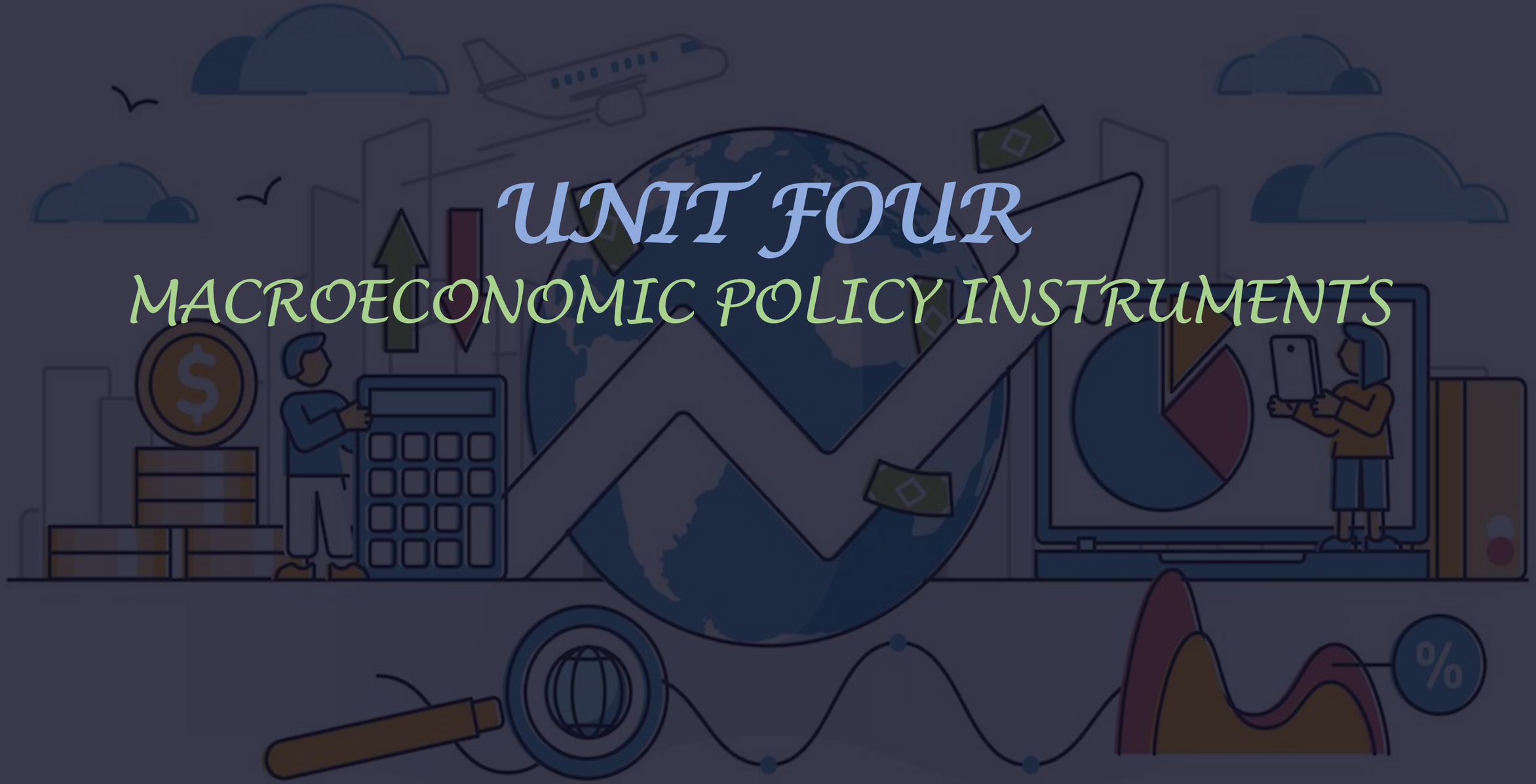
UNIT FOUR

MACROECONOMIC POLICY INSTRUMENTS



INTRODUCTION

- Every economy aims at achieving certain well-defined targets relative to its national income and output.
- Economies over the world also strived for a full employment, stability in prices, and equality in the distribution of income and wealth.

4.1 Definition and Types of Macroeconomic Policies

- Macroeconomic analysis deals with the behaviour of the economy as a whole with respect to output, income, employment, general price level and other aggregate economic variables.
- These policies and the instruments used for their implementation vary from one economy to another and also according to the prevailing economic conditions within a specific economy.
- Because of fluctuations often occur in the level of economic activity, the economy does not always work smoothly.
- Every nation wants to raise the level of living of its people.
- In this regard, macroeconomic policies can play a useful role in raising the rate of saving and investment and ensure rapid economic growth.

- The general objectives of macroeconomic policy are to achieve:
  - maximum feasible output
  - high rate of economic growth
  - full employment
  - price stability
  - equality in the distribution of income and wealth
  - a healthy balance of payments.
- To achieve these objectives, different types of macroeconomic policies – fiscal, monetary, income, and foreign exchange policies – are adopted. Each of these policies

4.2 Fiscal Policy

- Fiscal policy is the expenditure and revenue (tax) policy of the government to achieve the desired objectives.

4.2.1 Tools of Fiscal Policy

- There are two key tools of the fiscal policy:
  - Taxation: funds in the form of direct and indirect taxes, capital gains from investment, etc, help the government function.
  - Government spending: it includes welfare programmes, government salaries, subsidies, infrastructure, etc.
    - Government spending has the power to raise or lower real GDP,
- Government spending/expenditure has four major components:

a. Government spending (G) is the sum of government expenditures on final goods and services.
   - It includes salaries of public servants, purchase of weapons for the military, and any investment expenditure.

b. Transfer payments are direct payments to individuals- such as unemployment insurance benefits, social security benefits, Medicare, or welfare payments - where goods or services are not provided in return.
   - They are commonly referred to as entitlements because they are not made on a discretionary basis.

Cont …

c. Grants in aid: This reflects federal assistance to state and local governments.

d. Net interest payments: are interest payments that are made to holders of government debt, less interest which is paid to the government for debts like student loans.

- From the revenue side, the four major components of tax revenue (taxes) are the following:

1. Personal taxes are composed of income taxes and property taxes, and are major sources of total government revenue.
2. Contributions for social insurance are primarily social security taxes, which are assessed as a fixed percentage of a worker's wages, up to a fixed ceiling (or cap).
3. Taxes on production and imports are primarily sales taxes, but they also include taxes on imported goods, known as "tariffs".
4. Corporate taxes are primary taxes on the profits of businesses.
5. Grants in aid are the federal assistance to state and local governments and are revenue for them.

4.2.2 Types of Fiscal Policy

- A fiscal policy can be of two types

1. **Expansionary Fiscal Policy** In a situation in which an economy is facing the problem of deficient demand,
   - Aggregate demand falling short of output at full employment,
   - There is a depression marked by overproduction, a rise in unemployment, and a fall in prices and incomes.

- The major instruments of expansionary fiscal policy are:
  - ✓ Expenditure policy (increase expenditure): the objective of an expenditure policy should be to pump more money into the system in order to boost demand.
    - The government should make large investments in public works like the construction of roads, bridges, buildings, railway lines, canals, etc and also provide free education and medical facilities.
    - The aim is to put more money in the hands of people so that they would also spend more.
  - ✓ Revenue policy (reduce tax rate): Taxes on personal incomes and expenditures. should be reduced.
  - ✓ Old age pensions, unemployment allowances, grants, expand so as to increase aggregate demand in the economy.

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- The intersection of aggregate demand (AD0) and aggregate supply (SRAS0) are occurring below the level of potential GDP as the LRAS curve indicates.
- At the equilibrium (E0), a recession occurs and unemployment rises. In this case, expansionary fiscal policy using tax cuts or increases in government spending can shift aggregate demand to AD1, closer to the full-employment level of output. In addition, the price level will rise back to the level P1 that is associated with potential GDP.

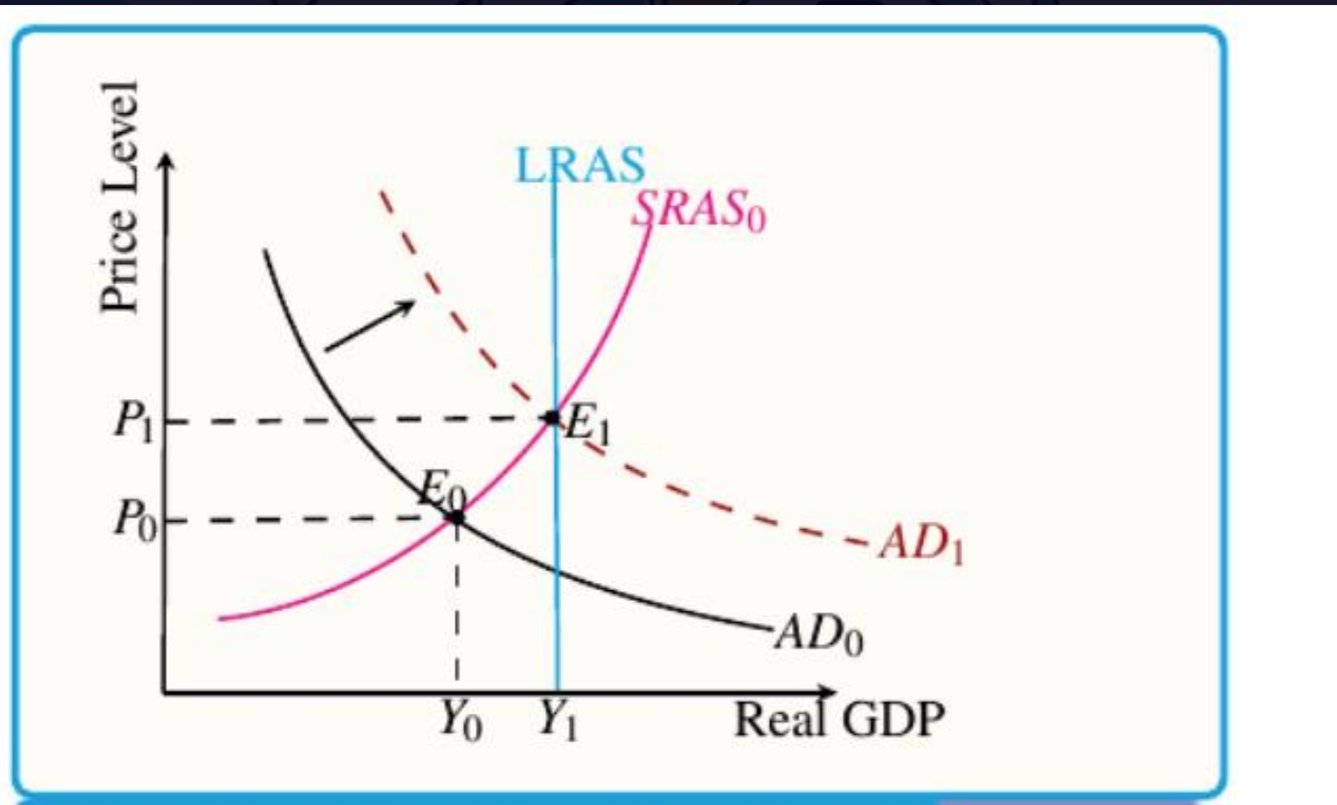


Fig: Expansionary Fiscal Policy

2. Contractionary Fiscal Policy: When an economy's aggregate demand is for a level of output that is more than the full employment, the demand is said to be an excess demand.

- ❑ Excess demand refers to the excess of aggregate demand over the available output at full employment.
- ❑ This gap results in an inflationary situation as it causes inflation in the economy.
- ❑ To control the situation of excess demand and thereby reduce the pressure of high inflation, contractionary fiscal policies are adopted by governments.

➢ Major instruments of contractionary fiscal policy are:

- Expenditure policy (reduce expenditure): In a situation of excess demand, the government should curtail its expenditures on public works such as roads, buildings, rural electrification, irrigation work, etc.,
  - ✓ The government will reduce the budget deficit, which shows excess expenditure over revenue.
- Revenue policy (increase taxes): during inflation, the government should raise rates of all taxes, especially taxes on rich people, because taxation withdraws purchasing power from the taxpayers.

➢ Fiscal policy can also contribute to pushing aggregate demand beyond potential GDP in a way that leads to inflation.

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- The intersection of aggregate demand (AD0) and aggregate supply (SRAS0) occurs at equilibrium E0, which is an output level above potential GDP.
- Economists sometimes call this an "overheating economy" where demand is so high that there is upward pressure on wages and prices,
- Tax increases can help to reduce the upward pressure on the price level by shifting aggregate demand to the left, to AD0, and causing the new equilibrium E1 to be at potential GDP, where aggregate demand intersects the LRAS curve

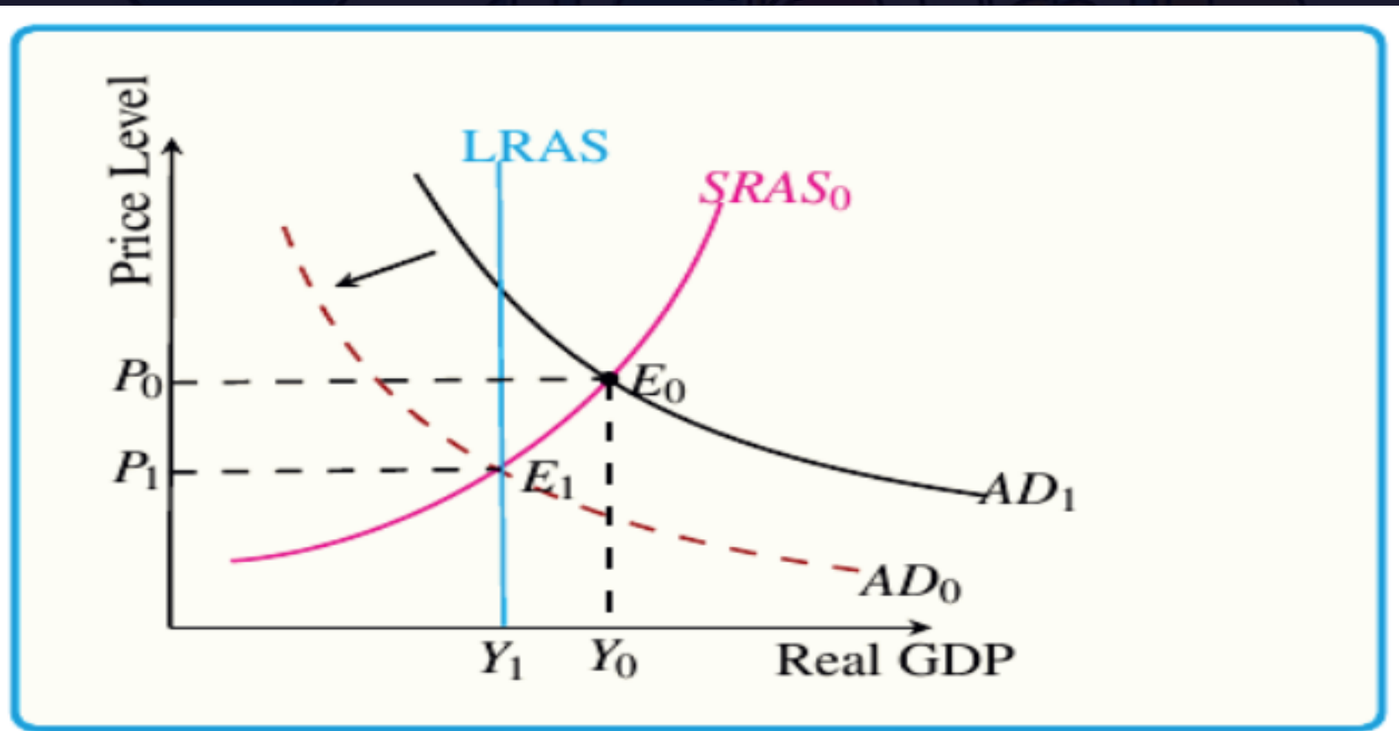


Fig: Contractionary Fiscal Policy

4.3 Monetary Policy

- Monetary policy is the process of drafting, announcing, and implementing the plan of actions taken by the National Bank, or other monetary authority.
- The National Bank is a government agency that oversees the banking system and is responsible for the conduct of monetary policy.
- Monetary policy consists of the management of money supply and interest rates, aimed at meeting macroeconomic objectives such as controlling inflation, consumption, growth, and liquidity.
- This is achieved by actions such as modifying the interest rate, buying or selling government bonds, regulating foreign exchange rates, and changing the amount of money which banks are required to maintain as reserves.
- Monetary policy is formulated based on inputs which are gathered from a variety of sources.

4.3.1 Tools of Monetary Policy

- The National Bank influences the money supply indirectly by changing the monetary base or the reserve deposit ratio.
- **Open market operations (OMO):** these are the purchases and sales of government bonds by the NB.

1. Discount rate (DR): the discount rate is the interest rate that the National Bank charges banks to borrow funds from a National Bank.
    - The discount rate is set by the National Bank's board of governors, and can be adjusted up or down as a tool of monetary policy.
    - It is usually set below the short term inter-bank market rate.
    - Accessing the discount window allows institutions to vary credit conditions, thereby affecting the money supply.
2. Required reserve ratio (RRR): this refers to the funds that banks must retain as a proportion of the deposits made by their customers.
    - Lowering this reserve requirement releases more capital for the banks to offer loans or to buy other assets.
    - Increasing the reserve requirement, on the other hand, has a reverse effect, curtailing bank lending and slowing growth of the money supply.

❖ The National Bank of Ethiopia cut the minimum deposit reserve from 15% to 10% in January 2012.

❖ It also cut the liquid assets to deposits ratio by the same margin to 20% from 25% previously.

4.3.2 Types of Monetary Policies

- Generally speaking, monetary policies can be categorized as either: a monetary policy that lowers interest rates and stimulates borrowing, conversely or a monetary policy that raises interest rates and reduces borrowing in the economy,

Expansionary Monetary Policy

- The monetary authority can opt for an expansionary policy which aims at increasing economic growth and expanding economic activity.
- The monetary authority often lowers the interest rates through various measures, serving to promote spending and make money-saving relatively un favorable.
- Increased money supply in the market aims to boost investment and consumer spending.
- Major instruments of expansionary monetary policy are discussed below.
  - **Reducing A Discount Rate:** to increase money supply, the National Bank reduces the discount rate and then, enables the commercial banks to take more loans from it and in turn to give more loans to producers (investors) at lower interest rates.

- **Buying securities through open market operations:** this refers to the buying and selling of government securities which influence money supply in the economy.
  - ✓ The central bank buys government bonds and securities from commercial banks, paying in cash to increase their cash stock and lending capacity.
- **Reducing required reserve ratio:** every commercial bank is required to keep with the central bank a particular percentage of its deposits or reserves in the form of cash.
  - ✓ During a depression, the central bank lowers the cash reserve ratio , thereby increasing commercial bank's capacity to give credit.

❖ If the economy is suffering a recession and high unemployment, with output below potential GDP, expansionary monetary policy can help the economy return to potential GDP.

❖ The original equilibrium during a recession of E0 occurs at an output level of 600.

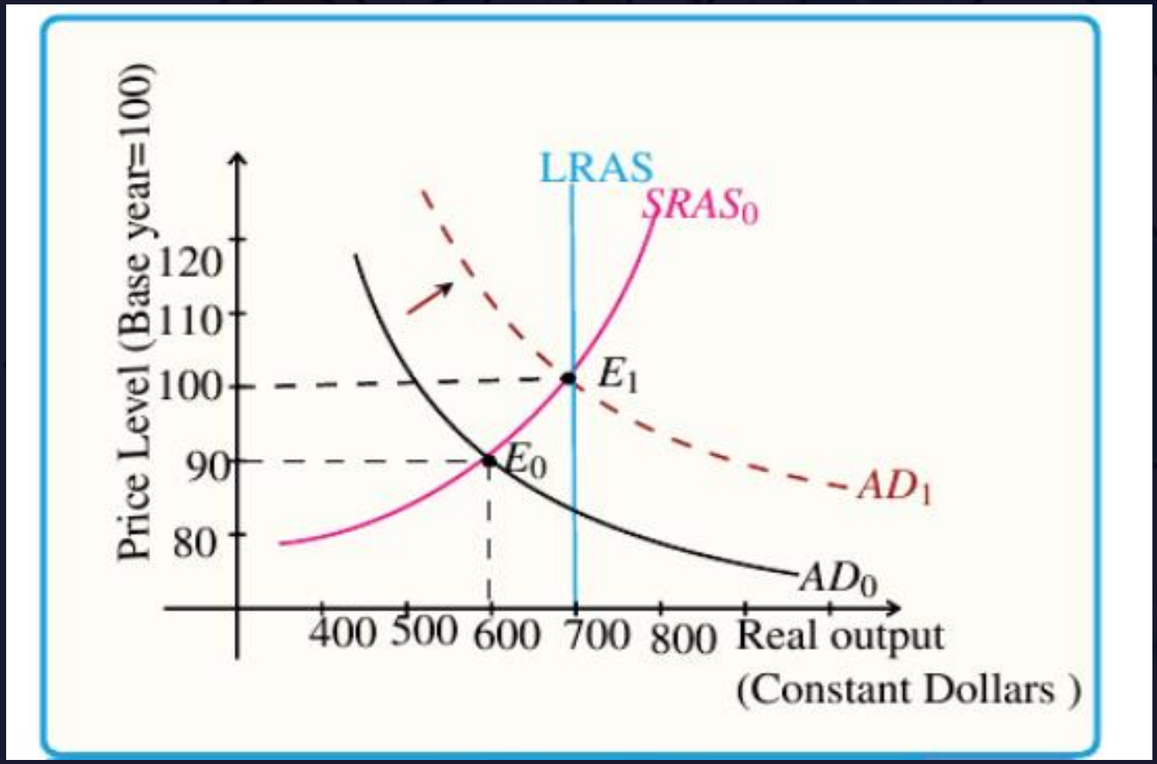
❖ While an expansionary monetary policy will reduce interest rates, the original aggregate demand curve (AD0) to shift right to AD1, so that, the new equilibrium (E1) occurs at the potential GDP level of 700

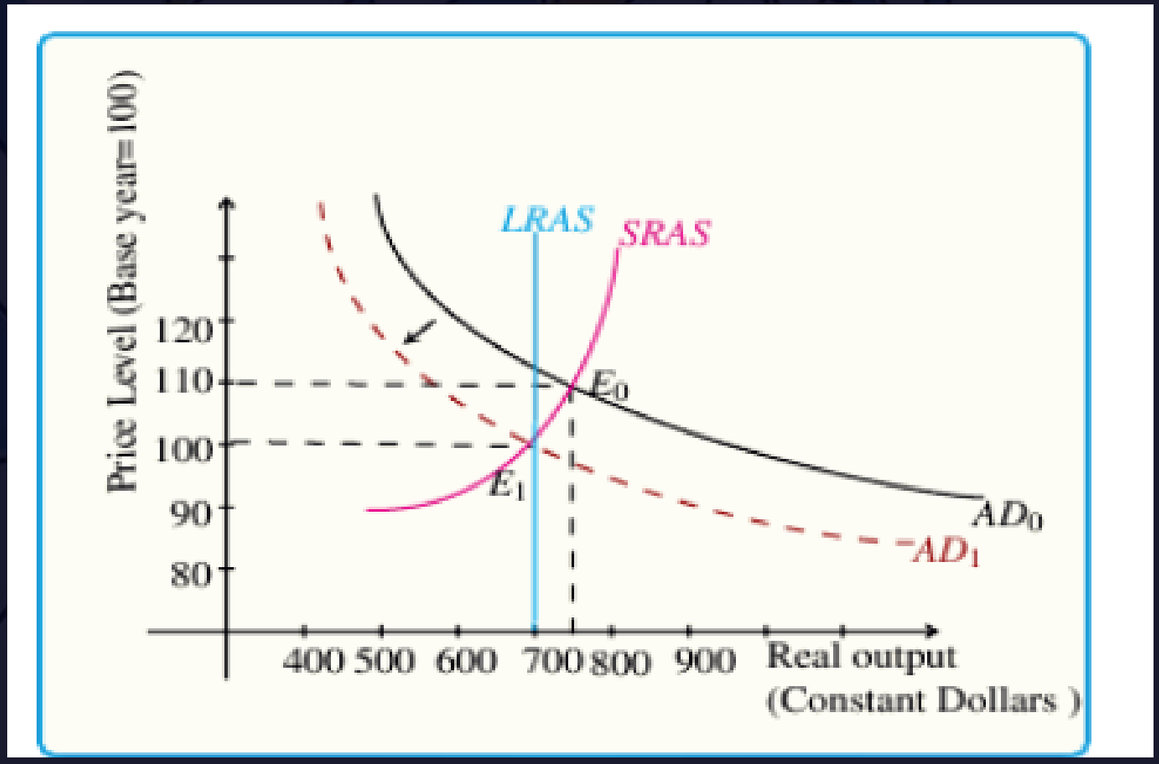
Contractionary Monetary Policy

- Contractionary monetary policy, increasing interest rates, and by slowing the growth of the money supply, aims to bring inflation down.
- Major instruments of contractionary monetary policy are discussed below.
  - **Increasing the discount rate:** in a situation of excess demand leading to inflation, the central bank raises its rate.
    - An increase in the bank rate forces the commercial banks to increase their lending rates of interest, which makes credit costlier. As a result, the demand for loans falls.
  - **Selling securities through open market operations**: during inflation, the central bank sells government securities to commercial banks, which lose an equivalent amount of their cash reserves.
    - This absorbs liquidity from the system. Consequently, there is a fall in investment and in aggregate demand.
  - **Increasing the RRR:** during inflation, the central bank increases the RRR, thereby curtailing the lending capacity of commercial banks.

- The original equilibrium (E0) occurs at an output of 750, which is above potential GDP.
- A contractionary monetary policy will raise the interest rate, which discourages borrowing for investment and consumption spending, and causes the original demand curve (AD0) to shift left to AD1, so that, the new equilibrium (E1) occurs at the potential GDP level of 700.

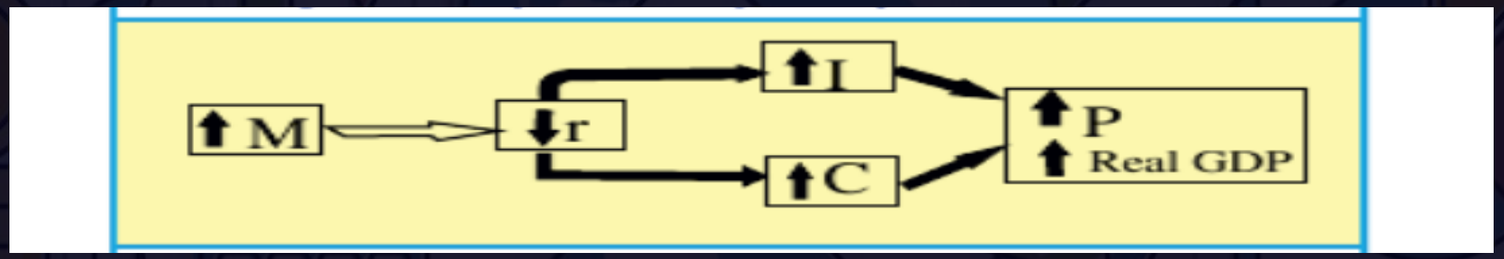
Fig: Expansionary Monetary Policy **VS** Contractionary Monetary Policy



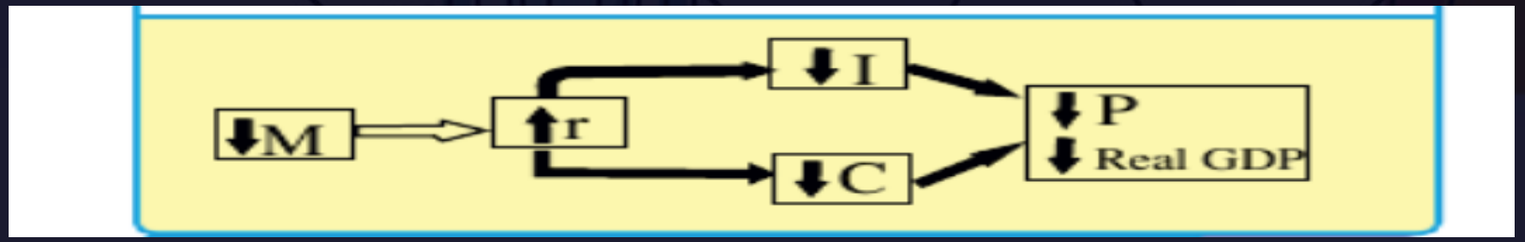


Summary

- Below pictures summarizes that the chain of effects that connect loose and tight monetary policy to changes in output and the price level.
- In the expansionary monetary policy pathway, the central bank causes the supply of money and loanable funds to increase, which lowers the interest rate, stimulating additional borrowing for investment and consumption, and shifting aggregate demand right. The result is a higher price level and, at least in the short run, higher real GDP.



- In contractionary monetary policy pathway, the central bank causes the supply of money and credit in the economy to decrease, which raises the interest rate, discouraging borrowing for investment and consumption, and shifting aggregate demand left. The result is a lower price level and, at least in the short run, lower real GDP.



4.4 Income Policy and Wage

- Income policies in economics are economy-wide wages and price controls, most commonly instituted as a response to inflation.
- Income policies vary from “voluntary” wage and price guidelines to mandatory controls such as price/wage freezes.
- Income policy is the suitable complement for expansionary monetary and fiscal policies.
- In an inflationary environment, it is possible to stabilize the price level through the instruments of the income policy.
- We can use these tools of the income policy to preserve price stability:

Determination of wage rates in a free market

- The price of labour, the wage rate, is determined by the intersection of supply and demand.
- When the supply of labour increases, the equilibrium price falls, and when the demand for labour increases, the equilibrium price rises.

- Market labour demand is a “price adjusted” downward- sloping curve, whereas, the market labour supply however, generally slopes upward to the right, indicating that collectively workers will offer more labour hours at higher relative wage rates.
- Higher relative wages attract workers away from either household production, leisure, or other labour markets and towards the labour market in which the wage is increased.
- The vertical height of the market labour supply curve, measures the opportunity cost of employing the last labour hour.

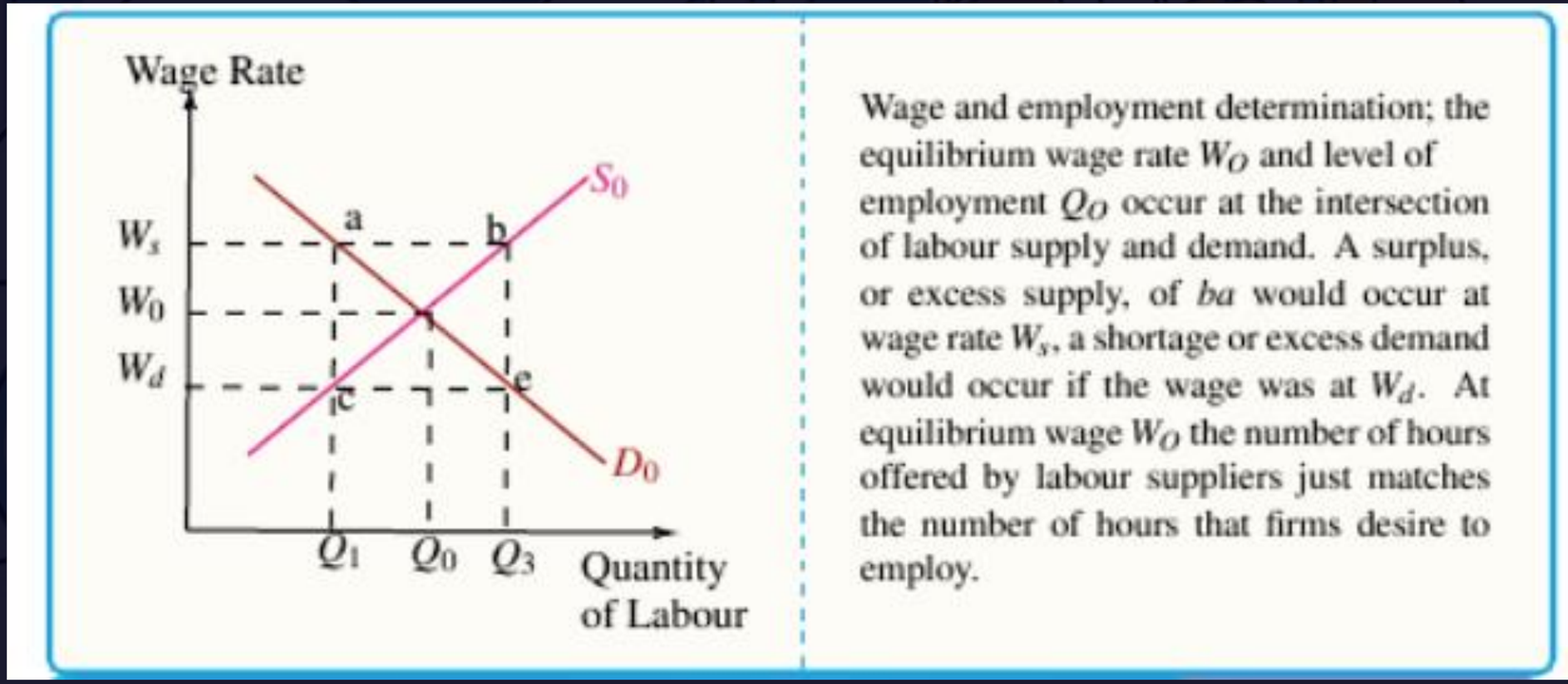


Fig: Equilibrium Wage Rates In A Free Market

Minimum Wages

- A minimum wage is the lowest wage per hour that a worker may be paid as mandated by federal law.
- Minimum wages have been defined as the minimum amount of remuneration that an employer is required to pay to wage earners for the work that is performed during a given period, which cannot be reduced by collective agreement or an individual contract.
- The purpose of minimum wages is to protect workers from unduly low pay.

Pricing Policy

- Most commonly instituted as a response to inflation, and usually seeking to establish prices which are below free market level.
- Price ceilings and price floors are the two types of price controls.
  - A price ceiling puts a limit on the cost that one has to pay or that one can charge for something; it sets a maximum cost, keeping prices from rising above a certain level.
  - A price floor establishes a minimum cost for something, a bottom-line benchmark. It keeps a price from falling below a particular level.

Price Ceiling

- A price ceiling is the mandated maximum amount that a seller is allowed to charge for a product or service.
- Usually set by law, price ceilings are typically applied to staples such as food and energy products.
- A price ceiling is a maximum legal price below the equilibrium price.

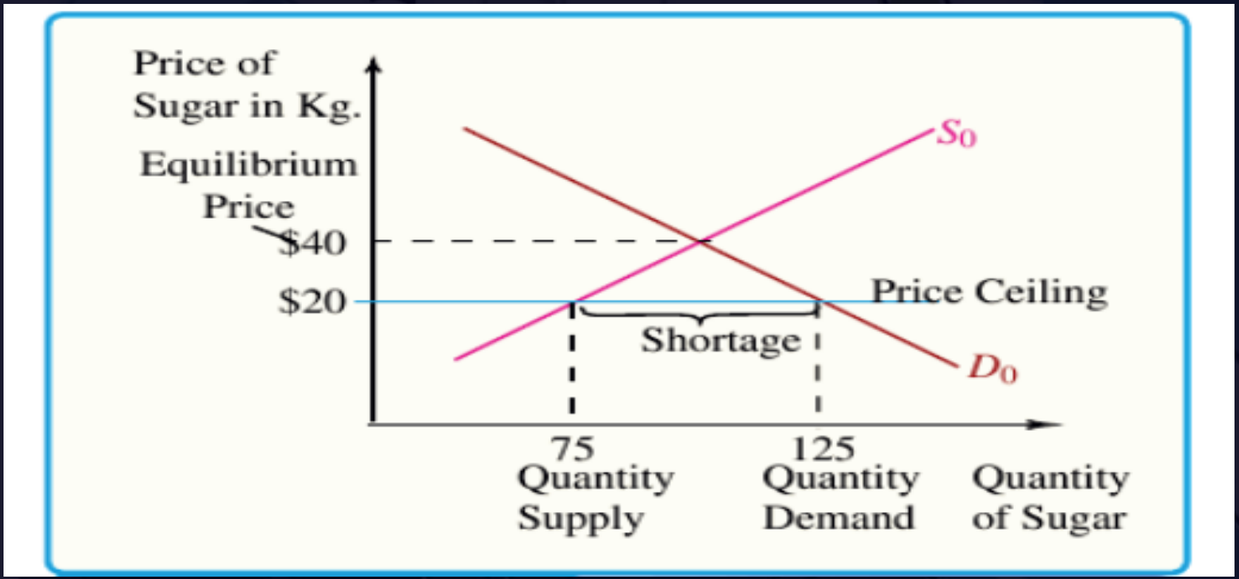


Fig: Price Ceiling

Price Floor

- A price floor is a government- or group-imposed price control or limit on how low a price can be charged for a product, good, commodity, or service.
- A price floor must be higher than the equilibrium price in order to be effective.

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- Price floors are often imposed by governments; however, there are also price floors which are implemented by non-governmental organizations.
- A price floor which is set above the market equilibrium price has several side-effects.
- Taken together, these effects mean that there is now an excess supply (known as a “surplus”) of the product in the market to maintain the price floor over the long term.
- The equilibrium price is determined when the quantity demanded is equal to the quantity supplied.
- A price floor may lead to market failure if the market is not able to allocate scarce resources in an efficient manner.

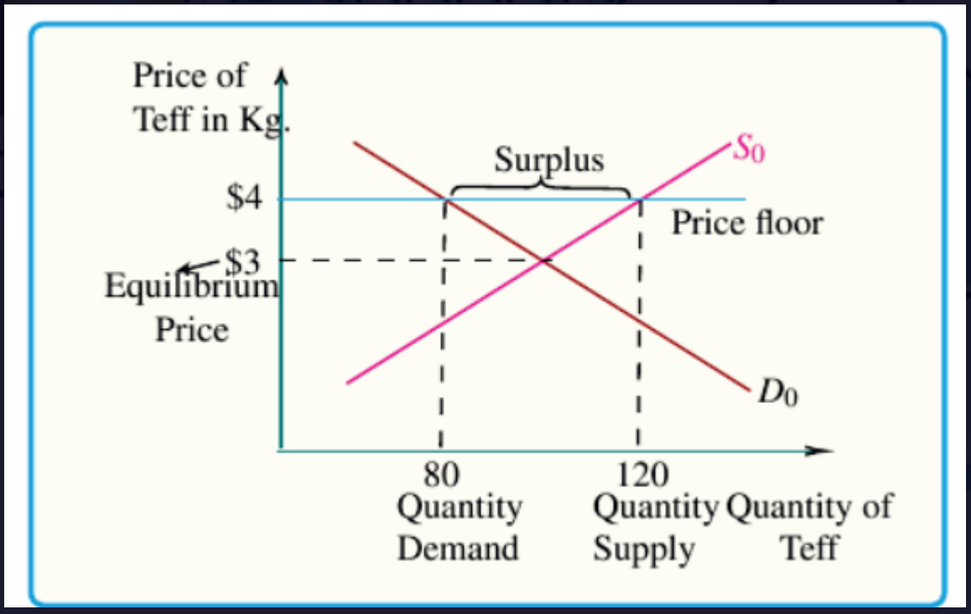


Fig: Price Floor

4.5 Foreign Exchange Policies

- The policy of the exchange rate affects aggregate demand through its effect on export and import prices of tradable goods and services.
- Most countries have different currencies, although that is not true in all cases. Sometimes small economies use an economically larger neighbour's currency.
- Sometimes nations share a common currency.
- We call the market in which people or firms use one currency to purchase another currency, the foreign exchange market.
- Exchange rate policy is concerned with how the value of the domestic currency, relative to other currencies, is determined.
- An exchange rate is the price of one currency in terms of another currency.
- The formula for calculating exchange rates is:
  - **Starting amount (original currency) / Ending amount (new currency) = Exchange rate**.

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- In foreign exchange markets, demand and supply are closely interrelated.
- Four groups of people or firms who participate in the market:
  1) Firms that are involved in international trade of goods and services;
  2) Tourists visiting other countries;
  3) International investors buying ownership (or part ownership) of a foreign firm;
  4) International investors making financial investments that do not involve ownership.

Types of Exchange Rate Policies

- There are two types of exchange rate policy.

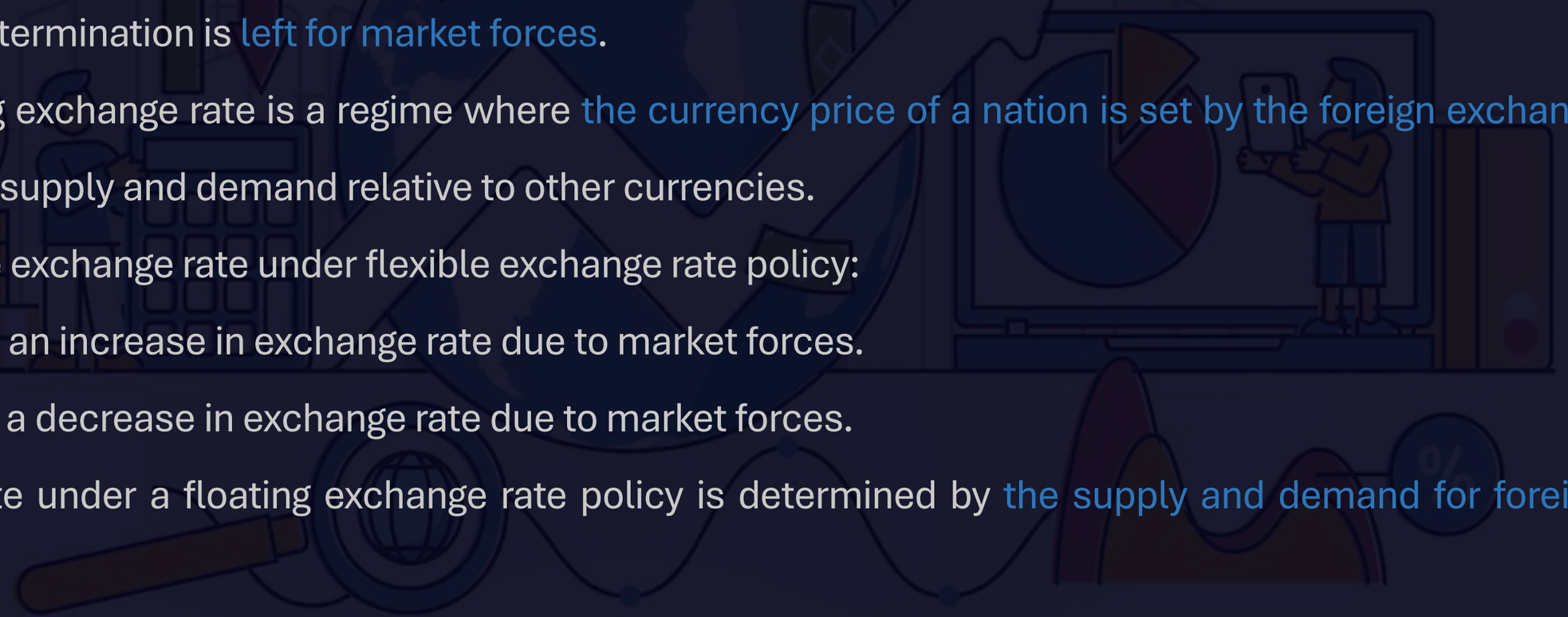
a) Fixed Exchange Rate Policy

- ✓ Exchange rate is determined by the government's political and economic decisions.
- ✓ Governments use fixed exchange rate systems to accomplish various goals.
- ✓ Fixing the exchange rate at an artificially low level promotes domestic industries by encouraging exports and discouraging imports.

- Fluctuation in exchange rate under fixed exchange rate policy:
  - Devaluation: an increase in the exchange rates due to political and economic decisions of the government.
  - Revaluation: a decrease in exchange rate due to political and economic decisions of the government.

b) Flexible/Floating Exchange Rate Policy

- Exchange rate determination is left for market forces.
- A flexible/floating exchange rate is a regime where the currency price of a nation is set by the foreign exchange market based on supply and demand relative to other currencies.
- Fluctuation in the exchange rate under flexible exchange rate policy:
  - Depreciation: an increase in exchange rate due to market forces.
  - Appreciation: a decrease in exchange rate due to market forces.
- The exchange rate under a floating exchange rate policy is determined by the supply and demand for foreign currencies.



Impact of Exchange Rate Fluctuation

a. Impact of devaluation and depreciation: improves the current account balance and/or overall balance of payment by making exports cheaper and imports more expensive.
b. Impact of revaluation and appreciation: worsens the external balance by making exports more expensive and import cheaper than before.
    - Depreciation has the opposite effect.

Key Factors that Affect Foreign Exchange Rates

- The foreign exchange rate is one of the most important means through which a country's relative level of economic health is determined.
- The exchange rate is defined as "the rate at which one country's currency may be converted into another".
- It may fluctuate daily with the changing market forces of supply and demand of currencies.
- Inflation rates: changes in market inflation cause changes in currency exchange rates.
    - ✓ The prices of goods and services increase at a slower rate where the inflation is low.

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- Interest rates: changes in the interest rate affect currency value and dollar exchange rate.
  - Foreign exchange rates, interest rates, and inflation are all correlated.
  - Increases in interest rates cause a country‘s currency to appreciate because higher interest rates provide higher rates to lenders.
- Balance of payments: a country’s current account reflects the balance of trade and earnings on foreign investment.
  - A deficit in the current account due to spending more of its currency on importing products than its earning through sale of exports causes depreciation.
- Government debt: this is public debt or national debt that is owned by the centra government. A country with government debt is less likely to acquire foreign capital, leading to inflation.
  - Foreign investors will sell their bonds in the open market if the market predicts government debt within a certain country.
  - As a result, a decrease in the value of its exchange rate will follow.

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- Terms of trade: the ratio of export prices to import prices.
  - A country's terms of trade improves if its export' prices rise at a greater rate than its imports prices.
  - This results in higher revenue, which causes a higher demand for the country's currency.
- Political stability and performance: a country's political state and economic performance can affect its currency strength.
  - A country with less of political turmoil is more attractive to foreign investors,
  - A country prone to political unrest may see depreciation in exchange rates.
- Recession: when a country experiences a recession, its interest rates are likely to fall, decreasing its chances to acquire foreign capital.
  - For this reason, its currency weakens, therefore lowering the exchange rate.
- Speculation: if a country's currency value is expected to rise, investors will demand more of that currency in order to make a profit in the near future.
  - Thus, the value of the currency will rise due to the increase in demand, therefore the exchange rate as well.

Advantages and Disadvantages of Fixed Exchange Rate Systems

- Advantages of fixed exchange rates
  - Certainty - with a fixed exchange rate, firms will always know the exchange rate which makes trade and investment less risky.
  - Absence of speculation - with a fixed exchange rate, there will be no speculation if people believe that the rate will stay fixed with no revaluation or devaluation.
  - Constraint on government policy - if the exchange rate is fixed, then the government may be unable to pursue extreme or irresponsible macro-economic policies.
- Disadvantages of fixed exchange rates
  - The economy may be unable to respond to shocks - a fixed exchange rate means that there may be no mechanism for the government to respond rapidly to balance of payments crises.
  - Problems with reserves - fixed exchange rate systems require large foreign exchange reserves.
  - Speculation - if foreign exchange markets believe that there may be a revaluation or devaluation,
  - Deflation - if countries with balance of payments deficits deflate their economies to try to correct the deficits

Advantages and Disadvantages of Floating Exchange Rates

- Advantages of floating exchange rates
  - Protection from external shocks - if the exchange rate is free to float, then it can change in response to external shocks like oil price rises.
  - Lack of policy constraints - the governments are free with a floating exchange rate system to pursue the policies they feel are appropriate for the domestic economy.
  - Correction of balance of payments deficits - a floating exchange rate can depreciate to compensate for a balance of payments deficit. This will help restore the competitiveness of exports.
- Disadvantages of floating exchange rates
  - Instability - floating exchange rates to be large fluctuations in value and this can cause uncertainty for firms.
  - No constraints on domestic policy - governments may be free to pursue inappropriate domestic policies as the exchange rate will not act as a constraint.
  - Speculation - the existence of speculation can lead to exchange rate changes that are unrelated to the underlying pattern of trade. This will also cause instability and uncertainty for firms and consumers.

Exchange Rate Structure in Ethiopia

- The legal currency of Ethiopia (Birr) was first introduced in 1945 with an official exchange rate of Birr 2.48 per US dollar with a value of 0.36 grams of fine gold.
- On 1 January 1964 the Ethiopian Birr was slightly devalued to 2.50 birr per US dollar.
- Following the collapse of the Bretton Woods System in 1971, the Ethiopian dollar was revalued to 2.30 birr per US dollar on 21 December 1971.
- From then on, the Ethiopian currency was pegged to the US dollar at the rate of 2.07 Birr per dollar until massive devaluation in October 1992.
- Following the overthrown of the Derg Regime, EPRDF introduced the auction-based exchange rate determination scheme and the interbank money market.
- In 1993 the NBE introduced the auction-based exchange rate system.
- The auction-based exchange rate system was initially worked side by side with the official exchange rate.
- Before August 1995, the official exchange rate was used for imports of fertilizer, petroleum, pharmaceutical products,

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- Currently, the exchange rate is determined through an interbank foreign exchange market on a daily basis,
- Furthermore, NBE continued to devalue the Birr in August 2010 by 20% from 13.63 to 16.35 per US .
- The devaluation of the Birr in 2010 was followed by the rise in inflation of about 33% in 2011.
- This type of relationship between exchange rate change and change in inflation tells us that inflation in Ethiopia responds positively to devaluation.
- The Birr continued to depreciate but at a very slow rate and it reached 18.19/US$ October 2012/13.
- In January 2014, the exchange rate reached 19.107 Birr/US$, a 4.85% depreciation since January 2013.
- The World Bank suggested that the Ethiopian government should devalue its currency by at least 10%.
- As a result, on October 10, 2017, the NBE devalued the Birr by 15% against international currencies.
- Annual inflation as measured by the CPI growth rate increased from 2.8% in 2010 to 20.2% 2020.
    - In general, at every time of devaluation, the rise in inflation is inevitable.


Thank you… !