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MACROECONOMICS III

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INTRODUCTION

The Teaching macroeconomics is organized in three stages at the faculties of economics. In bachelor's study is the basic degree of macroeconomics where the student is acquainted with the basic concepts of macroeconomics. The study of macroeconomics at Master's level further develops the knowledge gained at the basic level of study. The third degree of macroeconomics is usually in the doctoral study program. The aim of this study is to apply the acquired knowledge of the previous study to normal economic reality.

The study text is divided into eight chapters which, on the one hand, are based on standard macroeconomic problems; on the other hand, they develop solutions to macroeconomic problems that were not included in the previous study.

The first and second chapters focus on the methodology of macroeconomics. The third chapter concentrates on the theory of evaluation and measurement of the performance of the economy. The fourth chapter deals with the labor market and unemployment issues. The fifth chapter focuses on monetary policy and the role of the central bank. The sixth chapter is describes on fiscal policy and public finances. The seventh chapter deals with the issue of an open economy. The eighth chapter focus to the theory of the economic cycle and its impact on the economics.





1 METHODOLOGY OF MACROECONOMIC THEORY

Chapter goal

- to introduce students to the reasons for the controversy in macroeconomic theory
- to clarify the main methodological tools used in macroeconomics
- to elucidate the basic thought streams of classical, neoclassical and Keynesian economics

1.1 Controversy of Neoclassical and Keynesian Macroeconomics

The economic interpretation of the economic reality can be very different from the various authors. Representatives of various theoretical trends of economics often have different views. Macroeconomics is no exception. From the point of view of the historical development of economics, we can trace some of the main thought streams.

1.1.1 Classical economics

*Invisible
hand*

The classic concept of economics is based on the teachings of the Scottish economist Adam Smith, who in 1776 published his work *"Talking about the nature and origin of the wealth of nations."* He presented his mouse about so-called **"invisible hands"** in the following views:

"An individual is guided by his own advantage, but as in many other cases, an invisible hand leads him to help achieve a goal that he does not at all ... by meeting his own interest he often benefits the interests of society more than if he wanted them to really benefit." (Samuelson & Nordhaus, 1995, 2010)

"If there is a free market and if every individual behaves in harmony with his economic interests, the economy as a whole will work. Free markets (ie the market for products and services, labor and assets) must not be distorted by interventions such as: minimum wages, wage and interest ceilings, price regulation ... In particular, prices and wages must be flexibly adapted to changing market conditions." (Samuelson & Nordhaus, 1995, 2010)



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The Classical School of Economics says:

- People pursue their economic interest
- By moving their prices, they are constantly restoring market equilibrium. The government should play only a minimal role.

According to a classical school, the state has to create optimal conditions for the functioning of the market mechanism. The state is supposed to protect society from violence and external assault, to protect every member of society from injustice and oppression by the other. The state has the obligation to build and maintain some public works and works, some public institutions that could never be built and maintained in the interest of an individual or group. (Samuelson & Nordhaus, 1995, 2010, Jurečka, 2017)

1.1.2 Neo-classical economics

*Marginalist
Revolution*

Neo-classical economics builds on the findings of classical economics. Its origins date back to 1871 in connection with the emergence of the so-called **marginalist revolution** and the emergence of **marginal utility theory**. This theory has become the basis of a new system of economic thinking, so-called neoclassicism. A new way of economic thinking has been created independently of each other in three different places, and it is also the later development, as neoclassical economics represents three different schools of economic thinking - Cambridge, Lausanne, Austrian. (Samuelson & Nordhaus, 1995, 2010, Jurečka, 2017)

Neoclassicism was an entirely new economic system that varied considerably from most classical economics. A common element of classics and **neoclassicism** was **liberalism** or, in other words, **the assumption of the internal stability of the economic system**.

While economic growth was the focus of classics, neoclassical economists looked at the issue of creating economic equilibrium in the sense of a static concept. Neoclassics considered each consumer's decision (preference) to be key, claiming that manufacturers are responding to consumer wishes. (Samuelson & Nordhaus, 1995, 2010, Jurečka, 2017)



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Neoclassical macroeconomics emphasizes the following **factors**:

- Liberalization of the economy;
- Restrictions on government intervention;
- The menu page.

Another feature of neoclassical economics was the emphasis on intensive use of mathematical methods in economics. (Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

1.2 Keynesian Economics

*Keynesian
economy*

The direction referred to as Keynesian economics is one of the two dominant directions of the second half of the 20th century. His starting point was laid in John Maynard Keynes' Economics (1883-1946) in England. Keynes' economy has formed in the process of re-evaluating neoclassical economics and anticipating a new macroeconomic interpretation of economics. (Jurečka, 2017, Keynes, 1963, Samuelson & Nordhaus, 1995)

*Macroeconomic
approach to the
economy*

Keynes broke up with his neoclassical economy and developed his own theory, which was the basis of the crisis of neo-classical economics. At a time when doubts about neoclassicism were pronounced as a theoretical approach to market economy research. The fundamental doubts about the ability of market economy self-regulation Keynes wrote in his economic interpretation, which can be characterized in the following points:

- A macroeconomic approach to economic analysis;
- Revenue-based expenditure method, based on a comparison of income and expenditure in the economy. If the income and expenditure equals the economic system is in balance. (Jurečka, 2017, Keynes, 1963, Samuelson & Nordhaus, 1995, 2010)

1.3 Post Keynesian Economics

*Post Keynesianism
and neokeynesianism*

Post-Keynesian macroeconomics formed in parallel with the development of neokeynesianism. First in England, where representatives of Cambridge economy rejected the American neokeynesian



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version of Keynes interpretation, they chose postkeynesianism for their approach. Their criticism focused on the following issues:

- Simplification of interpretation, especially the abandonment of the element of uncertainty;
- Relation to the neo-classical ideas of self-regulation to restore balance to full employment;
- Underestimation of monetary policy and monetary aspects, with which they combined the inability of neo-Newcomers to develop an adequate theory of inflation.

In Cambridge's interpretation, the main problems were addressed:

- The influence of monopolies on price mechanism, impacts on price level;
- The theory of distribution, explored in relation to creating conditions for economic growth.

The interpretation was very critical and reluctant in relation to neoclassical economics. The postkeynesians are completely inadequate to interpret distribution by marginal productivity theory. By examining monopolistic effects on prices, the tendency to price increases and the rigidities of market mechanics are combined. (Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

1.3.1 Post Keynesian Methodology

Methodological realism

The basis of Post Keynesian methodology is **methodological realism** or so-called "**critical realism**." This term is not yet fully established in economic science. Jesper Jespersen defines him on the basis of three different views of philosophical methodologists as: "tough after reaching a match between the real level and the analytical level" (Štekláč, 2013).

Methodological collectivism

Other key points of Keynesian economics undoubtedly include **methodological co-electoralism**. It is particularly marked by an approach that emphasizes the complexity of systems. Such an approach is in contradiction with methodological individualism. In





studying the social ties in the post-Keynesian real world, it is not possible to rely solely on the behavior of the essence, as is the case with methodological individualism. Research on community-based systems, where the behavior of an individual is influenced by the social environment, and especially on research in macroeconomic science, needs to be addressed by analyzing the actions of society as a whole. (Keynes, 1963, Samuelson & Nordhaus, 1995, 2010, Štekláč, 2013)

Summary

- The classic concept of economics is based on the teachings of the Scottish economist Adam Smith, who in 1776 published his work "Talking about the nature and origin of the wealth of nations."
- The Classical School of Economics says people are pursuing their economic interest, and their prices are constantly re-balancing the markets. The government should only play a mini-role.
- Neoclassical economics builds on the findings of classical economics. Its origins date back to 1871 in connection with the emergence of the so-called marginalist revolution and the emergence of marginal utility theory.
- Neoclassical macroeconomics emphasizes the liberalization of the economy; restrictions on government intervention; side of the offer.
- Keynesian economics represents one of the two dominant directions of the second half of the 20th century. His starting point was laid in John Maynard Keynes' Economics (1883-1946) in England. Keynes' economy has formed in the process of re-evaluating neoclassical economics and anticipating a new macroeconomic interpretation of economics.
- Post-Keynesian macroeconomics formed in parallel with the development of neokaynesianism. In the Cambridge explanation, mainly problems were addressed, namely the influence of monopolies on the price mechanism, impacts on price levels; the theory of distribution, explored in relation to creating conditions for economic growth.
- The basis of Post Keynesian methodology is methodological realism, or so-called "critical realism" and methodological collectivism.





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2 ANALYTICAL APPROACH TO MACROECONOMY

Chapter goal

- to clarify macroeconomic aggregates
- to explain the basic analytical tools of mathematics and statistics that are used to assess the performance of the economy

2.1 Mathematical Tools of Macroeconomics

Macroeconomics examines the economy as a whole. It deals with aggregate economic phenomena. The overall economic performance of the country is evaluated through macroeconomic aggregates. Their development is the subject of the interests of many groups of people, such as citizens, politicians and also entrepreneurs and managers of the country. The performance of the national economy directly or indirectly affects not only the economic but also the social life of the given country.

2.1.1 Macroeconomic aggregates

*Macroeconomic
aggregates
= summary
indicators*

Macroeconomic aggregates mean aggregate national economic variables that have been used to measure the extent of the economic activity of individual countries since the early 1930s. (Jurečka, 2017)

Aggregated indicators used in macroeconomics arise by so-called aggregation, which means combining or combining several components into one more general variable. Aggregated macroeconomic indicators can be presented as status and flow.

*State and flow
indicators*

Status indicators are measured at a certain point in time. For example, the amount of savings in the economy, the number of jobs in the economy,

Flow indicators are measured over a certain period of time. They represent a change in the measured value per unit of time. For example, the development of investments for the year. (Vymětal & Žďárek, 2009)





*Material, time and
space definition
indicators*

Each variable, respectively, indicator, must be defined **materially, temporally and spatially**. An economic analysis can then be performed. This usually happens when changing one dimension and the others do not change. The exception is international comparison, where space and eventually time is changing.

- **The definition** of a specific indicator (e.g. the definition of components of GDP computed by the retirement method, the balance of balance of payments revenue supplemented by reinvested profits, etc.).
- **Time Determination** - Determine from what point in the past to which moment at present, respectively. future, we will monitor the evolution of the indicator. Time intervals may be short (spans between tracking moments), then we talk about a short-term time series (e.g. measuring the rate of growth rate) or long (a year or more), then we talk about long-term time series. A special case is high-frequency time series with observation moments shorter than week (day). These are typical of developments in the financial markets (currency, security, etc.).
- **Spatial delimitation** - consists in determining the area behind which the indicator is surveyed and constructed. (Vymětal & Žďárek, 2009)

Basic operations are dependent on the type of pointer. When working with the status pointer, we need to use different methods to summarize and analyze it versus flow indicators. While for metrics we use well-known methods and procedures (simple and weighted averages: arithmetic, harmonic, geometric, quanta, variance, standard deviation, variance coefficient, etc.) from statistics (mathematics). In the case of a state-type indicator, we need to use the chronological average, in the case of ramping, the simple (the same length of observation intervals) or the weighted (non-conforming length of the observation intervals). (Vymětal & Žďárek, 2009)

Indices are basically divided into the following parts, which allow for exhaustive sorting:

1. Simple indexes

- a) Indices simple individual
- b) Simple composite indexes





2. Total indexes. (Vymětal & Žďárek, 2009)

All indexes can be constructed as volume indices as well as price indices.

*Basic goals
economy*

The most frequently monitored macroeconomic indicators are based on four main economic goals, namely:

- **Product.** Ability to produce goods and services sought in the economy.
- **Employment.** Work as one of the production factors needed to create products and services.
- **Stability** of price level. Stable value of goods and services expressed through price.
- **External economic equilibrium.** The interconnectedness of the economies of the world and the evaluation of the country's position vis-à-vis other world economies. (Vymětal & Žďárek, 2009)

Summary

- Macroeconomics examines the economy as a whole. It deals with aggregate economic phenomena.
- Macroeconomic aggregates mean aggregate national economic variables that have been used to measure the extent of economic activity in the individual countries since the early 1930s.
- Aggregated indicators used in macroeconomics are generated by so-called aggregation, which means combining or merging several components into one more general variable.
- Aggregated macroeconomic indicators can be presented as state and flow indicators.
- Each magnitude, resp. indicator, must be defined materially, temporally and spatially. The factual definition is the definition of a specific indicator. The timing is determined from what moment in the past to which moment at present, of the future, we will monitor the development of the indicator. Spatial delimitation is to determine the area behind which the pointer is surveyed and constructed.



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- Basic operations are dependent on the type of pointer. When working with a status indicator, we need to use different methods to summarize and analyze it against the flow indicators.
- Indices are basically divided into simple indexes and aggregate indices.





3 SYSTEMATIC ANALYSIS OF PERFORMANCE OF NATIONAL ECONOMY

Chapter Goal

- to get acquainted with the tools for calculating the performance of the economy
 - to clarify the calculation of GDP
 - to clarify the calculation of inflation
 - to clarify the calculation of unemployment
 - to clarify the calculation of foreign trade
-

3.1 Gross Domestic Product

Gross Domestic Product (GDP) is a monetary expression of the total value of goods and services newly created in a given period in a given territory; is used to determine the performance of the economy.

3.1.1 Calculation of GDP growth rate

*Calculation of GDP
in the Czech
Republic
according to ČSU*

According to the ČSU methodology, the calculation of GDP in the Czech Republic is carried out according to the following guidelines. GDP growth is characterized by how much real gross domestic product (GDP) has grown in the quarter under review compared to the same period of the previous year, adjusted for seasonal effects and uneven working days. (CZSO, 2015)

*Production Expendi-
ture Retirement
Method of calculat-
ing GDP*

It can be defined, respectively calculated in three ways:

1. Product Approach
2. Flow-of- Product Approach
3. Income Approach.

The Product Approach is calculated as the sum of the gross value added of individual institutional sectors or sectors and net taxes on products (which are not allocated to sectors





and sectors). It is also a balancing item for the production account for the total economy, where the production side is captured on the resources side and the intermediate consumption is used. Gross value added is the difference between production and intermediate consumption. Given that production is valued at basic prices and use at purchasers' prices, the resource side for national economy is complemented by taxes less subsidies on products. (Brčák et al., 2018, Jurečka, 2017, Soukup, 2007)

GDP = Production minus Intermediate consumption plus Taxes on products minus Product subsidies

The 2. Flow-of- Product Approach is calculated as the sum of the final use of products and services by resident units (actual final consumption and gross capital formation) and the balance of exports and imports of goods and services. Actual final consumption is derived through natural social transfers from final consumption expenditure of households, government and non-resident institutions serving households. Gross capital formation is broken down into gross fixed capital formation, inventory change and net acquisition of valuables. (Brčák et al., 2018, Jurečka, 2017, Soukup, 2007)

GDP = Final consumption expenditure plus Gross capital formation plus Exports of goods and services minus Import of goods and services

The 3. Income Approach is calculated as the sum of primary incomes for national economy total: compensation of employees, taxes on production and imports reduced by subsidies and gross operating surplus and mixed income (or net operating surplus and mixed income and consumption of fixed capital). (Brčák et al., 2018, Jurečka, 2017, Soukup, 2007)

GDP = Compensation to employees plus Taxes on production and imports minus Subsidies plus Net operating surplus plus Net mixed income plus Consumption of fixed capital

Example

Gross domestic product grew by 4.5% in 2017, according to a preliminary estimate. In the fourth quarter of GDP, it rose quarter-on-quarter by 0.5% and rose by 5.1% yoy. The





Czech economy recorded a dynamic growth in the past year. Gross domestic product (GDP) adjusted for price and seasonality [1] rose by 4.5% in 2017, according to a preliminary estimate. Significantly all components of demand contributed to its growth, in particular foreign demand and household consumption expenditure. It has done most of the national economy, especially industry, but also the service sector. Economic performance also grew at the end of the year. In the last quarter of the previous year, GDP grew by 0.5% compared to Q3 and by 5.1% yoy. All demand components contributed equally to GDP growth in Q4.

3.2 Inflation

Inflation occurs when the general level of prices is rising. Today, we calculate inflation by using price indexes—weighted averages of the prices of thousands of individual products. The consumer price index (CPI) measures the cost of a market basket of consumer goods and services relative to the cost of that bundle during a particular base year. The GDP deflator is the price of all of the different components of GDP. The statistical expression of inflation is based on the measurement of net price changes using consumer price indices. Ce-new indices measure the price level of the selected basket of representative products and services (approximately 700) in two comparative periods, with the weight (or importance) attributed to individual price representatives in the consumer basket corresponding to the proportion of the type of consumption they represent of total household consumption. The consumer basket includes food goods (food, beverages, tobacco), non-food goods (clothing, furniture, household goods, drugstores, goods for transportation and leisure, personal care products) housing, household, health, social care, transport, leisure, education, meals and accommodation, personal care and financial services). (CZSO, 2018)

Information on the rate of inflation is used, for example, for the purposes of valorizing wages, pensions and social incomes. Last but not least, this information is also used in connection with rental or other contracts, which include the revision of the originally agreed financial performance, depending on inflation. (CZSO, 2018)

For the correct interpretation of each price index, it is always necessary to be aware of which period is calculated. In expressing the inflation rate using the consumer price index,



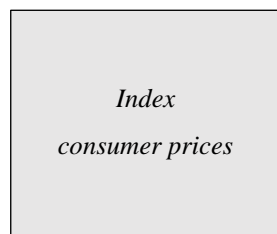


there are often different figures that, although different, are correct. The prerequisite is exact physical, spatial and temporal delimitation. This means clearly indicating the period for which the rate of inflation is stated and the basis for which the defined period is compared. (CSO, 2018)

3.2.1 Calculation of Inflation Rate

According to the CSU methodology (CZSO, 2018), the inflation rate is most often expressed in the following ways:

1. The inflation rate, expressed as the increase in the average annual consumer price index
2. Inflation rate, expressed as a rise in the consumer price index, in the same month of the previous year
3. Inflation rate expressed by the increase in the consumer price index to the previous month
4. Inflation rate expressed in the increase of the consumer price index to the base period (year 2015 = 100)



The inflation rate, as expressed by the increase in the average annual **consumer price index**, reflects the percentage change in the **average price** level over the past 12 months compared to the average of the previous 12 months. This inflation rate is appropriate for adjusting or assessing average values. In particular, it is taken into account when calculating real wages, pensions, etc. (CZSO, 2018)

The inflation rate, as expressed by the increase in the consumer price **index for the same month of the previous year**, represents the percentage change in the price level in the reported month of the year against the same month of the previous year. This is a price level that eliminates seasonal influences by comparing the same months. This inflation rate is appropriate in relation to status variables that measure the change in status between the beginning and the end of the period, regardless of the course of development during that period. It is taken into account in the calculation of the real interest rate, the real increase in property prices, valorisation, etc. (CZSO, 2018)



The inflation rate, as expressed by the increase in the consumer price **index for the previous month**, represents the percentage change in the price level of the monitored month compared to the previous month. (CZSO, 2018)

Basic indices - **The inflation rate, expressed as the increase of the consumer price index to the base period** (average 2015 = 100), reflects the change in the price level of the monitored month of the respective year versus the average of 2015. Using basic consumer price indices for the base period 2015 = 100), all consumer price indices used to express the inflation rate for different time periods are calculated from January 2017. For these calculations, the principle that inflation rates are expressed by the aggregate consumer price index for households in total. This inflation rate is used to analyze long-term detailed trends (time series) of price level and life cost developments. From January 2017, the time series of base indices with a base average of 2015 = 100 is newly introduced. From this time series, indices are calculated for other bases (previous month = 100, same period of previous year = 100 and moving averages index over the last 12 months to average 12 previous months). Indexes calculated from the current time series of base indices, the average of 2005 = 100 remain valid, there is no revision of already published data. The original time series, based on the average of 2005 = 100, is still calculated and published but no other indices are derived from it. (CZSO, 2018, Vymětal & Žďárek, 2009)

3.3 Unemployment

All 15-year-olds and elderly people normally living in the monitored territory who worked for at least 1 hour for wages, salary, or other remuneration during the reference week, were not employed but had a formal employment relationship; the main criterion for inclusion among the employed is therefore the development of any remunerated work activity. Therefore, it is not decisive whether the working activity of these persons was of a permanent, temporary, seasonal or occasional nature and whether they had only one or more concurrent jobs, or whether they were studying at the same time, receiving a pension, etc. All employees (employees and members of production cooperatives) and all employees in their own business (entrepreneurs and assisting family members). The category of entrepreneurs in the main job must be distinguished from the category of self-employed persons (self-employed) defined by Act No. 155/1995 Coll., On Pension Insurance, as amended.





The number of self-employed persons includes, besides the so-called main self-employment, also ancillary self-employment. This secondary self-employment must be understood differently than the second or subsequent job of the respondent in a sample survey. According to the aforementioned Act, secondary self-employment refers to a social security system, where, for example, old-age pensioners, dependent children can only perform an ancillary self-employment. The respondent's work activity in the selection survey shall always apply to the relevant reference week. On the other hand, the Czech Social Security Administration publishes data on the registered number of self-employed persons on the last day of the calendar month. In addition, the total number of self-employed persons must be distinguished from the regularly published number of self-employed insurance advance payments. (CZSO, 2018)

For the unemployed, according to an internationally comparable methodology, all persons over the age of twenty-eight and older, usually living in the monitored area, who in the course of the reference week concurrently met 3 conditions:

- not employed;
- were ready to take up work, ie during the reference period they were available immediately or no later than 14 days for paid employment or self-employment;
- During the last 4 weeks, they have been actively seeking work (through a labor office or private job brokerage, directly in companies, using advertisements, taking steps to set up their own firm, applying for work permits and licenses, or otherwise). (CZSO, 2018)

The unemployed are also people who are not looking for a job because they have already found it and are able to take it up within 14 days. The indicator is constructed according to Eurostat methodology developed on the basis of ILO recommendations. The inclusion in this category is not related to the category of registered jobseekers at the labor offices, nor to the fact that they receive or receive unemployment benefit or other social benefits or allowances. (CZSO, 2018)



3.3.1 Calculation of the unemployment rate

*Unemployment rate
as the share of
unemployed people*

Since 2012, the Ministry of Labor and Social Affairs has switched to a new indicator of unemployment in the Czech Republic entitled "Share of Unemployed People". The new indicator expresses the share of the unemployed from all the inhabitants of the given age, while the current unemployment rate measures jobseekers only for economically active persons. The ministry agreed with the Czech Statistical Office on the amendment of the calculation. Until now, both institutions have published the results of two different unemployment surveys, and this has resulted in the possible replacement of these figures. (CZSO, 2018)

The registered unemployment rate was replaced by the calculation according to the aforementioned timetable, indicating the share of unemployed persons in the population aged 15-64. This indicator is consistent for all levels of the territorial hierarchy, it is more easily interpretable, removing inconsistencies in underlying numbers and the possibility of confusion with the internationally monitored general rate of unemployment. (CZSO, 2018)

Indicator Share of Unemployed People in the Population Age 15-64. The numerator, i.e. the number of registered people without labor and the denominator of the labor force by the total population of this age from the balance of the population. (CZSO, 2018)

3.4 Foreign trade

*The concept of
foreign trade in the
Czech Republic*

The cross-border conception of foreign trade reflects exclusively the physical movement of goods across borders regardless of whether there is trade between Czech and foreign entities. These data are internationally comparable and can serve as an indicator of the value of trade. (CZSO, 2017)

The national concept of foreign trade reflects the export and import performance of the Czech economy, ie the trade balance of the foreign trade of the Czech economy. It monitors the actual trade in goods between Czech and foreign entities, i.e. the change of ownership between residents and non-residents. (CZSO, 2017)



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3.4.1 Calculation of the foreign trade of the Czech Republic

Foreign trade statistics in the Czech Republic

Differences in foreign trade statistics are so-called national concepts, according to cross-border transshipment, so-called cross-border concepts and change of ownership.

The principle of the crossing of goods is in line with so-called traditional foreign trade statistics. Export from the Czech Republic (CZ) means the physical crossing of goods across the Czech Republic abroad. On the other hand, the import is a crossing of the Czech Republic's frontier goods from abroad. Thus, transactions of non-residents in the Czech Republic are also included in exports and imports, as opposed to the national concept of foreign trade (see the Methodology of Foreign Trade in Goods in the National Concept). This statistic only reflects the physical movement of goods across borders, regardless of whether there is trade between Czech and foreign entities. Businesses often need information about real crossing of goods across the country, ie total exports and imports of the country, regardless of change of ownership. These data are internationally comparable and can serve as an indicator of the development of trade value. (CSO, 2018)

The principle of ownership change is so consistent with the balance of payments and national accounts. Prior to joining the EU, cross-border goods crossing was a sufficient approximation of ownership change, but globalization in trade led to the separation of these two concepts and thus expanded the scope of transactions, as crossing the border is no longer necessarily followed by a change of ownership. This statistic is a good starting point for compiling the balance of payments of a given country as it captures foreign trade according to financial flows and more corresponds to the CNB's balance of payments concept. (CZSO, 2018)

Foreign trade in goods by goods movement ie cross-border statistics. After the Czech Republic joins the European Union, the foreign trade of the Czech Republic is a result of intra-trade trade (i.e. trade with EU Member States) and trade with non-EU countries. (CZSO, 2018)

Foreign trade statistics are based on two systems, namely



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1. Intrastat Intrastat which monitors the movement of goods within the Community (dispatch and receipt of goods to / from EU countries or first taxable transactions related to the acquisition of goods from another Member State or the dispatch of goods to another Member State);
2. Using certain data from the Single Administrative Documents (SAD) for Extrastat, which monitors trade with non-EU countries (exports and imports of goods to / from non-EU countries).

For foreign trade with countries **outside the EU**, exports express the value of goods dispatched abroad, which crossed the national border for the purpose of permanent or temporary retention abroad. Total exports thus consist of shipment to EU countries and exports to non-EU countries. Imports express the value of goods received from abroad which crossed the national border for the purpose of its permanent or temporary retention in the country. Total imports thus consist of admissions from EU countries and imports from non-EU countries. (CZSO, 2018)

*Intrastat
and
Extrastat*

International comparability. Among the decisive changes, which gradually unify the methodology of foreign trade statistics of the Czech Republic with the practice used in the European Union states, are in particular:

- the introduction of the Single Customs Declaration (1 May 2004 Single Administrative Document - SAD)
- the introduction of the Combined Nomenclature
- the introduction of Intrastat - a statistical system for monitoring the movement of goods between the Member States of the European Union. (CZSO, 2018)

Intrastat is a system of intra-Union trade statistics. In particular, it monitors the movement of Community goods between Member States of the European Union or the carrying out of the first taxable transaction in connection with the acquisition of goods from another Member State or the dispatch of goods to another Member State. For Community goods, goods released for free circulation from countries and territories which are not part of the customs territory of the Community shall be deemed to have been wholly obtained or produced in the Community, in accordance with the provisions of Article 4 of Council Regu-



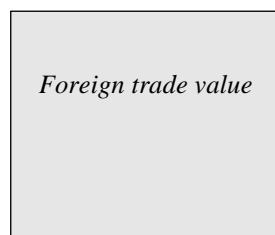
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lation (EEC) No 2913/92 (the Customs Code) and goods made from such goods. Under certain conditions Intrastat also shows movement between Member States of goods under the customs procedure of inward processing, but these are very rare cases. Intrastat statistical system includes data on goods, irrespective of their origin and country of trade. (CZSO, 2018)

Extrastat. The system of foreign trade statistics with countries that are not Member States of the European Union is called Extrastat and is based on obtaining data from customs declarations (Uniform Administrative Documents). It shall not include data relating to goods placed in a free zone or free warehouse placed under the customs warehousing and customs procedure of temporary admission, and also on backward exported goods immediately after one of these customs approved uses. Furthermore, data on goods placed under the customs transit procedure are not reported in Extrastat. (CZSO, 2018)



The basis of the statistical value of the goods received and imported is the invoiced value of the goods. The statistical value includes only the direct business costs associated with the incoming and outgoing goods outside the territory of the Czech Republic, regardless of whether they are paid by the buyer or the seller. (CZSO, 2018)

Conversion of value expressed in foreign currency into national currency. The value of foreign trade is monitored in the national currency. For the conversion of foreign currency values into Czech crowns, the exchange rate applicable to the person making the conversion at the date when the value added tax is established or the date of receipt or dispatch of the goods is used.

Publishing data in a foreign currency. Foreign trade data published in foreign currency (EUR, USD) is converted from the koruna values based on the average monthly exchange rate of the CNB. (CZSO, 2018)





Summary

- According to the ČSU methodology, the calculation of GDP in the Czech Republic is carried out according to the following instructions. Growth (decline) in GDP is characterized by the real GDP growth in the quarter under the same period of the previous year, after seasonal adjustment and uneven working days.
- Gross Domestic Product (GDP) is a monetary expression of the total value of goods and services newly created in a given period in a given territory; is used to determine the performance of the economy. It can be defined, respectively. calculated using the production method, the cost method and the retirement method.
- The inflation rate may be expressed as the increase in the average annual consumer price index. It represents the percentage change in the average price level over the last 12 months compared to the average of the previous 12 months.
- The inflation rate may be expressed by the increase in the consumer price index for the same month of the previous year. It represents the percentage change in the price level in the reported month of the year against the same month of the previous year.
- The rate of inflation may be expressed by the increase in the consumer price index for the previous month. It represents the percentage change in the price level of the month you are watching against the previous month.
- Basic indices. The inflation rate, expressed as a rise in the consumer price index to the base period (average 2015 = 100), reflects a change in the price level of the reference month of the year in question against the average of 2015.
- Since 2012, the Ministry of Labor and Social Affairs has switched to a new indicator of unemployment in the Czech Republic entitled "Share of Unemployed People". The new indicator expresses the share of unemployed from all the population of the given age, while the current unemployment rate measured job seekers only for economically active persons.
- Differences in foreign trade statistics are the so-called national concepts as cross-border transshipment, so-called cross-border concepts and change of ownership.





- The cross-border conception of foreign trade reflects exclusively the physical movement of goods across borders regardless of whether there is trade between Czech and foreign entities.
- The national concept of foreign trade reflects the export and import performance of the Czech economy, i.e. the trade balance of the foreign trade of the Czech economy
- The principle of crossing goods across borders is in line with so-called traditional foreign trade statistics. Export from the Czech Republic (CZ) means the physical crossing of goods across the Czech Republic abroad. On the other hand, the importation is the moment when goods cross the border of the Czech Republic from abroad.
- The changeover principle is so consistent with the balance of payments and national accounts.





4 LABOUR MARKET AND UNEMPLOYMENT

Chapter goal

- to get acquainted with the concept of the labor market in macroeconomics
- to understand the basic principles of labor market functioning
- to clarify the concept of unemployment in economic theory
- to get acquainted with the Phillips concept of the curve

4.1 Labor Market Theory

Job offers and job demand

The labor market is driven by the market forces in the economy, by the supply and demand of labor. The job offer is made up of the owners of the workforce who can offer this work at different levels of labor. The demand is created by companies that hire labor as input into the company's production processes. The labor market occurs in competitive conditions just as in other markets. According to the **classical concept of the labor market**, a perfectly competitive market is envisaged. It means a homogeneous character of work, and therefore any worker can do any job. The behavior of all market players is understood to be rational and is perfectly informed. There are no institutional barriers and no intervention in the market mechanism. (Begg, 2013, Samuelson & Nordhaus, 1995, 2010, Soukup, 2012)

Representatives of the classic labor market concept say there is no involuntary unemployment. Employees who are willing to work at a given wage rate will find work. Unemployed volunteers are unemployed because they are not willing to work at this rate. (Begg, 2013, Samuelson & Nordhaus, 2007, Soukup, 2012)

Real wage above equilibrium level

The original Keynesian model of the labor market is based on the assumption of inelastic nominal wages. The new Keynesian model of the labor market assumes that prices and wages are not as flexible as to be able to clean the market. As a result, a new concept emerges - **the theory of wage efficiency**. This theory assumes that





higher real wages attract better job seekers. Companies are therefore deliberately maintaining real wages above the equilibrium level. Their goal is to stimulate the performance of their staff and to prevent their fluctuation. Wages are rising, but employee performance is rising faster, which reduces average costs for companies. Wage growth is warded when average wage costs exceed the marginal product.

*Flexible wages and
prices*

The Monetarist model of the labor market is based on the assumption of flexible wages and prices, where both companies and consumers monitor the development of real wages. Observations on real wage developments, however, include certain expectations that, in the case of labor supply, are reflected in the development of costly levels. When employees do not use the perfect price information, they have mistakenly included the inflation expectations of the past years in their decision making. On the contrary, in the case of firms, ie labor demand, real price developments are being monitored as companies obtain operational price information. (Mach, 2001, Samuelson & Nordhaus, 1995, 2010, Soukup, 2012)

4.2 Unemployment and Beverige curve

*Unemployment cate-
gories*

The types of unemployment can be broken down by reason of the origin and also by their expressions in the economy. Unemployment can then be subdivided into 3 categories, such as friction unemployment, structural unemployment and seasonal unemployment. (Jurečka, 2017)

Frictional unemployment arises as a result of the life cycle of the population as a result of moving people from one region to another, looking for work after completing the school, or trying to replace the job position for better, etc. Frictional unemployment has a larger short-term character and the economy can be beneficial. This type of unemployment can be an indicator of the flexibility of the labor market. People trying to find optimal employment are proof of the right workforce allocation and this effort leads to an increase in social efficiency. (Jurečka, 2017)





Structural unemployment points to the mismatch between the skill structure of the labor market offered and demanded. The labor market may be a surplus of economists, but also a shortage of nurses or plumbers. Changes in the structure of the economy can serve as a cause for this phenomenon, whether on a global, regional or micro-regional scale, where there are significant structural changes, such as damping in the metallurgical, construction, etc. Structural unemployment tends to persist in the economy long because it is very difficult to reconcile the jobs available to job seekers with their qualifications. **Structural unemployment** is considered to be the most serious in terms of the impact on the economy and the social sphere. (Jurečka, 2017)

Seasonal unemployment is characterized by regular fluctuations throughout the year. Seasonal unemployment occurs in sectors of the economy which are heavily influenced by the seasons. Seasonal factors such as climatic conditions or weather conditions may affect these sectors. (Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

We can identify the categories of unemployment types using the Beveridge curve

If there is rather short-term frictional unemployment in the economy, we are at the center of the Beveridge curve, which is also at the beginning. This indicates that the unemployment rate is low and the vast majority of the unemployed have the opportunity to find a job.

Structural unemployment will lie at a point on this curve directly on the 45° axis, which represents the same vacancy rate and unemployment rate, but farther from scratch. The rate of unemployment can then be as high as the number of vacancies. However, these vacancies can not be reconciled with the qualifications of applicants for these job vacancies. (Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

Cyclical unemployment, which is rising during the recession, when job losses are diminishing as a result of a flat-rate decline in economic activity in all sectors of the economy, lies at the Beveridge curve that is far from the start. (Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

From a macroeconomic point of view, unemployment affects the working-age population. The productive age is defined by the end of schooling and ends with retirement. People of





working age can be employed (full-time or part-time workers) or unemployed who do not have a job but are actively looking for it. Employed and unemployed people then form an economically active population. Other people of working age who do not have employment or do not work for it are economically inactive populations. (Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

Unemployment is a central issue in modern societies. When unemployment is high, resources are not being used enough and people's pensions are low.

4.3 Okun's law

Unemployment and GDP

A typical problem of every economy during the recession is the increase in unemployment. With the pace of production dynamics, companies have fewer inputs. It follows that companies do not hire new workers and dismiss old workers. Arthur Okun has noticed that unemployment is not directly proportional to economic activity and has formulated so-called Okun's law. Samuelson states - Okun's law states that a fall in GDP of two percent of the potential product means an increase in unemployment of one percentage point. " If GDP starts at 100 per cent of its potential and falls to 98 per cent, the unemployment rate will increase by 1 percentage point. (Samuelson & Nordhaus, 1995, 2010)

4.4 Phillips curve

The relationship between inflation and unemployment

The Phillips curve describes the relationship between inflation and unemployment. Earlier Phillips curve predicts that a country can "buy" a lower level of employment if it is willing to pay the price in the form of a higher inflation rate. In addition, this relationship was supposed to apply in both short and long terms. In other words, the basic assumption here is that there is an inverse relationship between inflation and non-employment. If unemployment drops below its natural rate, inflation will rise to the level of inertia. If unemployment rises above its natural rate, inflation will tend to fall below the inertia. (O'Sullivan, 2012, Samuelson & Nordhaus, 1995, 2010)





The natural rate of unemployment means the lowest sustainable rate of unemployment the country can achieve without risking an upward spiral of inflation. It is a rate of unemployment, in which the number of people who lose jobs is equal to the number of people who are working again. It is therefore the rate of unemployment corresponding to the full exploitation of the production resources, ie the level of the potential product. (Mankiw, 2000, 2013, Samuelson & Nordhaus, 1995, 2010)

4.4.1 Modification of the Phillips curve

*Short and long-term
Phillips curve*

Some economists, however, did not endorse the economic practice with this concept of the relationship between inflation and unemployment and, in the second half of the 20th century, with the Phillips curve. **Contemporary modern concept of Phillips curve** is

specified in terms of time:

- In the short run, the Phillips curve is declining, the substitution link between inflation and unemployment remains stable only until the incessant rate of inflation is changed until the economy is exposed to shocks;
- In the long run, the Phillips curve is vertical at the level of the natural rate of unemployment. This form of Phillips curve explains theories of adaptive and rational expectations (Mankiw, 2000, 2013, Samuelson & Nordhaus, 1995, 2010)

Lucas's version of the Phillips curve is based on the confusion of unemployment as the real product (Q) on the horizontal axis, and in the relationship between inflation and the real product. Lucas is testified to the ineffectiveness of macroeconomic policy if the findings of this policy are known and the rational expectations are right. That is, consumers react to monetary or fiscal expansion by increasing aggregate demand (AD) to the extent necessary, and if their inflation expectations are correct, the economy does not deviate from the equilibrium. (Jurečka, 2017, O'Sullivan, 2012)





Summary

- The labor market is driven by the market forces in the economy, by the supply and demand of labor.
- The job offer consists of the owners of the workforce who can offer this job at different levels of labor cost.
- Labor demand is created by firms that hire labor as input into the production processes of the company.
- According to the classic concept of the labor market, a perfectly competitive market is expected. This presupposes aspects such as the homogeneous character of the work, and that any worker can do any work.
- Representatives of the classic labor market concept claim that there is no involuntary unemployment, as workers who are willing to work at a given wage rate will find work.
- The theory of wage efficiency assumes that higher real wages will attract better job demand.
- The Monetarist model of the labor market is based on the assumption of flexible wages and prices, where both companies and consumers monitor the development of real wages.
- Unemployment can then be subdivided into 3 categories, such as friction unemployment, structural unemployment and seasonal unemployment.
- Frictional unemployment is caused by the life cycle of the population. It arises from moving people from one region to another, looking for work after completing the school, eventually trying to replace the existing job position for better, etc.
- Structural unemployment points to the mismatch between the labor market structure of the labor market and the demanded.
- Seasonal unemployment is characterized by regular fluctuations throughout the year.
- Okun's law states that a decline in GDP of two percent of potential product means an increase in unemployment by one percentage point. "
- The Phillips curve describes the relationship between inflation and unemployment.
- Early Phillips curve predicts that a country can "buy" a lower level of employment if it is willing to pay the price in the form of a higher inflation rate.





- The natural rate of unemployment means the lowest sustainable rate of unemployment the country can achieve without risking an upward spiral of inflation.
- Contemporary modern concept of Phillips curve is specified in terms of time.
- In the short run, the Phillips curve is declining, the substitution link between inflation and unemployment remains stable only until the incessant rate of inflation has changed until the economy is exposed to shocks;
- In the long run, the Phillips curve is vertical at the level of the natural rate of unemployment. This shape of the Phillips curve explains theories of adaptive and rational expectations.
- The Lucas version of the Phillips curve is based on the confusion of unemployment as a real product (Q) on a horizontal axis, and in the relationship between inflation and the real product.





5 CENTRAL BANK AND ROLE OF MONETARY POLICY IN ECONOMICS

Chapter goal

- to explain the theory of monetary policy
- to explain objectives and instruments of monetary policy
- to clarify the monetary restriction and expansion
- to clarify the issue of price stability

5.1 Monetary policy

Monetary Policy

Monetary policy is a component and instrument of economic policy. It is a set of measures and principles that promote the fulfillment of monetary objectives through monetary instruments. Monetary policy is a central bank instrument and its primary objective is to monitor and actively influence the rate of money-inflation depreciation. The Czech National Bank is the Czech National Bank (CNB). (Finance, 2018)

According to the Constitution of the Czech Republic and the Act on the Czech National Bank, the CNB's main objective is to maintain price stability. The CNB also supports the general economic policy of the government, unless this secondary objective is at odds with the primary objective. Its main goal - price stability - the CNB's reach - is a change in the setting of monetary conditions with the use of its instruments, especially the basic interest rates. The decision of the CNB Bank Board on the setting of monetary policy stems from the current macroeconomic forecast and the risk assessment of its fulfillment. Following the Czech Republic's entry into the euro area, the CNB will abandon its own monetary policy in favor of the European Central Bank. (CNB, 2018)

The role of the CNB's monetary policy is legally codified in the provisions of Article 98 of the Constitution of the Czech Republic and Article 2 of Act No. 6/1993 Coll., On the Czech National Bank, which impose on it primarily price stability and - if this is not the main objective of the CNB - to support the government's general economic policy leading to sustainable economic growth. Central banks have a similar role in most of the market



economy countries. The role of ensuring price stability in the economy, i.e. contributing to the creation of a stable environment for the development of business activities, is an expression of central bank responsibility for sustainable economic development. As a prerequisite for the implementation of monetary policy leading to price stability, on the other hand, the central bank is independent. The CNB seeks to fulfill this task in the context of a more recent political regime called inflation targeting. (CNB, 2018)

*Monetary policy
instruments*

In pursuing its goal, the CNB uses several monetary policy instruments. Monetary policy instruments are divided into **direct** and **indirect**.

Direct, so-called directives, are rarely used in advanced economic systems, and their use is indicative of the failure of indirect instruments. These tools include:

- Liquidity rules - are determined either by establishing a binding structure of the assets and liabilities of commercial banks or in the form of some interrelationships between them. It serves to ensure the liquidity of commercial banks;
- Credit contingents - consist of the directive setting of credit limits. The relative and absolute credit contingent is distinguished;
- Interest rates (interest rate ceilings) - the central bank may set the maximum interest rates on commercial banks that may require from the loans granted by them or, on the contrary, the minimum interest rates on the deposits received;
- Mandatory deposits - mostly involving central or local government bodies.
- In the modern economies, indirect monetary policy instruments are used. These tools include:
 - Discounted instruments - these are the interest rates and other terms of credit that the central bank provides to domestic banks in commercial banks - this significantly affects the creditworthiness of commercial banks;
 - Free market operations - means the purchase or sale of securities by a central bank from commercial banks. This increases or decreases their liquidity reserves and, at the same time, their credit capacity;





- Mandatory minimum reserves - are determined as a percentage of the total amount of primary deposits of commercial banks. Any change in reserves therefore affects the credit capacity of commercial banks, as the volume of funds available to the commercial bank may change;
- Conversions and foreign currency swaps - the purchase and sale of foreign currencies by the central bank from commercial banks is also influenced by the commercial bank credit capacity - these are either conversions or foreign currency swaps;
- Intervention in favor of the (unfavorable) exchange rate - by this instrument the central bank most frequently influences the development of the state trade balance and the rate of inflation. (CNB, 2018, Mach 2001, Samuelson & Nordhaus, 1995, 2010)

5.1.1 Types of Monetary Policy

*Raising money
supply*

Expansion monetary policy is characterized by increasing money supply and thus aggregate demand. The short-term effect of an expansive monetary policy is to increase the level of real product (GDP) and employment. There is no high price increase, but the use of all production sources means raising the price level. In the long run, the effects of an expansionary monetary policy are on the rise in the equilibrium level of prices, which corresponds to the increase in the amount of money in circulation. There is no change in the level of the real product and the natural rate of employment and the level of the interest rate does not change. If the central bank conducts an expansionary monetary policy, the aggregate demand (AD) curve shifts to the right, and because the aggregate supply (AS) and shifted aggregate demand (new AD) intersections are in the Keynes field, real GDP growth will be accompanied by relatively low growth price brackets. (Mankiw, 2000, Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

*Reducing money
supply.*

A restrictive monetary policy is, on the contrary, a reduction in the supply of money. In the short term, the effects of restrictive monetary policy mean a fall in the level of real product and employment. Possible free sources of production factors mean a drop in price level. The long-term effects of restrictive monetary policy





have the effect of reducing the equilibrium level of prices, which corresponds to a reduction in the amount of money in circulation. There is no change in the level of real product and natural employment rates. (Mankiw, 2000, Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

5.1.2 Price stability

As with most central banks, the CNB focuses primarily on consumer price stability. In practice, price stability is generally not understood to mean price volatility, but rather a modest increase. Price growth consistent with price stability should include the upward statistical upward trend in the measurement of price increases and should also allow sufficient room for minor changes in price sessions that are consistently occurring in every economy with an efficient price system. For the period from January 2006, an inflation target of 3% with a tolerance band of 1 percentage point was announced in both directions. In March 2007, a new inflation target of 2% valid from January 2010 was announced, with the CNB going to strive for the actual inflation rate to differ from the target by more than one percentage point on both sides. "(CNB, 2018)

Summary

- Monetary policy is a part and an instrument of economic policy. It is a set of measures and principles that promote the fulfillment of monetary objectives through monetary instruments.
- Monetary policy is a central bank instrument and its primary objective is to monitor and actively influence the rate of money-inflation depreciation.
- The role of the CNB's monetary policy is legally codified in the provisions of Article 98 of the Constitution of the Czech Republic and § 2 of Act No. 6/1993 Coll., On the Czech National Bank, which requires it to ensure, above all, price stability.
- In pursuing its objective, the CNB uses several monetary policy instruments. Monetary policy instruments are divided into direct and indirect.
- Direct, so-called directional tools are seldom used in advanced economic systems, and their use is indicative of the failure of indirect instruments.





- In the modern economies, indirect monetary policy instruments are used.
- Expansion monetary policy is characterized by increasing money supply and thus aggregate demand is stimulated.
- Restrictive monetary policy is, on the contrary, a decline in money supply. In the short term, the effects of restrictive monetary policy mean a decline in the level of real product and employment.
- As with most central banks, the CNB focuses primarily on consumer price stability. In practice, price stability is generally not understood to mean price volatility, but rather a modest increase.





6 FISCAL POLICY AND PUBLIC FINANCES IN ECONOMICS

Chapter goal

- to explain the concept of fiscal policy in macroeconomics
- to clarify the concept of public finances
- to get acquainted with the state budget and its work in the Czech Republic

6.1 Fiscal policy

Budgetary policy

Fiscal policy affects economies through public budgets, both through revenue and expenditure. The objective of fiscal policy is to ensure macroeconomic stability, especially stable economic growth, low unemployment, stable price levels. (Samuelson & Nordhaus, 1995, 2010)

The original purpose of fiscal policy was to raise and raise funds to cover government spending. In both theory and practice, the laissez faire doctrine was applied, according to which the system was able to spontaneously provide socio-economic optimum. The major economic crisis and the theoretical support of the Keynesian economy have led to a significant qualitative change in the state budgets and fiscal policies. Fiscal policy became an active economic agent. Keynes' economy perceives active fiscal policy as a prerequisite for stabilizing the economy. Neoclassical economics sees in active fiscal policy as one of the causes of the instability of the economy. (Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010)

The main instruments of fiscal policy are the revenue and expenditure side of the state budget. Depending on how the changes are made, we distinguish two instruments, **built-in stabilizers and discretionary policies**.





*Tools acting
automatically*

Built-in stabilizers operate automatically in the economy. Their aim is to cope with fluctuations in the economy. Built-in stabilizers include, for example, unemployment benefits and a progressive rate of taxation. If the economy starts plunging into recession, the number of non-employed grows. An unemployed person, if he does not receive any unemployment benefits, will rapidly lower his income and will be forced to significantly reduce his consumer spending. However, expenditures are part of the national economy product, which further reduces. But if the unemployed receive unemployment benefits, they do not have to cut their spending to a significant extent, and this will also reduce the decline in the national economy. Unemployment aids would reduce the cyclical swing from below, and the recession would not be so deep. Lower spending on people, however, means that the national economy product will not grow as much as it would otherwise grow. Built-in stabilizers reduce cyclical fluctuations in the economy, but they do not have to be completely eliminated. (Jurečka, 2017, Soukup, 2012))

The government is therefore taking further action on the basis of its free choice, which we call the discretionary policy. Discretionary policy means new measures taken by the government on the basis of free decision-making. This is a change:

- Taxes in the case of economic support to reduce them, in case of economic downturn they are increased;
- Change in investment expenditure to support the construction of motorways, housing,
- Employment policy.

*New measures taken
by the government*

Discretionary policy can take many forms. Discretionary policy may be expansive, aimed at supporting the economy in a recession, or may be restrictive in order to dampen the economy. The immediate objective of fiscal policy is to change the size of aggregate demand (AD). (Jurečka, 2017, Soukup, 2012))

In terms of aggregate demand (AD), an **expansive** and **restrictive** fiscal policy is distinguished. The expansionary fiscal policy aims at increasing aggregate demand, primarily through tax cuts and rising public spending. By contrast, the goal of restrictive fiscal policy





is to reduce aggregate demand by raising taxes and reducing public spending. (Jurečka, 2017, Samuelson & Nordhaus, 1995, 2010, Soukup, 2012)

6.2 Public Finance and Economics

Finance expresses the monetary relationships that arise and develop in the acquisition, distribution and use of money funds. Finance is a solution to the complex structure of financial relationships. These are specific monetary relations and operations within the economic system between the subjects of public administration on the one hand and other entities on the other. (Hamerniko, B. et al., 2007)

Monetary relations

State finances are part of public finances, and municipal finance (local) is the second part of public finances. The accession of the Czech Republic to the EU was also a part of the public finances, as well as supranational finance, relations with the EU budget.

The components of public finances are:

- State finance - concentrated in a centralized money fund, state budget;
- Finance of state-owned funds - a separate specific component with legal personality, established by law, for pragmatic reasons, separated from the state budget;
- Finance of entities operating with state finances - coming from sources obtained from the management of these entities with the state property or, from the resources provided by the founder - state within their budget;
- finance municipalities;
- Finance of entities managing municipal finances;
- Superior finances - in relation to the EU budget. (Hamernikova, B. et al., 2007)

The basic functions of public finances are:

- a) Allocation function - relates to the issue of securing public goods and their composition, through production through the public sector;
- b) Distribution function - is linked to issues related to distribution. These are the measures applied in the distribution of wealth and pensions in line with what society is looking for a fair distribution;



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- c) Stabilization function - stemming from the impact of public finances as a macroeconomic policy instrument to ensure high employment, relative price stability, desirable GDP growth rates and trade and balance of payments balances;
- d) Regulatory functions - it is applied mostly in periods of imbalance in the economy;
- e) Control functions - it is a tool for the active influence of financial relations on economic processes, i.e. control of revenues and expenditures. (Hamernikova, B. et al., 2007)

6.2.1 State budget

*State financial
management plan*

The State budget represents the state's financial management plan for the given financial year, which ensures the fulfillment of the state's economic, social and political functions. By means of the state budget, the government implements economic policy and implements its program priorities. The state budget is a centralized money fund and represents the balance of government revenue and expenditure for the financial year. The budget year is the same as the calendar year. The revenue side of the budget contains information on what sources the government plans to finance for these state activities, i.e. taxes, fees or other revenue. The expenditure side of the budget informs about how much the state issues to finance the unit State budget is the country's financial management plan for the given financial year, which ensures the fulfillment of the state's economic, social and political functions. The individual revenues and expenditures of the state budget are subdivided according to the individual chapters expressing the scope and responsibility of individual central state administration bodies (e.g. ministries). The state budget is in the form of a law (e.g. Act No. 457/2016 Coll. On the State Budget of the Czech Republic for 2017). The Act on the State Budget is proposed by the Government and approved by the Chamber of Deputies of the Parliament of the Czech Republic. The method of financing the chapters of the state budget is defined by Act No. 218/2000 Coll., On Budgetary Rules and on Amendments to Certain Related Acts (Budgetary Rules), as amended. The state budget can be created in three as balanced, surplus or deficit. The individual variants reflect the economic policy of the state, which responds to the current economic situation and to the anticipated development of the economy. The state budget fulfills the allocation, redistribution and stabilization function. (MF CR, 2018)



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The state budget has its revenue and expenditure side. **The main components of the revenue page** are:

- Taxes: direct income taxes on natural and legal persons, property taxes, road taxes, inheritance and gift taxes, etc. and indirect taxes - value added tax and excise duties, customs duties, social insurance, etc.
- Revenues from previously granted loans
- Revenues from the sale of state property
- Subsidies received
- Others.

The main components of the expenditure page are:

- Transfers to households - pensions, unemployment benefits, social benefits, etc.
- Subsidies to enterprises;
- Current and investment expenses of individual chapters - transport, education, army, police;
- Subsidy;
- Interest on government debt;
- Others. (MF CR, 2018)

If the government is dealing with the deficit and has to borrow to cover the difference between revenue and expenditure, so does the state debt. The deepening of the government deficit causes the government debt to grow. (Jurečka, 2017)

6.2.2 The Czech Republic's Financial Connections to the EU

*Czech Republic
accession to the
European Union*

Since joining the European Union, the **Czech Republic** has been involved in financing the EU budget and is also the beneficiary of redistributed funds from the EU budget. In particular, revenue from Cohesion Policy funds, the Common Agricultural Policy, Community programs, Asylum and Migration Policies allow the Czech Republic to finance infrastructure, environmental, research, education, employment and other topical social projects in the Czech Republic that could otherwise not be due to limited national public resources, or their range narrowed.



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The EU budget is financed by own resources, which are made up of so-called traditional own resources (customs duties on EU imports from third countries and levies established under the common organization of the sugar market), the VAT share and the gross national income (GNI), which is the largest income item covering about 65-75% of the income. (MF CR, 2018)

Since joining the EU, the Czech Republic has been a net beneficiary from the EU's common budget. More than he takes away from him. The so-called the net position of the Czech Republic in relation to the EU budget is so positive. (MF CR, 2018)

6.3 Fiscal policy problems

Fiscal policy can cause problems that may complicate the achievement of its macroeconomic stability objective. The main complications include the **displacement effect and the time delay**.

Decline in private investment

Explosive effect is the most frequently mentioned complication of fiscal policy. Imagine a government that is implementing an expansive policy in the form of increased government spending. Due to product growth, money demand is on the rise in money. An increasing demand for money will lead to an increase in the interest rate. A higher interest rate will increase the cost of private investment. They remain rational and limit their investments. Thus, we can say that government spending displaced private investment spending. The government originally wanted to raise the product, but part of this increase was reduced due to a decline in private investment. How much of this will depend on the sensitivity of private investment. (Jurečka, 2017)

Approval processes and time delays

Time Delay. Imagine that the economy is getting into a recession. As soon as the government learns about economic issues on the basis of statistical data, it decides to intervene and engage in an expansive fiscal policy, for example in the form of tax cuts. The tax cut proposal will be submitted by the Minister of Finance and subsequently approved by the government. But it will take some time. However, tax cuts must also be passed by Parliament in the form of law. It also takes some time. After the Presi-





dent's signature, the law may start to apply. But before the lower taxes begin to operate in the economy, more time will come. It may eventually happen that the entire time delay will be so long that the economy is not long enough to be in the recession phase and may be in the phase of expansion. Supplementary support for an economy in expansion can lead to inflation. Quite analogously, it could also describe the time delay in the case of fiscal restraint. (Jurečka, 2017)

Summary

- Fiscal policy affects economies through public budgets, both through revenue and expenditure.
- The objective of fiscal policy is to ensure macroeconomic stability, especially stable economic growth, low unemployment, stable price level.
- The main instruments of fiscal policy are the revenue and expenditure side of the state budget.
- Depending on how changes are made in fiscal policy making, we distinguish two tools, including built-in stabilizers and discretionary policies.
- Built-in stabilizers operate automatically in the economy.
- Discrimination policy means new measures taken by the government on the basis of discretion.
- In terms of aggregate demand (AD), an expansive and restrictive fiscal policy is distinguished.
- Finance expresses the monetary relationships that arise and develop in the acquisition, distribution and use of money funds.
- Government finances are part of public finances, as well as the second part of public finance are municipal (local) finances.
- The state budget represents the state's financial management plan for the given financial year, which ensures the fulfillment of the economic, social and political functions of the state.
- The revenue side of the state budget contains information on what sources the government plans to finance for these activities, ie taxes, fees or other income.





- The expenditure side of the budget informs about how much the state spends on financing individual state activities such as education, health care, pensions, defense,
- The state budget can be set up in three as balanced, surplus or deficit.
- Since its accession to the European Union (May 2004), the Czech Republic has been a member of the EU budget for the financing of the EU budget and is also the beneficiary of redistributed funds from the EU budget.
- Fiscal policy can cause problems which, as a result, may complicate the achievement of its macroeconomic stability objective. The main complications include sealing effect and time delay.





7 OPEN ECONOMY AND THE INTERNATIONAL ECONOMIC ENVIRONMENT

Chapter goal

- to clarify the theory of international trade
- to explain the concept of an open economy
- to get acquainted with the balance of payments
- to explain the concept of the nominal and real exchange rate
- to explain the international monetary system

7.1 Open economy

Open and Closed Economy

Nowadays, the national economies of the world's countries can be considered **open** to what it means to the international economic environment. **Closed economy** is an economy that does not participate in foreign trade and the GDP of the economy is consumed only by the domestic population.

International economic relations are implemented in the form of an exchange:

- Goods - the oldest and most important form of international economic relations;
- Services - it is banking, insurance, tourism, transport, health, advertising, arts, educational, consulting, telecommunication, etc.;
- Capital - the exchange of capital is realized in three forms, firstly as direct foreign investment, for example the creation of joint ventures; secondly, as indirect investments, which do not allow for greater influence or direct management of the companies they flow into; and thirdly as bank loans.
- Scientific and technical knowledge, ie export and import of licenses, know-how, patents and special consultancy services;
- Workforce. (Mankiw, 2000, Samuelson & Nordhaus, 1995, 2010)

The rate of openness of the economy is most often expressed using the ratio $\text{Export} / \text{GDP}$, $\text{Import} / \text{GDP}$ or $(\text{Export} + \text{Import}) / \text{GDP}$. The degree of involvement of the national economy in international economic relations may be different. Countries with a mature





internal market tend to be self-sufficient, then their degree of openness to the economy is low. The high degree of openness of the economy has advanced economies that are widely embedded in international economic relations and have a high proportion of exports to GDP. (Mankiw, 2000, Samuelson & Nordhaus, 1995, 2010)

7.2 International trade

Effective economic development of the economy

The international exchange allows the effective economic development of each economy. Diversity of production within national economies and mutual differences are the main reason for involving countries in international trade.

The development of international trade most often affects the following factors:

A. Offer Factors:

- Differences in production conditions - tropical climate countries will naturally specialize in surfing, sunbathing, diving, coffee and citrus, and will exchange these goods and services for other commodities. For countries with a cooler climate, it is more advantageous to produce such goods and services as losers, skiing and bobsleighbing, ice hockey and so-called "white nights";
- Rising yields on a scale - expanding production means achieving higher profits by selling on a huge global market.

B. Demand Factors:

- Difference in consumer taste. Suppose that in Norway and Sweden the production of sea fish and meat is roughly the same. However, Swedes eat meat very much, while Norwegians prefer fish. In this case, mutually beneficial exports of meat from Norway and fish from Sweden would take place between them. It is certain that both sides would do this business. The overall well-being of people would increase. (Jurečka, 2017)

7.3 Theory of absolute and comparative advantages

Absolutely lower production costs

The absolute advantage in international trade lies in the fact that country A chooses for the international trade the kind of goods X,



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for which it has absolutely lower costs than country B. Country B, on the contrary, selects for international trade the kind of goods Y, lower production costs than country A. The result of international trade is that country A stops producing Y and starts importing it from country B, while country B stops producing X and starts importing it from country A. (Jurečka, 2017, Mankiw, 2013, Samuelson & Nordhaus, 1995, 2010)

*Relatively lower
production costs*

The comparative advantage law states that a country should specialize in the production and export of commodities that it is able to produce at relatively lower costs, and should import those goods it produces at relatively higher costs. The structure of trade should be determined by a comparative advantage, not an absolute advantage,

which also allows for the trade between countries with a totally different productivity. (Jurečka, 2017, Mankiw, 2013, Samuelson & Nordhaus, 1995, 2010)

7.4 Protectionism in international trade

*Restriction and
regulation of foreign
trade*

Protectionism is one of the two most important trade policy concepts that, by restricting and regulating foreign trade, protect weak domestic industries that would otherwise not be able to push their products against cheaper competition. (Jurečka, 2017)

States in relation to international trade are increasingly liberal, i.e. they are trying to minimize it. Even with this fact, all countries of the world apply to a certain extent protectionism towards national companies. This means that the presence of the state on the international market is not limited to removing the barriers of the market but tries to protect its own domestic firms from foreign competition.

As part of its external trade policy, the state has instruments that can substantially influence the country's imports and exports. The most well-known tools include:

- Quotas - quantitative restrictions on imported products per year or for another period of time. The government may prohibit the import of some goods, to set a zero quota. Quotas do not generate income for the state budget;
- Customs duty - the charge levied by the state for the importation of goods into or for export;



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- Export subsidies - export support by the state. Subsidies typically take the form of a reduction or deduction of taxes that would be payable by the producer if he sold the goods on the domestic market;
- Invisible barriers to imports - for example, the defense of the state against food imports and the tightening of health standards, etc .;
- Embargo - Import or export ban or both. It is a guaranteed way of eliminating international trade in specific goods. (Jurečka, 2017, Mankiw, 2013, Samu-elson & Nordhaus, 1995,2010)

7.5 Balance of payments

*Overview of
international cash
flows over a certain
period of time*

The balance of payments is an overview of the country's international cash flows for a certain period of time. It takes the form of a financial statement. It contains an overview (balance sheet) of foreign direct debits, so-called credited items and foreign exchange payments, the country's debit entries for a certain period, typically in one year.

The balance of payments of different countries is compiled and published in a differently detailed breakdown, according to the needs of economic analysis. The balance of payments has the following basic components:

- Current account - includes flows of goods, services and transfers. The current account consists of the following parts:
 - Trade balance - represents the difference between export and import of goods. The surplus of the trade balance means that the country exported foreign goods for a given period before importing it. Trade deficit is the opposite.
 - Balance of Services - Records revenue from tourism, international transport and communications, payments related to the exchange of scientific and technical information, patents, licenses, etc.
 - Revenue Balance - Recognizes revenue from financial assets, business and foreign affairs, and interest payments, dividends and wages paid to foreign workers.





- Current transfers - These are unilateral transfers, which may be private or governmental. Private, for example, heritage and gifts, nutrition, contributions to cross-border institutions, private funds and government pensions, foreign aid,
- Capital account - This account includes capital transfers and transfers of non-produced tangible non-financial tangible assets, such as land for embassies and intangible rights, such as patents, copyrights, etc.
- Financial account - the balance on the financial account reflects the international movement of capital. The inflow of capital is on the revenue side, i.e. credit, as the country sells its assets and receives money for them. By capitalizing on capital, on the other hand, we understand the purchase of foreign assets by domestic entities. The most important part of the capital account is the movement of long-term capital, which means international investment and loans.
- Balance of errors and omissions, exchange rate differences - statistical discrepancy. This item arises when collecting data and compiling payment records.
- The official foreign currency account - the balance on the reserve account reflects the change in the official reserves for the period. It reflects the country's deficit or surplus from both current and capital transactions.
- Balance of payments balance analysis can compile two types of balances, namely cumulative and partial balances. The cumulative balance of payments balance is determined by guiding the line in a horizontal direction. We divide the balance of payments into two relatively separate circuits. The first circuit is formed, i.e. over the line, the second line below. A partial balance may be obtained from the difference between the balance of payments items. This is the balance of trade balance, salvo current account, financial account, direct investment balance and others. (Jurčeka, 2017, Mankiw, 2013, Samuelson & Nordhaus, 1995, 2010)

The balance of payments is always balanced. The current account deficit is covered by a surplus of the financial account or by the drawing of foreign reserves. Conversely, the current account surplus is intended to cover the financial account deficit or increase foreign exchange reserves. The balance of payments is in balance when the current account deficit is fully covered by a surplus of the financial account or when the financial account deficit is fully covered by a current account surplus. The mechanism





that balances the balance of payments is the exchange rate, but only on the assumption that the exchange rate is freely movable. If this is not the case, then the balance of payments imbalance may persist for a longer period of time. This imbalance is then offset by the change in foreign exchange reserves. (Jurečka, 2017, Mankiw, 2013, Samuelson & Nordhaus, 1995, 2010)

7.6 Nominal and real exchange rate

The number of domestic currency units for which foreign currency units can be purchased

The nominal exchange rate (E) is defined as the number of units of the domestic currency for which foreign currency units can be purchased. The decline in this quantity is referred to as nominal strengthening or appreciation of the currency. In fixed-rate mode, the reduction of the E-rate is referred to as revaluation. This increase is referred to as the nominal depreciation or depreciation of the currency. In the fixed exchange mode, the increase in the E-rate is referred to as a devaluation. (CNB, 2018)

The share of price level abroad and domestic price levels

On the other hand, **the real exchange rate (R)** is defined as the share of the foreign price level and the domestic price level where the foreign price level is converted to domestic currency units over the current nominal exchange rate. Formally, therefore, $R = (E \cdot P^*) / P$, where P^* denotes the price level and the P domestic price level.

Decrease R means the appreciation or appreciation of the real exchange rate, as well as the increase in depreciation or depreciation. The real rate tells us how many more or less goods and services can be purchased abroad for a given amount (after a currency exchange) than on the domestic market. In practice, it is more important to change this value in time than its absolute level. Unlike the nominal exchange rate, the real exchange rate is always "floating", because even in the fixed nominal exchange rate regime E , the real exchange rate R can move through price levels. (CNB, 2018)

For the purpose of assessing exchange rate effects on international trade, the country's export competitiveness is better suited to track the real exchange rate than to concentrate solely on the nominal exchange rate. For simplicity, let's imagine the domestic





price level rising by 10%, the price level abroad will not change and the domestic currency will be nominally weaker by 10%. Then the real exchange rate will be, that is, price ratio at home and abroad, unchanged, although there was a significant weakening of the domestic currency. Under otherwise unchanged circumstances, our simplified reasoning would not change the demand for imports in the domestic economy and the demand for exports of the economy abroad. (CNB, 2018)

7.7 International monetary system

*The system of
monetary relations
in the world
economy*

The International monetary system represents a system of monetary relations in the world economy. It is made up of different monetary means and institutions that work on it. In the past, he has undergone complex developments. Its current state of affairs is the result of the so-called Kingston Agreements of 1976. Under the Kingston Agreements, a free floating exchange rate system was introduced, called floating, when the exchange rate is based on supply and demand for the currency. However, groups of countries may enter into agreements on fixed or fixed exchange rates among themselves. Its core is the obligation for member countries to keep their exchange rate currencies through central bank interventions on stock exchanges at agreed levels. Even the countries whose exchange rate is free use foreign exchange interventions to modify it. That is why today it is commonly referred to as "dirty floating". Small countries often hang their odds on a particular currency or basket of currencies. (CNB 2018)

The International Monetary System consists of two basic components:

- Currency resources, i.e. national currencies, etc.
- An institution regulating relations within the international monetary system. The most important are the International Monetary Fund and the World Bank. (Kursa, 2018)

The International Monetary Fund was established in 1944 as the Bretton Woods Institution (alongside the IMF Bank for Reconstruction and Development). Today, the Fund has 188 members and is de facto a universal organization. The main focus of IMF's work is to support economic growth by overseeing the stability of the international monetary system. It also adopts measures to ensure financial stability, facilitate international trade, help de-





veloping countries improve their macroeconomic situation while reducing the poverty rate in the world. (Kursa, 2018)

The World Bank Group (WBG) is made up of five entities:

- **The International Bank for Reconstruction and Development (IBRD)** - provides loans, guarantees and consulting services to the countries of transition economies and developing countries (focusing mainly on medium-income countries). The IBRD was established at a conference held in Bretton Woods (New Hampshire, USA) in July 1944. The International Monetary Fund was also established at this conference. IBRD is a member of 189 countries.
- **The International Development Association (IDA) - IDA's mission**, founded in 1960 and whose members are 173 countries, is the eradication of poverty in the poorest developing countries through interest-free loans and grants for programs supporting sustainable development and improving the living conditions of the population. Currently 75 countries can draw resources from its sources. These are countries whose GNP / capita. did not exceed USD 1,165 in the financial year 2018 (from 1.7.7.2017 to 30.6.2018) (IBRD and IDA are the so-called World Bank - SB)
- **IFC - IFC was founded in 1956** and has 184 countries and operates in more than 100 countries. It finances private-sector projects in developing countries and transforming economies in the form of long-term loans and minority capital contributions. The IFC also provides advice to the private and government sectors. Providing funds directly to the private sector is the fundamental difference between IFC and the World Bank. IFC looks for the private sector in regions and countries with limited access to capital. IFC provides funding on markets that private investors consider to be risky. The IFC is the largest multilateral source of capital and loans for financing projects in the private sector of developing countries. In the past, IFC has contributed to the capital increase of Živnostenská banka and provided the loan to Plzeňský Prazdroj, Vetro-pack Moravia Glass, MaFra and Autokola Nová Huť.





- **The Multilateral Investment Guarantee Agency (MIGA)** was established in 1988 to support foreign direct investment in developing countries. It is a member of 181 countries. It provides private investors and creditors with insurance policies against political risks. MIGA guarantees protect investments against noncommercial risks in order to help investors get access to financing under better financial conditions. MIGA focuses primarily on investment insurance in complex investment and risky environments, such as conflict-affected areas, IDA countries or complex infrastructure or mining transactions. As part of the Czech Republic's assistance, MIGA provided guarantees for political risks such as investment by foreign investors in Cement Hranice, Vitana, Tesla Lanškroun, AVX Czechoslovakia, Westvaco Svitavy, Kladno Energetic Center,
- **The International Dispute Resolution Center (ICSID)** - is an autonomous international institution based on the Convention on the Settlement of Investment Disputes between States and Citizens of Other States (ICSID) or the Washington Convention, 1966). Its mission is to remove major barriers to the free movement of private investment and to address legal disputes between eligible parties through conciliation or arbitration. Currently, the convention has been ratified by 153 States Parties, and ICSID is considered to be the lead international arbitration institution dealing with investor-state dispute resolution. ICSID was set up with the objective of an independent, independent forum to provide legal remedies through conciliation or arbitration. Assignment of ICSID is always based solely on the parties' agreement. (MF CR, 2018)

The main goal of the WBG is to reduce poverty by supporting the development of economic countries in developing countries and transforming economies, while long-term financing (loans and capital contributions) and technical assistance are the instruments to achieve this goal.

Summary

- Nowadays, the national economies of the countries of the world can be considered open, what is meant by the relation to the international economic environment.



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- Closed economy is an economy that does not participate in foreign trade and the GDP of the economy is consumed only by the domestic population.
- International economic relations are implemented in the form of exchanges: goods, services, capital, scientific and technical knowledge, labor.
- The rate of openness of the economy is most often expressed using the ratio $\text{Export} / \text{GDP}$, $\text{Import} / \text{GDP}$ or $(\text{Export} + \text{Import}) / \text{GDP}$.
- The international exchange allows the effective economic development of each economy.
- The development of international trade influences demand and supply factors.
- The absolute advantage in international trade lies in the fact that country A chooses for the international trade the kind of goods X, which has absolutely lower costs than country B.
- The comparative advantage law states that a country should specialize in the production and export of commodities that it is able to produce at relatively lower costs, and should import those goods it produces at relatively higher costs.
- Protectionism is one of the two most important business policy concepts that, by restricting and regulating foreign trade, protect weak domestic industries that would not be able to push their products against cheaper competition.
- In the framework of its external trade policy, the state has instruments that can fundamentally affect the country's imports and exports.
- The balance of payments is an overview of the country's international cash flows over a certain period of time. It takes the form of a financial statement. It contains an overview (balance sheet) of foreign direct debits, so-called credit items and foreign exchange payments, the country's debit entries for a certain period, usually in one year.
- The nominal exchange rate (E) is defined as the number of units of the domestic currency for which foreign currency units can be purchased.
- The real exchange rate (R) is defined as the share of the foreign price level and the domestic price level, where the foreign price level is converted to domestic currency units over the current nominal exchange rate.





- The International Monetary System represents a system of monetary relations in the world economy. It is made up of different monetary resources and institutions that regulate it.
- The International Monetary System consists of: monetary means, i.e. national currencies of individual countries, etc., and institutions governing relations within the international monetary system. The most important are the International Monetary Fund and the World Bank.
- The International Monetary Fund was established in 1944. The main focus of IMF's work is to support economic growth by overseeing the stability of the international monetary system.
- The World Bank Group (World Bank Group, WBG) is made up of five organizations: International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA), International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA) and the International Center for the Resolution of Investment Disputes (ICSID).





8 THEORY OF ECONOMIC CYCLES AND THEIR IMPACT ON ECONOMY

Chapter goal

- to familiarize with the theory of business cycles
- to clarify the causes of economic cycles
- to clarify the four-phase economic cycle
- to clarify the impacts of the economic cycle on the economy

8.1 Theory of the business cycle

*Regularly repeating
changes and stages*

With the term "cycle" we can meet almost every step. For example, we say that cyclical character has alternation between the stages of the day and the night, the seasons, or the birth and extinction. The term cyclic can actually be used for periodically changing series of changes and stages. It does not mean that stages and changes must always be as long and extensive. The economic cycle is a phenomenon with significant microeconomic implications, which are particularly noticeable when the economy fails early. (Jurečka, 2017)

The history of economic cycles has shown that cyclical cycles do not take place in constant time segments. On the one hand, the economy can experience rich years of expansion and prosperity, on the other hand, be replaced by economic downturns, financial crises, or even long-lasting depressions. The output of the national economy has a tendency to decline in such a way, the profits of firms and the real incomes of the population are decreasing, and the unemployment rate is increasing, with increasing numbers of workers losing their jobs. As soon as the level of economic performance reaches its bottom, the economic recovery will recover again. This recovery may be fast or slow. It can be partial or strong enough to bring the economy to a new conjunction. Prosperity, on the other hand, can be characterized by a long period with a large number of jobs, strong demand and rising living standards. It can also be characterized by rapid growth in prices and speculative behavior, which can gradually lead the economy to further decline. Then, these constant fluctuations





of inflation, unemployment, interest rates and outputs, up and down, create the economic cycle that is characteristic of all industrially developed market economies. (Samuelson & Nordhaus, 1995, 2010)

Economic cycles are quite fluctuating phenomena. In different parts of the world and in different historical periods, they vary in both period and amplitude.

The period and the amplitude of economic cycles

The economic cycle period indicates the length of the period between "turning points" during cyclical movements.

The amplitude (bending, depth) of the economic cycle corresponds to the length of the period that corresponds to the movement between the upper and lower "turning points" during the cyclical movement (i.e. between the peak and the saddle)

In the past, however, economists believed that it is possible to identify certain types of economic cycles with more or less the same duration, i.e. the period. Even some experts believe in the existence of "typified" economic cycles even today. (Jurečka 2017)

8.1.1 Internal and external theories of the business cycle

Reasons for the emergence of economic cycles

Over the past years, macroeconomic research has explored the cause and source of the economic cycle. Macroeconomics tried to answer questions explaining sudden changes in employment, to explain as output-level changes. It also addresses the question of why economies are experiencing a period of steep growth, and why these periods are alternated by periods of downturn and stagnation. For macroeconomic responses, the basic division of business cycle theory into two categories, internal and external, has come to light. (Samuelson & Nordhaus, 1995, 2010, Schumpeter, 2005)

The economy is influenced by the internal environment

Internal theories of the business cycle are looking for mechanisms that can cause economic cycles within the economic system itself. This approach sees the expansion and recession of the following recession and decline in economic performance, and vice versa, in every recession of embryos of future recovery in economic





performance and expansion. The period of expansion and recession in itself form an irregular, repeating chain of events. (Samuelson & Nordhaus, 1995, 2010, Schumpeter, 2005)

*The economy is
affected by the external
environment*

External theories of the business cycle see the causes of changes in some factors outside the economic systems. Examples of such factors include wars, revolutions, elections, migration, oil price developments, discovery of new countries, scientific and technological innovation, or new gold deposits. (Samuelson & Nordhaus, 1995, 2010, Schumpeter, 2005)

8.2 Business cycle phases and economy

*Four phases of
business cycles*

The economic cycle is the periodically recurring phase of the rise, decline and stagnation of economic activity. Economic activities are then more accurately understood as real GDP, investment activity, employment, private and public consumption. The phases of the economic cycle are so-called expansions (also revival, recovery), the peak (boom, prosperity, conjunction, contraction (crisis, cold) and bottom (saddle, depression) (Jurečka 2017, Samuelson & Nordhaus, 1995, 2010)

8.2.1 Expansion

*Growth of the
economy*

If the economy is in the phase of expansion, it means that real GDP is growing in the country. At this stage of the business cycle, households and governments are increasingly demanding goods produced by businesses. Companies respond to this growth in demand by increasing production volumes. Companies hire more work, capital and other factors of production. The employment and purchasing power of people is growing. This leads to a further increase in profits for existing businesses, and another expected increase in average earnings in the economy leads to the emergence of new businesses. Manufacturers are beginning to make full use of their production halls, machines, and facilities, and at the same time negotiate bank loans with banks to expand their production capacities. Banks are thriving at this time, thanks to increased bonuses after their loans. At the time of





economic expansion, it consumes more, invests more and produces more. (Jurečka 2017, Samuelson & Nordhaus, 1995, 2010) The economy of the country prospered.

8.2.2 Peak

*The economy is at
the top*

In the boom stage, the economy is at the peak of its activity. At this stage of the economic cycle, cost pressures increase, which force the producer to increase the output prices of the goods produced. Factors that have not been used in the previous stages are exhausted at the peak stage. Companies are finding it very difficult for potential job seekers. Companies are trying to lure workers to a higher wage rate, which, however, raises the production process and reduces profitability. Households have higher revenues and therefore buy and consume more and more goods. Higher-income households use bank loans for their purchases and buy houses, car-mobiles, and other long-term paid property. This leads to the fact that the resources provided by banks in the form of loans, loans and financial assistance are becoming more and more expensive. This cost-cutting further reduces the profitability of production. These factors seek to further intensify competition between businesses. Generally, the economy at the peak stage appears at first glance as a healthy economy with features of general wealth. High market activity, employment rates and prices hide major economic problems. (Jurečka 2017, Samuelson & Nordhaus, 1995, 2010)

8.2.3 Contraction

Economic downturn

Contraction (crisis, recession) is the state of the economy, which can be understood as the reaction of the economy to a period of excessive optimism, when the economy was consumed, manufactured and invested in the economy. At this stage of GDP, other macroeconomic variables weaken. Households increase living costs and therefore no longer invest in durable goods. Manufacturers are starting to store unsold goods at warehouses. Companies are trying to respond to this situation by lowering the prices of their products. They also strive to streamline production processes by reducing costs. Companies are releasing some of their employees, reducing production capacity, and losing interest in bank loans. Some businesses must restrict or end their activities. In the economy there is a fall in





employment, there is a significant downturn in lending in the banking sector and an increase in the amount of non-repayable debts that are not able to repay. (Jurečka 2017, Samuelson & Nordhaus, 1995, 2010)

8.2.4 Trough

The economy is down and unemployment high

At this stage of the economic cycle, the economy gets to the trough. In economic depression, unemployment is high, but consumer and consumer spending and potential investors are at a very low level. At this time, pessimism and reluctance to ricochet throughout the economy. Households do not have high incomes, so they are still waiting for their purchases at lower prices. Companies do not believe in the rapid growth in demand for their production. Banks do not lend. The low profitability of companies has reduced the number of companies in the economy, leaving only the strongest businesses in business. Unemployment is offset by a low price level. (Jurečka 2017, Samuelson & Nordhaus, 1995, 2010)

8.3 Duration of business cycles

Short-term medium and long-term economic cycles

Business cycles by duration are typically divided into Kitchin, Juglar, and Kondratiev cycles.

Kitchin cycles are short-term business cycles. Their average duration between "turning points" is about 40 months. The discovery of these cycles is attributed to Joseph Kitchin (1861-1932). These cycles are said to have been revealed by the British and American economical fluctuations in the years 1890-1922. This short-term type of economic cycle is characterized by repeated changes in inventories of finished production. (Jurečka 2013)

Juglar cycles are medium-term cycles. Their average period is 9-10 years. The existence of these cycles was first demonstrated in 1860 by the French doctor Clémont Juglar (1819-1905) and twenty-nine years later he confirmed existence. These medium-term cycles are attributed to periodically recurrent fluctuations in capital goods investments. (Jurečka 2013)





Kondratiev cycles are also called "long waves". These cycles have a reported average periodicity of 50 years. Russian economist and head of the recognized Institute for Conjunction Research at the Soviet Ministry of Finance Nikolai Dimitrijevič Kondratěv (1892-1938). It monitored developments in wholesale prices, wage and interest rates, foreign trade and production indicators in France, the United Kingdom and the US, which led to the conclusion of long waves in the development of economic activity. Kondratiev's cycles are associated with ongoing technological advances, wars, revolutions, and similar events. (Jurečka 2017, Samuelson & Nordhaus, 1995, 2010)

Summary

- The economic cycle is a phenomenon with significant microeconomic consequences, which are particularly noticeable when the economy temporarily fails.
- The economic cycle period indicates the length of the period between "turning points" during cyclical movements.
- The economic cycle's amplitude (bend, depth) corresponds to the length of the period that tells the movement between the upper and lower "turning points" during the cyclical movement (i.e. between the top and the saddle).
- Internal theories of the business cycle are looking for mechanisms that can cause economic cycles within the economic system itself. This approach sees the expansion and recession of the following recession and decline in economic performance, and vice versa, in every recession of the germs of future recovery in economic performance and expansion.
- External theories of the economic cycle see the causes of changes in some factors outside the economic systems.
- The phases of the economic cycle are so-called expansion (also recovery, recovery), peak (boom, conjunction, contraction (crisis, recession) and bottom (saddle, depression).
- In the expansion phase, the economy is prosperous. Real GDP is rising. At this stage of the household cycle and government, demand for goods produced by firms increased.





- In the economic phase, the economy is at the peak of its activity. At this stage of the economic cycle, cost pressures increase, which force the producer to increase the output prices of the produced goods.
- Contraction (crisis, recession) is the state of the economy, which can be understood as the reaction of the economist to the period of excessive optimism. At this stage of GDP, other macroeconomic variables weaken.
- Bottom - economic depression. Unemployment is high, but spending by consumers and consumers and potential investors is at a very low level.
- Duration of economic cycles is usually divided into Kitchin's, Juglarovy and Kondratiev cycles.
- Kitchin cycles are short-term economic cycles. Their average duration between "turning points" is about 40 months.
- Juglar cycles are medium-term cycles. Their average period is 9-10 years.
- Kondratiev cycles are also called "long waves". These cycles have a reported average periodicity of 50 years.





SUMMARY

By studying and understanding the learning text intended for doctoral students, the macro-economic apparatus instruments were adopted, in relation to their use in the real economic life of individuals or groups of individuals.

The first and second chapters focused on the methodology of macroeconomics. The third chapter was focused on the theory of measuring and measuring the performance of the economy. The fourth chapter dealt in more detail with the labor market and unemployment issues. The fifth chapter was centered on monetary policy and the role of the central bank. The sixth chapter deals with fiscal policy and public finances. The seventh chapter focused on the external links of the open economy and on selected issues of the international economic environment. The eighth chapter was devoted to the theory of the economic cycle and its impact on the economy.

The task of the study text was to familiarize students with the use of macroeconomics in addressing socio-economic problems.



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LIST OF ABBREVIATIONS

AD	Aggregate Demand
AS	Aggregate Supply
ČR	Czech Republic
ČNB	Czech National Bank
E	Nominal Exchange Rate
EU	European Union
HDP	Gross Domestic Product
IBRD	International Bank for Reconstruction and Development
ICSID	International Centre for Settlement of Investment Disputes
IDA	International Development Association
IFC	International Finance Corporation
MIGA	Multilateral Investment Guarantee Agency
OSVČ	Self-employed Person
R	Real Exchange Rate
WBG	World Bank Group





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LIST OF APPENDIXES



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APPENDIX A I: TITLE



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APPENDIX A II: TITLE



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