Course: World economy

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Contents: The aim of the course is to acquaint students with the methods of measurement and interpretation of fundamental economic variables. Measurement and interpretation of fundamental economic variables: GDP, Unemployment, Inflation rate and the Balance of payments.

1. GDP

Measurements:

- Expenditure method
- Income method
- Production method

Expenditure method

With this method we find application output. Thus counted GDP gives information on the composition of output, or if the company's response to the fundamental economic question: what to produce ? If a product is defined as the market value of final output achieved for a given period of its realization in the market is related to the expenditure of those who buy this product. The main types of application of the output corresponding to the four basic groups of market participants, they are households, firms, state and foreign entities. If we measure GDP using the expenditure of businesses, is expressible sum of the following items:

C = household expenditure on consumption,

IB = gross private domestic investment,

G = government purchases of goods and services,

NX = net exports (the difference between exports and imports).

Gross domestic product, using the expenditure approach can be written:

GDP = C + IB + G + NX

Income method

The income approach means that we measure the performance of the economy by means of household income that households receive as a reward for the services of factors of production in their property. If you read all these pensions, which includes households, we get the quantity national income. The owners of factors of production belong to this income: wages before tax (gross wages) reward for the production factor labor, annuities, pensions landowners, corporate profits before taxes (gross profit), net income (the difference between the interest that households acquire, and interest applicable), retirement income in the form of selfemployement (pensions for the use of production factors outside the corporation, such as corporate profits of individual owners). The sum of the incomes obtained national income, but will not reach the level of national product (GDP using the expenditure approach). This is mainly due to the amortization of capital and indirect taxes. The national income is not included amortization (depreciation) of capital, is contained only in the prices of goods and services. Also in Pensions protruding indirect taxes that are present in the prices of goods and services, and collects the state. If the national income we add these two most important items closer to the magnitude national product. Furthermore, we still have to subtract from national income production subsidies, if provided state firms to compensate their losses. Taking into account also the fact that a certain portion of income in the local economy include foreigners and their pensions travels abroad. On the other hand, citizens own domestic economic factors of production abroad and pensions for their use of flow into the domestic economy. If the income accruing to the domestic economy subtract pensions belonging to foreign entities, we get us a known quantity net property income from abroad or if the net property income from abroad. Approximately, we can write:

National product = national income + depreciation + capital indirect taxes - subsidies on production + net property income from abroad

Personal Income (PI), this value takes into account the following factors:

- Company pays taxes on the profits
- Part of the profits of companies not divided,
- They are provided payments to special funds - social and health insurance,
- Households receive income in the form of transfer payments from the state,
- Sectors except households receive or pay interest.

For the calculation of personal income received by households before payment of personal income taxes , we can write:

National income - corporate taxes - Retained earnings - payments into social security and health insurance + transfer payments + net interest income = personal Personal income is subject to taxation shall be reduced by the personal income tax.
If we subtract from the personal income tax personal income , gain disposable income (DI = YD).

Personal income - personal income tax = disposable income Once you get your household disposable income, they can buy it for goods and services. If you spend any disposable income for the purchase of goods and services, their savings are equal to zero (S = 0). Savings means the disposable income that is not spent on consumption. If disposable income is higher than the level of consumption, savings form. Otherwise, the household savings dissolve.

Manufacturing method

Using this method, we determine the output of the economy as the sum of gross value added, which were created in the period in individual sectors of the national economy. To approach the value of the national product, the sum of gross value added should be added the indirect taxes (net of tax on goods and services). (1)

2. Unemployment rate

The groups which need to be distinguished:

a) Employed

population that is in paid employment or self-employment (including persons temporarily absent at work, but with a formal job attachment)

b) Unemployed

not in paid employment or self-employment , while actively seeking a job and are willing to get on a certain time period. These are people who are able and willing to work.

= Economically active population - labor force of the country

c) other

students, pensioners, disabled, housewives - unless they meet the conditions of the previous groups.

Economically inactive population (4)

For the purposes of measurement are used:
a) absolute figures, the number of unemployed persons (0.5 million)
b) the unemployment rate as the percentage of unemployed in the economically active population

The unemployment rate is the share of all unemployed persons capable of work (even employed and unemployed), or where:

- Unemployment rate (in practice often given as a percentage)
- The number of people out of work
- The number of employed people
- The total workforce

Some theories argue that this measurement does not capture certain groups (at least these):

a) workers forced part-time employees.

b) persons excluded from the labor force as discouraged workers.

They stopped looking for work, do not believe it to be found. Furthermore, we are able to state workers who are retraining or persons who found a job, but the board later (the will of the employer).

In some developed countries are counted different rate derived from unemployment. For example U.S. rate U1 - U7, which always tries to capture the specific problem of unemployment (long-term, part-time, etc.) (9)

3. Inflation rate

Measuring inflation serves two purposes: to quantify the rate and examine its negative impacts. To measure the movement of the price level to use price indices. (8)
The most common include the consumer price index (CPI), producer price index (PPI) and the implicit price deflator (GDP deflator). (2)

- **Consumer Price Index (CPI)**

This price index is a means for measuring changes in the average price of consumer goods and services. If we know the average price of consumer goods, we will be able to see if this average increases. From monitored the extent to which prices increase, then we will be able to calculate the rate of inflation. Calculation process begins by identifying market basket of goods and services that the typical consumer buys. Number of items in the consumption basket changes over time to more closely express the structure of consumer household trash. Weight of goods and services (price representatives) in the consumer basket is the proportion of the type of consumption in total household consumption. The consumer basket for measuring inflation in the Czech Republic foodstuffs (food, beverages, tobacco), other products (clothing, furniture, household goods, cosmetic and small goods, goods for transport, leisure, personal care products, etc.) and services (repair of housing, household operations, health, welfare, transport, leisure, education, catering and accommodation, personal care and financial services).

Once we know what the typical consumer buys, it is relatively easy to calculate the average cost of the basket. Measuring inflation using CPI is based on the comparison of the prices of the consumer basket, and in the current and base period. The price level in the base period for the calculation is usually set at a value of 100 Suppose, for example, that last year was the consumer basket 10 000 CZK and that the same basket of goods and services worth CZK 11 000 this year. From these two figures, one can infer that consumer prices for the year increased by 10 %.
When expressing the rate of inflation using the CPI are often given different numbers,

although different, are correct. For a correct interpretation of the price index should be aware, to the period in question. The condition is accurate factual, spatial and temporal definition. This means clearly state the period for which the inflation rate is indicated and the basis on which the designated period compared.

Now look at the general formula for calculating the rate of inflation. First, we calculate the CPI, in the time (t - 1) and then calculate the inflation rate as the growth rate of CP. The CPI captures the dual award of a representative consumer basket in which i = 1 , 2, 3, ... n types of goods. The numerator appears valuation basket at current prices (marked by subscript t) and the denominator valuation basket at constant prices of the base period (marked by the subscript 0). The letter p denotes the price of the goods aq amount or if the share of commodity consumption (weight in the consumer basket). (7)

• The Producer Price Index (PPI)

In addition to the consumer price index (CPI), there are three price indices. PPI monitor the average prices which relate to producers. One index covers the prices of raw materials, intermediate goods other covers and covers the latest final products. These three indices PPI prices do not include all manufacturers, but focus primarily on producers in heavy industry, manufacturing industry and agriculture. In the long term, the CPI and PPI generally reflects the same rate of inflation. In the short term, however, usually PPI indices increase before the CPI because it takes some time before the increase in the producer price reflected in prices paid by consumers. Therefore, the PPI indexes very closely monitored, since they act as a signal of potential changes in consumer prices. (5)

The implicit price deflator (GDP deflator, IPD)

Broadest price index is the implicit price deflator or if the GDP deflator. This price index covers all output. Unlike the CPI, PPI, and the GDP deflator is not based on a fixed basket of goods and services. Allows the basket by changing patterns of consumption and investment in the company. GDP deflator is a measure of pure price changes. Its value reflects both changes in prices and market response to these price changes, reflected in the new model costs. As a result, the GDP deflator typically experience lower rates of inflation than the CPI index. The GDP deflator is used to adjust the nominal value of output (GDP) to change price levels. It is calculated as the ratio of nominal and real gross domestic product of the economy. (6)

4. Balance of Payments

Balance of payments, specifically the balance of payments of foreign trade, the monetization of economic transactions between a country and its foreign partners for a certain period (usually the financial year). The balance of payments includes the export and import of goods and services, both inbound and outbound foreign investment, donations and transfers of funds.

The structure of the balance of payments

The balance of payments can be structured horizontally or vertically. Vertical patterns of the balance of payments on credit and debit entries. Credit entries represent flows of money (or other valuable goods) in the economy, for example increase the supply of foreign exchange. On the contrary, debit entries represent the outflow of money and therefore increase the demand for foreign exchange.

Horizontal structure consists of the following items (accounts):

1. Current account

• the balance of trade - exports and imports of goods

• the balance of services - exports and imports of services

• the balance of income - income and other compensation of residents working abroad and non-residents from employment in our country, income and expenses related to foreign investment (especially interest, dividends and profits reinvested).

• Current transfers - transactions that do not result in liabilities or claims in relation to abroad.

2. Capital account

includes revenues and expenses related to capital transfers due to population migration, transfers of non-tangible assets and intangible assets.

3. financial account

- the balance of direct investment
- the balance of portfolio investment
- the balance of financial derivatives
- other long-term capital (loans granted abroad, and received from abroad)
- other short-term capital

4. account errors and omissions

deviations caused by incomplete information on foreign trade

5. allocation of special drawing rights

6. reserves and related items (3)

From an accounting point of view must always be in balance of payments is zero - net surpluses and deficits in the balance of payments may be due to statistical discrepancies.

Balance of payment

For the analysis of external equilibrium, there are various balance (the difference between credit and debit items) balance of payments, which implies certain accounts.

The most commonly used balance include:

- Trade balance
- balance of goods
- current account balance (operating balance)
- balance the basic balance
- balance maximum liquidity (full balance of payment)

In popular terminology (in press, etc.) are mostly talking about the current or the financial account (or on their balance), whose partial balance of payments are normally zero. If revenues are greater than expenses, it is the surplus (current or capital account) deficit, resulting in a surplus, otherwise it is a balance (current or capital account) passive, resulting in a deficit.

Often it is argued that the balance of payments must balance. In fact, however, this balance is obvious. In the long term it is not possible that citizens of one country buy more goods and services than they provide, for the same reasons as in the long term it can not do any private person or company. Active policy that establishes a balance, so there is no need. However, many, especially Keynesian, economists have classified this item also among the objectives of macroeconomic policy. In a paradox, it is almost never speak of the need to strike a balance when the country exports more than it imports, but almost always asks at least balance, if the opposite is true. If, however, some countries in the world record export surpluses must be some other more import than export. In some ways, therefore the export policy of various countries in conflict.

Instrument to establish a balance or a surplus is configurable. It is possible to reduce imports by introducing some restrictions, such as tariffs or quotas. In some cases, such measures are introduced, though apparently they have a different target, for example by setting some parameters of the imported goods can not be easily met.

A country that tariffs and quotas introduced, however, runs the risk of retaliation. Another option is devaluation of its currency, which leads to inflation. The most suitable instrument is considered to be a foreign exchange policy, the central bank of its tools may be used for the depreciation of their currencies. This will allow exports through eyes of foreign buyers and imports cheaper regarded citizens of the country more expensive. Still another way is to directly subsidize the production of any export goods.

Whatever authority but chooses any procedure, each of which is effectively the same nature, namely in terms of interference in consumer preferences. If at any point you wish to make the citizens of a country imports more than exports, balance or surplus of exports can be achieved only at the cost of forced changes to these desires. Most consumers therefore lost. However, it is possible to obtain some, such as the owners directly subsidized firms.

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Translated on the basis of Ing. Lenka Brizgalová Ph.D documents.

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