CHAPTER 6

Theory and Policy

- Before the Great Depression→ Self-regulating economy
  - Invisible hand→ Related to Adam Smith
  - No government intervention
- After the Great Depression→ Keynesian Economics
  - New ideas founded by Keynes after the powerful negative consequences of the Great Depression in the economy
  - Recessions and slow economic growths are mainly caused by inadequate spending
  - solution→ government intervention (Monetary and Fiscal Policy)
    - Monetary policy: using changes in money supply and interest rates
    - Fiscal policy: using changes in taxes and government spending

MAJOR MACROECONOMIC IDEAS TO BE EXPLORED

Business cycle

- Divisions
  - Expansions→ periods with a short-term economic growth, meaning increase in output and employment
  - Contractions→ period with a short term economic downturn, meaning decrease in output and employment
- Overall they are **short-term** alterations

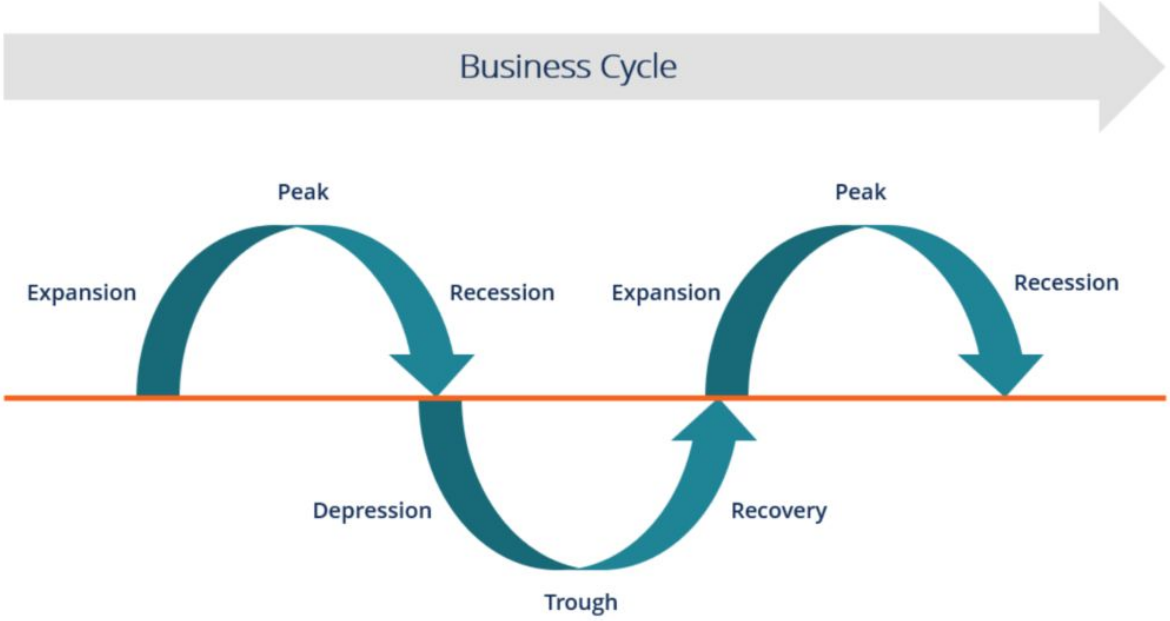

Figure 1: Business Cycle

Corporate Finance Institute
https://corporatefinanceinstitute.com/resources/knowledge/economics/business-cycle/

Long-run economic growth

- "Long-run economic growth is a modern invention" *(Macroeconomics, Third Canadian Edition. Chapter 6, pg 184)*
    - Increase in GDP (gross domestic product)
    - Countries do not grow at the same rate
- Sustained upward trend in output
- Related to increase living standards

Inflation and deflation

- inflation→ overall increase in price levels
- deflation→ overall decrease in price levels
- Price stability→ no large fluctuations in price levels. Normally the goal is 2% inflation.
- Causes of both deflation and inflation
    - Supply and demand can only explain why goods or services change prices by comparing it to other goods. Not overall prices.
    - **Related to the business cycle** (Short-run)
        - Expansion→ inflation
        - Contraction → deflation
    - **Related to changes in money supply** (Long-run)
- inflation→ causes people to spend money
    - This is because they know in the future the worth of their money will be less (loose value)
- deflation→ causes people to save money
    - They know in the future their money will be worth more, since things will be cheaper.

Trade deficit and surplus

- Open economy
    - Open to trade with other countries
- Trade deficit
    - More imports over exports
    - (value of the domestic goods sold is less than the value of the foreign goods bought)
- Trade surplus
    - More exports over imports

    - (Value of the domestic goods sold is higher than the value of the foreign goods bought)
- No relation between how well the economy is doing with whether it has a deficit or a surplus

CHAPTER 7

National income and accounts→ keep track of the flows of money between different sectors of the economy

Circular flow→ Figure 2 (tutor2u Economics)
https://www.tutor2u.net/economics/reference/circular-flow-of-income-and-spending

1. Government→
    a. **Purchases** goods and services (education, defense)
    b. Gives **transfer** payments to households, in return receive taxes
    c. Can **borrow** from the financial sector

2. Households→
    a. Consumer spending on goods and services.
    b. Private savings in the financial sector
    c. Gets **wages** from the factor market

3. Firms
    a. Buy goods and services as **investment spending**
    b. Borrowing from financial markets
    c. Receive **income** from sales
4. Rest of the world
    a. Imports from foreign goods/services
    b. **Exports** of domestic goods/services

GDP (Gross Domestic Product)

- Total value of all final goods and services produced in the economy during a year *(Macroeconomics, Third Canadian Edition. Chapter 7, pg 196)*
- Aggregate expenditure→ consumer spending + investment + government expenditure + exports - imports

Calculating GDP

1. Value-added approach
    a. Adding up total value of all final goods and services produced
    b. IMPORTANT→ value added= value of sales-value of its purchases in intermediate goods
2. Expenditure approach

a. Spending on all domestically produced goods and services
b. Omit sales of inputs

3. Income approach
    a. Adding total factor income earned by households and firms
    b. Factor income + non-factor

Price indexes and the Aggregate price level

- **Price index=** $\frac{cost\ of\ the\ market\ \ basket\ in\ a\ given\ year}{cost\ of\ market\ basket\ in\ the\ base\ year} x100$

- Inflation rate using price indexes
    - **Inflation rate=** $\frac{price\ index\ in\ year\ 2 - price\ index\ in\ year\ 1}{price\ index\ in\ year\ 1} x100$

Consumer price index

- **Price index=** $\frac{cost\ of\ the\ (fixed)\ market\ \ basket\ in\ a\ given\ year}{cost\ of\ (fixed)\ market\ basket\ in\ the\ base\ year} x100$

- GDP Deflator
    - Weighted price index
    - $= \frac{nominal\ GDP\ \ of\ a\ given\ year}{real\ GDP\ \ of\ a\ given\ year} x100$

CHAPTER 8

Employment

- Legitimate employment age: 15 years +

Employment categories

A (cannot work) Institutionalized -prisoners -ill	**C (Employed)** -paid jobs
B (won't work) Not looking for jobs -retired	**D (unemployed)** Looking for jobs

-full time students/home makers	

- A + B → not in the labour force
- C + D → compose the labour force
    - Are actively working or looking for a job

Unemployment rate → $\frac{D}{C+D} \times 100\% = \frac{unemployed}{labour\ force} \times 100\%$

Labour force participation → $\frac{C+D}{A+B+C+D} \times 100\%$

Employment rate→ $\frac{C}{A+B+C+D} \times 100\%$

Unemployment rate is not always accurate

- Reasons
    1. Discouraged workers
    2. Added workers effect
    3. Underemployment
    4. Other problems

Unemployment relation with output

- With Increase output there is decrease in unemployment rate (increase in employment)
    - More jobs available
    - More people motivated to work
- Decrease in output there is an increase in unemployment rate (decrease in employment)
    - Less jobs available, since firms are not making high profits
    - Layoffs
- *However, economic expansions are not always periods of falling unemployment.*
    - The economy can be growing, but not growing fast enough.
    - **Jobless recovery**
        - GDP growth but unemployment rate is still increasing.

Types of unemployment

1. Frictional
    a. Transitions of jobs

2. Structural
    a. Happens because the number of jobs available are smaller than the workers
        i. Workers lack the skills, education
    b. There is an excess supply of labour
    c. Reasons for structural unemployment

        i. Government minimum wage

            1. From **N to ND_D**→
                a. Adverse employment effect
                b. All of the layoffs that occur due to the increase in wage. (firms cannot pay everyone so high)
            2. From **N to NS_D**→
                a. Induced unemployment
                b. Workers lured into the labour market (attracted by the higher wages)
            3. Firms have to passively accept this government imposition

        ii. Workers unions
            1. They have strong bargaining power

        iii. Efficiency wages
            1. Firms pay voluntarily more in order to maximize profits
            2. More motivated applicants→

3. Cyclical
    a. Unemployment due to recessions or slow economic growth

Natural rate of unemployment

-
    - 1. If output **(Y) =** full output **(Y_f)**, → natural rate of employment **(u_n) =** frictional unemployment **(u_f) +** structural unemployment **(u_s)**

- **If $(Y) = (Y_f)$, $(u_n) = (u_f) + (u_s)$**

    - 2 If output **(Y) <** full output **(Y_f)** → natural rate of employment **(u_n) =** frictional unemployment **(u_f) +** structural unemployment **(u_s) +** cyclical unemployment **(u_c)**
        - **If $(Y) < (Y_f)$, $(u_n) = (u_f) + (u_s) + (u_c)$**

Changes in the natural rate of employment

- Changes in labour force characteristics
    - When women started entering the labour force post WW2
- Changes in labour market institutions
    - Strong labour unions are one reason for high natural rates of unemployment
    - Temporary employment agencies→ reduce frictional unemployment
    - Technical change (increase in demand for skilled workers)
- Changed in government policies
    - Solve some type of frictional unemployment
    - If they decrease unemployment benefits→ it means people will be less motivated to stay unemployed
        - Frictional unemployment will decrease
        - People will look for jobs faster

Inflation

Introduction

- Level of prices actually do not matter, only the rate of change of prices
    - Workers real wage has not change, because overall the prices of goods and services also change.
    - Real income too
        - income/price level

CPI

- Sometimes it overstates the rate of inflation
- Major reasons
    - 1. Consumption bundle and substitution

        - The typical basket of goods is fixed in terms of items and quantities
        - However, consumers change their preference and use substitution all the time
        - When a good increases in price, consumers look for a substitute
        - CPI does not consider substitution an option
        - It **overstates** then the increase in price
    - 2. Quality of products
        - CPI does not take into account new goods with better quality
        - Maybe they have the same price
            - But better
                - Features
                - Quality
                - Technology
            - This indeed is the reverse of inflation
            -

Costs of inflation

- Shoe leather costs
    - Increased costs of transactions caused by inflation

- Menu cost
    - Real costs of changing listed prices
    - Changing the list of prices in stores, websites are higher costs.
- Unit of account costs
    - Inflation makes money a less reliable unit of measurement

Real and nominal interest rates

- However, if you are borrowing money, and there is inflation, you are **better off**
    - Real rate of return= $\frac{new\ adjusted\ return - money\ loaned}{money\ loaned} x100$
- People that loan are **worse off** because with time their money is worth less.
- Fisher equation
    - $nominal\ IR = real\ IR\ + Inflation\ Rate$
- Unexpected inflation is what decides
    - Higher than what expected→ borrowers win
    - Lower than expected→ lenders win
- disinflation→ decrease in the rate of inflation

CHAPTER 9

Economic growth

Two types of growth

1. Intensive growth
    a. Same amount of inputs, but more output

2. Extensive growth
    a. More inputs, and more output

Overall economic growth

- There is what is known as *"rule of 70"*
- Even if the growth is small, throughout the years it will make a big impact in the economy
- example→
    - equation⟶ $\$1\ (1+g\%)^n = \$2$
    - Rule = $n \times g = 70$
        - Which means if the growth rate is 1%, than it takes the country 70 years to double their income.
        - However, this rule is only an approximation
            - This is because it is accurate when only small values of "*g"* are used.

Living standards

- It is a measure of economic growth
- GDP= aggregate production functions

We can write it as an equation in terms of the inputs→

$$Y = F(K,\ N,\ L,\ H)$$

Where,

- **Y=** production function, measures the technology
- **K=** physical capital
- **N=** natural resources

- **L=** labour force “population”
- **H=** human capital

$$Living\ standards\ =\ \frac{Y}{L} = y = f(\frac{K}{L},\ \frac{N}{L},\ \frac{L}{L},\ \frac{H}{L})$$
$$y = f(k,\ n,\ h)$$

Problems with calculating the production function

- How to calculate **N**
  - We do not know the amount of natural resources we have
- How to measure **H**
  - Difficult to measure the skills of workers or their health
  - Some use education as a comparison, but if we consider the disparity in education worldwide, is not a good comparison
- <u>solution→</u>
  - Since there is no way to measure N and H, we do not count them in the function, but rather consider them as **constants.**
  - This way, our nre function will become

$$y = f(k),\ holding\ N,\ H,\ L\ constant$$

<u>Diminishing returns</u>

- As more technology is added to produce a good/service, workers get distracted which reduces their productivity
- More physical capital k, less production Y

<u>Wrong analysis→ “catch up policy”</u>

- Belief in the 50’s and 60’s
- They believed the poor will eventually catch up to the rich

Fallacy with this analysis

- Wrong assumptions

Policy “divergence”

- Indeed we see that the gap between rich and poor countries living standards just get bigger.
- In this case it is necessary for the rich to help the poor, which will in turn help the rich itself
    - This is because it would reduce immigration, specially the illegal one to rich countries.

Natural resources

- Nice to have but NOT a prerequisite for economic growth.

What drives economic growth

1. Physical capital “k”
    a. Use savings in order to have money for investment
    b. This investment will help with productivity and efficiency
    c. However, it is necessary for the country to have a healthy, and well functioning financial system
        i. This way it would be possible to chanel savings to the most productive investment

2. Education “h”
    a. Human capital (more skills)
    b. Increase productivity
    c. Increase in innovation and ideas
    d. Increase in willingness to work

3. Technology
    a. Research and development
    b. Innovation
    c. Government funding is important

4. Government policy
    a. To regulate the financial system
    b. To invest in education
    c. To invest in research and technology

5. Property rights
    a. Need to exist because they are the buildibg block of exchange
    b. No one would buy goods it they did not have a property right over it→ no investment
6. Political stability
    a. It affects a lot
        i. Investment
            1. Willingness of foreign countries to invest
        ii. Education
            1. If the country is in a political crisis/civil war, no education will be provided.
7. Free trade
    a. Important for flows of not only goods and services
    b. Flow of ideas/innovation
    c. Flow of knowledge
    d. Help from other countries, get better and teach others
8. Population
    a. It is not still clear if it is good or bad
    b. But Malthus in his idea of the "positive check of population growth" argued that population growth will lead to chaos because of hunger.
    c. He believed food, due to the limitations of land will only grow arithmetically, while population will grow geometrically (exponential meaning at a much faster rate
    d. Solution?
        i. Preventive checks
            1. Increasing the opportunity cost of babies to females by increasing the opportunity cost of education to females
            2. This way more females would want to create a career path for themselves, to receive the money they invested in education.

Growth and sustainability

- China started with a 10% growth→ not sustainable
- There is a "take off" period
- But later on there is decrease in the growth rate for developed countries
- One of the biggests constraints in the future= ENVIRONMENT
    - Cannot be solved through technology
    - Requires international cooperation which is extremely hard
    - No one knows who owns the environment
    - Endless debate
    -