## Economic Growth

**Tasks:**

- Describe the production function approach to analyzing the sources of economic growth
- Distinguish between input growth and growth of total factor productivity as components of economic growth

## Economic Growth

**Sources of Economic Growth**

- Labor supply
- Human capital
- Physical capital
- Technology
- Natural resources

## Economic Growth

**Production function**

$$Y = A\, f(L, K)$$

- **A: total factor productivity** (全要素生产率) or technology
- Growth in potential GDP = Growth in technology + $W_L$ (Growth in labor) + $W_C$ (Growth in capital)

**Output per worker**

$$Y/L = A\, f(K / L)$$

- Growth in per capita potential GDP = Growth in technology + $W_C$ (Growth in capital-to-labor ratio)

## Economic Growth

**Measures of Sustainable Growth**

- **Labor productivity:** The quantity of goods and services (real GDP) that a worker can produce in one hour of work.
- **Labor productivity = Real GDP / Aggregate hours works**
- **Potential GDP = Aggregate hours worked X Labor productivity**
- **Potential GDP growth rate = Long-term growth rate of labor force + Long-term labor productivity growth rate**

## Practice

Which of the following can be measured directly?

A. Potential GDP.

B. Labor productivity.

C. Total factor productivity.

**Answer: B**

Labor productivity can be directly measured as output/hour.

## Summary

- **Importance:** ☆ ☆
- **Content:**
  - Sources of economic growth
  - Production function to analyze economic growth
  - Measures of sustainable economic growth
- **Exam tips:**
  - 理解经济增长的来源
  - 掌握分析经济增长的生产函数方法，尤其理解全要素生产率的概念
  - 掌握可持续经济增长的评估方法

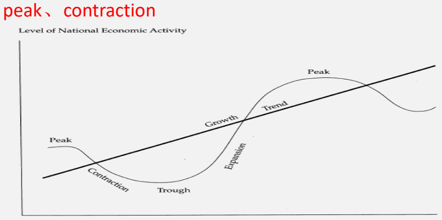
## Business Cycle

**Tasks:**

- Describe the business cycle and its phases
- Describe theories of the business cycle

## Business Cycle

- Business cycle is characterized by fluctuations in economic activity.
- Business cycle consists of four phases: trough、expansion、peak、contraction



## Business Cycle

➢ Characteristics of different phases in business cycle

| | Early Expansion | Late Expansion | Peak | Contraction |
|---|---|---|---|---|
| Economic Activity | From decline to expansion. | Accelerating rate of growth. | Decelerating rate of growth. | Outright declines. |
| Employment | Unemployment still rate high | Business rehires. Unemployment rate falls. | Business slows rate of hiring. Unemployment rate falls. | Outright layoffs. Unemployment rate rises. |
| Consumer and Business Spending | Upturn | Capital spending expands. | Capital spending expands, growth rate slow down. | Cutback |
| Inflation | Moderate | Picks up modestly | Accelerates | Decelerates with a lag. |

## Business Cycle

➢ Summarize the main theories

| School | Cause of Business Cycles | Recommended policy |
|---|---|---|
| Neoclassical 新古典主义 | Technology | Do nothing full-employment equilibrium |
| Keynesian 凯恩斯 | Business expectations Downward sticky wages | Fiscal or monetary policy |
| New Keynesian | Same as Keynesian, but other input prices also downward sticky | Fiscal or monetary policy |
| Monetarist 货币主义 | Inappropriate changes in money supply growth rate | Steady and predictable growth rate of money supply |
| Austrian 奥地利学派 | Government intervention | Don't force interest rates to artificially low level |
| New Classical | technology and external shocks | Don't intervene to counteract business Cycles |

## Practice

The Austrian economic school attributes the primary cause of the business cycle to:

A. misguided government intervention.

B. the creative destruction of technological progress.

C. sticky price and wage expectations that exaggerate trends.

**Answer: A**

Austrian economists see monetary policy mistakes as leading to booms and busts.

## Practice

During the contraction phase of a business cycle, it is most likely that:

A. inflation indicators are stable.

B. aggregate economic activity is decreasing.

C. investor preference for government securities declines.

**Answer: B**

The net trend during contraction is negative.

## Summary

- **Importance:** ☆ ☆
- **Content:**
  - Characteristics of different stages of business cycles
  - Theories of business cycles
- **Exam tips:**
  - 了解经济周期不同阶段的特征
  - 掌握解释经济周期的不同理论及相应政策推荐

## Unemployment

**Tasks:**

- Describe types of unemployment and measures of unemployment

## Unemployment

- **Employed(就业):** Number of people with a job. Not include informal sector (e.g., unlicensed cab drivers, illegal workers).
- **Labor force(劳动力):** Number of people who either have a job or are actively looking for a job. Excluding retirees, children, stay-at-home parents, full-time students, etc.
- **Unemployed(失业):** People who are actively seeking employment but are currently without a job.
- **Underemployed(未充分就业):** Person who has a job but has the qualifications to work a higher-paying job.

## Unemployment

- **Discouraged worker(灰心/气馁的工人):** Person who has stopped looking for a job.
  - Outside of labor force and Unemployed people .
- **Voluntarily unemployed(自愿失业):** Person voluntarily outside the labor force, such as a jobless worker refusing an available vacancy for which the wage is lower than their threshold or those who retired early.

## Unemployment

- **Unemployment rate( 失业率):** Ratio of unemployed to labor force.
- The Unemployment rate is a lagged indicator (滞后指标)
  - Discouraged workers in and out of labor market.
  - Firms are reluctant to lay off people.
- **Participation ratio (activity ratio) (劳动参与率)**

  **= labor force / working-age porpulation**

## Unemployment

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## Unemployment

**Types of Unemployment**

- **Frictional unemployment (摩擦性失业)** results from time it takes employers and employees to find each other.
- **Structural unemployment (结构性失业)** results from long-term changes in the economy that require workers to gain new skills to fill new jobs.
- **Cyclical unemployment (周期性失业)** results from changes in economic growth.
  - **Full employment:** When the economy has no cyclical unemployment, Structural and frictional unemployment always exist.

## Practice

The unemployment rate is considered a lagging indicator because:

A. new job types must be defined to count their workers.

B. multi-worker households change jobs at a slower pace.

C. businesses are slow to hire and fire due to related costs.

**Answer: C**

This effect makes unemployment rise more slowly as recessions start and fall more slowly as recoveries begin.

## Summary

- **Importance:** ☆☆☆
- **Content:**
  - Terms related to labor market
  - Measures of unemployment
  - Types of unemployment
- **Exam tips:**
  - 了解劳动力市场的相关术语
  - 掌握失业率，劳动参与率的计算公式
  - 理解失业率是滞后指标，以及失业类型

## Inflation

**Tasks:**

- Explain inflation, hyperinflation, disinflation, and deflation
- Explain and compare indices used to measure inflation
- Distinguish between cost-push and demand-pull inflation
- Describe economic indicators

## Inflation

- **Inflation(通货膨胀):** A sustained rise in the overall level of prices.
- **Inflation rate:** The percentage change in a price index, the speed of overall price level movements.
- **Stagflation(滞涨):** A high inflation rate is combined with a high level of unemployment and a slowdown of the economy.
- **Deflation(通货紧缩):** A sustained decrease in aggregate price level, negative inflation rate.
- **Hyperinflation(极度通货膨胀):** A extremely high inflation rate.
- **Disinflation(通货收缩):** Positive inflation rate but declining inflation rate.

## Inflation

**Indices used to measure Inflation**

- **Laspeyres index(拉斯拜尔指数):** Holding the composition of the consumption basket constant (as the base year).
- **Bias from using the Laspeyres index**
  - Substitution bias, quality bias, new product bias .
- **Paasche index(派许指数):** Using the current composition of the basket.
- **Fisher index(费雪指数):** The geometric mean of the Laspeyres index and the Paasche index.

## Inflation

**Indices used to measure Inflation**

- **Consumer price index(CPI)( 消费者价格指数 ):** The value of a basket of goods and service bought by a typical consumer.

**CPI = (cost of basket at current prices ) / (cost of basket at base period prices )**

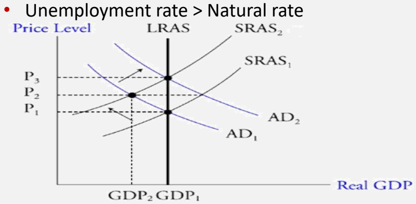
- **Producer price index (PPI):** The value of a basket of goods and service bought by firms. PPI influence the future CPI.

## Inflation

- **Headline inflation( 整体通胀):** Price indexes that include all goods and services.
- **Core inflation( 核心通胀):** Price indexes that exclude food and energy. Food and energy prices are subject to large short-term fluctuations that can magnify the true inflation rate.

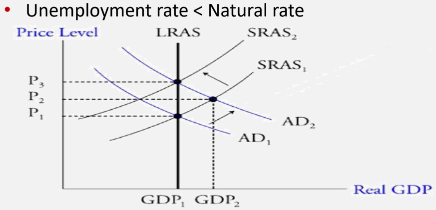
## Inflation

- **Cost-push inflation( 成本推动通胀 ):** An initial increase in costs result in a decrease in AS.
- **Characteristics**
  - High Inflation
  - Unemployment rate > Natural rate




## Inflation

- **Demand-Pull inflation( 需求拉动通胀 ):** An initial increase in AD.
- **Characteristics**
  - Actual GDP > Potential GDP
  - Unemployment rate < Natural rate



## Economic Indicators

**Leading Indicators( 领先指标)**

- Average weekly hours, manufacturing
- Average weekly initial claims for unemployment insurance
- Manufacturers' new orders for consumer goods and materials
- Vendor performance, slower deliveries diffusion index
- Manufacturers' new orders for non-defense capital goods
- Building permits for new private housing units
- Money supply, real M2
- Interest rate spread between 10-year treasury yields and overnight borrowing rates (federal funds rate)

## Economic Indicators

**Coincident Indicators( 同步指标)**

- Employees on non-agricultural payrolls
- Aggregate real personal income (less transfer payments)
- Industrial Production Index
- Manufacturing and trade sales

**Lagged Indicators( 滞后指标)**

- Unemployment rate
- Inventory-sales ratio
- Change in unit labor costs
- Average bank prime lending rate
- Change in consumer price index for services

## Practice

What is the most important effect of labor productivity in a cost-push inflation scenario?

A. Rising productivity indicates a strong economy and a bias towards inflation.

B. The productivity level determines the economy's status relative to its "natural rate of unemployment".

C. As productivity growth proportionately exceeds wage increases, product price increases are less likely.

**Answer: C**

For productivity, or output per hour, the faster that it can grow, the further that wages can rise without putting pressure on business costs per unit of output.

## Summary

- **Importance:** ☆ ☆ ☆
- **Content:**
  - Concepts related to inflation
  - Indices used to measure inflation
  - Causes of inflation
  - Economic indicators
- **Exam tips:**
  - 了解与通胀有关的概念
  - 重点掌握计算通胀的各类指数及其局限性
  - 理解造成通胀的两种原因

## Monetary Policy [1]

**Tasks:**

- Compare monetary and fiscal policy
- Describe functions and definitions of money
- Explain the money creation process
- Describe the fisher effect
- Describe roles and objectives of central banks
- Contrast the costs of expected and unexpected inflation

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## Monetary Policy [1]

- **Monetary policy( 货币政策):** Central bank activities that are directed toward influencing the quantity of money and credit in an economy.
- **Fiscal policy (财政政策):** The government's decisions about taxation and spending.
- **Budget surplus (预算盈余):** Government tax revenues exceed expenditures.
- **Budget deficit( 预算赤字):** Government expenditures exceed tax revenues.

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## Monetary Policy [1]

**Functions of Money**

- Medium of exchange
- Store of wealth
- Measure of value (unit of account)

**Definitions of Money**

- **Narrow money( 狭义货币) (M1):** *Notes and coins, traveler's cheques, demand deposits and other deposit .*
- **Broad money( 广义货币) (M2):** *M1 + time deposit (less than $100,000), other balances in retail money market and mutual funds.*

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## Monetary Policy [1]

**Money Creation Process:**

- Base currency = 100
- Reserve requirement = 10%

| | reserve | loan |
|---|---|---|
| Bank 1 | | 100 |
| Bank 2 | 10 | 90 |
| Bank 3 | 9 | 81 |
| Bank 4 | 8.1 | 72.9 |
| ... | ... | ... |

- Money multiplier( 货币乘数) = 1 / reserve requirement
- Money created = new deposit * Money multiplier
  = new deposit / reserve requirement

## Monetary Policy [1]

- **Fisher effect (费雪效应):** The nominal interest rate is the sum of the real interest rate and expected inflation.

$$r_{nom} = r_{real} + \text{expected inflation}$$

- **To account for uncertainty of future, the nominal interest rate is comprised of :**
  - Required rate of return
  - Expected inflation
  - Risk premium

## Monetary Policy [1]

**Roles of the central bank**

- Monopoly supplier of the currency
- Banker to the government and the bankers' bank
- Lender of last resort
- Regulator and supervisor of the payments system
- Conductor of monetary policy
- Supervisor of the banking system

**General objective of the central bank:** **Price Stability**

## Monetary Policy [1]

**Qualities of Effective Central Banks**

- **Central bank independence**
  - **Operational independence( 操作独立):** Central bank was free to set interest rates.
  - **Target independence( 目标独立):** Central bank was free to set target inflation rate.
- **Credibility:** The independence of the central bank and public confidence in it are key in the design of an inflation-targeting regime.
- **Transparency:** Bank discloses inflation reports, indicators they use, and how they use them.

## Monetary Policy [1]

**Policy Targeting of Central Bank**

- **Interest rate targeting:** Increasing money supply when market interest rates above the target and decreasing money supply when rates below the target.
- **Inflation targeting:** A contractionary monetary policy reduces inflation rate when inflation rate above the target.
- **Exchange rate targeting:** When domestic currency depreciates, the monetary authority use foreign reserves to purchase the domestic currency in order to reach the target exchange rate.

## Monetary Policy [1]

- **Cost of expected inflation:** Menu cost(菜单成本), shoe leather cost(鞋底成本).
- **Cost of unexpected inflation**
  - Inequitable transfers of wealth between borrowers and lenders.
  - Give rise to risk premium in borrowing rates and the prices of other assets.
  - Reduce the information content of market prices.

## Summary

- **Importance:** ☆
- **Content:**
  - Functions and definitions of money
  - Money creation process
  - Fisher effect
  - Roles and targets of central bank
- **Exam tips:**
  - 理解货币职能和创造过程
  - 记住费雪效应
  - 了解央行的角色和政策目标，及通胀的相关成本

## Monetary Policy [2]

**Tasks:**

- Describe tools used to implement monetary policy
- Describe the monetary transmission mechanism
- Determine whether a monetary policy is expansionary or contractionary
- Describe limitations of monetary policy

## Monetary Policy [2]

**Monetary Policy Tools**

- **Open market operations( 公开市场操作)**
  - Buy short-term bond, increase money supply; Sell short-term bond, decrease money supply.
  - Repurchase agreement, decrease money supply; Reverse repurchase agreement, increase money supply.
- **Policy rate (discount rate)( 基准利率)**
  - Policy rate rises, money supply decreases; Policy rate falls, money supply increases.
- **Reserve requirements( 准备金要求)**
  - Reserve requirements falls, money supply increases.

## Monetary Policy [2]

**Monetary Transmission Mechanism**

- Banks' short-term lending rates will increase in line with the increase of policy rate. Higher rates will decrease AD.
- Asset prices will decrease as the discount rates applied to future expected cash flows are increased, which may increase the savings rate and decrease consumption.

## Monetary Policy [2]

**Monetary Transmission Mechanism (Cont.)**

- Both consumers and businesses may decrease their expenditures because their expectations for future economic growth decrease.
- An increase in interest rates leads to an appreciation of domestic currency , which increases demand for imports and reduces demand for exports.

## Monetary Policy [2]

**Impact of Monetary Policy on the Economy**

- An expansionary monetary policy tends to increase GDP, increase price level, decrease the interest rate and decrease the value of local currency.
- A contractionary monetary policy tends to decrease GDP, decrease price level, increase the interest rate and increase the value of local currency.

## Monetary Policy [2]

**Determining the Direction of Monetary Policy**

- **Neutral interest rate of an economy:** The growth rate of the money supply neither spurs nor slows down the economic growth rate.
- **Neutral interest rate( 中性利率)**
  **= real trend rate of economic growth + inflation target**
- **Contractionary monetary policy**
  - Policy rate > Neutral rate
- **Expansionary monetary policy**
  - Policy rate < Neutral rate

## Monetary Policy [2]

**Limitations of Monetary Policy**

- Central bank cannot control the exact level of money supply.
  - The amount of money households and corporations put in banks.
  - Willingness of banks to create money.

## Monetary Policy [2]

**Limitations of Monetary Policy (Cont.)**

- Long-term rates may move oppositely to short-term rates because of the effect of monetary policy changes on expected inflation.
  - **Bond market vigilantes( 债市义勇军)**: If monetary tightening extreme, expectations to recession may make long-term bonds more attractive, decreasing long-term rate.

## Monetary Policy [2]

**Limitations of Monetary Policy (Cont.)**

- **Liquidity trap( 流动性陷阱):** If demand for money is very elastic, people will hold currency even as money supply increase. Short-term rates cannot be below zero.
- **Quantitative easing(QE)( 量化宽松):** Buying longer-dated government securities, mortgage securities, and risky bonds to low long-term interest rate.

## Practice

When a central bank announces a decrease in its official policy rate, the desired impact is an increase in:

A. investment.

B. interbank borrowing rates.

C. the national currency's value in exchange for other currencies.

**Answer: A**

Investment is expected to move inversely with the official policy rate.

## Summary

- **Importance:** ☆ ☆ ☆
- **Content:**
  - Monetary policy tools
  - Monetary transmission mechanism
  - Impact of monetary Policy on economy
  - Limitations of monetary policy
- **Exam tips:**
  - 重点掌握货币政策三大工具，及其对经济的影响机制
  - 了解货币政策的局限性

## Fiscal Policy[1]

**Tasks:**

- Describe roles and objectives of fiscal policy
- Describe tools of fiscal policy
- Describe the arguments about whether the size of a national debt relative to GDP matters

## Fiscal Policy[1]

**Roles and Objectives of Fiscal Policy**

- **Discretionary fiscal policy( 相机财政政策 ):** The spending and taxing decisions of a national government that are intended to stabilize the economy.
- **Automatic stabilizers( 自动稳定器 ):** As an economy slows and unemployment rises, government spending on social insurance and unemployment benefits will also rise and add to aggregate demand.

## Fiscal Policy[1]

**Government Spending**

- Transfer payments( 转移支付 ) (poor, old, or unemployed).
- Current government spending (goods and services).
- Capital expenditure (roads, hospitals, schools).

**Government Revenues**

- **Direct tax:** Income, wealth, and corporate profits and include capital gains taxes, etc.
- **Indirect tax:** Goods and services. Including sales taxes, value-added taxes (VATs), and excise taxes.

## Fiscal Policy[1]

**Advantages**

- Indirect taxes can be adjusted almost immediately after they are announced and can influence spending behavior instantly and generate revenue for the government at little or no cost to the government.

**Disadvantage**

- Direct taxes are more difficult to change.
- Capital spending plans take longer to formulate and implement, typically over a period of years.

## Fiscal Policy[1]

**Arguments for Being Concerned about National Debt**

- High levels of debt to GDP lead to higher tax rates in the search for higher tax revenues, which discourages economic activities in the future.
- If markets lose confidence in a government, then the central bank may have to print money to finance a government deficit. This may lead to high inflation.
- Government borrowing may lead to higher interest rates and lower private sector investing ( crowding out effect 挤出效应).

## Fiscal Policy[1]

**Arguments Against Being Concerned about National Debt**

- The scale of the problem may be overstated because the debt is owed internally to fellow citizens.
- Money borrowed may have been used for capital investment projects or enhancing human capital. These lead to raised future output and tax revenues.
- Large fiscal deficits require tax changes which may reduce distortions caused by existing tax structures.
- Ricardian equivalence (李嘉图均衡): The private sector may act to offset fiscal deficits by increasing saving in anticipation of future increased taxes.
- Unemployment could be reduced.

## Practice

The most likely argument against high national debt levels is that:

A. the debt is owed internally to fellow citizens.

B. they create disincentives for economic activity.

C. they may finance- investment in physical and human capital.

**Answer: B**

The belief is that high levels of debt to GDP may lead to higher future tax rates which may lead to disincentives to economic activity.

## Summary

- **Importance:** ☆☆☆
- **Content:**
  - Roles and objectives of fiscal policy
  - Tools of fiscal policy
  - Arguments about whether the size of national debt relative to GDP matters
- **Exam tips:**
  - 了解财政政策的目的和工具
  - 重点掌握支持和反对高政府负债的观点

## Fiscal Policy[2]

**Tasks:**

- Explain the implementation of fiscal policy
- Determine whether a fiscal policy is expansionary or contractionary
- Explain the interaction of monetary and fiscal policy

## Fiscal Policy[2]

**Limitations of Discretionary Fiscal Policy**

- **Recognition lag(识别滞后):** Time for the government to process data and figure out the problem.
- **Action lag(行动滞后):** Time to implement the policy.
- **Impact lag(影响滞后):** Time for the policy to become evident.

## Fiscal Policy[2]

**Macroeconomic issues hinder usefulness of fiscal policy**

- The controversy between unemployment and inflation.
- Markets losing confidence on government with high level of deficit.
- The level of full employment GDP being unknown.
- A shortage of supply rather than a shortage of demand, discretionary fiscal policy will not increase demand, which lead to inflationary pressures in the economy.
- Crowding out effect.

## Fiscal Policy[2]

**Determining Direction of Fiscal Policy**

- **Structural budget deficit(结构预算赤字):** The deficit that would exist if the economy was at full employment (or full potential output).
- **Contractionary fiscal policy**
  - budget deficit < structural budget deficit
- **Expansionary fiscal policy**
  - budget deficit > structural budget deficit



## Interaction of Monetary and Fiscal Policy

- **Easy fiscal policy / tight monetary policy** : Interest rates will rise and have a negative effect on private sector demand.
- **Tight fiscal policy / easy monetary policy:** Lower interest rate, the private sector will be stimulated and will rise as a share of GDP, while the public sector will shrink.
- **Easy monetary policy / easy fiscal policy:** Rise in AD, lower interest rate, both the public and the private sector grow.
- **Tight monetary policy / tight fiscal policy:** Interest rate rise and drop in AD from both public and private sector.



## Summary

- **Importance:** ☆☆
- **Content:**
  - limitations of fiscal policy
  - Issues hinder usefulness of fiscal policy
  - Determine the direction of fiscal policy
  - Interaction of monetary and fiscal policy
- **Exam tips:**
  - 了解财政政策的局限性
  - 理解阻碍财政政策有用性的宏观原因
  - 掌握货币和财政政策的协作效应



## International Trade

**Tasks:**

- Compare GDP and GNP
- Describe benefits and costs of international trade
- Distinguish between comparative advantage and absolute advantage
- Explain the Ricardian and Heckscher-Ohlin models of trade and the sources of comparative in each model

## International Trade

**Basic Terminology**

- **Open economy:** An economy that trades with other countries.
- **Closed economy:** Autarkic economy( 自给自足经济 ), no trade with other countries.
- **Free trade:** A government places no restrictions or charges on import and export activity.
- **Trade protection:** A government places restrictions, limits, or charges on exports or imports.
- **Terms of trade( 贸易比价 ):** The ratio of an index of the pries of a country's exports to an index of the prices of its imports expressed relative to a base value of 100.

## International Trade

**GDP and GNP**

- **Gross domestic product (GDP)( 国内生产总值 ):** Total value of goods and services produced with a **country's borders** over a period.
- **Gross national product (GNP)( 国民生产总值 ):** Total value of goods and services produced by the labor and capital of a **country's citizens** .

## International Trade

**Benefits and Costs of International Trade**

**Benefits**

- Deepening specialization
- Promote competition and increase welfare
- Enlarge GDP

**Costs**

- Greater inequality
- Unemployment in import countries

## International Trade

- **Absolute Advantage( 绝对优势 ):** A country is able to produce good at a lower cost or use fewer resources in its production than its trading partner.
- **Comparative Advantage( 比较优势 ):** A country's opportunity cost of producing that good is less than that of its trading partner.

## International Trade

**Example-Absolute and Comparative Advantage**

| | Meat produced per year | Potatoes produced per year |
|---|---|---|
| **A** | 3 | 4 |
| **B** | 9 | 8 |

- B has absolute advantage on both.
- B has comparative advantage on meat but A has comparative advantage on potatoes.

## International Trade

**Models of International Trade**

- **Ricardian model(李嘉图模型):** A country can gain from trade, if only it has a comparative advantage. **Labor** is the only factor of production, differences in **labor productivity** reflect differences in **technology**, the source of comparative advantage.

## International Trade

**Models of International Trade (Cont.)**

- **Heckscher-Ohlin Model(赫克歇尔-俄林模型):** Trade is driven by relative factors including **labor and capital** abundance, the source of comparative advantage.
  - Labor abundant countries export goods that are labor intensive in their production.
  - Capital abundant countries export goods that are capital intensive in their production.

## Summary

- **Importance:** ☆ ☆
- **Content:**
  - Compare GND and GDP
  - Benefits and Costs of international trade
  - Absolute and comparative advantages
  - Ricardian model and Heckscher-Ohlin Model
- **Exam tips:**
  - 了解GDP和GNP的区别
  - 了解国际贸易的益处和成本
  - 理解和区别绝对优势和比较优势，及相关理论模型

## Trade and Capital Restrictions

**Tasks:**

- Compare types of trade and capital restrictions and their economic implications
- Explain motivations for and advantages of trading blocs, common markets, and economic unions
- Describe common objectives of capital restrictions imposed by governments



## Trade and Capital Restrictions

**Reasons for Trade Restrictions**

- Infant industry
- National security
- Protecting domestic jobs
- Protecting domestic industries



## Trade and Capital Restrictions

**Types of trade restrictions:**

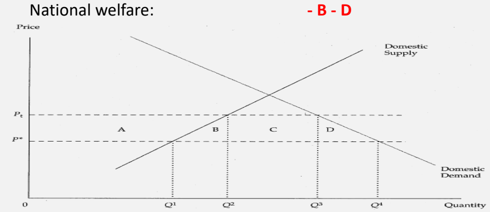
- **Tariffs(关税)**: Taxes that a government levies on imported goods.
- **Quotas(配额):** Restrict the quantity of a good that can be imported into a country.
- **Export subsidies( 出口补贴):** Government payments to firms that exports goods.
- **Voluntary export restraint (VER)( 自愿出口限制 ):** A trade barrier under which the exporting country agrees to limit its exports to its trading partners to a specific number of units.



## Trade and Capital Restrictions

- **Welfare of tariff and import quota for importing country**

| | |
|---|---|
| Consumer surplus: | **- ( A + B + C + D )** |
| Producer surplus: | **+ A** |
| Tariff revenue or Quota rents: | **+ C** |
| National welfare: | **- B - D** |



## Trade and Capital Restrictions

- Summary: Effects of Trade Policies

| | Tariff | Import Quota | Export Subsidy | VER |
|---|---|---|---|---|
| Impact on | Importing Country | Importing Country | Exporting country | Importing Country |
| Producer surplus | Increases | Increases | Increases | Increases |
| Consumer surplus | Decreases | Decreases | Decreases | Decreases |
| Government revenue | Increases | Mixed | Falls | No change |
| National welfare | Decreases(could increase in large countries) | Decreases(could increase in large countries) | Decreases | Decreases |

## Trade and Capital Restrictions

- Summary: Effects of Trade Policies (Cont.)

| | Tariff | Import Quota | Export Subsidy | VER |
|---|---|---|---|---|
| Price | Increases | Increases | Increases | Increases |
| Domestic consumption | Decreases | Decreases | Decreases | Decreases |
| Domestic production | Increases | Increases | Increases | Increases |
| Trade | Imports decrease | Imports decrease | Exports increase | Imports decrease |

## Practice

Which of the following trade restrictions is likely to result in the greatest welfare loss for the importing country?

A. A tariff.

B. An import quota.

C. A voluntary export restraint

**Answer: C**

With a voluntary export restraint, the price increase induced by restricting the quantity of imports (= quota rent for equivalent quota = tariff revenue for equivalent tariff) accrues to foreign exporters and/or the foreign government

## Trade and Capital Restrictions

**National Co-operation**

- **Free Trade Areas(自由贸易区):** All barriers to import and export of among member countries are removed.
- **Customs Union(关税联盟):** FTA plus a common trade policy against non-members.
- **Common Market(共同市场):** Customs Union plus free flow of labor and capital goods among member countries.
- **Economic Union(经济联盟):** Common market plus common institutions and economic policy for the union.
- **Monetary union(货币联盟):** Economic Union plus a common currency.

## Trade and Capital Restrictions

- **Common objectives of capital restrictions**
  - Reduce the volatility of domestic asset prices.
  - Maintain fixed exchange rates.
  - Keep domestic interest rates low.
  - Protect strategic industries.

## Summary

- **Importance:** ☆☆
- **Content:**
  - Reasons for trade restriction
  - Types of trade restrictions and their economic implications
  - Capital restrictions
- **Exam tips:**
  - 了解贸易限制的原因
  - 掌握贸易限制造成的经济影响
  - 了解各类国际合作方式的特点
  - 了解常见的资本限制原因

## Balance of Payment

**Tasks:**

- Describe the balance of payments accounts including their components
- Explain how decisions by consumers, firms, and governments affect the balance of payments
- Describe functions and objectives of the international organizations that facilitate trade

## Balance of Payment

**Current account(经常账户):** Measure the flow of goods and services.

- **Merchandise trade:** All commodities and manufactured goods bought, sold, or given away.
- **Services:** Tourism, transportation, engineering, and business services.
- **Income receipts:** Income derived from ownership of assets such as dividends, interest payments, income on foreign investments.
- **Unilateral transfers:** One-way transfers of assets such as worker remittances and foreign direct aid or gifts.

## Balance of Payment

**Capital Account( 资本账户 ):** Measure transfers of capital.

- **Capital transfers:** Debt forgiveness and migrants' transfers
- **Sales and purchases of non-produced, non-financial assets:** Patents, copyrights, trademarks, franchises.

## Balance of Payment

**Financial Account( 金融账户 ):** Records investment flows.

- **Government-owned assets abroad:** Gold, foreign currencies, foreign securities, reserve in the IMF, direct foreign investment.
- **Foreign-owned assets in the reporting country:** Domestic government and corporate securities, direct investment in the domestic country, domestic country currency.

## Balance of Payment

**Financial Account( 金融账户 ):** Records investment flows.

- **Government-owned assets abroad:** Gold, foreign currencies, foreign securities, reserve in the IMF, direct foreign investment.
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## Balance of Payment

- **Aggregate income ( AI ) = Aggregate expenditure ( AE )**

  $$C + S + T = C + I + G + ( X - M ) \quad (1)$$

  $$( X - M ) = S - I + ( T - G ) \quad (2)$$

  **Current account balance = X - M**
- **Current account = Sp + Sg – I**
  - Sp: Private sector savings ( S )
  - Sg: Government savings ( T – G )
- **Trade deficit can result from**
  - A lack of private savings
  - A lack of government savings
  - Booming investment

## International Organizations

**International Monetary Fund**

- Facilitates the growth of international trade and promotes employment, economic growth, and poverty reduction.
- Supports exchange rate stability and an open system of international payments.
- Lends foreign exchange to members, on a temporary basis, to help them address balance of payments problems.

## International Organizations

**World Bank Group**

- Implement legal and judicial systems that encourage business.
- Protect individual and property rights and honor contracts.
- Develop financial systems robust enough to support endeavors ranging from micro credit to financing larger corporate ventures.
- Combat corruption.

## International Organizations

- **World Trade Organizations regulates cross-border trade relationships.**
  - Implementation, administration, and operation of individual agreements.
  - Acting as a platform for negotiations.
  - Settling disputes.
  - Insure coherence and transparency of member country's trade policies.

## Practice

The sale of mineral rights would be captured in which of the following balance of payments components?

A. Capital account.

B. Current account.

C. Financial account.

**Answer: A**

The capital account measures capital transfers and sale and purchase of non-produced, non-financial assets such as mineral rights and intangible assets.

## Summary

- Importance: ☆ ☆ ☆
- Content:
  - Balance of payment(国际收支平衡)
  - International organizations
- Exam tips:
  - 重点掌握国际收支平衡的三大账户，以及每个账户包括的科目
  - 了解三大国际机构（国际货币基金组织，世界银行，世界贸易组织）的职能和目标

## Exchange Rate

**Tasks:**

- Distinguish between nominal and real exchange rates and spot and forward exchange rates
- Describe functions of and participants in foreign exchange market
- Calculate and interpret the percentage change in a currency relative to another currency
- Calculate and interpret currency cross-rates
- Calculate and interpret forward rate with interest rate parity

## Exchange Rate

**Exchange Rate Quotation**

- **GBP / EUR = 0.85**
  - **0.85 GBP / EUR**
- **EUR : GBP = 0.85**
  - **1 EUR = 0.85 GBP**
  - ✓ GBP: Price currency(价格货币)
  - ✓ EUR: Base currency(基础货币)
- **Direct quotation(直接报价):** Foreign currency as the base currency.
- **Indirect quotation(间接报价):** Domestic currency as the base currency.

## Exchange Rate

- **Exchange rate:** The price of one currency in terms of another
- **Nominal exchange rate(名义汇率):** The price that we observe in the marketplace for foreign exchange.
- **Real exchange rate(实际汇率):** Adjust nominal exchange rate to reflect the relative purchasing power between countries.

$$\text{Real}_{d/f} = \text{Nominal}_{d/f} \times \frac{P_f}{P_d}$$

## Exchange Rate

**Functions of the Foreign Exchange(FX) Markets**

- Facilitate international trade in goods and services.
- Hedging: Have an existing FX risk that they want to reduce with forward FX contracts.
- Speculation: Have no existing FX risk, they take on FX risk with the expectation of earning a profit.

**Buy side**

- Corporate, Retail accounts, governments, Central banks, pension plans, Sovereign wealth funds (SWFs).

**Sell side**

- Dealing banks: Large multinational banks.

## Exchange Rate

**Calculating Currency Appreciation or Depreciation**

- **Example:** Suppose the exchange rate for the euro (USD/EUR) increases from 1.2500 to 1.3000. what is the percentage change in the value of EUR (relative to the USD)?

$$\frac{1.3000}{1.2500} - 1 = 4.00\%$$

## Exchange Rate

**Cross-Rate Calculation**

**Example:**

USD / EUR = 1.4, CHF / USD = 0.9, and USD / GBP = 2

Calculate (1) CHF / EUR; (2) GBP / EUR

**Answer:**

CHF / EUR = (USD / EUR) × (CHF / USD)

= 1.4 × 0.9 = 1.26

GBP / EUR = (USD / EUR) ×(GBP / USD)

= 1.4 × (1/2) = 0.7

## Practice

Over the past month, the Swiss Franc (CHF) has depreciated 12 percent against pound sterling (GBP). How much has the pound sterling appreciated against the Swiss Franc?

A. 12%

B. Less than 12%

C. more than 12%

**Answer: C**

The appreciation of sterling against the Swiss franc is simply the inverse of the 12% depreciation of the Swiss franc against Sterling: [1/(1 - 0.12)] - 1 = (1/0.88) - 1 = 0.1364, or 13.64%.

## Exchange Rate

- **Spot exchange rate(即期汇率):** Currency exchange rates for immediate delivery.
- **Forward exchange rate(远期汇率):** Currency exchange rates for an exchange to be done in the future.

## Exchange Rate

**Forward Quotation**

- **Points Basis:**

  Spot rate + 0.0001 × points = Forward rate

  (0.01 for Yen)

**Example:** Spot rate GBP/EUR = 0.8552, one month points are -1.1.

**Answer:** The one month forward rate

GBP / EUR = 0.8552 + 0.0001 × ( -1.1 ) = 0.85509

- **Percentage Basis**

**Example:** Spot rate GBP / EUR = 0.8552, and the one month forward quote is - 0.29%.

**Answer:** The one month forward rate

GBP / EUR = 0.8552 × (1 - 0.29%) = 0.85272

## Exchange Rate

**Interest Rate Parity(利率平价关系)**

- The percentage difference between forward and spot exchange rates is approximately equal to the difference between the two countries' interest rates.
- The currency that has higher interest has the lower forward value.

$$\frac{F_{forward\ rate\ (x/y)}}{S_{spot\ rate(x/y)}} = \frac{1+r_x}{1+r_y}$$

$$\frac{F-S}{S} = \frac{1+r_x}{1+r_y} - 1 = \frac{r_x - r_y}{1+r_y} \approx r_x - r_y$$

## Exchange Rate

**Forward Premium and Forward Discount**

- **If the forward quote is higher than spot price.**
  - Base currency is trading at a forward premium(远期升水).
  - Price currency is trading at a forward discount(远期贴水).
- **If the forward quote is less than spot price.**
  - Base currency is trading at a forward discount.
  - Price currency is trading at a forward premium.

## Summary

- **Importance:** ☆ ☆ ☆
- **Content:**
  - Nominal and real exchange rate
  - Foreign exchange market
  - Cross-rate calculation
  - Forward quotation and interest rate parity
- **Exam tips:**
  - 重点掌握实际利率计算，货币升值 /贬值计算，交叉汇率计算，利率平价公式计算，远期升水 /贴水计算，及远期汇率报价

## Exchange Rate Regimes
## Effects of Exchange rate on countries' International Trade

**Tasks:**

- Describe exchange rate regimes
- Explain the effects of exchange rates on countries' international trade and capital flows

## Exchange Rate Regimes

- **Dollarization (美元化):** The country use the currency of another nation and gives up its own monetary policy.
- **Currency board arrangement (货币局制度):** Legislative commitment of a government to maintain fixed rate with another currency (e.g., Hong Kong).
- **Conventional fixed peg arrangement (传统固定钉住安排):** No legislative commitment, fixed rate with another currency within margins of +/- 1 %.
- **Pegged exchange rates within horizontal bands (水平区间钉住) (target zone):** Permitted fluctuations in currency value relative to another currency are wider (e.g., +/-2 %).

## Exchange Rate Regimes

- **Crawling pegs (爬行钉住):** Frequently adjusted fixed rate.
  - Active crawling pegs: To manipulate inflation expectation.
  - Passive crawling pegs: Keep pace with country's inflation rate.
- **Fixed parity with crawling bands (爬行区间固定平价)**
- **Managed float (管理浮动):** Floating with government intervention (without explicit target).
- **Independently floating rates (独立浮动):** FX rate left to market determination, central bank has independent monetary authority.

## Effects of Exchange rate on countries' International Trade

- **Marshal - Lerner Condition( 马歇尔-勒纳条件)**

$$\omega_X \varepsilon_X + \omega_M (\varepsilon_M - 1) > 0$$

- $W_X$ and $W_M$ are the shares of exports and imports.
- $E_X$ and $E_M$ are the price elasticities of demand.

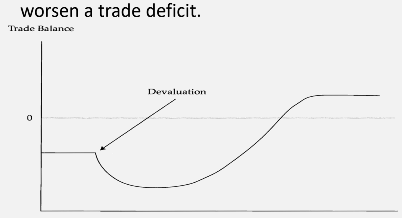
## Effects of Exchange rate on countries' International Trade

- **The FX rate adjustment has larger impact on trade balance if a country exports and imports:**
  - Goods for which there are good substitutes.
  - Goods that trade in competitive markets.
  - Luxury goods, rather than necessities.
  - Goods that represent a large portion of consumer expenditures or a large portion of input costs for final producers.

## Effects of Exchange rate on countries' International Trade

**J Curve Effect**

- In a very short run, export and import quantities don't respond to FX rate change, currency depreciation may worsen a trade deficit.




## Effects of Exchange rate on countries' International Trade

**Absorption Approach**

**BT = Y - E**

- **Trade balance must equals absorption (gross income minus domestic expenditure), so the FX rate effect on trade balance varies**
  - If there's excess capacity in the economy, depreciation increases gross product (income) and cause surplus.
  - If there's no excess capacity, depreciation raise domestic price and cancel out the FX rate effect.

## Summary

- **Importance:** ☆☆
- **Content:**
  - Exchange rate regimes
  - Effects of exchange rate on countries' international trade
- **Exam tips:**
  - 了解不同汇率制度的特征
  - 理解解释汇率变化对国家贸易平衡影响的三种模型