MACROECONOMICS
LA321/LAL200

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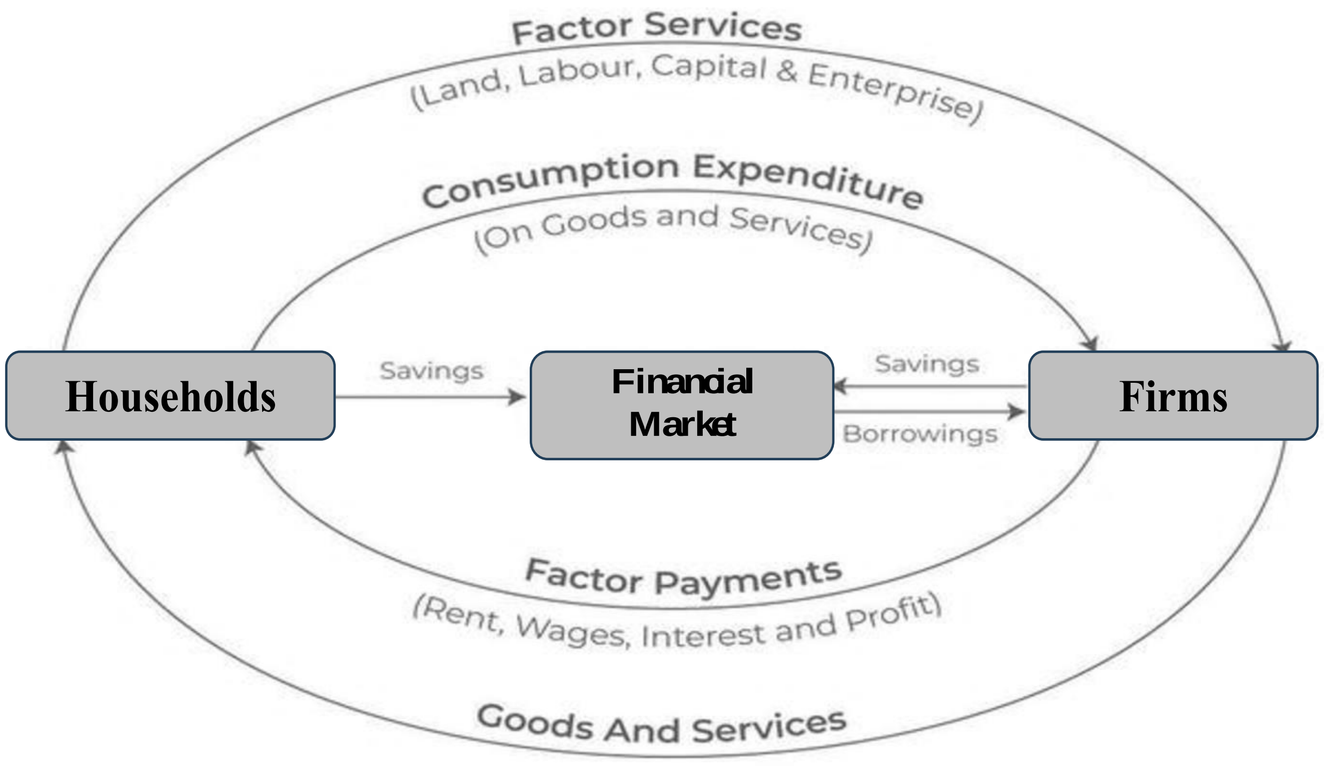
Circular Flow of Economic Activity

- **What determines the overall level of business activity? - Expenditure on firms' output.**

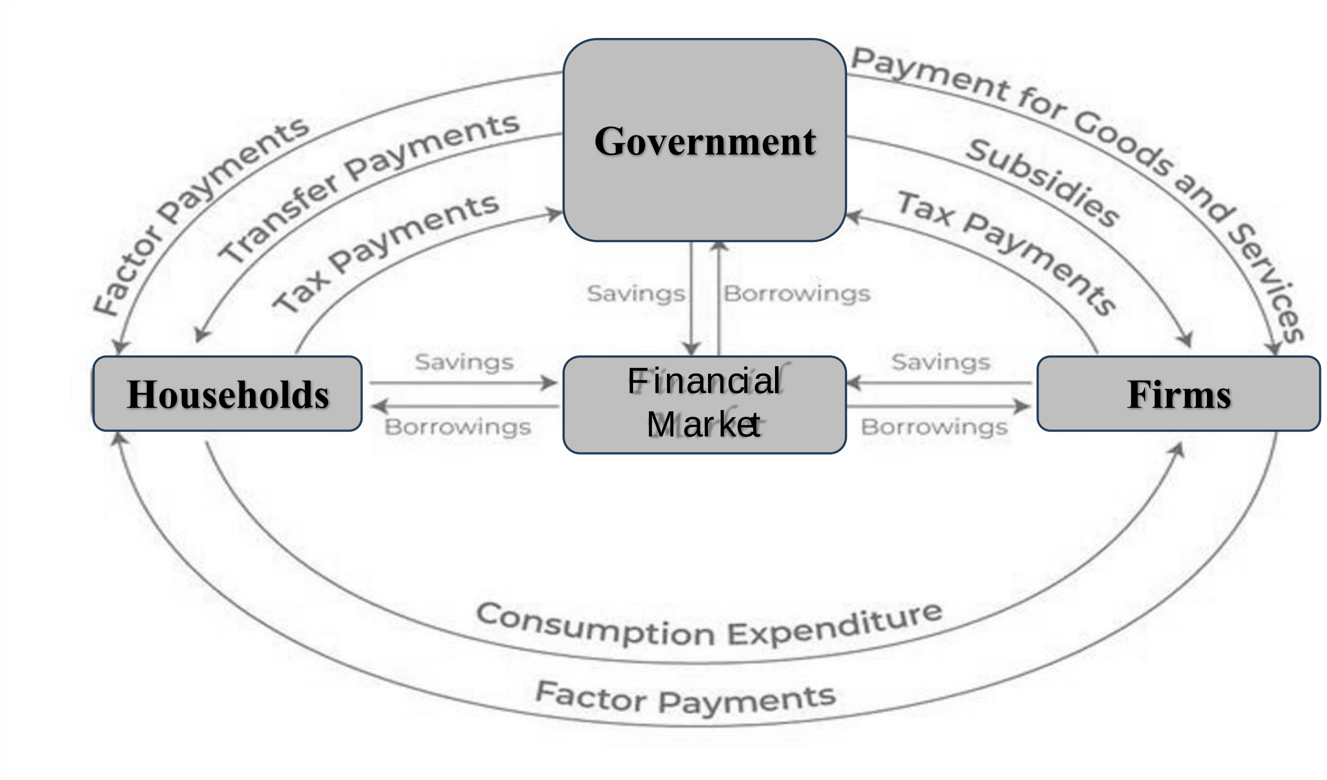
- **Aggregate demand –** represents the total level of spending on the goods and services produced within the country over a given time period.

- **This spending consists of four elements:**
- Consumer spending on domestically produced goods and services (C*d*),
- Investment expenditure within the country by firms, whether on plant and equipment or on building up stocks (I),
- Government spending on goods and services (such as health, education and transport) (G), and
- The expenditure by residents abroad on this country's exports (X)
- **AD = C + I + G + (X – M)**

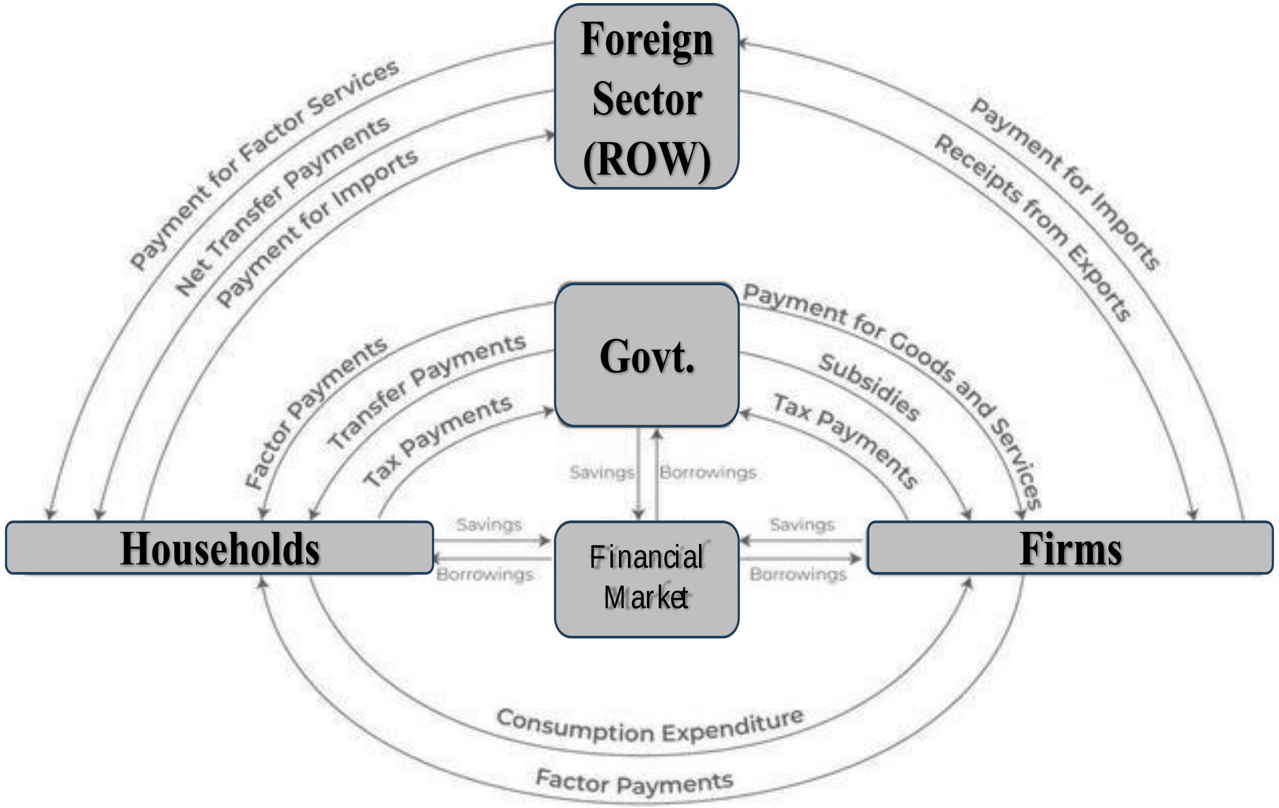
Circular Flow – Two Sector Economy



Circular Flow – Three Sector Economy



Circular Flow – Four Sector Economy



Determination of Business Activity

Identifying the equilibrium level of GDP

AGGREGATE DEMAND

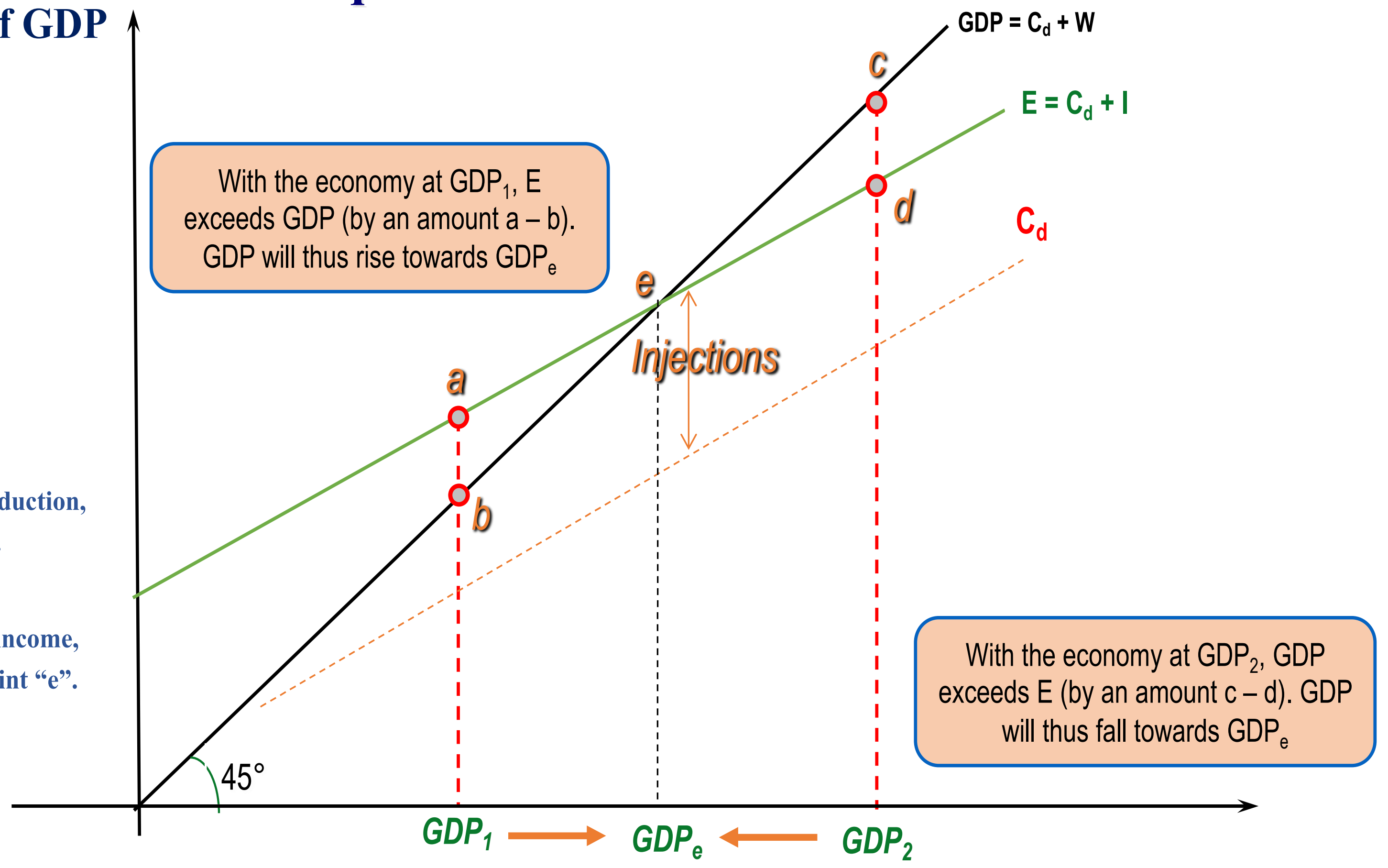
- I >W ⇨ Rise in Exp. ⇨ Rise in GDP
- W >I ⇨ Fall in Exp. ⇨ Fall in GDP

EQUILIBRIUM LEVEL

GDP >E : Less demand, Unsold products, Less production, Less income, Less spending and GDP falls back to "e".

E >GDP: High demand, More production, Higher income, Higher spending and GDP increases to equilibrium point "e".

Equilibrium GDP



National Income Accounting

Value Added Method	**Income Method**	**Expenditure Method**
Gross Value added from primary (GVA_p) + Gross Value added from secondary sector (GVA_s) + Gross Value added from tertiary sector (GVA_t) $\Downarrow$ GDP_{MP} - Depreciation $\Downarrow$ NDP_{MP} + NFIA $\Downarrow$ NNP_{MP} - Net Indirect Taxes $\Downarrow$ $\boldsymbol{NNP_{FC}}$	Compensation of employees + Operating Surplus (Rent & royalty, Interest, Profits) + Mixed Income of self-employed $\Downarrow$ NDP_{FC} + NFIA $\Downarrow$ $\boldsymbol{NNP_{FC}}$	Private final consumption expenditure + Govt. final consumption expenditure + Gross domestic capital formation + Net exports $\Downarrow$ GDP_{MP} + NFIA $\Downarrow$ GNP_{MP} - Depreciation $\Downarrow$ NNP_{MP} - Net Indirect Taxes $\Downarrow$ $\boldsymbol{NNP_{FC}}$

Terms and Formulas

- Value Added = Value of output – intermediate consumption
- Value of output = Sales + Change in stock
- Net exports = Exports – Imports
- Gross = Net + Depreciation
- NFIA = Income earned by residents from abroad – Payments to abroad earned by foreign residents
- Factor Cost (FC) is the factor payments made to the factors of production, while MP refers to the market price at which the product is actually sold in the market.
- Net Indirect Taxes (NIT) = Indirect Taxes – Subsidies
- $GDP_{MP} - Depreciation = NDP_{MP}$
- NDP_{MP} + NFIA = NNP_{MP}
- $NNP_{MP} -$ NIT = NNP_{FC}

Terms and Formulas

- $NNP_{FC} - NFIA = \ NDP_{FC}$ (**Domestic Income**)
- $NDP_{FC} - Income\ from\ propert\ and\ entrepreneurship\ accruing\ to\ govt.administartive\ departments - savings\ of\ non\ departmental\ enterprises$ = **Domestic factor income accruing to private sector**
- Domestic factor income accruing to private sector + NFIA + Interest on national debt + Current transfers from the govt. + Net current transfers from rest of the world = **Private Income**
- Private Income – Corporate profits – Corporate taxes – Undistributed corporate profits = **Personal Income**
- Personal Income – Direct personal taxes – Misc. receipts of govt. administrative departments = **Personal Disposable Income**

NIA

Why are the following items not included in calculating the National Income (NNP_{FC})?

- Repair and maintenance of a residential building
- Interest on car loan
- Production of services for self-consumption
- Vegetables grown in the kitchen garden
- Machine purchased for resale
- Unemployment allowance
- Prize money from game shows
- Employee’s contribution to the social security schemes
- Sale of second-hand car

GDP

GDP refers to the total value of all goods and services produced within the domestic territory of the country in a year.

GDP and the growth rate hints at the future growth trajectory and economic prospects of the country. But, there are few limitations of using GDP as a welfare index :

- GDP does not account for the non-monetary exchanges
- It does not consider the negative externalities that arise as a result of growth
- Effect of inflationary situation is not considered while calculating GDP
- GDP does not account for the components of social welfare
- Though it tracks economic growth, it does not consider the income distribution pattern in the country.

Thus, we need a better index to account for the inequality that exists in the economy.

Poverty and Inequality

Measures of poverty

1. *Income-based measures*

- Poverty line: A threshold level of income adequate for meeting basic consumption needs.
- Headcount ratio: Proportion of population living below the poverty line

2. *Multi-dimensional measures*

- Multi-dimensional Poverty Index (MPI): Takes into account multiple dimensions of poverty such as education, health, standard of living etc.
- Human Development Index (HDI): Composite measure of a country's average score in three aspects; health, knowledge and standard of living

Poverty and Inequality

3. *Capabilities Approach*

- Developed by Amartya Sen, the approach considers individual's capabilities; their ability to do and be what they value. Absence of these capabilities indicates poverty.

4. *Absolute and Relative poverty*

- Absolute poverty shows the lack of income to meet one's own basic necessities; while relative poverty indicates the lack of income required to meet the needs and wants in comparison with others.

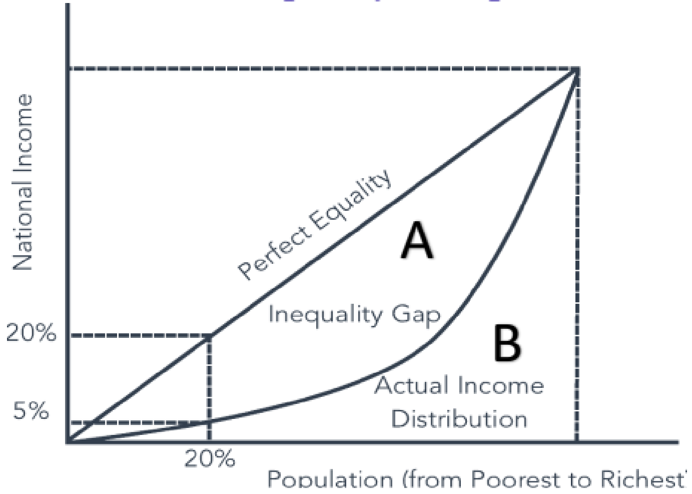
5. *Chronic and Transient poverty*

- Chronic poverty indicates long-term persistent poverty and transient poverty is the temporary poverty experienced due to some unforeseen events.

Gini Coefficient

The Gini coefficient is a measure of income distribution across a population, expressed as a number between 0 (perfect equality) and 1 (perfect inequality) .

- In general, a higher Gini index indicates greater inequality, where the higher-income strata receives the maximum share of the population's total income. A low Gini index indicates low levels of inequality.
- A **Lorenz curve** is a graphical representation of the income inequality. When the lowest 20% of the population receives only 5% of the national income, it indicates inequality as represented by the Lorenz curve.
- **Gini Coefficient** = $\frac{A}{A+B}$



GDP Deflator

Real GDP and Nominal GDP

Nominal GDP refers to the total value of goods and services produced within the domestic territory in a given year; not adjusted for inflation.

Real GDP refers to the total value of goods and services produced within the domestic territory in a given year; adjusted for inflation.

GDP Deflator = (Nominal GDP/Real GDP)*100

Laspeyer's Index = $\frac{\sum P_1 q_0}{\sum P_0 q_0} * 100$

Paasche's Index = $\frac{\sum P_1 q_1}{\sum P_0 q_1} * 100$

Fisher's Ideal Index = $\sqrt{\frac{\sum P_1 q_0}{\sum P_0 q_0} * \frac{\sum P_1 q_1}{\sum P_0 q_1}} * 100$

THANK YOU