on the experience of other consumers who used the services of the same healthcare facility in the past. Medical establishments publish some data that characterize the quality of care, but the consumer would have to understand these data, he would have to find them, and he would have to do it in a short enough time to be hospitalized in time. In some cases, the consumer does not even have the choice of a medical device and this device is assigned to him.

In January 2014, charges paid by patients in hospitals were terminated. The regulatory fee was set at the time of CZK 100 per day of hospital stay. Deputy Minister of Health Martin Plíšek said that hospitals with this cancellation will come up with CZK 175 million a month. (Válková, Zdravotnictví 2014: Nemocnice bez poplatku a pěstování konopí pro stát, 2013)

Fees and the concept of above-standard care were abolished in July 2013 when the Constitutional Court ruled that these parts of the healthcare reform are poorly expressed. The complaint to the court was filed by the CSSD, which disagreed with the distribution of patients to the poor and the rich. According to the court's statement, but it is not a problem of paying fees or paying for care. The problem is in the very interpretation of the law. Unfortunately, he did not give a precise description of what the patient meant for above-standard care and did not consider how to distinguish a stay in the hospital from a regular part of the treatment and from an accompanying hotel service. The law also did not contain any limitations and time limitations on fees as it is usual abroad (Klang, 2013)

Therefore, the Constitutional Court did not support the idea of ​​the CSSD, according to which the fees and the possibility to pay for extra-standard performance, divide citizens and reduce the quality of care for them. He only pointed to the errors that were created in the very interpretation of the law. How much this interpretation will be adjusted, it would be possible to reopen talks about the return of pop-ups and the possibility of surcharges in hospitals. (Klang, 2013) Unfortunately, not under the current government, which agreed in the coalition agreement that the fees were reintroduced they will not. (Válková, Zdravotníctvo 2014: Hospitals free of charge and cannabis for the state, 2013)

In my opinion, the path of absolute cancellation of fees and surcharges for high-performance performance is poor. VZP spokeswoman Oldřich Tichý said on this subject that only the patients will be able to pay for this decision, although they may not be aware of it. As an example, he gave plaster, when the classic plaster pays the patient about 300 CZK and this money is reimbursed from his health insurance. However, you can also choose the so-called above-standard which is lightweight gypsum that costs 800 CZK. At the time when the patient was insured by the law, the insurance company reimbursed this above-standard care in the amount of classical care (it contributed to a lightweight gypsum of CZK 300). Now the patient has to pay the entire amount himself. Patients could also choose more economically demanding treatment, better vaccinations or better contact lenses at their own discretion. Many of them will no longer have an economical choice without a contribution to this option. (Klang, 2013)

At the same time, it is necessary to think about how to address the health care situation. According to the forecasts and preliminary results in 2012, there was about CZK 6.7 billion in health care. In 2013, this number was even higher, and extra money was added to the healthcare system at the end of the year. Money is missing both in the health insurance system and in the hospitals themselves that live on debt and are unable to cover their costs. This situation must logically be reflected in the quality of care provided. The cancellation of charges did not help this system. Hospitals have problems to pay to their suppliers who do not agree with the extension of invoice maturities and are under enormous pressure from healthcare parties. (Válková, Last year, in the health service there were seven billion, showing preliminary figures, 2013)

Chairman of the Association of Czech and Moravian Hospitals and director of border hospital Eduard Sohlich said that the patient cannot yet know the profound debt of health care facilities, but it is only a matter of time when he or she is training this situation. Economic problems are causing tensions between employees and between suppliers. (Válková, Last year, in the health service, there were seven billion, showing preliminary figures, 2013)

Our neighbors and the Western world often went the opposite way, rather than prescription fees and fees for visiting doctors - experts, not fees for staying in health care facilities. These fees can be easily regulated and reduce their payments to socially disadvantaged groups, but bring much needed funding to the hospital's budget deficit. The situation as we know it today is critical for healthcare facilities. It is very difficult for them to function normally, and it is even more difficult for them to invest in new technologies, equipment, development, infrastructure, buildings, etc. Without subsidies and donations, these investments were virtually impossible and unrealistic. In the case of the Czech Republic, it is clear that it is necessary to change the setting of the whole system, which in its present form is not economically sustainable in the future.

From January 2015, any additional charges will be canceled except for a fee of 90 crowns for emergency care. The state also plans to reduce VAT on medicines and promises to reduce the cost of medicines from this step. Again, financing of hospitals from state reserves is planned, but they are only illusions at times of high state debt. However, pharmaceutical companies are unlikely to give up part of their profits that would result from VAT reductions, so patients will pay the difference again. (Buchert, 2014)

# SYSTEMATIC ANALYSIS OF BEHAVIOR OF THE MARKET MECHANISM OFFER

When the seller can get more money, he/she will tend to offer more, and vice versa. This is the law of the offer. Offer as the relationship between price and quantity is a growing feature. This is because production costs for each additional unit of production (or marginal costs) are increasing. Imagine a beekeeper who builds honey on his land and produces honey. Let's say there is just one colony to produce the first batch of honey. However, more than two hives are needed to produce two honey varieties because other bees have to fly farther away and therefore have less honey production. The beekeeper has to build more and more hives for more and more pounds of honey. The cost of sacrificing opportunities also increases. To place other hives, the beekeeper must sacrifice more valuable and valuable land, such as those close to his house. At low honey prices, only a few hives pay for the beekeeper. At high prices it is worth to build other hives. Let's say you run coffee machines. At a higher sales price, you would be willing to offer more coffee. For example, you could pay for another machine in a location that is too distant or higher in rent, so you would not have paid for it at a lower sale price. When the price of textbooks on the market is low, very few students decide to sell their textbooks to younger students, preferring it or discarding it. When the market price of the textbook grows, more students decide to offer it on the market. Higher price motivates students to sell textbooks for which the sale of the classroom means higher costs. If an older student goes to work, meeting a textbook for him is a high-cost job opportunity. The rising price motivates them to put the textbooks on sale as well as those students who would not otherwise be worth it. (Mach, 2013)

The company is in the conception of a classical economic theory characterized as an economic entity specializing in the transformation of inputs into goods outputs. The target behavior of a company according to classical economic theory is to maximize profit, i.e. the difference between revenue and costs. (Dohnalová, 2014)

The reason for the existence of the company's institutional arrangement is the existence of transaction costs and the effort to minimize them.

## The concept of company profit

The profit maximizing company chooses a combination of inputs and outputs to achieve maximum economic profit. In addition to the economic profit, we can still distinguish the profits of the accountant.

Company's economic profit (π) is the difference between its total revenue (TR) and total cost (TC).

The total revenue (TR) of the company represents the amount of money the company has from the realization of its production on the market.

The company's total cost (TC) can be understood as the amount the company pays for purchasing inputs needed to produce production. There are two types of cost concepts that cannot be omitted from the point of view of company theory, namely accounting and economics.

Accounting (explicit) costs are costs actually incurred for the purchase or lease of inputs. These costs are recorded in the financial statements (Samuelson & Nordhaus, 1995). It is therefore the monetary consumption of the factors of production used for the activity of the enterprise (Hořejší et al., 2006). Production factors are represented by the land, the price of which is the land rent, the work whose price is the wage rate and the capital, the price being the interest rate in this case. These costs can also be described as explicit.

The accounting profit is then the difference between total income and explicit (accounting) costs (Dohnalová, 2013)

Economic costs include, in addition to accounting costs, implicit costs. These are costs based on the principle of alternative costs. Economic costs are in most cases higher than the cost of the accountant. (Dohnalová, 2014)

***Case study - Costs related to the work environment***

In the corporate sphere, healthcare costs are mainly linked to the payment of statutory insurance (health insurance, accident insurance) and additional costs due to the occurrence of an occupational accident or occupational disease. Costs and losses caused by an occupational accident or occupational disease are not only costs and losses at the moment of occurrence, but also costs and losses that will arise in the next period of time. These include, for example, payments of invalidity, widow's or orphan's pensions, the payment of various contributions, etc. (Mrkvička, 2011)

In connection with the occurrence of an occupational injury or occupational disease, we distinguish two groups of entities that are caused by costs and losses. The following chart shows the first area, which is the loss caused to the affected workers (Kooperativa, 2015)

Fig 1: Losses caused to workers (Kooperativa, 2015)

The second area of costs and losses arising from the occurrence of an occupational accident or occupational disease is the loss caused to employers. The following chart shows which cost groups these losses relate to. (Mrkvička, 2012)

Fig 2: Losses caused by employers (Mrkvička, 2012)

Ergonomics is one of the means to reduce business costs. These include, in particular, the cost of accidents at work, occupational diseases, costs of poorly categorized work, costs of compensation for established and proven health problems,

## Concept of transaction costs

Transaction costs were first described by economist Ronald Coas, who is the winner of the Nobel Prize for Economics. Transaction costs are defined as the cost of market recovery, of which existence is based on the inefficient functioning of the market or the inadequate awareness of market participants. So, if the market worked efficiently, there would be no transaction costs. (Holman, 2007; Coase, 1937)

### Types of transaction costs

Transaction costs can be classified as costs:

* Objective
* Subjective benign
* Subjective malignant
* Occasional

As a result, the transaction costs of an occasional transaction will be affected in such a way that they will not occur in a number of cases, since the assumption of over-transaction costs affects the individual participants in the transaction to the extent that they prefer to retreat. This implies that there will probably be no shift of factors of production to the one that can use them most efficiently (Richter, 2008).

### Transaction costs as a reason for starting a business

The main reason for setting up a company is the existence of costs using the market mechanism. The most obvious cost is the cost of managing and organizing production through the market mechanism and then determining what price is acceptable. These costs can be eliminated, but not eliminated altogether, if the person who offers this information appears. The costs of negotiating and deciding or entering into an individual contract for each exchange transaction to be made on the market must also be counted. Of course, it cannot be assumed that the existence of a company will completely erase these costs, but they will be severely limited. Producers of factories need not perform a number of exchange transactions with these factors as they become employees of the company. Another elimination of the cost of using the market is the replacement of several short-term contracts with one long-term one. It can be summed up that market operations are always burdened with some costs, and the emergence of a company and the management of one-person factors of production allows for some elimination of market recovery (Coase, 1937).

According to Coase, the existence of a company is just a legal division, it has no physical substance. It is therefore based only on the existence of relationships between owners, managers, employees, suppliers and customers. The effectiveness of the company is then dependent on the ability of the individual participants to find a division that aims to minimize the transaction costs of their cooperation. We distinguish between transaction costs:

* Cost of information
* Costs of decision making
* Recovery costs (Hirschey, 2006).

***Case study – Transaction costs in insolvency proceedings***

During the insolvency proceedings, a number of transactions occur, especially when the debtor's bankruptcy is solved through bankruptcy, i.e. the sale of the debtor assets and the subsequent relative satisfaction of the creditors. Assuming that we require the highest satisfaction of creditors, care should be taken to ensure that the costs associated with management, and therefore with transactions during the proceedings, are as low as possible.

In order for transactions to take place, ownership must be precisely defined, as well as the rights associated with the ownership of the assets whose exchange occurs during the transaction. A change of ownership also occurs when solving the company's insolvency situation, when the debtor's assets are executed on the market during the bankruptcy proceedings. The insolvency law governing these transactions belongs to relatively young institutions when it entered into force in 2008. Even with this law one of the main objectives should be to set up such an insolvency proceeding when the transaction costs of this procedure will be as low as possible. (Crhová, 2013)

## Production

The relationship between the production process of the company and the cost of the company examines the production analysis. The amount of the company's costs is influenced by the quantity and cost of purchased manufacturing factors needed for production. The result of using a combination of different production factors in the production process is a specific output, i.e. a company's production, which the company tracks in certain units of measurement.

### Production analysis of the company in the short term

Analyzing the development of a company's production in the short term is based on the assumption that the company has limited capabilities in purchasing factories. If we consider that production uses two factors of production, labor and capital, in the short run, capital is considered fixed and work variable. (Dohnalová, 2014)

The relationship between the amount of variable input used and the production volume generated in the short term expresses so-called production functions. In general, the production function represents the volume of production produced by the combination of factors of production at a given level of technology and can be expressed. (Hořejší et al., 2010)

### Production analysis of the company in the long term

Analysis of the development of a company's production over a long period is based on the assumption that all inputs used in the production process are variable. If a company uses work and capital in production, then it can change over a long period depending on the volume of production. (Dohnalová, 2013; Hořejší et al., 2010).

The development of the company's production in the long term deals with the so-called isocnant analysis. The production of the company examines the two variable inputs, which are labor (L) and capital (K). The output of the company is so-called isokvant. (Dohnalová, 2013; Hořejší et al., 2010)

Isokvanta is a curve that represents a combination of labor factors (L) and capital (K), with which the same volume of production can be produced. For example, by combining the production factors K1 and L1, a production volume of Q1 can be produced. There are, of course, many other combinations of work and capital that can produce Q1 production volume. (Dohnalová, 2013; Hořejší et al., 2010)

## Optimal company output

The company has to reconcile its technical possibilities with financial ones. The maximizing profit firm will try to produce the maximum possible production volume at the given total cost. (Dohnalová, 2014; Hořejší et al., 2010)

### The same cost line

The financial capabilities of a firm are represented in economic theory by a straight line called isocosta or called a line of the same cost. It shows all the possible combinations of work and capital that a firm can buy for a given total cost. (Dohnalová, 2014; Hořejší et al., 2010)

### Minimizing Company Costs

At the point of contact with isocratic and isokvant, the company chooses a level of output that is produced at minimal cost. This point is referred to as the cost optimum of the company. (Dohnalová, 2014; Hořejší et al., 2010)

This relationship is also referred to as the lowest cost rule. The rule says the company will minimize costs in a situation where the marginal product of one crown spent on purchasing each of the inputs used will be the same. (Hořejší et al., 2010)

***Case study – outsourcing***

Managers are still convinced that the more their company owns and directs, the more important it is. Perhaps there is a certain role in the belief that if society is bigger, competition will be cowardly before it. Lately, the opposite is true. From such businesses, colloquies are slowly and certainly becoming inflexible, which can hardly respond to customer needs and market trends. Management of companies that want to be market leaders is aware of this and therefore chooses the way of specialization and outsourcing.

Supporting, usually administrative - transaction processes have all the companies they must have. However, every company does it on their own, and usually does not stand out. It is therefore a good solution to exclude these activities from outside the company and assign them to someone who is a professional in this field and can do them externally smarter, faster and cheaper. As a result, the company saves a significant portion of its operating costs, gains higher quality of the processes involved, and also time and space to devote itself to its core business, which is the primary source of its revenue and profit. It is not the exclusion of the company's own decision-making, but only of all administrative activities that precede or follow any decision. This brings significant and measurable time and money savings for each company. Even reducing the number of suppliers to a minimum has its logic. Less suppliers mean simpler management, fewer administrations, more services, more discounts.

Although this trend, which is already common practice abroad, is growing at a slow pace in the Czech environment, more and more companies are beginning to think about outsourcing. Many businesses in the Czech market have already - with varying success - outsourced parts of their administrative activities. Sometimes it works, but elsewhere, businesses face problems because operators of these services lack professionalism and experience. It is not easy to become a reliable and professional service provider in accounting, personalist, purchasing and other fields - it needs to have top-notch people, experience in the market, and manage the service centers as a very good and professional enterprise with measurable quality at first place.

At the time of the crisis, companies were generally much more cautious in deciding who they were entrusted with administrative processes. There has also been the establishment of so-called Shared Services Centers whereby processes are centralized into one site, which is generally more cost-effective due to lower labor costs. However, nothing has changed in the processes, they have remained virtually the same, and the saving effect has therefore lasted shortly.

If the administrative processes are done internally, the process itself is lengthy, complicated and time consuming and costly. Especially from two points of view: cost and expertise. Internal staff for the company are costs, it is necessary to calculate their wages, overtime, training and development costs, maintenance costs of the computer system, etc. Finally, in case of non-compliance with the correct procedure or missing documentation, client.

The business process of outsourcing brings many benefits from minimizing costs, supporting asset growth, exemption from administrative costs, wages, employee control, telephone and office equipment. The company can then spend the money and effort on its real business activities.

In order to maintain a certain standard, the scope, level and intensity of the delivered services are used as accurately as possible, whether it is a description of the service, warranty, time span, method of measurement, price, bonuses or malus, under the terms of the SLA. The purpose of this precise definition is not the need for a whip that the client will use in the event of non-compliance with the contractual arrangement, but on the contrary, the attempt to establish a partnership between the customer and the supplier. Just because the traditional business relationship can reach a level that both partners can benefit from. In a partnership relationship, both parties work together to bring business development to mutual satisfaction.

On the basis of the conditions contained in the SLA, there is a regular evaluation of the work performed according to the key performance parameters, so-called KPI. As with other disciplines and in the business process of outsourcing, KPIs are the primary source for identifying quality defects. Performance appraisal is regularly monitored and results are reported as the operation requires. On the basis of the analysis, outsourcing companies are able to identify where errors occur in the process, thus enabling them to start with effective remediation and slimming.

Employees working with sensitive client data must be properly trained in the given area, and all contracts of employment include a confidentiality clause. Client data security is an absolute priority for outsourcing companies. (Kolman, 2012)

***Case study - minimizing the cost of the IaaS solution***

Most companies are increasingly struggling to cut costs. Financial directors have learned to find ways to save even where nobody has been looking for savings no few years ago. But when all the bigger orders were repeated three times, the business is tuned so that the company does not have cars or even extra people, so it is very difficult to find an area where some savings can be found. One of the last things to come in is IT. This, as a rule, directors of the subconsciously postpone - this area is beyond their expertise. The question of IT as a taboo, which is only the IT department, is, however, two-sided. On the contrary, few IT managers have the same deep knowledge of the company's needs and the direction of its business. It is often difficult to estimate the impact on IT systems over a period longer than two years. Moreover, the standard lifecycle of a four-year IT infrastructure is too long to predict its changing size. That is why we can normally encounter either overdimensional or undersized IT infrastructure. A common on-premise infra-structure is then used only at 25%.

However, most of these problems can be solved using cloud services. Building your own cloud system is too costly for small to medium-sized businesses, and you need to contact one of these service providers. For many reasons, it is good for companies to choose exclusively a private cloud that is more suitable for securing confidential data as well as key corporate IT systems. If you are interested in avoiding the legislative issues of dealing with data stored abroad, then it is also possible to look after the provider with the data centers in the territory. Of the different types of service, the so-called infrastructure is the most complex and at the same time the most advantageous as a service (IaaS).

Implementation of IaaS solutions can be saved on IT infrastructure basically in three categories. The first is direct savings, including hardware acquisition and maintenance costs, as well as backup hardware. The second group is to minimize the risk of incurring additional costs by securing data centers (including back-up power sources and cooling systems) or services such as quick recovery of backup data. Finally, the third category is potential savings such as reducing power consumption through a friendly green IT solution or zero operating costs (human resources and hardware) on servers in a data center that is solely run by a cloud service provider.

The amount of the savings themselves, of course, depends on the type of business, but it is a savings of 30 to 40% of the total IT costs in the medium term, ie about three to four years. Significant savings in operating costs arise in particular from a staffing point of view, with up to 75%. Besides the actual wages, it is also necessary to take into account training in the operation of modern infrastructure. In the case of investment savings, the most significant savings in hardware are 66%.

In addition to lowering corporate technology costs, the cloud also has the advantage of being able to plan more investment more flexibly. Most companies that do not have cloud plans to invest in IT infrastructure within the IT infrastructure's lifecycle, roughly four years. For cloud users, scheduling is much more flexible and can resolve and decide on a much shorter horizon. A recent survey of Czech Radio communications has shown that 40% of companies already have cloud plans to invest for 1 to 2 years. (CFOworld, 2016)

***Case study – Cost minimization Bohemia Energy***

All traders of Bohemia Energy conclude new contracts with end-users of electricity and gas through mobile applications in tab-years. The purely electronic way of processing new contracts has helped substantially accelerate the process of acquiring new customers, significantly reduced the error rate when filling in and transposing data in contracts, and completely eliminated the need for printing (if the customer does not request service delivery by post) and physical archiving of paper contracts.

The tablet with special applications, forms, pricelists and other documents is the basic tool of each of over 700 Bohemia Energy dealers who are visiting potential customers across the Czech Republic every day. For Bohemia Energy, therefore, the issue of ensuring seamless tablet functionality, distributing current versions of applications, and securing mobile content is key.

The search solution for mobile device management has had to meet the high demands on the limitation of the possibility of manipulating tablet content, which is intended solely for business purposes. It was necessary to completely limit the possibilities of installing applications to the user, to significantly limit the range of web pages that can be opened from the tablet and to create a confidential document storage. It was also necessary to protect all tablets to the maximum extent possible from theft, loss and compromise of the data of the customers.

As the first alternative supplier, it started offering electricity to households in 2006 and gas two years later. At present, it is the biggest alternative supplier of electricity and gas in the Czech Republic in the segment of households and small to medium-sized firms. The Bohemia Energy success is largely due to the progressive approach to modern technology, which is reflected in the complete digitization and optimization of new customer acquisition and customer care processes. A significant part of Bohemia Energy's investments was directed to a customer information system, a partner portal and mobile applications through which the contract can be concluded during the first visit to a new customer. The associated processes (data control, customer verification, customer switching, etc.) have a guaranteed response time, so the period since the contract was concluded after the delivery of the welcome letter to the new customer has been considerably shortened, from 14 days to just 2 days.

 "The digitization of the tablet-making process has paid off in all respects and has met with positive feedback from both our customers and our sales representatives. However, this literal transformation of our business would never have been possible without the advanced mobile device management solution, "says Ing. Jiří Písařík, founder and CEO of Bohemia Energy.

Each of Bohemia Energy's over 700 dealers are equipped with an Android tablet, where they always find the latest versions of applications, contracts, dials, and documents they need to work. Tablet content is auto-matically updated through a mobile Internet connection and the same data is sent from completed contracts. Completely without an Internet connection, the merchant can work up to three days. "The application gives us information about the status of individual devices and automatically alerts us to the situation where the tablet is inactive for a long time. Immediately we can check where the tablet is and if everything is fine, "explains the project manager Ing. Pavel Paták. Data store mobile apps are stored in an encrypted container in the tablet's memory, while only the data of the contract that is currently being processed is stored in the tablet. Once the contract is completed, the data is transferred to the server and disappears from the tablet's memory. The application is used to access corporate documents (manuals, sales practices, training materials, etc.). Any device can be localized, blocked, or deleted from its storage remotely. In case of loss or theft of a tablet, its contents will never reach into unauthorized hands.

To ensure the maximum possible level of tablet functionality, any installation of additional applications is blocked within the broad configuration options. Mobile Web Browsing allows you to set up Internet sites that can be opened in a secure web browser. Embedded applications are upgraded to Bohemia Energy IT administrators' instructions, after thoroughly testing new versions, not directly from Google Play. "Bohemia Energy's demand was to configure tablets as a purely working tool, without the option of installing additional applications and unlimited browsing.

Two administrators from the IT department of the company are taking care of Bohemia Energy. If a company IT employee from Bohemia Energy is experiencing any technical problem, he or she may at any time during workdays from 8am to 5pm ask the support worker for assistance. From a distance, they can connect to the tablet's desktop and resolve potential traveler problems. Every day, the administrator manages 10 incidents on average. In the two years of operation, about 10 percent of the device was discarded due to loss, destruction, or theft, and the content of sensitive data never reached unaccountable hands.

The Mobile Merchant Project won first place in the Cacio IT Project of the Year and the Internet Effectiveness Award. Thanks to the digital transformation of our business, we have gained a significant lead over the competition and thousands of satisfied customers. (Písařík, 2016)

## Company earnings

Company earnings represent the amount of cash that a company makes from the realization of its production on the market. The development of the company's income is dependent on the market environment in which the company moves. Company earnings distinguish between total, average, and marginal. (Dohnalová, 2013; Hořejší et al., 2010)

Total Company Income (TR) is the total amount of money that a company receives by selling its products.

In the conditions of imperfect competition, the situation is more complex because the price is not constant as in perfect competition. The company operating in imperfect competition has a declining curve of demand. In order to sell another unit of production, it must reduce the price. If the output of a company is greater than zero then it will always apply, the marginal income is less than the cost of production.

The company's average income (AR) is the income flowing from one unit sold. We calculate it when the company's total revenue (TR) is divided by the number of units sold.

The fact that the average income is equal to the production cost applies to all types of competitors. The average income curve is always the same as the demand curve for the company's production. (Dohnalová, 2014; Hořejší et al., 2010)

## Manufacturing Decisions

The basis for the company's decision-making is its effort to maximize profits. Crucial to this situation is the comparison of marginal revenue (MR) and marginal cost (MC) of the company. We know that the marginal income is the income for the last unit of production produced and the marginal cost is the cost of the last produced unit of production.

In this situation, the company sells a smaller amount of money than it puts into its production. A further increase in output per unit would result in higher total cost growth than total revenue. Profit would further decrease production, so the company will reduce the amount of production produced.

In this situation, the company sells more of its production unit than it put into production. A further increase in production volume per unit will cause a larger increase in total revenue than total costs. Profit would increase by further increase in production, therefore the company will increase the amount of production produced.

Now the company sells the last unit of production for the same amount as it puts into its production. By changing the volume of production, profit cannot be increased. The difference between total revenue and total costs is the largest. The company maximizes profit; we say it is in balance.

Choosing a company's output on the basis of marginal cost margins and marginal earnings is referred to as the golden rule of maximizing the company's profit. (Dohnalová, 2014; Hořejší et al., 2010)

**Summary**

* The company is in the conception of classical economic theory characterized as an economic entity specializing in the transformation of inputs into goods outputs.
* The reason for the existence of the company's institutional arrangement is the existence of transaction costs and the effort to minimize them.
* The profit maximization company chooses a combination of inputs and outputs to achieve maximum economic profit.
* The total revenue (TR) of the company represents the amount of money the company has from the realization of its production on the market.
* The company's total cost (TC) can be understood as the amount the company pays for purchasing inputs needed to produce production.
* Accounting (explicit) costs are the costs actually incurred for the purchase or lease of inputs to production.
* The accounting profit is then the difference between total income and explicit (accounting) costs.
* Economic costs include, in addition to the cost of accounting, implicit costs.
* The economic profit is then the difference between the total income and the explicit (accounting) costs and the cost of the opportunity offered.
* Transaction costs are defined as market recovery costs.
* Transaction costs can be classified as costs: objective; subjective benign; subjective malignant; occasional.
* The relationship between the production process of the company and the development of the company's costs examines the production analysis.
* An analysis of the development of the company's production in the short term is based on the assumption that the company uses two factors of production, labor and capital, so in the short term the capital is considered fixed and the work is variable.
* Long-term business development analysis is based on the assumption that all inputs used in the production process are variable.
* The development of the company's production in the long term deals with the so-called isocvant analysis.
* Isocvanta is a curve that represents a combination of labor factors (L) and capital (K), with which the same volume of production can be produced.
* The cost optimum of the firm is at the point of contact with isocratic and isokvanty.
* Company revenue represents the amount of money the company has from the realization of its production on the market.
* Average Company Income (AR) is the income flowing to a company from one unit sold.
* The basis for the company's decision-making is its effort to maximize profits.
* Selecting a company's output based on marginal cost margins and marginal revenue is labeled as the golden rule of maximizing profits.

# ALTERNATIVE THEORY OF THE COMPANY

## The genesis of alternative theories of the company

In general, the firm is considered to be a basic element of a modern economy, whose task is to transform production factors into outputs, which are subsequently realized in different markets. The subject of economic theory is the decision and behavior of the company in various competitive conditions. Opinions about the business and its existence are subject to developmental changes that are a natural part of human being.

The classical economic theory of a company is understood as a subject that pursues a single goal in the markets of final production or in factor markets, and thus maximizes profits. In this context, marginal variables are used, in the form of a so-called "golden rule maximizing profit", which is based on a comparison of marginal income and marginal costs of the company. In real terms, the company's maximization target is difficult to achieve. Another prerequisite for the traditional theory of corporate behavior is that the ownership of a company is related to its management, provided that there is perfect information. Even this assumption in the real world of the market economy is violated.

New insights into the company began to appear in the 1950s as a reaction to the company's development as a result of new socio-economic changes in the markets. Lack of company financial resources has led to a change in the company's ownership structure and also to separation of management from its control. Decisions on the operation of the company promote the interests of various entities that are affected by the company. (Hořejší et al., 2015)

The questioning of the approaches of the classical theory of the company and the reflection of the new facts gave space for the emergence of so-called alternative theories of the company, which in various ways respond to the realities connected with the functioning of the company. Even alternative theories have seen some development over time. Firstly, so-called managerial theories of the company and a little later behaviorist theory of the company emerged.

### Company Management Theories

The company's management theories are based on the general assumption of separate ownership and management of the firm. According to these theories, executives managed by companies can pursue different goals than profit managers, depending on the goals of the managers. Stiglitz, along with other authors, has been dealing with the relationship between the managers and the owners of the company since the 1960s. He dealt with incomplete awareness in the relationship owner and manager. (Schiller, 2004)

According to him:

* Owners have inadequate information about managers' decision-making options. This imperfection of information has prompted the need to delegate responsibility to managers;
* Managers are aware of the existence of imperfect information and can take actions to increase the asymmetry of information, thereby strengthening their decision-making authority;

the above problems can occur in the situation of both one and many business owners. (Schiller, 2004)

Managerial theories of a firm reflect the fact that both entities within the company, owners and managers, pursue their own maximization goals of interest, which can often be conflicting.

Owners are seen in management models as shareholders, shareholders who hire top executives to manage the business in their own interest. Their goal is to maximize profits to ensure the value of the invested capital. (Soukupová et al., 2015)

Managers are considered the second most important group within the firm. Against other employees, they differ in the range of powers and responsibilities, as well as the amount of salary. They have access to information, they have the right to make decisions about the company's investments, goals and personnel structure. Applying different management methods affects the balance within the firm and its target behavior. Their position in the company allows them to deviate from the goal of maximizing profits to their own goal of maximizing the benefits.

Managerial theories of the company have a common basis in the idea of ​​maximizing the benefit of managers, even at the expense of the owners' interest. Differences between models are:

* in the parameters that affect the managerial function of utility;
* in the tools that management uses to achieve its goals;
* in the consequences that cause changes of various parameters.

The most well-known models of managerial theories of the company are William Jacob Baumol model of 1959, model of Oliver Eaton Wiliamson from 1964, Tibor Scitovsky model, simple model, Marrist model from 1968. Their starting point is separation of ownership of the company from its management. The target behavior of the company is analyzed through the owner's maximization goals or, owners and managers. Other members of the company are not involved. Managing theories will also present Ward's employee model.

The Baumol model is based on the assumption of revenue maximization. Reasons why the company tracks earnings more than their profits are a whole lot. The causes can be defined in two ways: positively or negatively:

Positive reasons focus on the relationship between manager motivation and company revenue. Many managers' rewards are not tied to profit, but to company revenue. As a result, managers will monitor the company's revenue more than earnings. Many owners are interested not only in the profits of the company but also in its growth. It follows from the model that maximizing revenue means higher business growth than maximizing profits.

Negative reasons result from an analysis of the situation where the company's total revenues are falling or stagnating, while the revenues of other companies in the sector are growing. Decrease in revenue may be reflected in a decline in the popularity of the product, which may cause customer outflows to the company. Likewise, firms with declining revenues may no longer be interesting for their current distributors who can switch to competition. Company earnings (or market share) are also an important criterion that the money market institutions take into account when assessing the company's credibility. In case the company's revenues fall, many employees are dismissed, which increases the tensions in the company's working relationships. Such a situation is not welcome by business managers. (Soukupová et al., 2015)

The static version of the Baumol model assumes that the company operates in an environment of imperfect competition, and that there are barriers to entry into the industry. The demand function will not be completely elastic and the price will not be an independent parameter. Turning therefore does not always have to grow with the volume of production. The company's behavior can then take place on two levels: first, without limitation of profit, only with a track of maximum turnover and second, with the required minimum profit for the owners. In the first case, the maximum turnover will be reached at the maximum total revenue function. The maximum of the total revenue function is reached at the company's zero limit point. Comparing the volume of production with the given maximization of the profit with the volume of the product by the given maximization of the turnover, we find that in the second case, the production of bigger size means the assumption of a higher market share of the company.

If a minimum level of profit is required by the owners to achieve maximum turnover, there must be a compromise between the managers and the owners. If a company reaches a lower profit level than required, at the point of maximum turnover, it is in the interest of the owners to either reduce the volume of production or increase the price. (Dohnalová, 2014; Hořejší et al., 2010)

The Simit's Simple Managerial Model is based on the hypothesis that the behavior of managers in the company is analogous to consumer behavior. The aim of consumer behavior in traditional economic theory is to maximize benefits, and therefore the goal of the company's managed managers is to maximize the benefit of managers. In the case of managers, however, it is not about optimizing consumption due to budget constraints. Benefits are given to the manager by his position in the company, its benefits and by-profits. The company's earnings are then reduced by the minor income and benefits of managers, as the company's overall cost is actually increased. (Schiller, 2004)

An example of a managerial model based on the benefit of managers is the model by which the variables of the managerial function of profit benefit, together with the minor benefits and income of managers. The secondary earnings and benefits of managers for the company mean costs. Their growth is reflected in a reduction in the company's profit. What is the behavior of a company in a simple management model? The output and cost of your production is determined by the company's maximization of profit. The earnings earned then consist of two components: the reported profit and the minor income and benefits of the managers. This means that in the company-controlled managers the costs are increased by the incomes and benefits of managers, while their amount reduces the reported profit. Maximizing the company's profits would match the situation where the company's profit would be equal to the reported profit. In this case, the secondary benefits and income of managers would be zero (analogous to a neutral farm). With the increase in the difference between the total income and the total costs of the company, it is out of maximum profit. Both production and price are in the simple management model the same as for maximizing profit, but with higher costs and lower reported profit. The main difference between a simple management model and maximization of profits is greater freedom of choice for combining the reported profit and the minor income and benefits of managers.

The Scit model compares two profit margins and a manager's free time. In his concept, the company's profits depend on the time and effort of the manager. The size of the manager's efforts is considered to be constant during one-time unit (1 hour). The size of the manager's efforts in one day (24 hours) is his maximum daily effort. From the above information, it follows that both the revenues and the company's costs depend on the efforts of the managers, respectively. on his free time. It is true that the volume of production, both incomes and costs, is increasing with a fall in leisure time. The difference between earnings and costs is defined as the company's profit, which is then also dependent on the size of the manager's exerted business efforts. The manager chooses a level of effort that achieves the maximum level of profit.

Williamson's model is based on the hypothesis that a modern company is actually driven by managers who track their interests and try to incorporate them into corporate decision-making processes. Their goal is to maximize the benefits. However, to maintain the satisfaction of the owners, they must also achieve a certain minimum level of profit. Corporate decision-making is influenced by many factors that are based on goals, interests of the supervised managers. (Dohnalová, 2014; Hořejší et al., 2010)

Williamson formulates three basic categories of managerial interests, as part of a "preference spending theory" that increases the salary and position of managers in the company. These categories are:

1. the number and level of subordinates;
2. the salaries and benefits of managers;

the means by which they can dispose of themselves (Dohnalová, 2014; Hořejší et al., 2010)

By creating parameters that characterize individual categories, we can monitor their relative importance within the company. The way to find the optimum company that maximizes the benefit of managers is by looking for a maximum of features that depend on all three categories. From a mathematical analysis that is not the subject of this work, conclusions were drawn that:

* Employee spending is linked to the goal of dominance. With the growth of the number of subordinates, power, position in the company and prestige of the manager grow;
* There is a link between staff and wage costs. Increasing the number of employees is the expansion of the company, and this may represent future promotions linked to the growth of the manager's salary;
* The minor advantages of the manager have a clear connection to his position and prestige. Managers would, of course, prefer the rewards only to monetary ones, but given the tax costs associated with these rewards, and given that the non-cash side benefits are far less visible;

the size of personnel costs also has an impact on the volume of production and total revenue of the company. It can be assumed that their growth will generate both the volume of production and the total revenues of the company. (Soukupová et al. 2015)

In the Marris model, the utility function of the managers is determined by two basic variables, namely the growth of the firm and certainty. The growth of the company correlates with the basic needs of managers, which are: pay and power. According to Mars, correlation is illustrated by three basic approaches to motivation: psychological, sociological and economic theory. According to psychological approaches, human beings have a rooted desire to constantly achieve their chosen goals. Kea-ton states that managers tend to identify with the company they operate in, which leads to the conclusion that just the growth of a firm can permanently provide them with a chance to satisfy themselves. Sociological approaches highlight the interaction of managers with other groups. In a peer review, managers often use market share indicators, revenue growth, side benefits, profits, etc. All of these indicators are related to company growth. At the same time, the second component of the utility function - security - comes to the fore. If the firm grew too fast, it could lead to its financial collapse, which could be the end of "membership" in that professional group. On the other hand, another group with which managers interact are shareholders of a company that must at least satisfy their results. Otherwise, there could be a stock sale of the company's shares, which would endanger their position again. Economic approaches highlight the fact that a growing company disagrees with a higher volume of cash for manager remuneration and its growth allows for professional growth within the firm. The pressure on company growth is thus evolved both from lower management positions in the pursuit of promotion, as well as from top management positions, where the growth of the company poses an even greater sense of power and higher status. (Soukupová et al. 2015)

Ward's Employee Model examines those forms of business that cannot be distinguished from employees by employees. Ward's model explains the basic principles of the workforce. It is based on the specific assumptions that all employees have the same skills, the result of the activity is divided equally among the employees, the firm leases capital at market price, the company operates in a perfectly competitive market of factors of production, the company produces only one commodity using labor and capital the status of a non-perfect competitor that can influence the price. Employee company's goal is to maximize earnings per employee. Employees take over as employees all employees. Profit is also distributed among all employees. The retirement of a member of this firm has two components, the wage given by the labor market and the share of profit. The goal of maximizing earnings per employee is therefore dependent on the number of employees. (Soukupová et al. 2015)

### Behaviorist Theory of a Business

Behaviorist theories of a company consider the structure of a company to be much more complicated in a much more complex than management theory. They analyze the company as a "coalition" of various entities competing with each other. The target behavior of a company is understood as the result of negotiating processes and compromises that take place in the company. Therefore, a company can track even more than one goal. (Schiller, 2004)

Behaviorist models are constructed in principle on two basic assumptions:

* the company is a coalition of groups and individuals with different interests;
* Different interests of groups and individuals can affect the target behavior of the company to varying degrees, depending on the relative power of these groups within the company.

The most widespread behavioral models include the 1959 Simon model, the 1963 model by R. M. Cyert and the 1963 model by J. G. Marche. The most recent models include the Doyle model of 1994.

In Simon's model, the primary goal of the company is to survive. This goal is being transformed into a solution that is acceptable to all interest groups within the company. The model focuses rather on the processes through which the firm adopts its decisions rather than the results of these decision-making processes. According to Simona, management first sets out initial goals, and after a certain period of time they are evaluated. If goals are met, management can increase the company's aspirations and determine new higher goals. If the original goals are not achieved, management may choose a lower level of aspirations and set lower goals. This allows lower and easily achievable goals to become the first step of ever-increasing tasks. Increasing the difficulty of tasks can thus lead to the gradual fulfillment of goals identical to maximization goals. (Dohnalová, 2014; Hořejší et al., 2010)

The Doyle model, like Simon's, assumes that an internally more complex structured business should track several goals at a time. In his model, the company tracks eight main goals at the same time, as shown in the picture ... The various participating entities in the company are differently different in their objectives. The problem may be the uneven fulfillment of the goals set. There can be too much to achieve one goal at the expense of other goals. This may ultimately cause the company to destabilize or even endanger the existence of the company.

The models of R. M. Cyert and J. G. Marche explore modern big business as an organization and deal with variables that affect corporate goals. The objectives of the company are understood as the results of the coalition's negotiation.

The main difference between management and behavioral theories of a firm is that if the managers observe the maximum level of the target function, the behaviorist only pursues its satisfactory level. Both types of alternative approaches to company theories are a reflection of real processes going on in economies. They are one of the ways in which economic theory approaches reality. It explains the phenomena and processes that do not explain the classical model of company theory. (Schiller, 2004)

## Stakeholder Company Concept

The concept of company stakeholder involvement in business practice began to develop in the second half of the last century as a consequence of the dynamic development of the whole of society. The concepts of the concept, however, began to form much earlier. At the end of the nineteenth century, Alfred Marshall summed up successes and problems for the coming century in a lecture in 1897. He opened the relationship between owner and manager in corporate governance.

 Freeman himself and Evan developed the concept in 1993 and formulated two main principles:

1st principle of legitimacy - the organization should be managed in the sense of satisfying its stakeholders: customers, suppliers, owners, employees and local communities.

the principle of stakeholder involvement - management must act in the interest of stakeholders as their agent, and it must be in line with the interests of the organization in order to ensure its functioning. (Dohnalová, 2014; Hořejší et al., 2010)

As Freeman states in 1984, stakeholders are "any group that can influence or are affected by the organization's goals.

In the past, the concept of business relationships with interest groups was often considered incompatible with business. The most acute critics of the interest group theory include Elain Sternberg, who argues that this theory is incompatible with business and undermines the foundations of private ownership. The application of the theory, however, can be seen in two aspects:

* Alerts to groups and individuals that businesses have to take into account,
* Understanding social responsibility.

Sternberg's criticism is currently rejected by many economists. The creation of business relationships with strategically important interest groups is considered to be one of the sources of permanent value creation of the enterprise. (Dohnalová, 2014; Hořejší et al., 2010)

The current understanding of corporate social responsibility is influenced by the opinion of Nobel Prize winner Milton Friedman, who says the only goal of business is to maximize shareholder profits. He has two arguments for this claim:

Shareholders are the owners of the company, and therefore the profit belongs to them. Managers are employees of the company and have the right to manage the business in the interests of the owners;

The right of the shareholders to profit derives from the contract between the participating groups. The product or service is the result of the productive efforts of employees, managers, customers, suppliers and local communities. Each of these groups has a contractual relationship with the firm and is rewarded by the firm. Thus, each party involved in the production and sale acquires a rebate with which it has freely agreed in advance.

According to Friedman, stakeholder theory puts emphasis on one group, namely the shareholders. According to him, the interests of others are subordinated to them. Many economists, however, advocate different views from Friedman. The theory of stakeholders' attitude is currently very fashionable, both in academic circles and in business itself. But fact shows that even if only owners have the right to change the goals of the business, each member of the interest group can in some way influence his or her behavior and decision-making processes.

***Case study - Danone***

Danone is a French food company producing most of the dairy products. In Poland, it began to operate in 1990. At the very beginning, the firm only imported products; nevertheless, in connection with the rapid development in 1992, opened the first production plant in Warsaw. Three years later, another was opened. In 1998, the Danone Group introduced a HACCP (Hazard Analysis and Critical Control Point) risk analysis and critical control points to ensure the hygienic purity of food products for consumers.

Danone sets five areas for corporate social responsibility. Within these areas, Danone implements programs and principles related to CSR. These five areas of responsibility include topics such as people, products, the environment, the local community, and the company as a citizen.

Danone believes that every company is a representative of people - people who are consumers of products; people embodied by business customers, suppliers, business partners and, of course, employees. It is precisely because of the people that Danone chooses different approaches and communication within the submitted offers and solutions.

According to Danone, consumers are the basis for the business success of every business. Therefore, the Danone info line was established. This is the place of the first consumer contact with Danone, where consumers can find answers to their questions.

In 2005, the Danone Partner Club, a Danone Partner Club, was set up and the first congress of partners was organized, attended by representatives of the 70 largest buyers. During the event, training took place in financial management, financial analysis and market segmentation.

Suppliers of the company can count on a variety of help, including professional zoo consultants, credible raw materials evaluation, attractive feed purchases, bargain purchase prices, time payments, and financial assistance.

Employees are supported by the company in the development and efforts to further education and improvement. Danone develops their initiative and expertise.

The implementation of Danone Way has improved communication and collaboration with others inside and outside of the company. The program has become a tool to support responsible management policy. It also allowed Danone employees to evaluate the company's business. Thanks to the implementation of this program, it was possible to identify the areas requiring improvement and to identify the measures that need to be taken to achieve better results.

The company is committed to complying with the ISO 14001: 2004 environmental management system. With the company's practices, 92% of the produced waste is recycled and only 8% will end up in the landfill. Significant pressures on these activities are underpinned by the Kyoto Protocol, ie the international agreement on emission reductions, which entered into force on 16 February 2005. Its main objective is to reduce greenhouse gas emissions (in particular CO2 - carbon dioxide) by 2012 by 5.2 % compared to 1990. The company's goal is to reduce energy consumption by 20% and water by 30% per year.

Danone is most concerned about social problems such as malnutrition, social exclusion, and poverty, especially among children. For them, the Share your meal program was created together with the Polast Fund and the Federation of Food Banks. From 2003 to June 2006, 2.2 million meals were released under the program. Every year new features are introduced, such as grants or volunteer work. In September 2006, the idea of ​​Milk Start - oatmeal sold for production costs was implemented in cooperation with Biedronka and Lubell.

In relation to the community and its situation, Danone has the most obvious influence on the following factors: transfer of modern technology, investment in local infrastructure, promotion of a healthy lifestyle and popularization of socially responsible corporate practices. In addition, Danone creates and maintains new jobs, pays for its employees and cares for their professional development. As a result of the scale effect, Danone's influence on a large part of the country is enormous: at present, the company employs 1300 people. Tens of others are taught in corporate training at the workplace and through a variety of pupil and student initiatives. (DHL, 2008)

***Case study - Code of Ethics - involvement of stakeholders Janssen-Cilag***

The global Janssen-Cilag concern is the foundation of Johnson & Johnson's business. It focuses on scientific research and the continual search for innovation. It develops and markets high-quality, innovative pharmaceutical products and services to improve the quality of life of patients around the world. This goal has more than 6000 employees across Europe by applying culture and organizing work in a decentralized structure.

Janssen's corporate CSR practices and activities are based on a document entitled Our Credo.

The document Our Creation is a collection of ethical values ​​of the company. It describes the company's responsibility towards clients, employees and communities in which the company carries out its business activities, as well as to the stakeholders of the company (stakeholders). It was produced in 1943 as a one-page documentary by Robert Wood Johnson, the son of one of the founders of Johnson & Johnson.

Document Dashboard Our credo in the local language mutation is in a re-presenting position in every corporate office all over the world, reminding employees of the company of their responsibility in day-to-day work.

The company monitors compliance with CSR policies through contact with both internal and external clients of the company. An annual survey is conducted in the form of an electronic questionnaire. Respondents to the questionnaire are all Janssen employees who answer specific questions in four areas of credo: clients, employees, community and stakeholders (stakeholder). After filling out the questionnaires, all the employees of the company are presented with statistical results of the questionnaires. The leadership of all local operating companies is required to implement action plans to introduce improvements in areas that, in the opinion of employees, require more attention. Measuring the positive impact of the values ​​contained in our judgment with a high level of employee satisfaction, leading to higher motivation and performance, and a better perception of the company by clients and communities who consider the company to be highly responsible, innovative and friendly.

Based on our credo, CSR activities, such as Contributions, that is, the work of a global business within social responsibility in four areas - access to medical care, social care, children's health, and health education are being pursued. (Johnson, 2018)

**Summary**

* The classical economic theory of a company is understood as a subject that pursues a single goal in the markets of final production or in factor markets, and thus maximizes profits.
* New insights into the company began to appear in the 1950s as a reaction to the company's development as a result of new socio-economic changes in the markets.
* The questioning of the approaches of the classical theory of the company and the reflection of the new facts gave space for the emergence of so-called alternative theories of the company, which in various ways respond to the realities connected with the functioning of the company.
* The company's management theories are based on the general assumption of separate ownership and management of the firm. Managerial theories of a firm reflect the fact that both entities within the company, owners and managers, pursue their own maximization goals of interest, which can often be conflicting.
* The most well-known models of managerial theories of the company are William Jacob Baumol model of 1959, model of Oliver Eaton Wiliamson from 1964, Tibor Scitovsky model, simple model model, Marrist model from 1968. Their assumption is separation of ownership of the company from its management.
* The Baumol model is based on the assumption of revenue maximization.
* The Simit's Simple Managerial Model is based on the hypothesis that the behavior of managers in the company is analogous to consumer behavior.
* The Scit model compares two profit margins and a manager's free time. In his concept, the company's profits depend on the time and effort of the manager.
* Williamson's model is based on the hypothesis that a modern firm is actually driven by managers who pursue their interests and try to incorporate them into corporate decision-making processes. It is aimed at maximizing the benefits.
* In the Marris model, the utility function of the managers is determined by two fundamental changes, namely the growth of the firm and certainty.
* Ward's Employee Model examines those forms of business that cannot be distinguished from employees by employees. The Employee's goal is to maximize earnings per employee.
* Behaviorist theories of a company consider the structure of a company to be much more complicated in a much more complex than management theory. They analyze the company as a "coalition" of various entities competing with each other.
* The most widespread behavioral models include the 1959 Simon model, the 1963 model by R. M. Cyert and the 1963 model by J. G. Marche. The most recent models include the Doyle model of 1994.
* The stakeholders' concepts of enterprise in the context of business practice began to develop in the 1960s.
* The term "stakeholder" was first used at the Stanford Reseach Institute in 1963.
* Classical definition of enterprise stakeholders: "groups or individuals who can influence or be affected by the organization's goals".

# economic efficiency and WELL-BEING

Partial Balance Analysis in Microeconomics examines sub-market models as mutually independent. Prices and quantities on the markets of final production or factors of production depend on supply and demand for each of them. Prices of other markets are considered to be unchanged.

The analysis of the overall balance examines the interconnection between markets. Each market is understood here as part of a linked system. The aim of the analysis is to establish equilibrium conditions in all markets at the same time.

In view of the existence of a large number of different markets in the economy, the investigation of the interconnectedness of all markets would be very challenging at one and the same time. To simplify the situation, so-called Simple Economy Model was created for the purpose of analyzing the general balance. This model is often referred to as the 2 x 2 x 2 model, given the number of market entities and the factors that make up the model. (Dohnalová, 2014)

## Simple economy model or model 2 x 2 x 2

To derive a general equilibrium, economic theory uses the model of a simple economy, also called a 2 x 2 x 2 model. This model is based on the assumption that there are only 2 consumers, consumers A and B; only 2 estates, estate X and Y; only 2 production factors, labor L and capital K.

Abstraction from many real world realities illustrates the 2 x 2 x 2 model of a one-tier economy. It operates within a closed economy without a foreign trade. All the markets within it are perfectly competitive, and market players have good information. All market players in all markets are pursuing maximization goals. It maximizes utility from the consumer's point of view and maximizes profit from the manufacturer's point of view. (Hořejší et al., 2015)

Achieving a situation of general equilibrium in the model of a simple economy means bringing about equilibrium in production, consumption and production and consumption at the same time. This requires three conditions of effectiveness:

1. shift efficiency;

2. Efficiency in production;

3. Production-consumption efficiency.

The laws examined in the Simple Economy model and the formulated conclusions are of a general nature and are therefore applicable to any number of economic subjects, products and factors of production. (Hořejší et al., 2015)

Case study – Efficiency in production - an information system for more efficient production

Automotive Lighting s.r.o. is the leading manufacturer of state-of-the-art headlamps for passenger cars. It has been operating in the Czech Republic since 1997, originally under Bosch, and since 2003 has been part of Magneti Marelli (Fiat Chrysler Automobiles).

The situation before the introduction of the production information system

Prior to the implementation of the production information system in pre-production of Automotive Lighting, the production data collection was performed manually. The production operator wrote the information on the paper, and after this shift, the other employees rewrote the ERP SAP. The data contained errors and the controllers received them with a long delay (sometimes 12 hours). Due to this analogue method, it was not possible to efficiently plan liner production or optimize the use of material and stockpiles.

Therefore, the management of the company decided to implement a production information system, from which it promised to reduce the reaction times to the production process and reduce the scrap. The deployment of the system should also improve information on the state of production, streamline the use of labor and material economy, increase the use of machinery and the workforce and, last but not least, make the planning process clearer.

Solution requirements

• Immediate knowledge of production status

• Operational Production Management Tool (reducing reaction times for production)

• Employee Overview - Spreading Human Loss

• Increased machine utilization - planning sophistication

• Replace the paper form

In 2006, the first part of the ever expanding system for monitoring the production process in pre-production (MFO) was implemented. Today, the system is implemented on 68 presses, 40 pre-assembly workplaces, 4 paint shops and 10 plating tents. The factory data is entered by each operator online directly from the machine via the touch panels. This information serves in the event of a problem or discrepancy for immediate response by responsible people.

The production information system tracks online production, including the occurrence of scrap, the number of pieces produced, monitors and evaluates downtime and other key indicators (KPI - OEE, LL, etc.). In addition, automated data collection is complemented by a pro-worked reporting system that has been created on the basis of requirements and responses to customer internal innovations. An integral part of the system is also the visualization of data in production on LCD screens, where the required information is clearly displayed (machine - produced / produced, produced product, name of the worker, number of pieces removed, decay with color indication when exceeded, KPI filling etc.).

For maximum production readiness, the system is equipped with an SMS module, which, according to the rules set, regularly sends information to the responsible staff directly to their mobile phone. So they have an up-to-date overview of all the important indicators and are able to react immediately if problems occur. (MERZ, 2015)

Case study – cost savings with the control system

The manufacturer of food ingredients finds efficiency and cost savings with the control system

The well-known manufacturer of food ingredients intended to replace its printing solution. He has experienced many problems, including the creation of surplus unused pre-printed boxes or the extra cost of unproductive activities.

The printing costs of the company were CZK 960 per thousand boxes. Additionally, the company used a label designed for smaller production lines where the operation cost CZK 2,880 per thousand boxes. The challenge would be to design a solution that will increase production efficiency by saving time and money.

A versatile print platform has been designed that includes piezoelectric print heads. To meet customer requirements, 4 control systems were provided to control 4 production lines and a 4-inch print head for each production line.

With the new solution, the manufacturer of food ingredients has increased production efficiency and reduced costs by "in-line" marking on a cardboard that does not need pre-printed boxes. Further reduced storage costs and smaller work associated with improperly packed boxes. The most interesting fact is that the system has dramatically reduced print costs. The cost of printing on corrugated boxes dropped by CZK 912 per thousand boxes and the previous solution of labelers per box was reduced by CZK 2,832 per thousand boxes (PRINTING, 2017)

Case study – Porter's diamond

In today's competitive environment, it is difficult to assert and even more difficult to maintain. Creating a networked business, clusters and cluster organizations, is one of the few ways for SMEs to compete with other large market players. The creation of clusters and cluster organizations within small and medium-sized enterprises is thus a population and, above all, an effective instrument in the world to increase their competitiveness and the development of innovation. Clusters further enhance business performance, resource efficiency, economies of scale, and new opportunities. Through clusters there is an exchange of information and synergy effects that lead to better use of business potential. Clusters are now becoming an interesting player in the field of regional, national and transnational economics.

Clusters have an impact on increasing competitiveness and achieving higher performance through better access to specialized suppliers, technologies, information and higher innovation potential of cooperating companies. Most successful clusters usually have a distinct competitive advantage that distinguishes them from similar clusters anywhere in the world. The Competitive Advantage Analysis Framework provides "Porter's Diamond" consisting of four conditions, the level of fulfillment of which reflects the degree and quality of the competitive advantage. These conditions or areas include: input factors conditions, business strategy and competition context, local demand conditions, and the existence of related and supporting industries.

The Porter diamond scheme is developed and evaluated at the cluster region mapping phase of the cluster initiatives. The aim of mapping is to determine whether or not the sector is a cluster, whether all four factors expressed as diamond peaks are present and developed (Břusková et al., 2013).

The microeconomic business environment, which portrays the Porter diamond above, plays a key role in creating innovation and increasing the competitive edge of businesses.

Input terms are all tangible and intangible resources available to entities in the given territory that create a competitive advantage. They are natural resources, human resources, capital resources, climate, information, legal and administrative system, scientific and technical infrastructure. These conditions can be further differentiated into basic and advanced conditions. The basic conditions are necessary for a competitive advantage, but not sufficient. Advanced or special conditions are typical of a specific cluster and are a source of unique, difficult to imitate, competitive advantage (Pavelková et al., 2009).

Company strategy, structure and competition mean that every company in the area is looking for its way to achieve competitiveness, while rivalry between firms is the engine that forces them to invent and implement them (Pavelková et al., 2009).

Demand side conditions that operate on a given site must involve a sophisticated and demanding local customer whose needs overtake elsewhere, and / or unusual local demand for specialized segments. An important presence is the presence of advanced and demanding local customers who push companies to innovate and whose needs indicate the development of these needs anywhere in the world (Pavelková et al., 2009).

Related and supportive industries include the presence of capable local subcontractors and competitive local firms in related industries in terms of technology, workforce or customer knowledge (Pavelková et al., 2009).

As complementary but certainly important factors are the role of government and the public sector, the presence of foreign direct investment and coincidence.

Taking into account the fact that the service sector has recently become Europe's most important economic sector, an increase in clusters and cluster organizations can be expected in this sector. The most widespread sector of cluster services organizations now includes information and communication technologies, education and research, the creative industry, financial services, health, tourism, transport and logistics. Most clusters and cluster organizations in the service sector are currently set up at regional level or even at local, local level. Clusters in the service sector are based around the world, for example, countries such as Austria, Belgium, Switzerland, France, Italy, Spain, Portugal, the United Kingdom, etc. Service clusters are also found in the Czech Republic. In the Czech Republic, the following clusters are included in the cluster of services: The Olomouc cluster of innovations, EKOGEN, the Czech Telecommunication Cluster, KLACR, CREA Hydro and Energy, the Czech Craft Cluster, o.s. and the IQ Cluster.

### Efficiency in production

Efficiency in production occurs when a fixed amount of resources is allocated to the production of goods in the economy so that it is not possible to increase the production of one of the goods without, at the same time, limiting the production of the other farm. We also refer to this situation as Pareto-effective.

In the 2 x 2 x 2 model is a necessary condition for achieving efficiency in the production of two farms X and Y by means of a fixed number of two factors of labor L and capital K in the situation where the marginal rate of technical substitution of MRTS of both factories L and K for both manufactured goods is the same. (Hořejší et al., 2015)

Edgeworth diagram or box diagram of production

The situation of the production of the goods X and Y by means of the distribution of a fixed number of labor factors (L) and capital (K) is graphically represented by the known Edgeworth diagram or boxed production diagram. Its construction is similar to that of shift, with the difference that we use isokvant analysis for the production situation. We produce an isokvant map for producing each of the X and Y items. An isokvant map of one of the farms, such as farm Y, we take and turn 180 degrees and place it on the isokvant map of the estate of the other, in our case the estate X, so that its starting point 0Y lies at the opposite angle to the starting point 0X of the isokvant map of farm X. This created the Edgeworth diagram or the box diagram of production. (Hořejší et al., 2015)

### Productivity limits and product transformation margins

The Productivity Boundary (PPF) provides the same information as a box production scheme. It informs us of three production situations: First, the points on the curve illustrate such combinations of the production of goods X and Y, in which a fixed amount of resources is distributed in an efficient manner; secondly, the points below the boundary line represent an achievable production combination, but a fixed amount of resources is not distributed efficiently; thirdly, the points above the boundary line represent an unattainable production combination

The slope of the tangent at any point in the production yield boundary indicates the ratio of the mutual substitution of the production of the estate X for the Y state while preserving the production efficiency. This ratio is called the marginal transformation rate of the MRPT product. (Dohnalová, 2014; Hořejší et al., 2010)

### Production efficiency

The general equilibrium in the economy occurs when all goods are produced in the required quantity efficiently and effectively distributed among consumers.

In the 2 x 2 x 2 model, the general equilibrium occurs when the marginal cost of substitution in MRSC consumption of both goods X and Y for both consumers A and B is equal to the marginal MRPT transformation rate for goods X and Y.

Graphically, production efficiency in the economy can be represented by using the PPF production caps and the box exchange scheme described in the previous chapters.

The points at the boundary of production possibilities are represented by the combination of the production of the goods X and Y in the efficient use of the fixed number of production factors in the economy, the work of L and the capital K. The boxing scheme shows the indifferent maps of two consumers A and B at a given consumption of the goods X and Y The shift curve within the schematic is a set of points where the indifference curves of both consumers touch and where the MRSC of both consumers' X and Y are the same. To find a point where MRS is equal to MRPT, we associate both charts so that the top right corner of the box shift scheme is one point of the production line boundary, point Z in Figure 1.4. Point Z represents the effective production of the X1 of the estate X and Y1 of the amount of the Y farm in the economy. The slope of the tangent (g) of the PPF curve guided by the Z-point expresses the ratio in which the X and Y goods are replaced while maintaining efficient production. This ratio is referred to as the marginal product transformation rate (MRPTXY). In order to meet manufacturing efficiency, the marginal transformation rate of the product must be the same as that of both consumers.

The amount of X and Y produced at X1 and Y1 can be divided among consumers A and B in different ratios. An effective combination of consumption is found by means of a parallelogram h with tangent g. The parallelogram h as the tangent of the indifferent curves of both consumers defines the point H, which is a point showing the productive efficiency in a single economy. At this point, the condition of production efficiency and compliance between production and consumption is fulfilled. Point Z shows that in the economy, the X1 of the goods Y and Y1 of the goods Y will be produced in total. Point H shows that from this quantity, consumer A will consume the XA units of the farms Y and YA of the Y farm, and consumer B consumes the XB units of the farms X and YB farm units Y.

For each combination produced, we can derive in a similar way the amount that should be shared between the two consumers. (Dohnalová, 2014; Hořejší et al., 2010)

### General equilibrium in the economy

If we summarize the conclusions on the behavior of economic subjects in the model of a simple economy in achieving equilibrium states, we can formulate three conditions (Dohnalová, 2014; Hořejší et al., 2010) necessary for the establishment of so-called general equilibrium in a simple economy:

* the marginal rate of substitution in the MRSC consumption of one farm for the other should be the same for both consumers;
* the marginal rate of technical substitution for MRTS of one production factor per second should be the same for both manufactured goods;
* The marginal rate of transformation of the MRPT product should be equal to the common marginal rate of substitution in MRSC consumption.
* The three above-mentioned conditions, given their general nature, can also be used to determine the conditions of general equilibrium in the situation of many consumers and many factors of production:
* The marginal rate of substitution in MRSC consumption of all commodities should be the same for all consumers;
* The MTR of all manufacturing factors should be the same for all goods;
* The common limit rate of substitution in MRSC consumption should be equal to the common marginal rate of MRPT product transformation for all goods.

Because demand is always a declining feature and a bid for ever-increasing features, there is only one price at which the quantity offered and demand is the same. We call this price the equilibrium price. If, for any reason, a price is offered or demanded less than or equal to the price, either more people will want to buy the item and there will be a shortage in the market, or more people will want to offer the product and surplus goods. If the school had low tuition power, there would be a surplus of students who could not accept it and would not be in classes. If the tuition fee is high, few students will register and the classes will be half-empty. Both situations are disadvantageous. The easiest way to achieve a balance is to adjust the price. When you get a queue with ice cream at the front, you should be rewarded. If no one is interested in your used car, you should be cheaper. There are different methods of achieving market prices on the market. In the Czech economy, it usually adjusts the bidder's price. Petrol pumps are pricing, the supermarket is pricing - they are always tailored to match the offered and demanded quantities. In Arab markets often the price is negotiated. We do not usually do business in our stores, because most of the stores do not sell the item directly to its owner, but a hired salesman, whom the owner did not have the right to bargain for. Where the property is sold directly by the owner, it also contracts with us, for example when buying a used car or flat. For things that are unique and cannot compare the price with other merchants, auction prices are often reached. Sometimes balancing by price is forbidden by law. An example is the Minimum Wage Act. Let's say you are looking for three cleaners in the company, and the equilibrium price that would compare the number of candidates with the number of vacancies would be eight thousand. The law, however, orders you a minimum wage of nine thousand. At this time, it is worthwhile to employ only one cleaner - and instead of the other two, you will get the cleaning machine. On the other hand, applicants for work at the offered salary will receive CZK 9,000 - there will be five job applicants except for you. Instead of accepting only those applicants who are willing to work for eight thousand, you will have to choose one of five based on some other criteria than the required wage. Being on a minimum wage makes you discriminate. (Mach, 2013)

### Conflict between efficiency and fairness

The problem of achieving efficiency in the model of a perfectly competitive pricing system is that an effective situation may not be socially desirable. This allocation can be labeled as economically efficient if redistribution is not possible to improve anyone without harming anyone else; and just when it is connected with a fair distribution of income and wealth.

To determine which allocation is better for a company, it requires comparisons between consumers. There is no single criterion for such a comparison. Searching for allocations that are both effective and equitable deals with the theory of social well-being. It is aimed at finding those allocations that are both effective and fair. Social welfare is understood as a synonym for the level of satisfaction or benefit of members of society. The function of social well-being is an enumeration of the factors that social wellbeing determines. For example, the total amount of products and services; the way in which goods and services are distributed among consumers; the health of society; free time; degree of environmental pollution; political stability and others. (Dohnalová, 2014; Hořejší et al., 2010)

## Welfare Economics

Welfare Economics is a part of economic theory that deals with the effects of the whole economic process and its parts on the welfare of individuals or groups of people. The subject of her research is to define well-being and to find the criteria for its measurement. The welfare economy is often defined by many authors as a normative part of the economy, using the microeconomic apparatus in particular. In the notion of well-being, there is an opinion among the economists. There are three basic approaches to welfare economics:

1. the original welfare economy;

2. a new economy of well-being and the function of social well-being;

3. Alternative Approaches to Welfare Economics.

***Case study - The welfare state***

What links this seemingly unrelated range of government activities to unemployment, sickness, or old age support for specific programs targeting very narrow population groups? The common definition is the forced redistribution of boats, which, of course, has serious economic and ethical consequences.

If redistribution is involuntary, it can be said that from Paret's point of view, its players do not improve in the sum. However, economic inefficiency does not end with a Pareto-ineffective behavior. The state of affluence is often advocated as a form of insurance against certain risks that would be uninsurable on the market. The most general interpretation is redistribution from rich to poor, which reduces income scatter and thus reduces one of the risks a person faces in his life. The market of such insurance does not offer, and since it is still wanted, it is ergo public property. In this context, the so-called Domar-Musgrave effect is mentioned, according to which such "insurance" allows people to engage in activities that are profitable and to which people would not, however, ignore because of the high risk.

It should be noted that it is misleading to equate between redistribution and insurance. We know that the market is insurable only by the risks the insurer does not control, because the opposite case leads to moral hazard. This is precisely why, for example, unemployment in the market is an insurable risk. The reason why risks that "insure" through state redistribution are uninspiring in the market, there is not a high degree of externalities, but also the issue of moral hazard. (Roháč, 2005)

### The theory of social welfare

Social welfare theory is geared to finding allocations that are both effective and equitable.

Social welfare (SW) is seen as synonymous with the level of satisfaction of members of society. Social well-being assesses the state of the economy, which is based on a certain level of social well-being. It seeks ways to achieve a higher level of society's welfare.

The function of social well-being is an enumeration of the factors that social welfare determines.

Alternatively, the welfare of society as a whole depends on welfare, respectively. benefit of all the individual consumers that make up the company. If the n-th consumer is beneficial then, then

The concept of social welfare function was compiled by A. Bergson, who formulated this feature in two possible ways(Bergson 1938, Vojáček 2007):

1. as a function of the well-being of each member of society;

2. as a quantity of consumed products and services by each member of the company

Bergsson combines social efficiency with a certain distribution of usefulness among subjects and defines a social indifference curve that is not smooth and smooth but has a different course.

For simplicity, we will think that the company is only 2 consumers. The social welfare curve W illustrates all the benefits of both consumers, which represent the same level of social well-being. In addition, an UPF achievable benefit curve can be constructed to illustrate different combinations of benefits of two consumers achievable with a fixed amount of commodity produced by an efficient combination of resources. At each UPF point, all three Pareto efficiency conditions are met. The social optimum is located at the point of contact of the UPF curve and the curve W, the so-called bliss point (B). At this point, the company is not the highest achievable indifference curve. (Dohnalová, 2014; Hořejší et al., 2010)

To achieve a certain level of social welfare, it makes sense to accept a certain inefficiency. If the optimal allocation is unattainable, it may be in the public interest to select an inefficient allocation of inputs. In this case, what is sacrificed from the point of view of efficiency is compensated (in the sense of social welfare) by increasing justice.

***Case study***

One of the huge topics is international migration. In many countries, worryingly many political debates about the impact of higher immigration are purely on the home population, and there is an effort to limit immigration to protect national culture or exiting economic interests. Obvious, but too often underestimated, is that immigration is a major asset for most immigrants to the new country. Michael Clemens, senior associate at the Center for Global Development in Washington, quantified these immigration gains in 2011. Clemens found that unregulated immigration can lead to the creation of economic value in the tens of billions of dollars for mi-grants themselves in the form of higher wages in new countries and value added to those who hire or consume the products they produce. It is strange, especially if economics is considered as a science seeking accuracy, that surprisingly small numbers of economists speak of these very high figures. True opening of borders could prove to be a bad solution, especially in countries with welfare states, and could kill a hen bearing the famous golden egg - in this respect, Clemens analysis probably needs some modifications - yet we really should be interested in how the trillions turn into reality. In any case, we have a moral problem here. Imagine that it is your professional duty to develop an analysis that shows the benefits of the liberalization of immigration policy. You would not have thought of doing an analysis that would count only white men - definitely not with specific, specifically written reasons for the distribution of data. So why analyze these benefits only for United States citizens or their residents, which is often done in exploring both international trade and migration? The national state is a good, practical institution, but it certainly does not offer the moral key, according to which we have to choose the people that we will include in our thoughts. That is why commentators dealing with trade and immigration should focus on the cosmopolitan perspective, knowing that the fight with the proponents of nation-state protection will not be easy. Economics has evolved as a more moral and equal approach to addressing social problems, more moral and equal than the views that surrounded it. Let us pamper and try to build on this tradition. The real contribution of economics to human well-being might eventually look completely different than most people expect. (Cowen, 2013)

### Criteria for the growth of social well-being

Smith's criterion by Adam Smith. It considers the growth of the GDP of the economy as a criterion. As production increases, it contributes to the growth of social welfare in two ways:

1. the increase in production means more efficient use of existing resources, thus creating more resources for consumption;

2. with a better use of resources, a higher pension is secured, and people can then afford to buy more goods, which means welfare increases.

The shortcoming of Smith's criterion is that in reality, pensions are getting larger and smaller. There is growing inequality in society. Growth of the product may also not cause welfare growth in society.

Bentham criterion. According to Bentham, social well-being is on the rise if the largest amount of property is distributed among the largest number of people. According to him, the company is divided into individuals who have their benefits.

The shortcomings of Bentham's criterion cannot be solved when the benefit only changes to one subject.

They cannot solve even if the total benefit does not change, but the benefits between the entities will change.

Cardinal criterion. It is based on decreasing marginal utility. It proves that when 100, - a person with a lower pension, is added, the company will bring more wealth than 100, - added to a higher-income entity.

Compensation. As a rule, measures are taken in the company to improve the situation of subject X, but Y will make the situation worse. When comparing, the benefit is expressed through retirement. For example:

* Group A wants to push for measures that will bring it an improvement of 1,000 CZK.
* Group B will bring about a deterioration of 400 CZK.
* And the measure will enforce and compensate B loss by giving them 400 CZK.

A net increment of 600Kč remains. The positive outcome is the growth of social well-being.

Paret's criterion. Well-being is, according to him, the maximum when all three conditions of Pareto's optimum, i.e. the conditions of the general equilibrium, are fulfilled. It is criticized for identifying the maximization of social well-being with achieving economic efficiency. (Dohnalová, 2014; Hořejší et al., 2010)

**Summary**

* Partial Balance Analysis in Microeconomics examines sub-market models as mutually independent.
* The analysis of the overall balance examines the interconnection between markets. Each market is understood here as part of a linked system.
* Abstraction from many real world realities illustrates the 2 x 2 x 2 model of a one-tier economy.
* Achieving a situation of general equilibrium in the model of a simple economy means bringing about equilibrium in production, consumption and production and consumption at the same time. This requires the fulfillment of three efficiency conditions.
* Effective is considered to be the situation in which the resources available to us are divided so that in the presence of more beneficial activities, one of these activities cannot be increased without simultaneously reducing the activity of another.
* Efficiency in the shift occurs when a fixed amount of goods is distributed among consumers so that further redistribution cannot be upgraded to one consumer without simultaneously harming another consumer.
* Efficiency in production occurs when a fixed amount of resources is allocated to the production of goods in the economy so that it is not possible to increase the production of one of the goods without, at the same time, limiting the production of the other farm.
* In the 2 x 2 x 2 model, the general equilibrium occurs when the marginal cost of substitution in MRSC consumption of both goods X and Y for both consumers A and B is equal to the MRPT threshold transformation rate.
* The problem of achieving efficiency in the model of a perfectly competitive pricing system is that an effective situation may not be socially desirable.
* Searching for allocations that are both effective and equitable deals with the theory of social well-being.
* Welfare Economics is a part of economic theory that deals with the effects of the whole economic process and its parts on the welfare of individuals or groups of people.
* Social welfare of SW is understood as a synonym for the level of satisfaction of members of society.
* The function of social well-being is an enumeration of the factors that social welfare determines. Includes: Q is the total number of products and services; D is the way they are distributed; H is the health of society; L is the amount of free time; P is the degree of environmental pollution; With political stability; R is the amount of water precipitation; Other relevant factors.

# ECONOMY OF INFORMATION

Asymmetric information is a market situation where economic operators on one side of the market have more information than entities on the other. With such a situation we can meet very often in the markets and accompany us with many life situations outside of the economy. In this position, we often find ourselves as customers in a car repair shop, patients at a doctor when we need to buy or repair any more complex electronic equipment etc. Similarly, a staff member gets to accept a new employee or a manager seeking his employees to use what best working hours and working well. Asymmetric information, in addition to externalities, imperfect competition and public goods, is one of the causes of market failure.(Dohnalová, 2014; Hořejší et al., 2010)

## Markets with asymmetric information

Asymmetry of information is part of a wider issue of uncertainty that has been a concomitant feature of human life since time immemorial. In economics, he began to play an adequate role, beginning with F.H. Knight's Risk, uncertainty and profits from 1921, and J.M. Keynes's General Theory of Employment, Interest and Money of 1936. The notion of uncertainty in economics was usually associated with an uncertain future. The problem of ignorance and uncertainty with regard to information on the current state of the market has brought F. Von Hayek's economy with its criticism of central planning and, in particular, its famous article "The Use of Knowledge in Society" (The American Economic Review, 35, September 1945) Individualism and Economic Order of 1948. Von Hayek in his approach emphasizes that information is time-based and locally conditioned. Economic actors may interpret information differently depending on their experience, knowledge and motivation. Although von Hayek has never used the concept of asymmetric information, his concept of market as a process for asymmetric information creates a very appropriate theoretical basis.

The modern concept of asymmetry of information emphasizes the fact that our information on the current state of the markets is imperfect and, in particular, that the various market players differ significantly in the quality of their information, which has serious consequences for the behavior of these markets.

Asymmetric information can be considered to be the existence of:

1. Secret activities that mean the impossibility or excessive cost of observing them by other entities. For example, we are not witnesses to the process of producing the goods we buy;

2. classified information that means, one party from market participants has more expertise than the other.

Asymmetric information on markets may be so-called moral hazard and unfavorable choice. (Hořejší et al., 2015)

***Case study - Moral hazard in managerial rewards***

"Moral hazard in managerial rewards is considered to be one of the main factors contributing to the financial and economic crisis between 2007 and 2009," says Hana Žurková, Chief Financial Officer of Orgrez. "That's why managing human potential is one of the key business success criteria."

Moral hazard, according to Jan Urban of the Faculty of Law of the UK, can be defined as a situation in which a subject protected from a possible risk tends to behave differently than if the potential risk was actually exposed. Hana Žůrková deals with the moral hazard, namely: "The possibility of preventing moral hazard at the enterprise level is directly proportional to the form and manner of leadership, to the forms of remuneration and, above all, to the application of personal responsibility for accepted debates and ways of behavior, both by at the level of senior management, as well as at the level of all key employees and employees of the enterprise in general."

According to Hana Žůrková, it is important to determine what the company wants to achieve in order to defeat competition and generate profit - setting the right goals affects the performance of the company, the managers, but also the other collaborators. "Based on these criteria, each company should build its system of incentive programs and boon schemes that will match the chosen performance measurement system." Determining the incentive system so that the financial interests of managers are matched with long-term shareholders' business owners, is one of the solutions to reduce moral hazard. "Reducing moral hazard can also be by incorporating elements of personal responsibility for the consequences of excessive risk generating short-term profit, limiting the often inadequate form of remuneration and establishing severance pay upon termination of the contractual relationship to the reason for termination of employment". (Popovová, 2011)

***Case study - Travel insurance against bankruptcy***

In 2014, the Government approved an amendment to Act 159/1999 governing the terms and conditions for the operation of travel agencies (TA). Changes also apply to compulsory insurance against the bankruptcy. This is regulated in the current law rather unfortunate and does not fulfill the original intention of protecting clients of TA.

Clients are not always fully compensated in the case of TA failure, with TA uninsured. Insurers are being put under pressure to provide offended clients with performance beyond the agreed limits. But they cannot do that. This is not allowed by other laws - the Insurance Act and the Civil Code (formerly the Act on Insurance Policy).

But let's take a look at the whole issue from a different angle and mention some, so far neglected, facts. It is doubtful that the intention itself is to protect clients of the TA. Why, for example, do not protect developer clients from their failure? After all, in this case, the impacts are much more fundamental, meaning a loss of resources even in the order of millions of crowns. Moreover, most of them without the possibility for a long time to deal satisfactorily with their housing needs and thus with a substantial interference with personal life. The spoiled holiday due to the TA's bankruptcy is, in addition, essentially "just" annoyance. The attempt to protect clients of the TA seems, therefore, rather disproportionate. However, this obligation for EU Member States stems from the European directive, so the question of adequacy must go aside.

The State has decided to meet the requirements of the Directive in the form of compulsory insurance against insolvency. However, it seeks to transfer the costs of its commitment to private companies, without the possibility for these entities to effectively control and manage the related expenditure. As otherwise, the provisions of the amendment transferring to insurance companies can be understood as the responsibility for the amount of the negotiated limits and, moreover, to exceed their level. Thus, in practice, the obligation to pay "unlimited" insurance benefits. However, this has nothing to do with the prudential requirements that insurance companies must meet. This would certainly not appeal to the CNB, the crown of the shareholders of the respective insurance companies. Not to mention reinsurance companies.

In virtually all mediated cases of TA failures, we witnessed the same scenario. The moment the owners were clear that the situation was "not going", they continued to sell their tours to unsuspecting clients. And this is extremely unethical, if not fraudulent. It would certainly be interesting to try to find out how high the claims of clients would be to a bankrupt TA if it would cease its activity in time. Maybe we would not have to deal with any problems with under-insurance in these cases. In any case, the requirement of "unlimited" fulfillment is a huge moral hazard in the light of these practices and will lead to even more irresponsible behavior by the owners of the collapsing TA. Additionally, they can even claim indemnity through insiders. Just order "last minute" to order and pay trips. They will then have both payments for trips (they will pay for themselves) and, in addition, payments from the insurance company. Such behavior is called insurance fraud. This is no longer just a moral hazard, but creating conditions for committing a crime.

Under these circumstances, it is clear that insurers will not be able to provide insurance against the bankruptcy of the TA. But what will happen next? According to the aforementioned law, the uninsured TA cannot do business. This would mean that people could buy tours abroad only, either directly or through travel agencies. You do not have to be insured by law. So, the "consumer protection" that this amendment (as differently) shields could protect us against those whom it was originally to help.

However, there are several ways to deal better with the situation. One of them is a guarantee fund. It would contribute directly to the TA, which would oversee the state. In fact, he has the greatest opportunity to check the correctness of the contributions and to intervene in case of irregularities. If the state wished to maintain a variant with compulsory insurance, the guarantee fund could function analogously, as is the case with compulsory liability. The insurance companies would pay part of the insurance premium and would then be the result of the claims of the damaged clients of the TA, which could not be covered due to under-insurance. In practice, however, this would mean that honest TA would pay off those who would be less responsive to the issue of sufficient insurance.

There is one more solution, not mentioned yet. It is based on the deduction of the insured amounts and hence the premium from the actual liabilities of the TA. Thus, the volume of services sold or payments paid by clients. A similar principle is used today, for example, in the ability to repay a loan where premiums are usually deducted from the amount of the outstanding principal or loan. How would it all work? The TA would regularly provide insurers with information about the tours sold and received payments from clients. From this the insurance company deducts the amount of the premium and at the same time determines the limit of the indemnity. It would be payable that every "surrendered" trip would be automatically insured. The risk of under-insurance would be virtually eliminated, because at any moment the insurance company would cover up to the amount of the money actually paid for untapped or unfinished tours.

No matter which solution is ultimately chosen, one is already certain. All changes will be paid by TA customers. It's logical. Better "protection" also costs something. Just nobody told them so far. Unfortunately, the rule is that in proclaiming the struggle for their rights, the essential fact that they have to pay for themselves is also concealed. (Lhotská, 2014)

For example, economic theory of information came along with the theoretical concept of signaling (AM Spence), based on ethology, and showing that a better-informed market side has the intention of improving the functioning of the market and is therefore willing to share it with a poorly informed market share information. There are other ways the market can find solutions to asymmetry of information. J. Stiglitz has developed a similar concept based on careful screening or screening by a less well-informed party. On this basis, a less well-informed subject can improve his or her information and thus stop being better informed on mercy and ruthlessness. (Hořejší et al., 2015)

### Examples of market asymmetry

The consequences of the asymmetry of information have been dealt with by G. Akerlof in his famous and frequently quoted "Market of Lemons" (Quarterly Journal of Economics, 1970). "Citron" is a slang in US English, which has a serious problem, but it is not obvious during a quick search and which the sellers know very well. The problem with the used car market is that it is not possible to distinguish good and relatively cheap cars from cars with serious defects. As a result of this asymmetry of information, buyers are distrustful of the use of cars and the prices of used cars are considerably lower than their age and physical wear. Akerlof points out that even a brand new car purchased on Wednesday for $ 15,000 may already be sold on a much lower price on the market for used car models on Thursday, although its technical condition is the same as on Wednesday. The consequence of this situation is the negative selection associated with the fact that the owners of good cars, for which such low prices are unacceptable, prefer to operate their cars. The market for used cars is dominated by cars with hidden defects.

As a case of the asymmetry of information related to moral hazard and negative selection, theory of efficiency wages can be used. This is one of the theoretical conceptions of the new Keynesian economy. It is based on an effort to explain why wages in modern technology companies are relatively high and do not change even if the unemployed workers of similar qualifications can be found on the labor market. According to the original neo-classical economy, in such circumstances, a profit maximization firm should strive to reduce wage rates (either by hurting existing workers if they do not accept or reduce their wage rates, or if they are unemployed). According to the theory of efficiency wages, the relatively high inelastic wages and salaries cause again the asymmetry of information, coupled with the difficult control of qualified workers in the performance of work activities using state-of-the-art technologies.

The consequences of the asymmetry of information in the form of moral hazard and negative selection can also be very well explained in the problem of agency, which we can cut through in various concepts and model cases in the new institutional economy. Relationship representation arises when one entity (the owner) delegates its rights to another entity representing it and is bound by a formal or informal agreement to secure or promote its interests in a certain area. As a compensation, the represented entity provides him with agreed payments or benefits. There is a great deal of representation in economic life. It may be the relationship of shareholders and managers in a joint stock company, the relationship of the landowner and the tenants of his land, the relationship of workers and managers in the company, etc. This relationship arises at all levels of the hierarchical organizations because the division of property rights occurs in all relations of superiority subordination. These situations are usually characterized by asymmetric information because the agent is much better acquainted with the real state of affairs in the area he represents. That is why he can also abuse his or her in-formative predominance, and it is often damaging for his own benefit. Given that we often have to deal with the prohibitive costs that the deputy would have to spend in order to be adequately informed about the activity of the representative, there is considerable room for moral hazard. (Dohnalová, 2014; Hořejší et al., 2010)

## Asymmetric information

The concept of asymmetric information does not itself imply the justification of state interventions into the economy. In and of itself, including the associated concepts of moral hazard and negative selection, besides regulation and state intervention in the economy, there is also a market solution and can be associated with liberalism.

With significant asymmetry of information, we can see, for example, in education or healthcare. In both cases, we are dealing with activities that do not have the nature of pure private goods, but they are neither pure public goods.

Higher education. Improving the quality of formal education in society is associated with strong positive externalities. In terms of the transition from industrial to post-industrial society, the importance of the quality of education is considerably increasing, on which basis it is possible to cultivate new comparative advantages and to increase the potential output of the economy. It is therefore the company's interest to take care of the quality of educational institutions and to seek tools to improve the quality of higher education institutions.

Obviously, from the point of view of university graduates and their parents, we are dealing with a significant element of asymmetric information. The actual quality of the education provided at a particular university is not sufficient for candidates to convince them when they enter the admission process. They can appreciate it better with sufficient distance after graduation. In the event that they have received very inadequate education, the remedy is not simple. Even if all higher education institutions were private and operating in the education market according to the WTO rules, the market process for the elimination of poor schools would not automatically be successful. Over a longer period of time, however, differentiation and selection will take place, but new ones may emerge and the moral hazard is always threatened by asymmetric information in the sector. Quality institutions can respond by introducing internal evaluation and disclosing information, making selection easier for applicants, but moral hazard cannot be completely eliminated in this way. (Dohnalová, 2014)

***Case study - Asymmetric information and its impact on the market and the quality of further education***

The impact of the subsidies resulting from further education results in an increase in the number of services provided but at the same time leads to a reduction in the price of further education and the reduction of its quality.

In general, this phenomenon is attributed to subsidies and obligations for the implementation of public tenders, where only the price of further education is evaluated or an important part of the evaluation.

Market failure occurs due to asymmetric information, or the market acts as a "unfavorable choice." (Soukupová, Hořejší, Macáková, Soukup, 1998)

Within the UK there are studies that assess the impact of further education on SMEs and their impact on the development of companies in this category. (Storej and Westhead, 1997) Quality further education supports the growth of SMEs and is faster than for non-profit companies.

There are also studies that assess the effect of convergence policy at the macroeconomic level in assisted regions and the effect on their GDP growth. (Beck-era, Eggerb, Ehrlich, 2010). These approaches can also be applied in the Czech Republic, more precisely in the context of NUTS 2 and NUTS developments.

The share of people aged 25-64 who participated in some type of lifelong learning dropped from 10% in 2013 to 9.6% in 2014, to 8.5% in 2015. Compared to the EU, the Czech Republic is below the average of the Member States where the number is 10.7% in 2013 and 2015 (10.6% in 2014). (Statistical Yearbook of the Czech Republic 2016) It shows that ESF money in the CR influences the intensity of further (or lifelong) learning. (ESF 2014 and ESF 2015)

Providers of subsidies such as the Ministry of Labor and the Ministry of Labor and Social Affairs of the Czech Republic do not have real tools for the evaluation and measurement of further education supported by them. The effort is made by the "Draft" project, which recommends a system for measuring the quality of further education (Bezděková, 2012). It has links to the Act 179/2006 Coll., however, these recommendations do not yet have practical use.

Quality is neglected and the amount of further education / training provided is high, the amount being dependent on the intensity and amount of the subsidies.

Critical voices that cast doubt on the legitimacy and effectiveness of these subsidies with a view to increasing the performance of businesses and the economy. However, the problem is the market crash / market failure and the market environment where there is a bad selection of services in the field of further education.

Moral hazard - Decision making takes place in the context of uncertainty. There is asymmetric information and a problem of moral hazard. The proxy has a tendency to act only on his / her own interest, allowing him / her to have a secret activity or information. (...) In a limited number of cases, it is possible to force the proxy to act as much as possible for the tenant by observing his activity, but this can only be achieved with additional costs. (Soukupová, Hořejší, Macáková, Soukup, 1998; Harris, 2003).

Current global trends in evaluating further education in companies are based on rising costs of measurement and evaluation. On average, 3-5% of the human resources development budget. Companies deviate from measuring responses to the training course and focus more on measuring how knowledge and skills are applied - what are the impacts - measured by the ROI. This trend is also reflected in the planning and use of methods within training programs. (Phillips and Phillips, 2016)

In response, we can see a shift in managerial thinking. E.g. Mann (1996) reported back 20 years ago that companies do not collect information about the effectiveness of their own educational programs, and the measurement of responses by participants in further education is most often used.

If further education is understood as an investment, it is necessary to behave like any other business investment. It must then demonstrate decision-making based on profitability. Learning outcomes must be visible. Evaluation is a key tool here. (Pindea, 2010) If the company wants to check the quality of further education and thus the services provided.

The quality of further education should take precedence over quantity. However, companies do not have the possibility to effectively verify quality based selection (especially where there is a significant proportion of the price as a selection criterion) as a result of the competition rules. They choose without sufficient information about service providers and companies.

Possible signaling behavior that would lead to overcoming the unfavorable selection. (Soukupová, Hořejší, Macáková, Soukup, 1998).

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LIST OF SYMBOLS USED AND ABBREVIATIONS

|  |  |  |
| --- | --- | --- |
| Q  P  T  TC  TR  M  A  AR  U  TU  MU  MRSC  MRSE  C  H  L  K  MPL  MPK  MC  MR  MRTS  PPF  MRPT  SW  UPF  B |  | Amount  Price  Total quantities  Total Costs  Total Revenue  Marginal (additional, incremental, marginal)  Average  Average Revenue  Benefit  Overall benefit  Ultimate benefit  Limit rate of substitution in consumption  Limit exchange rate substitution  Consumption  Leisure  Work  Capital  The boundary product of the work  Limit product of capital  Marginal costs  Limit earnings  The limit of technical substitution  Boundaries of production possibilities  Limit rate of product transformation  Social welfare  The limit of achievable benefit  Point of bliss |

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[P 1: COLLECTION OF SOLVED EXAMPLES AND TASKS i](#_Toc523994357)

P 1: COLLECTION OF SOLVED EXAMPLES AND TASKS

This section contains solved examples, tasks, and test questions. (Dohnalová, 2014; Dobeš, 2010; Paličková, 2012; Macáková et al. 2008; Hedija, 2010)

## ****Solved example:****

1. **Ceteris paribus means:**

a) Under different circumstances

b) Under otherwise the same conditions

c) The general equilibrium rule

1. **Economics as a science discipline develops on the basis of:**

a) New discoveries in mathematics

b) Increasing money in the economy

c) The mistakes made by economists in the past

1. **Subjectivity in economics means:**

a) Each entity behaves differently on the market

b) Each economist can have different solutions and explanations for certain economic phenomena

c) Subject to market

Solution: **1b, 2c, 3b**

Tasks: true / false

a) The most prominent work of English economist J.M. Keynes is "The General Theory of Employment, Interest and Money", first published in 1936.

b) Macroeconomics monitors decision-making processes and the economy as a whole only by the eyes of one sub-economic entity such as a household or firm.

c) Economics is a natural science, and therefore must always use the mathematical apparatus to the fullest extent possible.

d) Microeconomics puts various questions, such as how many companies have to buy resources and how many pieces of final production to produce per time unit.

e) The claim that economic freedom and independence is only conceivable in a market economy is an example of a positive statement, as many economists with this statement unreservedly agree.

f) Each economic school is based on a certain philosophy - certain assumptions on which it builds its theoretical apparatus and, on its basis, formulates recommendations for economic policy.

Solution: a) T; b) F; c) F; d) T; e) F; f) T

## ****Solved example:****

Which of the following products is positive and normative?

a) The price of Brent crude oil has been in the range of 100 to 120 USD per barrel since the beginning of 2011.

b) If all employees in the Czech Republic were evaluated in 2012, then their wages would be CZK 25 112.

c) Domestic real GDP decreased by 1.2% in 2012, with declines in year-on-year terms in the individual quarters.

d) Unemployment among school leavers in EU countries has been increasing since 2008, so the EU should take action to reduce it.

Solution:

1. *Positive*
2. *The first part of the sentence is normative and the second part is positive*
3. *Positive*

*d) The first part of the sentence is positive and the second part is normative*

## ****Solved example:****

Which of the following situations is concerned with microeconomics and macroeconomics?

a) Economic activity in advanced world economies in 2012 stag-novala.

b) The company invests in the purchase of capital goods in the case of high returns of deposited funds.

c) Household consumption expenditure in the Czech Republic has been decreasing since 2008.

d) The household's decision how much to save will depend on the size of its disposable income.

Solution:

1. *Macroeconomics*
2. *Microeconomics*
3. *Macroeconomics*
4. *Microeconomics*

Tasks: true / false

a) The most prominent work of English economist J.M. Keynes is "The General Theory of Employment, Interest and Money", first published in 1936.

b) Macroeconomics monitors decision-making processes in the economy through household or business behavior.

c) Economics is a science of exact science, and therefore, to the fullest extent, use mathematical tools to explain all economic phenomena.

d) Microeconomics seeks answers to the question of how much a company buys resources to produce a given volume of production for a particular time unit.

e) The claim that economic freedom and independence is dependent on the amount of capital the individual has, is an example of a positive statement, because many economists agree with this statement.

f) Each economic school is based on a certain philosophy - certain assumptions on which it builds its theoretical apparatus and, on its basis, formulates recommendations for economic policy.

***Solution:*** *a)* ***T****; b) F; c) F; d) T; e) F; f) T*

## ****Solved example:****

Use the A, B and C points on the production curve to produce two types of goods - state and private sector (A, B and C are three economies in which the government plays a more or less active role):

a) Economy in which the government intervenes as little as possible.

b) An economy in which the government taxes the population at high rates and provides a large number of social services.

c) An economy that adequately leaves enough room for the private sector but also provides a reasonable amount of government services.

***Solution:***



Tasks: true / false

a) Under the term "invisible hand" we understand the influence and interaction of hidden engagement groups (lobby).

b) The increase in inventory of capital goods requires a temporary reduction in current consumption.

c) We consider the rare estate to be one that exists in a limited amount.

d) Soil is the primary production factor, because it is historically the first used production factor.

e) Drinking water in cities can be described as an economic estate that was formerly a free farm.

f) In terms of use, we can divide the economic goods into capital goods (intermediate and long-term capital goods) and consumer goods.

***Solution:*** *a) F; b) T; c) T; d) F; e) T; f) T*

## ****Solved example:****

The picture shows a shift in demand for urban public transport from D0 to D1. Which of the following events could have caused this shift?

(a) lowering gasoline

b) increase in the price of passenger cars

c) the decline in the wages of public transport workers

(d) advertising campaign for the use of public transport services

P

S

D0

D1

Q

***Solution:***  *b) + d)*

## ****Solved example:****

How will the following facts be reflected in the car market?

a) Increasing the market price of cars;

b) Increasing competition in the car market;

c) Increase in car production costs.

***Solution:***

a) shift over the supply curve - growth of the offered quantity

b) shift the supply curve to the right - to increase the bid

c) move the menu curve to the left - drop the menu

Tasks: true / false

a) The market is the place where the interests of buyers and sellers are coordinated automatically by the action of market forces.

b) If the government reduces customs duties on imports of apples, the price of domestic production will rise.

c) For all types of goods, consumer demand increases as well.

d) Gasoline price increases will cause an increase in demand for food.

e) The pension effect of price change means a change in the demanded quantity caused by a change in the price of the farm causing a change in the real income of the consumer, which affects the quantity purchased.

f) Demand function indicates the relationship between the farm price and the quantity purchased.

g) Changing the price of the goods will cause a change in market balance and a new balance point will be created.

h) Potato madness in a given year will reduce the prices of bread and rolls.

Solution: a) T; b) F; c) F; d) F; e) T; f) T; g) F; h) F

## ****Solved example:****

The consumer has $ 50 a week to spend either on X commodities (the price is $ 5) or the Y commodity (prices are $ 4). For each of the following cases, determine whether or not the consumer is "in balance" (reaching maximum satisfaction - that is, at the optimum level).

If you have insufficient information, explain why. If you know that the consumer is not in balance, set the desired direction of movement: i.e. buy more X and less Y, less X and more Y, more of both commodities, etc.

***Solution:*** *It is not possible to determine whether the consumer is in balance because the marginal benefits are not given. The consumer should buy more X or less Y. The consumer achieves balance and spends the entire income. The consumer should buy more than two commodities (the MU ratio for the price is the same for X and Y, but the whole pension is not spent).*

## ****Solved example:****

a) The consumer is currently purchasing 2 units of X and 10 Y units. The total benefit of consumption of commodity X at this level of consumption is 500 units of utility. The total benefit from the consumption of commodity Y is 400 units of utility.

b) The consumer now purchases 6 units of X and 5 Y units. The total benefit from consumption of commodity X is 400 units of utility and MUX = 60; the total benefit from Y commodity consumption is 800 units of utility and MUY = 30.

c) The consumer now purchases 6 units of X and 5 Y units. MUX at this level of consumption equals 25 units of utility, MUY 20 units of utility.

d) The consumer now purchases 6 X and 4 Y units. The MUX at this level of consumption is equal to 25 units of utility, MU 20 units of utility.

***Solution:***

*a) it is not possible to determine whether the consumer is in balance because the marginal benefits are not given.*

*b) the consumer should buy more X or less Y*

*c) the consumer achieves balance and spends the entire income*

*d) the consumer should buy more than two commodities (the MU ratio for the price is the same for X and Y, but the whole pension is not spent).*

## ****Solved example:****

The equation for the development of the total benefit in the consumption of rolls can be expressed in the form: TU = 10Q - Q2, where Q is the amount of consumed rolls per day.

a) Set the marginal benefit equation.

b) At what level of consumption does the overall benefit decrease?

***Solution:***

1. MU = d TU/ d Q = 10 – 2Q
2. TU is maximum when MU = 0, then 10 – 2Q = 0 → Q = 10

## ****Solved example:****

Mary likes to drink lemonade (x) and also likes her chocolate (s). Both of these goods are good for her. The utility function of Marie from the consumption of lemonade is shaped U=12x- x2. (Hedija, 2010)

a) Write down the marginal benefit of Marie from the consumption of lemonade and determine what its ultimate and total benefit is after drinking 4 dcl of lemonade.

b) Determine how many dcl lemonade is sated

***Solution:***

*a) The marginal utility tells how the total benefit in the consumption of the additional farm unit x changes.*

*MU = ΔTU / Δx with small changes we can write ∂TU / ∂x*

*Because we have a function of total benefit written by the function, we use derivations*

*MU= ∂TU/∂x*

*MU = ∂(12x- x^2)/∂x*

*MU = 12 – 2x*

*The total and total benefits after consumption of 4 dcl of lemonade are calculated by reaching the total and marginal utility*

*TU = 12x- x^2 (pro x=4)*

*TU = 12.4 – 4^2 = 48 – 16 = 32*

*MU = 12 – 2x (pro x = 4)*

*MU = 12 – 2.4 = 4*

*The Marginal Benefit Function of Marie has the form MU = 12-2x, its total benefit of a consume of 4 dcl of lemonade is 32 and the marginal benefit of the fourth dcl is 4.*

*b) The saturation point of Mary corresponds to so many units of the x farm, when it is true that the consumption of the additional unit of farm x does not change the overall benefit of the consumer. Therefore, TU is the maximum and MU is equal to zero. We are looking for x such that MU (x) = 0*

*MU = 12 – 2x*

*0 = 12 – 2x*

*x = 6*

*Marie is saturated with 6 dcl of lemonade.*

## ****Solved example:****

Let us suppose now that the utility function of Mia from the consumption of both goods - both lemonade and chocolate - has the form U = x.y. (Hedija, 2010)

a) Draw the indifference curves

b) Specify the limit of substitution in consumption. What is its height for a basket comprised of 5 x and 10 y units?

***Solution:***

*a) U = x.y ......... From the form of the utility function, we will recognize that it is a Cobb-Douglas preference. Indifference curves will therefore be decreasing and perfectly convex. In order to draw the indifference curves well, we will always assign two points in the graph and we will. We choose any level of utility, and we determine combinations of assets that allow May to achieve this level of utility.*

*For example: U = 10*

*We can now write the utility function as follows: 10 = x.y*

*We can now find a combination of x and y that yields 10*

*e.g. x = 1*

*10 = 1.y then y=10*

*y=1*

*10 = 1.x then x=10*

*We are proceeding the same way. We will now choose a higher level of benefit. E.g. U = 20 and repeat the previous procedure.*

*20 = x.y*

*We find two baskets, corresponding to this level of utility, and their joining gets another (higher) indifference curve.*

*x = 10*

*20 = 10y ...... y = 2*

*y = 10*

*20 = 10x .... x = 2*

*Both drawings are plotted in the graph*

*b) MRSc = Δy/Δx nebo -MUx/MUy*

*We will use a second formula.*

*MUx = ∂U / ∂x ........... partial derivative of the utility function according to x*

*MUx = ∂ (x.y) / ∂x*

*MUx = y*

*MUy = ∂U / ∂y ........... partial derivative of utility function according to y*

*MUy = ∂ (x.y) / ∂y*

*MUx = x*

*MRSc = y / x*

*The limit rate of substitution in consumption for 5 units x and 10 units of y is determined by reaching the derived relation*

*MRSc = - y / x = - 10/5 = - 2*

*Marie is willing to sacrifice two units of y (chocolates) for unit x (lemonade)*

## ****Solved example:****

Mr Jaroslav is to buy the lemonade (x) and cola (s) for the weekend. Both products are good for him and his utility function is U = 2.x.y2. His favorite cola stands at 8 crowns, and lemonades are 10 crowns. His wife gave him 210 crowns to buy. Calculate how many lemons and colas Mr. Jaroslav will buy. (Hedija, 2010)

***Solution***

Optimum consumer condition:

MRSc = MRS[E]

MRSc =-MU[x]/MU[y]

MU[x ]= ∂TU/∂x = ∂(2.x.y^2)/ ∂x= 2.y^2

MU[y ]= ∂TU/∂y = ∂(2.x.y^2)/ ∂y= 4.x.y

MRSc =-MU[X]/MU[Y] = 2.y^2/4.x.y = y/2.x

MRS[E] = -P[x]/P[y] = 10/8

Now we can write: MRSc = MRS [E] → - y / 2.x = -10/8 → y / 2.x = 10/8

However, the consumer is limited by income and property prices:

P [x] .x + P [y] .y = I, insert

10.x + 8.y = 210

We now solve a set of equations of two unknowns:

y/2.x = 10/8

10.x + 8.y = 210

y/2.x = 20/8 /.2.x

y = 20.x/8

y = 5.x/2

10.x + 8.(5.x/2) = 210

10.x + 20.x = 210

30.x = 210 /:30

x = 7

y = 5.x/2 = 17,5

Mr. Jaroslav will buy seven bottles of lemonade and seventeen bottles of cola.

## ****Solved example:****

The indentation curve and the budget line are shown in the figure below. We know PX = 20 CZK. Specify:

a) pension

b) the cost of the Y (PY)

c) the equation of the budget line



***Solution:***

1. I = PX . QX = 20 . 50 = 1000Kč
2. PY = I / QY = 1000 / 40 = 25
3. I = PX . X + PY . Y → 1000 = 20 QX + 25 QY

## ****Solved example:****

Pizza demand is described by the equation: Q = 1600-14P. Specify:

a) How large are the total consumer spending (or sales vendor's) when consumers purchase 200 pieces of this pizza?

b) What is the price elasticity of pizza demand at the level of 200 pieces sold?

c) How can a pizza dealer increase his overall income?

***Solution:***

*a) TR = P. Q; we know that Q = 200 → 200 = 1600 - 14P → P = 1400: 14 → P = 100; TR = 100. 200 = 20,000*

*b) EDP = 1 / Directive. P / Q; then EDP = 14. 100/200 = 7*

*c) lowering the price*

Tasks: true / false

a) If the demand for certain goods is elastic, the total income from the sale of these goods will decrease as the price decreases.

b) The law of decreasing utility means that with the increase in income, the need for everything decreases.

c) Anything that increases the overall benefit - assuming ceteris paribus - has tendency to increase the marginal benefit.

d) The limit rate of substitution of Y for the estate X expresses the indifference curve directive.

e) Rare goods have a higher relative value of substitution

f) When the household is in equilibrium, then MU of one commodity must equal MU's other goods.

g) The reduction of all absolute prices by half will result in double the real income (otherwise the same conditions).

h) The indifference curves of one rationally behaving consumer may intersect.

i) The demand curve can be understood as the set of points of the consumer's balance in the change of the price of the farm X, the fixed income and the prices of the other goods.

***Solution:*** *a) T; b) F; c) F; d) T; e) T; f) F; g) T; h) F; i) T;*

## ****Solved example:****

The company has the choice of the following combinations of labor (L) and capital (K). Know the ratios of marginal physical products for each technology combination A to E:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| combination | A | B | C | D | E |
| MPPL/MPPK | 4 | 3,5 | 3 | 2,5 | 2 |

The price of the work is 5 CZK and the price of the capital is 2 CZK. Specify:

a) What combination of inputs maximizes profit?

b) What happens to the optimal combination if the price of the work drops to CZK 4?

c) Draw the same cost line for original prices and TC = 100 CZK. Next, write the equation of this line.

***Solution:***

a) MPPL / MPPK = PL / PK → D

b) Change of combination to E

c) Line equation: 100 = 5L + 2K

## ****Solved example:****

The wage of the worker is CZK 60 / h, the cost of operating the machine is 200 CZK / h. The physical product is 180 pieces per hour. What is the ultimate physical product of a machine if this company maximizes profit?

***Solution:*** *MPPS = 600 pcs*

## ****Solved example:****

We have a short-term production function in the form of:

Q = 150L + 40L2 - 3L3

a) Write the equation of the marginal work product.

b) Write the equation of the average work product.

c) Determine the value of the marginal work product for the 6 units used.

***Solution:***  *a) MPPL = 150 + 80L – 9L2; b) APPL = 150 + 40L – 3L2; c) MPP6 = 306*

## ****Solved example:****

The breeding function of sunflower seeds produced in a small bakery is described by the function:

Q = 2L1 / 2 \* K1 / 2

where Q is the amount of loaves produced per week, L is the weekly number of hours worked, and K is the number of machine hours per week (i.e. weekly active use of machines).

a) The bakery normally consumes for its weekly production 150 loaves of 100 hours worked and 100 machine hours. How would you rate the management work if you were a baker?

b) Find five combinations of inputs that are suitable for producing 200 loaves of bread a week.

Solution: a) From the equation of production function it follows that when using the given amount of "work" and "capital" the output should be 200 loaves per week. Management therefore does not manage the bakery efficiently if it produces only 150 loaves.

b) Put into equation: 200 = 2L1 / 2 x K1 / 2; we choose one of the variables and the other we count. E.g. combination L = 25, K = 400

## ****Solved example:****

You know the short-term cost function of a small woodworking plant:

TC = 3000 + 30Q - 12Q2 + 2Q3

Specify:

a) fixed costs (FC)

b) average fixed costs (AFC) per 1 000 output units

c) the marginal cost (MC) of the fifth output unit

d) variable costs (VC) per 5 output units

e) the average cost formula

***Solution:*** *a) FC = 3 000 CZK; b) AFC1 000 = 3 CZK; c) MC5 = 60 CZK; d)VC5 = 100 CZK; e)AC = (3 000/Q) + 30 – 12Q + 2Q2*

## ****Solved example:****

The company sells 10,000 products per year. The price of one product is 50 CZK. What will be the average income (AR) of a company?

a) AR = 500 CZK

b) AR = 50 CZK

c) AR = 5000 CZK

d) AR = 50,000 CZK

e) cannot be accurately determined

***Solution:*** *b)*

## ****Solved example:****

The production of a private farmer is defined by the production function according to the table below. The main factors of production are labor expressed in terms of number of employees and land in hectares. Production is expressed in tones of agricultural production.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| labor | Land in hectares | | | |
| 10 | 15 | 20 | 40 |
| 1 | 20 | 20,67 | 21,00 | ⎯ |
| 2 | 38 | 39,33 | 40,00 | ⎯ |
| 3 | 54 | 57,00 | 58,50 | ⎯ |
| 4 | 68 | 72,67 | 76,00 | ⎯ |
| 5 | 80 | 87,33 | 92,50 | ⎯ |
| 6 | 90 | 102,00 | 108,00 | X |

a) What is the ultimate physical product of the soil (assuming it is constant) when increasing the amount of soil from 10 to 15 hectares using six units of labor?

b) What is the ultimate physical product of the fourth unit of labor using 20 hectares of soil?

c) What are the yields of the land?

d) What are the yields on the scale of work?

e) What are the yields on the scale of production as a whole?

f) What must be the total physical product (TPP) corresponding to six units of work and forty units of land (see table) to maintain constant yields on the scale?

***Solution:*** *a) MPPP = 2.4; b) MPPL = 17.5; (c) land shows declining yields; (d) work shows declining earnings; (e) production shows constant yields on a scale; f) TPP = 117*

## ****Solved example:****

Suppose the company produces 200 units of goods (Q), which is produced using inputs: labor, land and capital. Further information is provided in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| input | land | labor | capital |
| Inputs used | 10 | 30 | 20 |
| Price of 1 unit of input  MPP input | 2 | 1 | 3 |
| MPP input | 2 | 3 | 1 |

a) Determine Total Expenses for Applied Factors (TC).

b) Is the cost minimization rule met? Why?

Also leave aside the land and compare only labor and capital (consider the amount of land used to be fixed)

a) How much will the total physical product increase if we add 1 unit of work?

b) How much does the production of goods increase when we add 1 unit of capital?

c) How much each of the additional production units costs, if we add

1 unit of work?

d) How much will the additional unit of production become if we add a unit of capital?

e) What would be the change of output in the case of a reduction in the use of capital by 3 units and an increase in the use of labor by 1 unit? (Assume both MPPK and MPPL are constant)

f) How would total costs (TC) change in g)?

g) What would you recommend to a business to minimize costs?

***Solution:*** *a) TC = CZK 110; b) Cost minimization rule is not met; c) change of Q = 3; d) change Q = 1; e) CZK 0.33; f) CZK 3; g) change of Q = 0; h) change TC = - CZK 8i)* ↑L ⇒ ↓MPPL and ↓K ⇒ ↑MPPK

Tasks: true / false

a) The implicit cost is the value of the worst possible unrealized alternative.

b) If the company only achieves a normal profit, it does not cover all the costs associated with the production.

c) When comparing the production of yogurt and refrigerator, the minimum AC will be closer to the beginning of yogurt production.

d) The average income is equal to the price of production only in the case of perfect competition.

e) The typical "U" shape for the average fixed cost curve.

f) The TC, AC, and so on curves in economic theory represent total economic costs (including implicit costs).

g) If output is growing at a faster rate than proportional growth of all inputs, long-term production function shows rising yields on the scale.

h) The law of decreasing yields always applies in the long run.

i) In the short run, all inputs are variable.

j) When moving in a downward direction, the absolute value of MRTS decreases, with the result that the isobant becomes increasingly flat (thus having a convex shape).

k) The cost minimization rule serves the company as a criterion for choosing an equally serious (gain maximizing) output level.

l) Production function is the technical name for the relationship between the minimum amount of output and the required inputs.

m) If technology shows for all inputs decreasing revenues from variable inputs, then the case of rising yields cannot occur in the long run.

n) For the shape and amount of costs, the features of the production function and the input costs are decisive.

o) The MC curve intersects the AFC curve at its minimum.

p) The total costs (TC, VC, FC) and unit costs (AC, AVC, AFC, MC) cannot be drawn in one chart as they are measured in other units.

q) If a company only achieves a normal profit, it does not cover all costs associated with production.

r) Total profit represents the difference between TR and TC.

***Solution:*** *a) F; b) F; c) T; d) F; e) F; f) F; g) T; h) F; i) F; j) T; k) F; l) F; m) F; n) T; o) F; p) T; q) F; r) T*

## ****Solved example:****

The following figure shows the short-run cost curve of a perfectly competitive company. Specify:

a) Which price is the limit for terminating the business?

b) At what price does the company achieve only a normal profit?

c) What are the average fixed costs at this price (AFCD)?

d) What is the price range the company is willing to produce in a short period of time with loss?

e) Which curve represents the company's curve in a short period of time?

f) In which price range is the company able to achieve extraordinary profits?

***Solution:***

a) B; b) D; c) between R and P, so AFCD = D-C; d) The company is willing to produce with a loss in price range B to D; e) The MC curve from point K above; f) From price D above

## ****Solved example:****

The company is in a perfectly competitive market in a short period of time. It produces CZK 40 with average fixed costs and average variable costs of CZK 70. Your product sells for 100 CZK. This company:

a) will produce because its profit is 30 CZK from the product

b) will not produce because the average fixed costs are lower than the price

c) will not produce because it has a loss of CZK 10 per product

d) will produce at a loss because the price is higher than the average variable cost

e) none of the answers is correct.

***Solution:*** *d)*

## ****Solved example:****

The function of the total cost of a perfectly competitive company in the furniture industry can be described by the equation:

TC = 2,000 + 2Q + 0,1Q2 + 0,005Q3

Every company in the industry maximizes profit and manufactures 100 pieces of furniture per month. What is the market price of furniture manufactured by companies?

***Solution:*** *P = 172 CZK*

## ****Solved example:****

Costs for the following business are as follows:

AC in the long term = 30 CZK / pc

AFC = 12 CZK / pc

AVC = 21 CZK / pc

In the table below, check the appropriate decision of the company in the short and long term at the individual production prices.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Price | The decision in the short term | | | The decision in the long term | | |
| Production with profit | Production with loss | End of production | Production with profit | Production with loss | End of production |
| 35 |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |
| 20 |  |  |  |  |  |  |
| 31 |  |  |  |  |  |  |
| 28 |  |  |  |  |  |  |

***Solution:***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Price* | The decision in the short term | | | The decision in the long term | | |
| Production with profit | Production with loss | End of production | Production with profit | Production with loss | End of production |
| *35* | *X* |  |  | *X* |  |  |
| *10* |  |  | *X* |  |  | *X* |
| *20* |  |  | *X* |  |  | *X* |
| *31* |  | *X* |  | *X* |  |  |
| *28* |  | *X* |  |  |  | *X* |

## ****Solved example:****

The price of the product that is manufactured by a perfectly competitive company is 90 CZK. Fixed costs of the company are 40 CZK and the variable costs are for one product 40 CZK, two products 110 CZK, three products 160 CZK, four products 230 CZK, five products 320 CZK, six products 420 CZK. What is the optimum volume of production?

***Solution:*** *Q = 5*

## ****Solved example:****

Assume you're considering harvesting and selling firewood in a certain time horizon. You are moving in a perfectly competitive market. The current price of firewood is CZK 70 per tent, short TC are described by the function:

TC = 800 + 16q + q2 (where q denotes the number of strokes per month.)

a) What output maximizes profit?

b) Calculate short-term gains (or losses).

c) Is this company meeting the rule to produce only if it pays VC? Should she produce?

***Solution:*** *a) MC = MR = P = 70; q = 27; b) The company has a loss of CZK 71 at its optimum point; c) Yes, the firm should minimize the loss by continuing production (P> AVC) in the short run.*

## ****Solved example:****

Four companies together create a perfectly competitive industry. Their individual offers are determined by the following equations:

Q1 = P / 4-2; Q2 = P / 5 - 3; Q3 = P / 4-4; Q4 = P / 10-5

Specify the market offer equation.

***Solution:*** *Market offer curve is a horizontal sum of individual bids (we add the amount that all companies are willing to offer at a certain price): Q = 4P / 5 - 14. The procedure is similar to the construction of the market pop-trace curve. This is a short-term market offer provided the price of inputs does not change. If input prices change (increased demand increases production and demand for inputs, which entails an increase in their prices) or if we consider the demand in the long term (the changes in the number of companies on the market) - the market supply could not be constructed simply by the horizon- total sum of individual bid curves.*

Tasks: true / false

a) If companies achieve only a normal profit, does it mean that net economic gain is zero?

b) If variable costs are consistently higher than total income, the firm should cease activity in the industry.

c) The company in perfect competition should produce at the level of minimum marginal costs.

d) Asymmetric information is a prerequisite for a model of perfect competition.

e) In a perfectly competitive industry, under no circumstances can positive net economic gains be achieved.

f) Economic theory understands perfect competition as a market situation without state interference.

g) As demand grows, price increases most in a very short period.

h) A perfectly competitive company always strives to produce at a point corresponding to the minimum curve AC.

i) If VCs are consistently higher than TR, the firm should cease operations in the industry.

j) Compensation firms may continue to operate for the short term, hoping that other firms will leave the industry first and, as a result, increase the price.

k) Perfectly competitive firms produce completely identical products (a homogeneous product).

l) In the long run, a perfectly competitive company must only realize a net economic profit.

m) The presumption of perfect information of all subjects is a necessary prerequisite for a model of perfect competition.

n) If the price at which products of the highly competitive industry are sold is higher than the long-term minimum AC, then new firms will enter the industry.

o) The consumer surplus of all consumers in the last purchased unit must be in equilibrium equal to zero.

p) MU> MC indicates that a particular farm is produced and consumed little. Efficiency can therefore be increased by relocating resources to produce this farm.

q) The web model theorem is a simple dynamic model of market equilibrium implying a supply-side delay.

***Solution:*** *a) T; b) T; c) F; d) F; e) F; f) F; g) T; h) F; i) T; j) T; k) T; l) F; m) T; n) T; o) T; p) T; q) T;*

## ****Solved example:****

The demand curve after the monopoly producer's monthly output is given by the following equation: Q = 10 000-10 P. If MC production is constant and equal to CZK 10. Specify:

a) how big (Q) is produced by this manufacturer to maximize profit per month and at what price (P) will one unit sell?

b) what would be the production and the price, provided the market is perfectly competitive?

***Solution:***

1. MC =MR → Q → P from the equation of demand for monopoly products;
2. MC = MR = P

## ****Solved example:****

The market demand curve is given by: P = 80 - 2Q, part of the market demand that is dominant to the firm can be expressed as: p = 40 - q. For the cost of a Domestic Business, the following applies: AVC = MC = 10 CZK (assuming linear VC) and FC = 25 CZK. All businesses in the industry maximize overall profit. Calculate:

a) the volume and cost of production of the dominant firm

b) the volume and cost of production of small firms of the so-called competitive edge.

***Solution:***

*a) MC = MR dominant company → PDF = 25Kč, QDF = 15*

*b) Put the PDF into the equation of the market demand curve and find QT = 27,5 → QKL = 12,5*

## ****Solved example:****

The individual demand curve after the output of the company producing in conditions of monopolistic competition is given by the equation: P = 140 - 5Q. The cost function is expressed by the equation: TC = 50 Q + 50. Calculate:

a) the quantity and cost of production of that firm, provided that the firm maximizes profit;

b) the size of the company's total profits under the given conditions.

***Solution:*** *a)*MC = MR → Q = 11a P = 85; b) π = TR – TC = 335

## ****Solved example:****

The monopoly manufacturer has MC = AVC = 9 CZK (assuming VCs are linear). The market demand curve is given by: Q = 81 - P. The manufacturer's fixed costs are 108. Calculate:

a) the volume of production and the price at which the monopoly maximizes total net economic gain,

b) the surplus of the consumer in the case of a monopoly situation,

c) monopoly overweight,

***Solution:*** *a) MC = 1000, MR = 3000 – 0,02Q; b) QM = 100 000, PM = 2 000; c) 99 800 thousand.*

## ****Solved example:****

The computer production company has a fixed production cost of CZK 200,000, each unit costing 600 CZK of work and 400 CZK of material and fuel. For a price of $ 3,000, consumers would not buy any computer, but with any price cut of $ 10, computer sales would increase by 1000 units. Calculate:

(a) marginal costs and marginal income of the firm,

b) determine its monopoly price and quantity,

c) the monopoly overhead of the company,

***Solution:*** *a) MC = 1000, MR = 3000 – 0,02Q; b) QM = 100 000, PM = 2 000; c) 99 800 thousand.*

## ****Solved example:****

A monopolistically competitive company tracks profit maximization. The total cost of the company expresses TC = 3q2 + 2q + 4 and the average AR = 98-5q.

a) Calculate the equilibrium price and the company's balance under the given conditions.

b) Determine the maximum profit margin under the above conditions.

c) Can you determine the fixed costs of this company? (If yes, calculate their size).

d) Calculate the price elasticity of demand at the profit maximization point

***Solution:*** *a) QM = 6, PM = 68; b) z = 284; c) yes, FC = 4*

## ****Solved example:****

We consider the situation of imperfect competition - oligopoly with the dominant company. Market demand is given by Q = 600 - P / 2. Fixed costs of the dominant company are $ 10,000, and for the production of each piece of product X, the company has to use raw materials worth CZK 100 and work worth CZK 200. For this company, it is also true that at CZK 900 it would no longer buy its products, and by any price reduction of CZK 30, the sale of the product would increase by 20 pieces. Calculate:

(a) the price of the product and the amount for which a dominant firm will sell on that market, maximizing its profit;

(b) the price and quantity of the product concerned on the competitive edge;

(c) the size of the dominant firm's profits;

(d) the surplus of the consumer;

e) price elasticity of market demand;

***Solution:*** *a) qDF = 200, pDF = 600 CZK; b) pLEMU = 600 CZK, qLEMU = 100; c) π = 50 000 CZK; d) PS = 90 000 CZK; e) EDP = 1*

## ****Solved example:****

The individual demand curve after the output of the company producing in conditions of monopolistic competition is given by the relation P = 140 - 5Q and the cost function is given by TC = 50 Q + 50.

(a) the quantity and cost of production of that firm, provided that the firm maximizes its profits,

(b) the size of the company's total profits under the given conditions.

***Solution:*** *a) Q = 9 P = 95; b) z = 354,6*

Tasks: true / false

a) The demand curve of the monopoly is also a market demand curve.

b) The monopoly production price is always lower than the monopoly marginal revenue.

c) The monopoly in price creation does not respect the market demand for a given product.

d) In order to determine the optimum output level, the monopolist always needs to know the size of marginal costs.

e) Monopoly power can be expressed by the Lerner index.

f) A natural monopoly implies increasing revenue from the scale in the production of a given farm.

***Solution:*** *a) T; b) F; c) F; d) T; e) T; f) T;*

a) In the oligopolistic sector, all companies produce a heterogeneous product.

b) If the market has the form of an oligopoly with a dominant firm, then when the price drops, the dominant firm delivers more output to the market than it supplied before the price change.

c) Companies in the oligopoly always behave like monopolies.

d) The agreement between firms in an oligopoly is called a cartel.

e) For firms operating under oligopoly conditions, the so-called "golden rule" does not apply to maximizing profits.

f) A competitive edge is a group of companies that influences the quantity and price of the dominant company's product under the dominant oligopoly conditions.

***Solution:*** *a) F; b) T; c) F; d) F; e) F; f) F;*

a) A typical feature of monopolistic competition is a homogeneous product.

b) There are strong barriers to entry into the industry in monopolistic competition.

c) Every company sells its products in terms of monopolistic competition at prices higher than marginal costs.

(d) The market situation in the conditions of monopolistic competition leads to considerable use of advertising and company brands.

(e) The use of company advertising in monopolistic competition is the use of consumer irrationality and the restriction of competition.

***Solution:*** *a) F; b) F; c) T; d) T; e) T;*

## ****Solved example:****

If MFCL <MRPL applies, then:

a) the firm will buy the relevant factor less;

b) the company will buy the relevant factor more;

c) the firm will lawfully expel all competitors in the sector;

d) cannot be decided unambiguously because we do not know the type of competition.

***Solution:*** *b)*

## ****Solved example:****

The physical inputs of K, L and A inputs are 12, 10 and 4. The prices of the inputs K, L and A are CZK 6, CZK 5, CZK 2. The company maximizes profit on a given level of output. MR from the last unit sale must be:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 8 CZK | 6 CZK | 2 CZK | 1 CZK | 0,5 CZK |

***Solution:*** *MPPL = 2*

## ****Solved example:****

We consider the situation of a perfectly competitive company on the factor market as well as on the goods and services market. The market of goods and services is characterized by a market trend curve

P = 20-2QD and market supply curve QS = 2P - 10. The factor A factor market is characterized by the market demand curve for this PA = 4000-2A factor and the market supply curve PA = 500 + 1.5A. the production function of the company is given by the equation Q = 144A + 2A2. Does the company's balance be found when leasing factor A?

***Solution:*** *PE = 10 Kč, PA = 2 000 Kč, firma najme 14 jednotek výrobního faktoru A*

Tasks: true / false

a) If the demand for the company's products changes, the demand for the company after the factors of production will change.

b) If the Production Factor MP drops, MRP also decreases.

c) Demand for the production factor is derived from the cost of this factor.

d) The price paid for each factor of production is changing to find out the supply balance of this factor and the demand for it.

e) If the MRP is greater than the MFC of the given factor, then the company has ten days to take this factor less.

f) The factor cost limits are equal to the cost of this factor.

g) With the increase of inputs, the production function is flattened.

h) The value of the marginal input product is obtained by multiplying it by the factor of the production factor.

i) The entry curve for the company in perfect competition is perfectly elastic.

***Solution:*** *T; b) T; c) F; d) T; e) F; f) F; g) T; h) T; i) T*

## ****Solved example:****

Identify the optimal employment of a perfectly competitive company if we know that its short-term production function is given by the equation: Q = 100L - 0.375 L2. The production unit of the company is sold at a price (P) of CZK 4 and the wage rate (w) is CZK 103.

***Solution:***

*From the production function using the first derivative we calculate MPP → MPP = 100 - 0,75L. Further MPP multiplied by the production cost (P) to obtain MRPL → MRPL = 4 x (100 - 0.75L) The number of employees for optimal employment in the company is given by MRPL = w → 4 x (100 - 0,75L) = 103 → L*

Tasks: true / false

a) In the monopsony situation, marginal cost of production factor is lower than the wage rate.

b) In order for trade unions to succeed in wage bargaining, they must have control over labor demand.

c) The demand for work depends on the success of the sale of goods that is produced by the workforce.

d) The economic rent is part of the wage that exceeds the transfer earnings.

e) Guaranteed minimum wages can lead to incitement to illegal employment.

f) If unions are trying to raise wages, under otherwise the same conditions, a drop in employment can be expected.

g) To reduce labor supply, unions can use, for example, the enforcement of various administrative steps that simplify entry conditions.

h) Promoting labor productivity growth by trade unions will cause wage growth without falling employment.

i) Collective bargaining involves negotiating working conditions between trade unions and employees.

***Solution:*** *a) F; b) F; c) T; d) T; e) T; f) T; g) F; h) T; i) F*

## ****Solved example:****

1. Calculate today's value of future earnings if you know the revenue: N0 = - 80,000

2. and N1 = 120,000. Consider a 10% interest rate. Is this an investment? Justify your statement.

3. Consider $ 1 payable for 10 years from today. Let's assume an interest rate of 5%.

4. The company finds that its potential capital investment of CZK 100,000 could have an annual total income of CZK 20,000. The company further estimates that the annual total operating costs will not exceed CZK 10,000. Under what conditions will this company be willing to take a bank loan on the expected investment?

5. Determine the sale price of the garage and the annual return of this capital if it is rented for CZK 850 per month, the annual maintenance costs are CZK 5,000, the interest rate on the annual deposit is 9%. The purchase price of the garage was 40,000 CZK.

6. Calculate the price of real estate if you know that: There are two apartments in the house with a monthly rent of CZK 1,500, one non-residential space rented for CZK 10,000 per month. The costs associated with the operation of the house amount to CZK 50,000 per year. The owner and his family live in the house as the other two. Begin with an annual interest rate of 10%.

7. Buy a production facility for CZK 40,000 and rent it. It will bring you in 10 years

8. 50 000 CZK of rent per year. Annual operating costs are CZK 30,000. What is the rate of return on this capital asset?

9. The amount deposited to 1.10 of the first year is CZK 60,000 on a non-notice book with an interest rate of 2% pa and the interest period of 1 year. The deposit will be selected at the end of the second year. How much money will be spent on the savings book at the end?

***Solution:****1. PV = 109,000, NPV = 29,000; 2. PV = 0.613913; 3. Rate of return = 10%; 4. the sale price of the garage would be CZK 57,778 and an annual return on capital of 13%; 5. the price of the property could be CZK 1,240,000; 6. rate of yield = 50%; 7. on the deposit book will be 61 506 CZK*

Tasks: true / false

a) When the interest rate is greater than the rate of return on capital, savings on the capital market will be greater than the investment.

b) When the interest rate rises, those who save in unchanged circumstances will reduce their savings.

c) The nominal interest rate differs from the real interest rate by the expected inflation rate.

d) The size of the capital supply on individual capital markets does not depend on the size of the interest rate.

e) Demand on the capital market depends on the real interest rate.

f) The capital market offer is a function of savings and is elastic in the short term.

g) When the interest rate rises, the future value of assets, under otherwise unchanged circumstances, increases.

***Solution:*** *a) T; b) F; c) T; d) F; e) T; f) F; g) T;*

## ****Solved example:****

Suppose gold and silver are mutually substitutable. Let us assume that in the short term the offer of both fixes is in the range QZ = 50 and QS 150. The demand for both is given by equations: PZ = 700 - QZ + 0,5 PS and PS = 450 - QS + 0,2 PZ.

a) What is the equilibrium price of gold and silver?

b) We also know that a new gold deposit will increase its offered quantity by 85 units. How will this affect the prices of both commodities?

***Solution:*** *a) PS = 477,77; PZ = 888,89; b) PS = 466,67; PZ = 833,34*

## ****Solved example:****

How many markets does the 2x2x2 model contain?

1. 2
2. 3
3. 4
4. 5
5. 6

***Solution:*** *e)*

In order to achieve a general balance, it is necessary:

a) efficiency in production

b) shift efficiency

c) the effectiveness of the sub-market

d) current production efficiency, shifts and mix product

***Solution:*** *d)*

The theory of partial economic equilibrium examines:

a) the market system as a whole

b) feedback between markets

c) equilibrium conditions in all markets at the same time

d) all answers a) b) c) are correct

e) none of the answers is correct

***Solution****: e)*

General equilibrium point:

a) must lie on the PPF or the contracted curve

b) must lie on PPF not on the contractual curve

c) it does not have to lie on PPF, but must lie on the contour curve

d) does not have to lie on PPF, and may not lie on the contour curve

e) it must lie at the intersection of the PPF and the contracted curves

***Solution:*** *a)*

Tasks: true / false

a) Equality of the common MRS and MRPT is necessary to achieve overall balance.

b) The curves of the indifference curves of both consumers are the same on the contouring curve of the shift.

c) The assumption of perfect competition in the labor market is not necessary for the 2x2x2 model.

d) The allocation is effective if it is not possible to increase the benefit of one entity without simultaneously reducing the benefit of the other entity.

e) MRPT expresses how much production of one farm must be increased in order to produce an additional unit of the second farm.

f) The fixed amount of resources is inefficiently allocated in the economy if it is not possible to produce more than one farm without the limited production of the other farm.

g) Partial equilibrium analysis can be carried out if price changes in one market are not reflected in price changes in other markets.

h) Consumption efficiency is achieved if it equals MRS for both MCs for these goods.

i) The production curve represents all the effective allocation of work and capital.

***Solution:*** *a) T; b) T; c) F; d) T; e) F; f) F; g) T; h) T; i) T;*

Tasks: true / false

a) The effects of consumption or production that affect entities not directly associated with the activity concerned are called externalities.

b) In the case of positive externalities, the market produces too little goods.

c) In the case of negative externalities, the market produces too much goods.

d) The goods are not diminished if it is not possible to exclude someone from the consumption, even if it is not paid for.

e) In the context of imperfect competition, the prices of goods and services signal effective market relations.

f) Asymmetric information is unequal information between market participants.

g) The problem of a black passenger is a problem of asymmetric information.

h) The unfavorable market choice can displace poor quality goods from the market.

i) The relationship of a patient and a physician belongs to a situation of moral hazard.

j) The result of market failures is the production of an optimal amount of production.

***Solution:*** *a) T; b) T; c) T; d) F; e) F; f) T; g) F; h) F; i) T; j) T*