The long run in macroeconomics is the period it takes the economy to return to the level of potential GDP once it has been disturbed (хэм алдагдах)

Inflation – a persistent increase in the level of consumer prices or decline in the purchasing power of money, caused by an increase in available currency and credit beyond the proportion of available goods & services. Income > Supply. Since supply is short, prices rise. More money leads to inflation and makes the value of money to drop

Lecture 3 – Aggregate Demand and Aggregate Supply

Taxes affect private consumption via their effect on disposable income

The size of the multiplier is negatively related to the income tax rate & marginal propensity to import

Aggregate desired spending can be divided into:

1) **Autonomous spending** – is determined outside the model and is treated as constant
2) **Induced spending** – is spending that depends on the level of national income or on GDP, and is therefore determined within model

Government spending & taxation policies affect equilibrium GDP in 2 ways:

1. **Government spending** = is part of *autonomous/exogenous* (does not vary with GDP) spending; and is part of GDP (it is directly adding to the demand for the economy's current output thus is part of the aggregate spending). *Transfer payments* also affect desired aggregate spending. *Transfer payments* increase disposable income, and increases in disposable income increase the desired consumption spending. However, government spending always excludes transfer payments
2. **Disposable income** = national income minus **taxes**. Tax rates are treated as exogenous (the government sets its tax rates and does not vary them as GDP varies); while tax revenues are endogenous (as GDP rises with given tax rates, the tax revenue will rise, for example when income rises people pay more taxes even if tax rates are unchanged). Net taxes = total tax revenues received by the government minus total transfer payments made by the government, denoted by T

Budget deficit – is when government's spending exceeds revenues

Budget surplus – is when government's revenues exceed spending. When the budget surplus is 0, the government has a **balanced budget**

Net exports. The balance between exports and imports is important in determining the GDP. **Exports** depend on spending decisions of foreign consumers or firms, therefore exports are determined by influences outside of the home economy. This is autonomous/exogenous spending from the point of view of the determination of the domestic GDP. **Imports** however depend on the spending decisions of domestic residents. Because consumption rises when the income of domestic consumers rises, imports of foreign-produced goods that go into the production of domestically produced goods also rise with domestic income. **Desired net exports** are negatively related to GDP because of the positive relationship between desired imports & GDP. This negative relationship between net exports & GDP, is called the **net export function**

Shift in the net export function. A change in foreign GDP, international price levels, and the exchange rate will affect the amount of net exports and hence will shift the net export function

is the change in price, and the smaller is the change in output. The SRAS is relatively flat for low levels of output and becomes steeper as the level of GDP increases

The slope of the SRAS curve depends on how production costs are related to output; and how goods' prices are related to output.

- **Cost and output**. As output increases, less efficient standby machinery may have to be used, and less efficient workers may have to be hired, while existing workers may have to be paid overtime rates for additional work. Unit costs and output tend to be positively related in the short-run
- **Prices and output**. Price-taking firms produce more only if price rises and produce less if price falls. This is because their unit costs tend to rise with output. On the other hand, price-setting firms will keep their prices constant and satisfy changes in demand by running down or building up inventories. However, if the demand for the output of price-setting firms increases sufficiently at which their unit cost start to rise, profit-maximizing firms will not want to increase production further unless they can pass on at least some of these extra costs through higher prices

Aggregate supply shock – shifts in the SRAS curve. An increase in input prices leads to rise in the price level, thus SRAS shifts upward to the left. A *rightward* shift in the SRAS curve represents an increase in aggregate supply: at any given price level more real national output will be supplied. A *leftward* shift in the SRAS curve is a decrease in aggregate supply: at any given price level less real national output will be supplied. Aggregate supply shocks cause the price level and real GDP to change I opposite directions: with an increase in supply, the price level falls and output rises; with a decrease in supply the price level rises and output falls

Macroeconomic equilibrium – the combination of real GDP and price level at the intersection of the AD and SRAS curves

GDP and the Price Level in the LONG-RUN

Input prices and output gap. When actual GDP is high relative to potential GDP, demand for inputs will be high. When actual GDP is low relative to potential GDP, demand for inputs will be low.

> In inflationary gap when actual output exceeds potential output, the demand for labor input will be high. As a result, workers will find that they have considerable bargaining power with their employers, and they will put *upward pressure on wages* relative to output. Firms, recognizing that the demand for their goods is strong, will be anxious to maintain a high level of output. To prevent workers from quitting and moving to other employers, firms will be willing to accede (welcome) to some of these upward pressures.
>
> While in recessionary gap when actual output is below potential, the demand for labor is low. There will be labor surpluses. Firms will have below-normal sales, and will not only resist (хүлээж авахгүй) upward pressures on wages, but they may even seek reductions in money wages

Unit cost – the average cost per unit

Unit labor cost – the average wage cost per unit of output

When GDP is at its potential level, wages will tend to be rising at the same rate as output is rising, as a result unit labor cost will remain constant

Upward pressure on wages – there is pressure for wages to rise faster than output is rising (increasing costs). In this case, the SRAS curve will be shifting to the left

Downward pressure on wages – there is pressure for wages to rise slowly than output is rising (decreasing costs). When this occurs, unit labor cost will be falling and SRAS curve will be shifting to the right

Expansionary shocks. Suppose there is an increase in autonomous spending. And inflationary gap causes wages to rise faster than output, which raises unit costs. The SRAS shifts to the left as firms seek to pass on their increases in costs by increasing their output prices. An upward shift of the SRAS causes a further rise in the price level, but this time a higher price is associated with a fall in output. This will continue until the inflationary gap has been removed, that is, until output returns at its potential level

Contractionary shocks. Suppose there is a decline in aggregate demand; as output falls, unemployment rises. In a recessionary gap, severe unemployment causes a rapid fall in wage rates relative to output. Falling wage rates would lower unit costs, causing a rightward shift of the SRAS curve

The SRAS curve shifts to the left fairly rapidly when actual GDP exceeds potential GDP, but it shifts to the right only slowly when actual GDP is less than potential GDP

Long-run aggregate supply (LRAS) curve – shows the quantity of output the firms would like to produce after the price level and input prices have fully adjusted to eliminate any unemployment

Lecture 7 – Unemployment

High unemployment levels often associated with lowering inflation are usually temporary

Claimant count – people actively looking for work and registering for benefits

The 3 main types of unemployment:

1. **Cyclical unemployment** – unemployment that is associated with actual GDP being below potential. This occurs whenever total demand is insufficient enough to purchase all the economy's potential output, causing a recessionary gap in which actual output is less than potential output. Cyclical unemployment can potentially be reduced by monetary and fiscal policies, via their effect in shifting aggregate demand. Although wages so tend to vary pro-cyclically (rising in booms and falling in slumps), the fluctuations are not sufficient to remove cyclical unemployment. Why? There are 2 types of explanations for this:
    - New Classical approach – assumes that labor markets are always in equilibrium, in a sense that quantity demanded is continually equated with quantity supplied. It explains unemployment as the outcome of voluntary decisions made by people that's why there are fluctuations in unemployment. There is no cyclical involuntary unemployment, since labor markets always clear.
    - New Keynesian agenda – assumes that many who are recorded as unemployed are involuntary unemployed (as opposite of New Classical approach). Most attempts that tried to explain involuntary unemployment examine the forces that determine wage-setting and hiring decisions. They look for reasons **why wages do not respond quickly to shifts in supply and demand in labor market (to clear the labor market)**. This will help to explain the existence of involuntary cyclical unemployment. So quantity supplied and demanded may not be equated for extended periods of time. These theories start with the everyday observation that wage rates do not change very time demand or supply for labor shifts. When unemployed workers are looking for jobs, they do not knock on employer's doors and offer to works at lower wages than the current workers. In discussing New Keynesian approaches, we divide them into 2 groups:
        - Nominal wage:
            - Long-terms relationships – wages are in effect regular payments to workers over an extended employment relationship, rather than a device for fine-tuning the current supplies and demands for labor. In labor markets characterized by long-term relationships, the wage rate does not fluctuate to clear the market
            - Menu costs and wage contracts – changing prices and wages in response to every minor fluctuation in demand is a costly. Firms find it optimal to keep their price lists (menus) constant for significant periods of time. Nominal wages tend to be inflexible in short term because wage rates are generally set on an annual basis or for longer periods – 3