Topic 1 — Introduction to Macroeconomics and National Income Accounting

OBJECTIVES
- Introduction to macroeconomics
- National income accounting: measuring output
- National income accounting: measuring the price level

KEY DEFINITIONS AND CONCEPTS
- National income accounting and measuring output
- Stocks and flows
- Nominal v. Real magnitudes: Real Output and Price Indices

CONTENT

Introduction to Macroeconomics
Macroeconomics as a Whole
- Macroeconomics is about systemic level behaviour. The behaviour of things at the level of the economy as a whole
1. Aggregate level of Economic Activity (i.e. measured in terms of output or output per person / level of production of goods and services, *GDP*)
2. Dynamics of the Aggregate Price Level (i.e. rate of *inflation*, rate at which price level is increasing)
3. Conditions in the Aggregate Labour Market (i.e. *unemployment*)

Micro and Macro need to be Consistent, but Relationship is Much More Complex
- Theories have to be consistent with the structure of the economy at the individual level (e.g. relation between industries, relative prices). Macroeconomics needs to be consistent with our microeconomics known as "microfoundations", however the relationship is much more complex
- Despite necessity for consistency, the dangers —> Relation of macro to micro —> **Danger of "Fallacy of Composition"** i.e. the inference that something is true of the whole from the fact that it is true of some part of the whole (it is dangerous to infer and assume that observations of an individual market would be representative of the aggregate economy)
  - Forces at work at aggregate level may not be observable at the micro level e.g. effect of cuts in wages on aggregate profitability

When is the Economy Performing Well?
1. Rising living standards
  - Industrialised economies (Europe, US, Australia, newly industrialised South-East Asia) have experienced a rise in material wellbeing
  - Long run growth issues:
    - **Growth theory**: The study of the long-run growth performance of economies (evaluating why some economies have experienced increases in living standards while some others have not)
  - Living standards are measured by:
    - Quality of life (crime rates, pollution, etc), life expectancy, mortality rates, inequality, access to goods and service

2. Avoiding extremes of macroeconomic performance
  - Short-run expansions and contractions in economic activity (the **short run business cycle**) cause hardships and costs to society
  - This is because they create **uncertainty**
  - Governments aim to prevent large volatility in GDP growth

3. Maintaining the real value of the currency
   - Rapid changes in the prices of goods and services alter the real purchasing of a dollar and create significant costs to the society

4. Ensuring sustainable levels of public and foreign debt
   - Debt accumulation is justifiable and sustainable if it generates returns exceeding its costs
     - **Public debt** is the amount owed by the government to the non-government sector
     - **Foreign debt** is the amount owed by the nation to other countries

5. Balancing current expenditure against the need to provide resources for the future
   - Saving means postponing consumption today to provide more for the future
   - Trade-off between spending today to maximize current utility, or saving to expend on goods and services that will increase utility in the future

6. Providing employment for all individuals seeking work
   - Unemployment contains elements of both macroeconomics and microeconomics

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Measuring Aggregate Output — GDP
- Most common way of measuring macro performance is to measure aggregate economic activity in terms of **aggregate output,** known as Gross Domestic Product
- **GDP: T**he market value of the **<u>final goods and services</u>** produced in the economy (within the country's borders) during a **given period**
  - A **final good** is an end product and "not for the purpose of production of another good"
    - Note: makes no reference to intermediate goods in this definition and find out how it fits into this notion
  - An **intermediate good** is a good used in the production of another good

Three ways to Measure/Define GDP
1. Expenditure on GDP, GDP(E)

$$Y \equiv GDP(E) \equiv C + I + G + (X - M)$$

C: Household's final consumption expenditure   X: Exports
I: Private Gross Fixed Capital Formation + Changes in Inventory   M: Imports
G : Government Expenditure (i.e. consumption and investment)   Y: Aggregate Supply
Note: NX may be used to define Net Exports: (X - M)
Note: Consumption (C)
- Spending by households on goods and services
- Subcategories:
  - **Durables**: Long-lived consumer goods such as cars and furniture (note houses are considered investment)
  - **Non-Durables**: Shorter-lived goods like food and clothing, and all services

Note: Investment (I): Private Gross Fixed Capital Formation
- Spending by firms on final goods and services, primarily capital goods and housing
- Subcategories:
  - **Business fixed investment**: The purchase by firms of new capital goods such as machinery, factories and office buildings (long-lived capital goods are treated as final goods rather than as intermediate goods)
  - **Residential investment**: The construction of new homes and apartment buildings (for GDP, residential investment is treated as investment by the business sector, which then sells homes to households)
  - **Inventory investment**: The addition of unsold goods to company inventories (as if the firm had bought the good itself)
- Unsold inventory still contributes to the GDP

Note: Government expenditure (G)
- Purchases by federal, state and local governments of final goods, such as fighter jets, and services, such as teaching in public schools
- These do not include transfer payments or interest paid on government debt

2. Sum of Values Added in Difference Stages of Production, GDP(P)

GDP(P) = Sum of MV of Output - Value of Intermediate Purchases

- GDP is the same of <u>values-added</u> in the economy during a given period
  - Value added = Value of Firm's Production - Intermediate Goods
- Should be equal to the sum of the income payments in the value of aggregate output
- Helps also to clarify the term "final" in the definition of GDP

Example: What GDP(P) is not

Note: p_w is price per unit of wheat & Q_w is quantity per unit of wheat & W is wages & π is profit

Note: By summing all the industries, you will double-counting the productions more than once, when calculating value of the economy

Note: To avoid double counting, value-added method is used. Example of an economy that produces $6 bread:
- Wheat farmers' value-added = $2(wheat) - $0 (no intermediate input costs) = $2
- Flour-making factory = $3.5 (flour) - $2 (wheat) = $1.5
- Bakery shop = $6 (bread) - $3.5 (wheat) = $2.5

3. Income Generated in the Process of Production, GDP(I)

GDP(I) = Compensation of Employees + Gross Operating Surplus + Indirect Taxes

- It has been implied that GDP can be measured in terms of incomes generated in production
- GDP = Sum of Income Payments by Firms to Households for factors of Production
  - i.e. wages of Labour, interest for capital, rent for land and profits
  - Plus 3 other items: Depreciation of capital, net indirect taxes and subsidies
  - Compensation of employees (wages), Gross operating surplus of producers (profits), Taxes on production less subsidies (indirect taxes)

Basic Structure of the Australian National Accounts
- The income approach: measures the total incomes earned by households in a nation in a year.
- The expenditure approach: measures the total amount spent on the goods produced by a country in a year.
- The diagram on the right shows how the income approach should be equal to the expenditure approach