



Grade 12 Economics

Unit 1 The Fundamental Concepts of Macroeconomics

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Definition and Focus Areas of Macroeconomics (Revision)

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Definition of Macroeconomics

❑ Economics is:

"... science which deals with of the efficient allocation of scarce resources in the production, distribution & consumption of goods and services, so as to attain the maximum fulfillment of unlimited human wants or needs".

❑ The following statements are derived from the above definition.

- *Economics studies about scarce resources*
- *Human needs are unlimited*
- *Resources are limited*
- *It studies about allocation of resources*
- *Allocation should be efficient*

□ Conventionally, Economics is divided into **microeconomics** and **macroeconomics**.

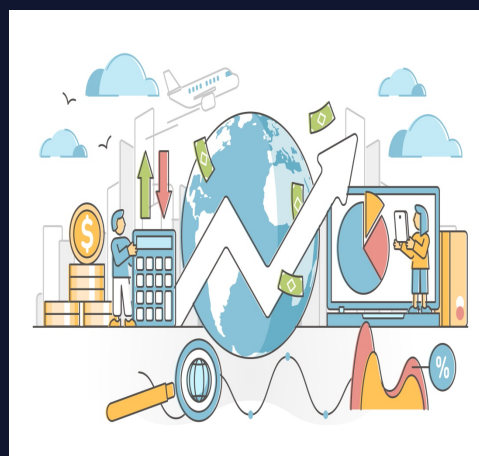
Feature	Microeconomics	Macroeconomics
Focus	• Study of individuals <i>decision making behavior and actions</i> of economic units, such as consumers and firms.	• Study of the <i>overall behavior of the economy or aggregate</i> economic phenomena
Scope	• Individual markets, industries, prices, and resource allocation	• Aggregate economic indicators • National and global economic trends.
Key concepts	• Supply and demand, market equilibrium, consumer behavior, production theory etc...	• National income, economic growth, economic policies, trade balance, price stability, employment etc
Analytical tools	• Demand-supply, marginal analysis, optimization, cost-benefit analysis.	• Aggregate demand and supply etc
Also known as	• Price Theory	• Income Theory

■ Macroeconomics is a relatively new branch of economics that emerged after the publication of John Maynard Keynes' book entitled: <<The General Theory of Employment, Interest and Money in 1936>>.

The Focus Areas of Macroeconomics

□ The study of macroeconomics helps us understand and try to find answers for central macroeconomic questions related to:

- ✓ Economic growth,
- ✓ Employment,
- ✓ Inflation,
- ✓ Distribution of income,
- ✓ Macroeconomic policies and
- ✓ international trade.



Source: Sheila Dow (2021). *The Future of Macroeconomics*

- ❑ The macroeconomic goals include achieving
 - *Economic growth,*
 - *Full employment,*
 - *Price stability,*
 - *Reducing budget or balance of payment deficit, and*
 - *Ensuring fair distribution of income in society.*
- ❑ Thus, a **country's macroeconomic health** is examined through such goals as the *rise in the standard of living, low unemployment, and low inflation.*
 - *In order to address these goals, it is necessary to understand macroeconomic variables which show the status and trends of the whole economy.*

Table 1.1 Focus Areas of Macroeconomics

Focus of macroeconomics	Macroeconomic variables	
National income	Aggregate demand and supply	Rate of employment and unemployment
Employment	Gross domestic production (GDP)	Money demand and supply
Money	Per capital income (PCI)	Government budget
General price level	Economic growth rate	Consumption, saving and investment
Economic growth	Price level	Balance of trade and payment
International trade		

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- ❑ Hence, the **first step towards understanding macroeconomy** is to **measure its performance**.
 - ❑ In a sense, macroeconomics is **primarily concerned with the forecasting of GDP**,
 - by **analysing the major economic factors** that show **predictable trends and patterns**, and **how they influence with each other**.
- ❑ In connection with this, it is necessary to elaborate the **concept of GDP and GNP**.

❑ **GDP:** *the market value of all final goods and services which are produced within a country's boundary during a given period of time, usually one year.*

❑ **GNP:** *the market value of all final goods and services that are produced by domestically owned factors of production in a given period of time, usually one year, irrespective of their geographical locations.*

GDP and GNP are functionally related as:

$$\text{GNP} = \text{GDP} + \text{NFI}$$

NFI (Net Factor Income from abroad) = Factor income received from abroad by a country's citizens - Factor income paid for foreigners to abroad.

- ❑ NFI could be negative, positive or zero.
 - If $\text{NFI} > 0$, then $\text{GNP} > \text{GDP}$
 - If $\text{NFI} < 0$, then $\text{GNP} < \text{GDP}$
 - If $\text{NFI} = 0$, then $\text{GNP} = \text{GDP}$

❑ There are three approaches to measure GDP/GNP.

❑ **Product Approach:** *GDP is calculated by adding the market value of all final goods and services produced by each sector of the economy.*

- There are two possible ways of avoiding double counting.
 - Taking only the value of final goods and services
 - Taking the sum of the value added by all firms at each stage of production

Example:

- Wheat Production
 - Total value of wheat produced is \$1,000.
- Flour Production
 - The flour produced from the wheat is worth \$1,500.
- Bread Production
 - The bread produced from the flour is valued at \$2,500.

Product Approach:

Value Added:

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❑ **Expenditure Approach:** *GDP is measured by adding all expenditures on final goods and services produced in the country by all sectors of the economy.*

- **GDP = Personal consumption of households (C) + Gross private domestic investment (I) + Government purchases of goods and services (G) + Net exports (NE).**

❑ **Income Approach:** *GDP is calculated by adding all incomes earned in the production of goods and services.*

- **GDP = Compensation of employees (wages & salaries) + Rental income + Interest income + Profits (proprietors' profit plus corporate profit) + Indirect business taxes + Depreciation - Subsidies - Transfer payments**

❑ In summary:

- **Income approach:** Focuses on income generated.
- **Expenditure approach:** Focuses on spending.
- **Product approach:** Focuses on product or value added.

❑ All three approaches should, in theory, yield the same GDP figure.

- However, in practice, there may be slight differences.
- Due to data collection issues and measurement errors.

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Real Vs Nominal GDP

❑ **Nominal GDP:** measured in actual (current) market prices.

- Nominal GDP is influenced by *both production quantity and price changes*
- It does not account for inflation

❑ **Real GDP:** measured using at constant prices (base year prices).

- Real GDP adjusted for inflation.
- Real GDP is influenced by *changes in production quantity.*
- Provides a more accurate measure of economic growth.

❑ An **upward or downward** movement in real GDP is the most widely used measure of the **level and growth of output.**

Summary of Section I

❑ Divisions of Economics:

- ✓ Microeconomics
- ✓ Macroeconomics

❑ The focus areas of macroeconomics:

- Deals with an aggregate behavior of the economy,
 - ✓ Economic growth
 - ✓ Employment
 - ✓ Inflation
 - ✓ Distribution of income
 - ✓ Macroeconomic policies
 - ✓ International trade.

❑ The major macroeconomic variables, which show the status and trends of the whole economy, are:

- ✓ Gross Domestic Product (GDP)
- ✓ Gross National Product (GNP)
- ✓ Economic growth rate
- ✓ Price Stability
- ✓ Investment
- ✓ Savings
- ✓ Consumption
- ✓ Government budget
- ✓ Level of employment
- ✓ Total labor force
- ✓ Money Demand and Supply
- ✓ Trade balance
- ✓ Exchange rate



Key Challenges in Macroeconomics

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Economic Growth

- ❑ **Economic growth** represents **an increase in the capacity of an economy to produce goods and services.**
 - The **rate at which the real GDP of a country increases** over a period of time is **known as** the **"economic growth rate."**
- ❑ **Economic growth** is a **necessary element of high incomes** and **higher living standards.**
- ❑ A **higher economic growth rate** can be achieved by:
 - Increasing the quality and amount of factors of production
 - ✓ *Labor, Land, Capital and their productivity.*
 - Enhancing institutional arrangements
 - ✓ *Adherence to the rule of law,*
 - ✓ *The **protection of property rights and contractual rights** so that markets can work effectively and efficiently.*

- ❑ **Economic growth** measures economic performance in terms of **value of income, expenditure,** and **output.**
 - Measuring **real income in developing countries is not simple** as we may think.
- ❑ In developing countries **real income is generally understated** compared to that of developed countries due to:
 - a) *The majority of the population are subsistence farmers who produce for their own consumption and such outputs are not correctly reported.*
 - b) *Underreporting income is common due to fear of tax and it is partly due to inefficient taxation systems.*
 - c) *Distortion in prices is much higher.*
- ❑ Besides this, GDP or GNP of developing countries **ignores the cost of pollution and environmental degradation.**

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- ❑ In addition, the simple measure of growth has two limitations.
 - *First, it changes as the price level changes.*
 - *Second, it doesn't take population growth into account*

- ❑ In order to overcome the above two problems, economists have suggested
 - *Real GDP for measuring economic growth...to overcome the problem of price changes.*
 - *Per capita income, which is the ratio of total GNP to total population, as an indication of average standard of living.*

- ❑ Per capita income is often used as a **measure for economic development**. However, it has limitations.

- ❑ This is due to the fact that, “**development**” and “**economic growth**” are different.
 - **Development:** a broadier concept that encompasses not only economic growth but also social, political, and environmental factors.
 - It involves improving the quality of life for a country's population
 - **Economic Growth:** a narrow concept that refers the **quantitative increase** in a country's production of goods and services.

- ❑ Per capita income alone is not **enough to measure development**.
 - While it provides a valuable starting point

HDI (Human Development Index)

- **Developed by:** *United Nations Development Program (UNDP)*
- **Components:** **Health** (*Life expectancy at birth*) **Education** (*Expected years of schooling and mean years of schooling*), and **Income** (*Per capita Income*)
- **Focus:** Provides a comprehensive assessment of a country's development.

PQLI (Physical Quality of Life Index)

- **Developed by:** *Morris D. Morris*
- **Components:** **Health** (*Infant mortality rate*), **Education** (*Literacy rate*) and **Living standards** (*Life expectancy at age 60*)
- **Focus:** Emphasizes the physical well-being of a population, particularly health and basic living standards.

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Inflation

- The prices of goods and services do not always stay the same.
 - Sometimes they rise and at other times they fall.
 - A **regular and continuous** rise in the **general price level** ---Inflation.
 - Inflation is **cumulative**: A *small rise in price in the beginning* may become a *very large one in the future*.



- ❑ Inflation is the **major concern of macroeconomic policy** throughout the world.
- ❑ A **substantial and rapid rise in the general price level**
 - Reduces purchasing power of money (money buys less)
 - Increases cost of living
 - Reduces the standard of living over time.
- ❑ Rate of inflation
 - It is the **percentage change in the overall level of prices**.
 - It varies greatly over time and across countries.

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Inflation and Consumer Price Index

- ❑ Inflation results in an increased consumer price index (CPI).
 - The CPI is a price index that reflects **changes in the prices of goods and services** typically purchased by consumers.
 - Hence, from the CPI angle, the **rate of inflation or deflation** is calculated as the **percentage rate of change in a price index**.

Consumer Price Index (CPI)

$$\text{Consumer Price Index (CPI)} = \frac{\text{The current cost of basket}}{\text{The base year cost of basket}}$$

Inflation Rate

$$\begin{aligned} \text{Inflation rate} &= \frac{\text{Current Date CPI} - \text{Past Date CPI}}{\text{Past Date CPI}} \times 100\% \\ &= \frac{CPI_t - CPI_{t-1}}{CPI_{t-1}} \times 100\% \end{aligned}$$

Where: CPI is Consumer Price Index

- ❑ Inflation classified on the basis of **speed of occurrence** and can be termed as:
 - **Creeping inflation:** is moderate inflation that occurs when the price level persistently rises over a period of time at a slow rate such as the price rise in 3% or less.
 - **Walking inflation:** occurs when annual inflation rate is a single digit or in the range of 3 to less than 10% per year.
 - **Running inflation:** occurs when prices rise rapidly at the rate of 10 to 20% per year.
 - **Galloping or jumping inflation:** occurs at a quick rate (dual or triple-digit annual rates) for a short period of time.
 - **Hyperinflation:** refers to a situation where the prices of goods and services rise uncontrollably

- ❑ Likewise, inflation is also classified on the basis of causes:
 - **Demand-Pull Inflation:** occurs when aggregate demand exceeds the economy's capacity to supply goods and services.
 - In other words, *consumers are demanding more goods and services than the economy can produce, leading to upward pressure on prices*
 - **Cost-Push Inflation:** occurs when *the cost of production increases*, leading businesses to raise prices to maintain their profit margins.
- ❑ Additionally, there are other types of inflation, such as **built-in inflation** and **imported inflation**, which can also contribute to the overall price level increase in an economy.

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Unemployment

- ❑ **Unemployment** is the macroeconomic problem that affects people most directly and severely.
 - It has **economic costs** to broader society.
 - Hence, **making a level of unemployment a low** is a **public policy priority** / a paramount concern of economic policymakers.
- ❑ It has an opportunity costs.
 - The opportunity cost of unemployment is the **output that the unemployed workers could have produced**.

- ❑ We need to know the following concepts:

- **Labor force:** *the sum of the employed and unemployed.*
- **Total labor force:** *the percentage of the population that is willing and able to work.*
- **Labor-force participation rate:** *the percentage of the adult population that is in the labor force.*
- **Unemployment rate:** *the percentage of the labor force that is actively seeking employment but unable to find work.*

Labour Force

$$\text{Labour Force} = \text{Number of Employed} + \text{Number of Unemployed}$$

Unemployment Rate

$$\text{Unemployment Rate} = \frac{\text{Number of Unemployed}}{\text{Labour Force}} \times 100$$

Labour Force Participation Rate

$$\text{Labour Force Participation Rate} = \frac{\text{Labour Force}}{\text{Adult Population}} \times 100$$

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- ❑ There are different types of unemployment.

❑ Frictional unemployment

- It occurs during the time when workers move between jobs.
- This results in a lack of perfect mobility of workers between jobs.
- Example: Individuals entering the workforce for the first time after graduating from college/ university or searching for their first job.
 - They are unemployed until they get their first job.

❑ Cyclical unemployment:

- It occurs due to a deficiency of aggregate effective demand resulting from business depressions.
- Example: *workers will be laid off when the economy is in recession.*

❑ Structural unemployment

- It is a form of involuntary unemployment that happens when there is lack of adjustment between demand for and supply of labor.
- It caused by mismatch between the skills of the workforce and the available jobs.
 - The lack of necessary skills for a particular job.
- Education is the key in minimizing the amount of structural unemployment.

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❑ Other forms

- **Underemployment:** Individuals are employed but working below their potential or in undesirable conditions.
- **Disguised Unemployment:** Individuals are employed but their work is unproductive.
- **Marginal Employment:** Individuals who work in low-paying, often temporary or informal jobs.
- **Discouraged Workers:** Individuals who have stopped searching for work due to a lack of suitable job opportunities.

Business Cycle

- ❑ The term “business cycle”, also known as “trade cycle”, “economic cycle” or “boom-bust cycle”, refers to economy-wide fluctuations in production and general economic activities.
 - The fluctuations represent upward and downward movements in levels of GDP.
 - Business cycles as fluctuations recur with a certain degree of regularity following a pendulum like oscillation.
 - Business cycles have four distinct phases: **expansion, peak, contraction, and trough.**

■ Peak

- The highest point of the business cycle
- The economy produces at maximum possible output
- Employment is at full employment and
- Inflationary pressures on prices are evident

■ Contraction

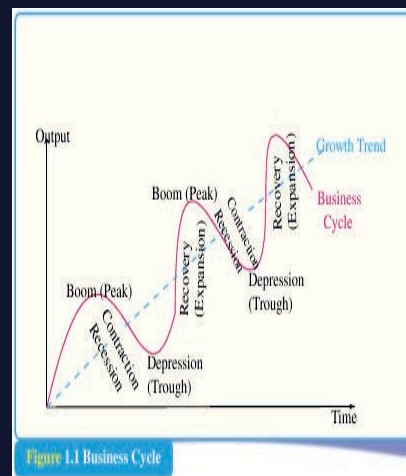
- Growth slows
- Employment declines (unemployment increases)
- Pricing pressures subside

■ Depression (Trough)

- The economy hit a bottom

■ Expansion

- Increasing employment
- Economic growth
- Upward pressure on prices



Balance of Trade

- The balance of trade is **another macroeconomic variable** that affects national economies.
 - The **balance of trade** is the difference between export and the import of goods and services of a country for a given period
- It is also an important component of the **balance of payment of a country**.
 - The **balance of payment** is the systematic record of a nation's financial transactions with the outside world.
 - It is divided into current and capital accounts.
 - The **current account**: the market value of a country's export and import of goods and services, investment income, debt service payments, and private and public net remittances and transfers.
 - The **capital account**: the volume of private foreign investment and public grants and loans that flow into and out of a country over a given period.

- ❑ The **trade balance** is any gap between a nation's dollar value of exports and imports.
 - When **imports exceed exports**, the result is a **trade deficit** in the economy.
 - If **exports exceed imports**, the economy has a **trade surplus**.
 - If **exports and imports are equal**, then **trade is balanced**.
- ❑ Many **nations seek trade surpluses**; however, **some degree of trade deficits is economically tolerable for countries**
 - When such a **deficit reflects the importing of capital equipment** which can then be used to boost productivity and output.

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Summary Section II

- The key challenges of the macroeconomy:

- Economic growth
- Inflation
- Unemployment
- Business cycles
- Trade balance.

❑ **Economic growth:** an increase in the capacity of an economy to produce goods and services.

❑ **Inflation:** a regular and continuous rise in the general price level.

❑ **Unemployment:** the situation where individuals who are actively seeking employment cannot find work.

❑ **Business Cycle:** economy-wide fluctuations in production and general economic activities.

❑ **Balance of trade:** the difference between export and the import of goods and services of a country for a given period.



The Schools of Thought in Macroeconomic Analysis

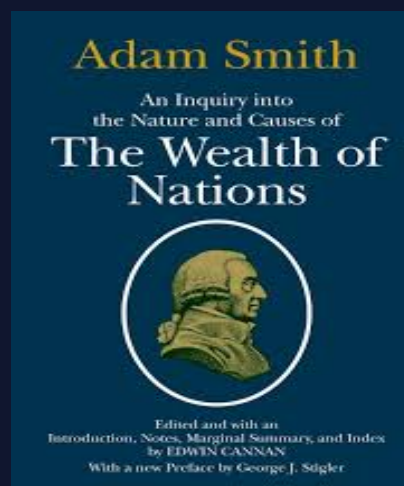
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- ❑ Different schools of thought have engaged in macroeconomic analysis.

The Classical School

- ❑ It was the predominant economic philosophy until the Great Depression.
- ❑ Representatives
 - Adam Smith (1723-1790),
 - David Hume (1711-1776),
 - David Ricardo (1772-1823),
 - Jean Baptiste Say (1767-1832),
 - John Stuart Mill (1806-1873),
 - Knut Wicksell (1851-1926), and
 - Irving Fisher (1867-1947)



❑ The Classical Principles

- **Self-Regulating Markets:** free markets can efficiently allocate resources without government intervention.“**Invisible hand**”
- **Flexibility of prices and wages:** adjust to changes in supply and demand.
- **Say's Law:** "supply creates its own demand."

❑ In this case, **no active fiscal or monetary policy is needed.**

- Fiscal policy **is useless in affecting employment and output.....** **Crowding Out** of private investment.
- Monetary policy **has no effects on the real sphere of the economy.....**it only leads to a higher price level.

❑ For classical economists, the real and monetary sectors could be studied separately.

- **Real Sector:** focuses on the **primarily on production, distribution, and consumption of goods and services.**
- **Monetary Sector:** **primarily influenced the price level and the distribution of income, but had little impact on the real economy in the long run.**

The Neoclassical School

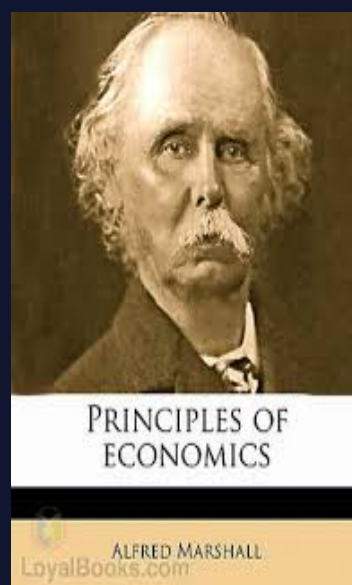
❑ Neoclassical emerged at the end of the 19th century and beginning of the 20th century in Europe.

❑ Neoclassicals base their ideas mainly on the writings of Alfred Marshall and his followers.

- Léon Walras (1834-1910) and
- Vilfredo Pareto (1848-1923).

❑ Neoclassicals

- Assume rationality of economic agents
- Closely follow the findings of the classical school
- Use the concept of marginal utility and accept mathematical analysis.
- View that in the long run, the economy will fluctuate around its potential GDP and its natural rate of unemployment.



- ❑ The **two building blocks** of neoclassical economics are that:
 - The **potential GDP** determines the economy's size and
 - Wages and Prices will adjust in a flexible manner so that the economy will adjust back to its potential GDP level of output.
- ❑ The **key policy implication** is that: the government should focus more on long-term growth and on controlling inflation than on worrying about recession or cyclical unemployment.
- ❑ This means that neoclassical economics is more useful for long-run macroeconomic analysis
 - Keynesian economics is more useful for analysing the macroeconomic short run.

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Keynesian

- ❑ The emergence of Great Depression of the early 1930s changed classical thinking.
 - The self-correcting feature of the market, the hallmark of classical theory, did not work.
 - The events of the Great Depression contradicted "Say's Law".
 - Although production capacity existed, the markets were not able to sell their products.
 - As a result, real GDP was less than potential GDP.



- ❑ **Recession**, according to the Keynesian view, emerges from two key building blocks.
 - First, aggregate demand deficiency.
 - Sticky wages and prices
- ❑ According to Keynes, Keynesian economics prescribed **active fiscal policy** to **alleviate weak aggregate demand**.
 - The **availability of the factors of production** determines a nation's **potential GDP**
 - The amount **of goods and services that are sold**, **known as real GDP**, depends on **how much demand exists across** the economy.
- ❑ Regarding Policies
 - **Monetary policy** is of little help, *as the additional money will simply be absorbed by investors with no noticeable effect on the interest rate.*
 - **Fiscal policy** will work well, *as the additional government spending will stimulate aggregate demand and hence employment and output.*

Monetarist

- ❑ The monetarist view is represented by Milton Friedman (1912-2006) and his colleagues.
 - Hence, opposing Keynesian, Monetarists argued that **it is monetary policy, and not fiscal policy, that addresses the macroeconomic problems or has real effects**.
 - **Monetary Policy**: Investment is highly sensitive to interest rate.
 - **Fiscal policy**: Leads only to strong **crowding out of private investment**
- ❑ They recommend a **monetary expansion** to combat unemployment.
 - But then monetarists remain doubtful that policy makers are good at timing the monetary policy.
 - When the policy is set too late, monetary policy can heighten business cycle fluctuations in the economy.
- ❑ Monetarists suggested that **the central bank should follow a constant growth rule for some monetary aggregate**.

New Classical

- ❑ The new classicals are **the natural successors of the classical economists**.

- That is why **they can be termed as the modern-day classical economists**.

- ❑ Representatives:

- Robert Lucas (1937 -)
 - Thomas Sargent (1943 -)
 - Robert Barro (1944 -)
 - Edward Prescott (1940 -).

- ❑ The new classicals stress **mathematical techniques**.

- ❑ They support classical ideas such as

- Flexible prices and wages,
 - Rational expectations or perfect foresight,
 - Efficiency of the market, and
 - Full employment.

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New Keynesian

- ❑ The New Keynesians are the natural successors of Keynesian economics

- ❑ Representatives:

- George Akerlof (1940 -)
 - Edmund Phelps (1933 -),
 - John B. Taylor (1946 -),
 - Stanley Fischer (1943-)
 - Olivier Blanchard (1948 -) and
 - Gregory Mankiw (1958 -).

- ❑ The New Keynesians **derive their main inspiration** from the insights of **J.M. Keynes**.

- ❑ For them, **markets may not be as perfect** as the classical economists suggest.

- ❑ They **accepted the REH**, but **stressed the existence of nominal rigidities**, arising from multi-period nominal wage contracts.

- ❑ Hence, **they argue for government to stabilize the economy**, even under REH.

- ❑ The **most recent wave of new Keynesian economics is more micro-based**.

- ❑ The **predominance of imperfect competition, coordination failures, and credit restrictions are stressed**.

Summary of Section III

□ The state of macroeconomics has evolved since the 1930s and different schools of thought emerged:

- Classical
- Neoclassicals
- Keynesians
- Monetarists
- New classical
- New Keynesians

- **Classical:** Emphasizes the self-regulating nature of markets and the invisible hand.
- **Neoclassical:** Built on classical school but incorporates marginal analysis and mathematical modeling and emphasizes the role of supply and demand in determining prices and output.
- **Keynesian:** Advocates for government intervention, particularly through fiscal policy, to stimulate economic activity.
- **Monetarism:** Emphasizes the role of money supply in determining economic activity and advocates for a monetary policy rule that targets a stable growth rate for the money supply.
- **New Classical:** argues that individuals and firms have rational expectations and that economic fluctuations are primarily caused by supply-side shocks.
- **New Keynesian:** acknowledge the role of market forces but also recognizing the potential for sticky prices and wages, which can lead to persistent unemployment.

END OF UNIT ONE