Course: World economy

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Contents: The aim of the course is to acquaint students with the model - sector economy, clarify state fiscal policy, whose main instrument is the state budget. The lecture will clarify the objectives and instruments of fiscal policy and the difference between expansive and restrictive fiscal policy.

Three sector economy

Three sector economy includes households, businesses and government sector - that affects the production level government purchases of goods and services (G), which are components of aggregate demand and taxes (total tax is labeled TA) and transfers (TR) Taxes and transfers affect the relationship between production and income (Y) and disposable income (YD), ie the income of the private sector, which is used for consumption and savings.

Three sector economy model includes variables:

Government purchases of goods and services (G)

Government transfer payments (TR)

We will consider only transfer payments to households (excluding grants and subsidies to firms). It is just not about immediate expenditure for the purchase of production, in contrast to G, but since migrating to the disposable income of households and converted to consumer spending and saving.

The total tax (TAT), where we also classify the mandatory contributions for health, social insurance and similar payments that reduce the level of disposable income.

Aggregate demand consists of household expenditure on consumption (C), investment spending companies (I) and government spending on goods and services (G).

AD = C + I + G

The inclusion of the government sector in the analysis indicates that the private sector pays the ordinary income tax and receives transfer payments. Consumer expenditures are functions of ordinary income, but the function of disposable personal income. The assumption is that the tax applies only household, so in terms of disposable personal income. Furthermore, speaks only of disposable income (YD). Disposable income is defined as the difference between ordinary income minus taxes plus transfers.

YD = Y - TAT – TR

Specifies the consumption function is then :

C = Ca + c (Y - TAT + TR)

Government involvement in the economy is reflected in the specific form of fiscal policy. Fiscal policy defects contain a specific level of government purchases of goods and services , transfer payments to specific levels of a specific level of taxes. (4)

Total tax (TAT) is divided into two groups:

- Income taxes, which vary with the change of retirement. This is especially taxes on income, wages, profits, etc. The total size of these taxes expression express those where t is the rate of income tax (marginal tax rate);

- Autonomous taxes on income independent (TAA), among them include real estate transfer tax, inheritance tax or gift tax, wealth tax.

TAT = TA + tY

Rate t is the marginal income tax rate and share reflects the growth of total taxes to increase income : (5)

t = Δ TAT / Δ Y

Then, the consumption function : **C = Ca + c (Y - TA - You + TR)**

When substituting equation for C in the equation of aggregate demand in the three sector model, we get:

$AD = cY - Cty\ Ca + - CTA + Ctr + I + G$

The equation is an equation of aggregate demand in the three sector model.

Autonomous independent expenditures on pensions, which are labeled A, consist of:

$A = Ca - CTA + Ctr + I + G$

Substituting A into the aggregate demand equation, we get:

$AD = A + c\ Y - Y\ c\ t$

$AD = A + c\ (1 - t)\ Y$ ... equation of aggregate demand in the three sector model of the economy

In the three sector model of aggregate demand by larger (smaller) the larger (smaller) is autonomous consumption, transfer payments, autonomous investment and government purchases of goods and services, and the smaller (larger) are autonomous taxes on the one hand and the larger (smaller) is the marginal propensity to consume out of disposable income, the lower (higher), the rate of income tax.

Marginal propensity to consume (MPC)

$mpc = \Delta C / \Delta YD$

Expressed as changes in consumption expenditure change in disposable income.

A simple multiplier in the economy three sector

$\Delta Y = \Delta A \cdot 1/1 - mpc\ (1 - t)$

The expression **1/1 - MPC (1 - t)** will be referred to as a multiplier of autonomous expenditure three-sector economy.

1. Amendment autonomous consumption, **investment and government spending**. Increase (or decrease) of these variables will result in an increase (decrease) the equilibrium product.

Change in autonomous consumption (Ca):

Δ Y = Δ Ca. 1/1 - mpc (1 - t)

Changes in investment spending (I)

Δ Y = Δ I . 1/1 - mpc (1 - t)

Changes in government expenditure on the purchase of goods and services (G):

Δ Y = Δ G . 1/1 - mpc (1 - t)

2. amendment transfer payments. For example, increase in unemployment benefits will have in the first round of the expenditure to increase purchases of goods, but not the full amount of the change, but only the part that will not be saved. The assumption is that these transfer income are not taxed. Transfer Efficiency increase government expenditure will therefore be lower than that of the government as the purchase of goods and services.

Change transfers (TR):

Δ Y = Δ TR. mpc / 1 - MPC (1 – t)

3. Change of autonomous taxes. A similar effect as an increase in transfers, but a negative value, will increase in autonomous taxes (ΔTAa) . The multiplier takes the form of negative growth and steady product will be as follows:

Change autonomous taxes (TAA)

$$\Delta Y = \Delta TA \;.\; - Mpc \;/\; 1 - MPC\,(1 - t)$$

4. Amendment of the tax rate. Increase (decrease) in tax burden will, ceteris paribus, a decrease (increase) the equilibrium level of income.

Change in tax SATB (t):

$$\Delta Y = - 1/1 - mpc\,(1 - t) \;.\; mpc \;.\; \Delta t.Y0 \quad (5)$$

Fiscal policy

Fiscal or economic policy of the state budget, where an instrument is the state budget. As revenue and expenditure side of the state budget, are used to achieve the objectives of economic policy, ie to influence the level of employment and the general price level. The budget is approved as law and must be approved by Parliament.

The objectives of fiscal policy:

1. maintain economic growth and high employment,
2. assist in maintaining price stability,
3. dampen fluctuations in the economic cycle.

Tools of fiscal policy:

One of the possible breakdown distinguishes instruments depending on whether it is necessary to use their one-time approval of Parliament or not.

1. Automatic (built-in) stabilizers

After its introduction in the economy operates automatically and requires no further decisions of state authorities. They are installed to assist the market to ensure the efficient use of production resources, and that really made the product with the least detract from the potential of the product.

These include:

• The principle of progressive income tax

• The principle unemployment insurance and social transfers

• Existence of subsidies in agriculture

• State purchase of agricultural surpluses

2. Deliberate measures (discretionary policy)

Specific one-off or short-term measures requiring parliamentary approval, such as a change in tax rates, changes in the structure of expenditures, changes in the level of appropriations. These changes cause changes in the size of real gross national product, have no impact on aggregate demand and supply. Is in addition to the built in stabilizers. These include:

• Public Works and spending programs,

• programs to create new jobs funded by the government,

• specific changes in the rate of taxation of natural persons and legal persons,

• specific changes in the rate of depreciation (depreciation)

• specific social benefits and transfer costs,

• changes in the level of expenditure on public administration, etc. (8)

Expansionary fiscal policy

Expansionary fiscal policy supports aggregate demand. This is a reduction f net taxes, increase government purchases, etc.

Short-term effect: to become either reduce taxes or increase their purchases, which leads to the growth of gross national product employment growth, but often also to inflation.

The long-term effect: usually leads to higher prices and thus inflation, which means it does not change the level of GDP and employment, but also increases the level of prices.

Restrictive fiscal policy

Restrictive fiscal policy limits or reduces aggregate demand, there may be a net increase in taxes or a reduction in government purchases.

Short-term effects: it reduces the price level, reducing output and employment. The long-term effect : it acts to increase private investment, lowering the price level, interest rates, and where private capital expenditure fully covered by the state expenditure on the purchase, there is no change in the level of real output and employment. (5)

State budget

It is a central element of public finances and centralized monetary fund, which generate, distribute and use the central state authorities. (7)

The function of the state budget:

- Stability (acts at the macroeconomic variables)

- Allocation (provided by the production of public goods and other)

- Redistribution (secondary distribution of income)

Fiscal deficits

Two basic questions: what is the structure of the deficit and what are the impacts on the economy.

According to the method of distinguish stable, structural and cyclical deficit:

- **The real deficit** - record the expenditure, revenue and deficits in the period.

- **The structural deficit** (cyclically adjusted deficit) - deficit adjusted for the economic cycle. Presents its own estimate of a fine and the Government planned deficit.

- **Cyclical deficit** (the difference between the actual and structural deficits) - reflects autonomic changes in tax and budgetary expenditures that occur in the context of cyclical fluctuations in real output.

- **The cyclically balanced budget** (the Swedish model budget) - the state budget surplus during the period when the boom is used to cover the budget deficit resulting from the crisis.

The main item of income taxes represent SR - mandatory payments by individual entities in SR at predetermined intervals and amounts. (1)

• **Direct taxes**

For these taxes can be accurately specified person (the taxpayer) who will pay it. The tax is usually payable on its income or assets. A typical example : inheritance tax, gift tax, real estate transfer tax, road tax, etc.

- Personal income tax

- Tax on company profits

• **Indirect taxes**

Indirect taxes, also called a consumption tax are included in the price of goods or services paid by the taxpayer when making a purchase; on the contrary, direct taxes are income tax -payer. Tax theory but lately they find more and more reasons to go under the tax mix from direct taxes to indirect taxes, which are in today's globalized society, the more advantageous properties resulting from the following paragraph.

- A relatively stable and well predictable source of income;

- Are inconspicuous, ie. hidden in the price of goods and services;

- Allow the creeping increase in the tax burden;

- Raising them can usually be easier to enforce than income taxes;

- Are potentially neutral, every citizen pays the same tax no gaps;

- Subject to certain rules, they can not be avoided by changing behavior or such residence;

- Lead to a one-time increase in prices and higher inflation in the short term;

- Distort price signals goods at a lower rate have lower prices than at the basic rate;

- In the information technology, despite its administrative demands more and more manageable;

- If the country can handle basic accounting principles, it becomes easier collection of indirect taxes than direct taxes.

Each shift the tax burden in favor of indirect taxes, however, weaken nature of the state, because with the growing income decreases the rate of taxation. The senior citizen will receive a wage, the lower the percentage of VAT will be represented in his wages, because with growing income and consumption will fall by the tax paid on purchases ; people will save more. If the State filled its budget solely through indirect taxes, low wages would be taxed more than the income of the richest people. In this case, the state lost its solidaristický character.

- **Value added tax (VAT)**; This tax is levied on the value added is the difference between the product and the cost of intermediate products;

- Sales tax; This tax is paid on every market transaction;

- Fiscal monopoly taxes (excise taxes); these taxes are levied on specific goods that usually brings negative externality in the economy. In the Czech Republic it is a tax on tobacco and tobacco products, wine, beer, spirits and alcohol and hydrocarbon fuels and lubricants;

- Customs duties; which can be classified as tax revenues;

- Social security payments to the state employment policy, health insurance , etc. (2)

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

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