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CUET · ECONOMICS · CLASS XII · CODE 309

National Income Accounting

CUET unit: National Income Accounting (Introductory Macroeconomics)

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📌 Snapshot

- The conceptual scaffolding of macroeconomics: final vs intermediate goods, consumption vs capital goods, stocks vs flows, gross vs net investment, depreciation.
- The **circular flow of income** runs between households and firms; the **three methods** of measuring national income (product/value-added, expenditure, income) all give the same GDP.
- The family of national income aggregates — GDP, GNP, NDP, NNP, NI, PI, PDI — links to the price-cost distinctions (market price, factor cost, basic prices).
- **Nominal GDP** uses current prices, **real GDP** uses base-year prices; three price indices track inflation — GDP deflator, CPI, WPI.
- GDP is a flawed welfare indicator because it ignores distribution, non-monetary exchanges and externalities — a high-frequency CUET source.

📖 Detailed Notes

2.1 Core concepts

- **Source of economic wealth**: a country's wealth depends not on mere possession of natural resources but on how those resources are used in the production process to generate a flow of output, income and wealth (NCERT §2.1, p. 9).
- **Final goods**: goods that are meant for final use and will not pass through any further stage of production or transformation; once sold, they pass out of the active economic flow (NCERT §2.1, p. 10). It is not the nature of the good but the **economic nature of its use** that makes it final — tea leaves used at home are final, but in a restaurant they are intermediate (NCERT §2.1, p. 10).
- **Consumption goods vs capital goods**: consumption (consumer) goods are food, clothing, recreation services — consumed when purchased; capital goods are durable tools, implements and machines used in production but not themselves transformed in the production process (NCERT §2.1, pp. 10–11).
- **Consumer durables** (TVs, automobiles, computers) share durability with capital goods but are for ultimate consumption (NCERT §2.1, p. 11).
- **Intermediate goods**: goods used by other producers as raw material/inputs — e.g., steel sheets for cars, copper for utensils. Counting them would lead to **double**

counting because their value is already embedded in the final good (NCERT §2.1, p. 11).

- **Money as the common measuring rod**: monetary value is the only common measure to add diverse outputs like cloth (metres), rice (tonnes) and machines (NCERT §2.1, p. 11).
- **Stocks vs flows**: flows are defined over a period of time (income, output, profit); stocks are defined at a point of time (capital stock, inventory). The tank-and-tap analogy — water flowing in per minute is a flow, water in the tank at a moment is a stock (NCERT §2.1, pp. 11–12).
- **Gross investment, depreciation, net investment**: gross investment is total capital-goods output; depreciation is the annual allowance for wear and tear of a capital good (cost ÷ useful life); **Net Investment = Gross Investment − Depreciation** (NCERT §2.1, pp. 12–13).
- **Four factors of production and remunerations**: labour → wages, capital → interest, entrepreneurship → profit, land/fixed natural resources → rent (NCERT §2.2, p. 14).
- **Circular flow of income**: in a simple economy with no government, no external trade and no savings, factor payments by firms equal household consumption expenditure on goods/services produced by the firms — income moves in a circle through households and firms (NCERT §2.2, pp. 14–15, Fig. 2.1).
- **Three methods of estimating GDP** (measured at points A, B, C of the circular flow diagram): expenditure method (uppermost flow A), product method (B), income method (C) — all three must give the same value of GDP (NCERT §2.2, p. 16).
- **Macroeconomic model**: a simplified story that highlights essential features of an economic system; not a complete description of reality (NCERT §2.2, p. 16).
- **Product / Value-Added Method**: Value added of a firm = Value of production of the firm − Value of intermediate goods used. Wheat–baker example: farmer adds Rs 100, baker adds Rs 200 − Rs 50 = Rs 150, total value added = Rs 250 (not Rs 300, which would be double counting) (NCERT §2.2.1, p. 17, Table 2.1).
- **Gross Value Added vs Net Value Added**: GVA includes depreciation; NVA = GVA − Depreciation (NCERT §2.2.1, p. 18).
- **Inventory**: stock of unsold finished goods, semi-finished goods or raw materials carried from one year to the next — a stock variable; change in inventory is a flow. Change in inventory ≡ production − sale during the year (NCERT §2.2.1, pp. 18–19).
- **Three categories of investment**: (i) rise in inventory of a firm over a year; (ii) fixed business investment (addition to machinery, factory buildings, equipment); (iii) residential investment (addition of housing) (NCERT §2.2.1, p. 19).
- **Planned vs unplanned change in inventories**: unexpected fall in sales → unplanned accumulation; unexpected rise in sales → unplanned decumulation. Shirt-firm example illustrates both (NCERT §2.2.1, pp. 19–20).

- **Expenditure Method**: GDP ≡ C + I + G + X − M, where C is final consumption expenditure on domestic goods, I is investment, G is government final expenditure, X is exports, M is imports. Investment expenditure I is the most unstable of these components (NCERT §2.2.2, pp. 21–22, eq. 2.4).
- **Income Method**: GDP ≡ W + P + In + R — wages, profits, interest, rents summed across all M households (NCERT §2.2.3, p. 22, eq. 2.5).
- **Identity tying all three methods**: GDP ≡ Σ GVA_i ≡ C + I + G + X − M ≡ W + P + In + R (NCERT §2.2.3, p. 23, eq. 2.6). The two-firm example (A produces Rs 50 of cotton, B produces Rs 200 of cloth) gives GDP = Rs 200 by all three methods (NCERT §2.2.3, p. 23, Tables 2.2–2.3).
- **Factor cost, basic prices, market prices**: Factor cost includes only payments to factors (no tax). Basic prices = Factor cost + Net production taxes. Market prices = Basic prices + Net product taxes. Net production taxes = production taxes − production subsidies (land revenue, stamp/registration fees — independent of volume). Net product taxes = product taxes − product subsidies (excise, service tax, customs — per unit/product). CSO's January 2015 revision replaced GDP at factor cost with **GVA at basic prices** as the headline measure (NCERT §2.2.4, pp. 24–25).
- **GNP and GDP**: GNP ≡ GDP + Net Factor Income from Abroad (NFIA) (NCERT §2.3, p. 25).
- **NNP at market prices** ≡ GNP − Depreciation (NCERT §2.3, p. 25).
- **National Income (NNP at factor cost)** ≡ NNP at market prices − Net Indirect Taxes, where Net Indirect Taxes = Indirect Taxes − Subsidies (NCERT §2.3, pp. 25–26).
- **Personal Income (PI)** ≡ NI − Undistributed Profits − Net interest payments by households − Corporate Tax + Transfer payments to households from government and firms (NCERT §2.3, p. 26).
- **Personal Disposable Income (PDI)** ≡ PI − Personal tax payments − Non-tax payments (NCERT §2.3, p. 26).
- **National Disposable Income** = NNP at market prices + Other current transfers from the rest of the world; **Private Income** = Factor income from NDP accruing to private sector + National debt interest + NFIA + Current transfers from government + Other net transfers from the rest of the world (NCERT §2.3, pp. 26–27, box).
- **Nominal vs Real GDP**: Nominal GDP uses current prices; Real GDP uses constant (base-year) prices, so any change reflects volume change only. Bread example: 100 units × Rs 10 in 2000 = Rs 1,000; 110 × Rs 15 in 2001 = nominal Rs 1,650; real (at 2000 prices) = 110 × Rs 10 = Rs 1,100 (NCERT §2.4, p. 29).
- **GDP Deflator** = Nominal GDP / Real GDP (also expressed as a percentage). In the bread example, deflator = 1,650 / 1,100 = 1.50 (i.e., 150%) — prices have risen 1.5×. There is also a GNP deflator (NCERT §2.4, pp. 29–30).

- **Consumer Price Index (CPI)**: price index of a representative consumer's basket, expressed as current-year cost ÷ base-year cost × 100. Rice–cloth example: base-year cost Rs 1,400 → current-year cost Rs 1,950 → CPI ≈ 139.29 (NCERT §2.4, pp. 30–31).
- **Wholesale Price Index (WPI)**: index of wholesale prices (bulk-traded goods like raw materials/semi-finished goods); in the USA this is called Producer Price Index (PPI) (NCERT §2.4, p. 30).
- **CPI vs GDP deflator** differs because: (1) CPI covers only goods consumed, not all goods produced; (2) CPI includes imported goods, GDP deflator does not; (3) CPI uses constant weights, GDP deflator uses production-level weights (NCERT §2.4, p. 30).
- **GDP and welfare — three reasons GDP is not a good welfare index**: (1) **Distribution of GDP** may be unequal — rise in GDP concentrated in a few hands (90-person example: GDP rises Rs 1,000 → Rs 1,010, but 90% of people are worse off); (2) **Non-monetary exchanges** like domestic work by women and barter exchanges are not counted → GDP underestimates activity; (3) **Externalities** — beneficial/harmful effects not paid or penalised; e.g., oil refinery polluting a river hurts fishermen, but the harm is not deducted → GDP overestimates welfare in case of negative externalities and underestimates it in case of positive externalities (NCERT §2.5, pp. 30–31).

2.2 Definitions to memorise

Term	Definition	Page
Final good	Good meant for final use that will not undergo further transformation in production	10
Capital good	Durable final good used in production that does not get transformed in the production process	10–11
Consumer durable	Final good for ultimate consumption that is durable like a capital good (TV, car, computer)	11
Intermediate good	Good used by other producers as raw material or input; not a final good	11
Stock	Variable defined at a point of time (capital, inventory)	11–12
Flow	Variable defined over a period of time (income, output, profit, change in stock)	11–12
Gross investment	That part of final output that comprises capital goods produced in a year	12
Depreciation	Annual allowance for wear and tear of a capital good = original cost ÷ useful life	12–13
Net investment	Gross investment – Depreciation	13

Term	Definition	Page
Value added	Value of production of a firm – Value of intermediate goods used	17
GVA	Gross Value Added (includes depreciation)	18
NVA	Net Value Added = GVA – Depreciation	18
Inventory	Stock of unsold finished, semi-finished goods or raw materials carried over	18
GDP	Sum total of gross value added of all firms in the domestic economy = C + I + G + X – M = W + P + In + R	20, 22, 23
GNP	GDP + Net Factor Income from Abroad	25
NNP at market prices	GNP – Depreciation	25
National Income (NNP at factor cost)	NNP at market prices – (Indirect taxes – Subsidies)	25–26
Personal Income (PI)	NI – Undistributed Profits – Net interest payments by households – Corporate Tax + Transfer payments	26
Personal Disposable Income (PDI)	PI – Personal tax payments – Non-tax payments	26
Net Indirect Taxes	Indirect Taxes – Subsidies	25
Factor cost	Payment to factors of production, excluding any tax	24
Basic prices	Factor cost + Net production taxes	24–25
Market prices	Basic prices + Net product taxes	24–25
Nominal GDP	GDP at current prevailing prices	29
Real GDP	GDP at constant (base-year) prices	29
GDP Deflator	Nominal GDP ÷ Real GDP	29
CPI	Index of base-year-basket cost: (current-year cost ÷ base-year cost) × 100	30
WPI	Wholesale Price Index (Producer Price Index in USA)	30
Externality	Benefit (or harm) one party imposes on another for which no payment/penalty exists	31

2.3 Diagrams / processes to remember

- **Fig. 2.1 Circular flow of income** (p. 15): two-sector model with two markets — goods and services market (top arrows) and factor market (bottom arrows). Points A (expenditure method), B (product method) and C (income method) are the three measurement points; all three flows are equal.

- **Table 2.1 Wheat–Baker value added** (p. 17): farmer produces Rs 100 (no intermediate goods, value added Rs 100); baker produces Rs 200 with Rs 50 of intermediate wheat (value added Rs 150); total VA = Rs 250.
- **Fig. 2.2 GDP by three methods** (p. 23): pictorial identity GDP ≡ Σ GVA_i ≡ C + I + G + X − M ≡ W + P + In + R.
- **Tables 2.2 & 2.3 Firms A & B example** (p. 23): GDP = Rs 200 by all three methods.
- **Fig. 2.3 Sub-categories of aggregate income** (p. 26): step-down ladder from GDP → GNP (+ NFIA) → NNP at market price (– D) → NI / NNP at FC (– ID + Sub) → PI (– UP – NIH – CT + TrH) → PDI (– PTP – NP).
- **Table 2.4 Basic National Income Aggregates** (pp. 27–28): GDPMP, GDPFC, NDPMP, NDPFC, GNPMP, GNPFC, NNPMP, NNPFC/NI, GVA at MP/basic/factor cost — formulas for each.

2.4 Common confusions / NTA trap points

- **"Investment" in economics ≠ buying shares/property/insurance.** Investment = capital formation (addition to capital stock) (NCERT §2.1, footnote 1, p. 12).
- **Same good can be final or intermediate** depending on use: tea leaves at home = final consumption; tea leaves in a restaurant = intermediate (NCERT §2.1, p. 10).
- **GDP deflator vs CPI**: CPI uses constant basket weights; GDP deflator weights vary with production. CPI includes imports; GDP deflator does not (NCERT §2.4, p. 30).
- **GNP vs GDP direction of adjustment**: GNP = GDP **+** NFIA (not minus). Foreigners' earnings inside India are deducted; Indians' earnings abroad are added.
- **Factor cost vs market price**: Market price = Factor cost + Net Indirect Taxes. CSO's January 2015 revision shifted the headline measure from GDP at factor cost to GDP at market prices and GVA at basic prices (NCERT §2.2.4, p. 24).
- **Inventory is capital and a stock; change in inventory is investment and a flow.** Both unplanned accumulation and decumulation get counted as investment (NCERT §2.2.1, p. 19).

🎯 Practice MCQs

Q1. Which of the following is correctly defined as a "final good"?

A. A good that is purchased by a firm to be used as raw material in production

B. A good that is meant for final use and will not pass through any more stages of production or transformation

C. A good that has a long life and undergoes wear and tear

D. A good that is used to maintain the existing stock of capital

Q2. Tea leaves purchased by a household for home use are treated as a final good, but the same tea leaves purchased by a restaurant are treated as an intermediate good. This illustrates that:

A. The nature of the good alone determines whether it is a final good

B. Households always consume final goods while firms always consume intermediate goods

C. It is the economic nature of the use, and not the nature of the good itself, that decides whether a good is final or intermediate

D. Tea leaves are always an intermediate good

Q3. Net Investment in an economy is best defined as:

A. Gross Investment + Depreciation

B. Gross Investment – Depreciation

C. Total value of capital goods produced during the year

D. Total stock of capital at the end of the year

PYQ Alignment

National Income Accounting is the single highest-yielding chapter from the CUET Economics 309 syllabus and routinely contributes 6–10 of the section's MCQs each year. Past CUET papers have repeatedly tested (i) the three identities of GDP and identification of components, (ii) numerical conversions between GDP, GNP, NDP, NNP, NI, PI and PDI using NCERT-style data, (iii) GDP deflator and CPI numericals, (iv) classification questions on final/intermediate goods, stocks/flows, and gross/net investment, and (v) statement-based questions on why GDP is a poor welfare indicator.

CUET 2024 — Actual PYQs from this chapter

Q.8 (CUET 2024) If there is no government and no foreign trade, then:

- A) G = T = M = X > 1 B) G = T = M = X = 1 C) G = T = M = X = 0 D) G = T = M = X < 1 Tests: Closed economy without government - circular flow simplification Answer: Not in extracted key

Q.9 (CUET 2024) Nominal GDP = $1100 and Real GDP = $1000. Find GDP deflator.

- A) 0.9 B) 1.1 C) 1 D) 0.8 Tests: GDP deflator (Nominal/Real GDP) Answer: Not in extracted key

Q.10 (CUET 2024) Identify correct statements: (A) Stocks are defined over a period of time. (B) Flows are defined over a period of time. (C) Flows are defined at a particular point of time. (D) Stocks are defined at a particular point of time. (E) GVA at factor cost + Indirect taxes – Subsidies = GVA at market price. Options:

- A) A, C and E B) B, C and D C) B, D and E D) C, D and E Tests: Stocks vs flows; GVA at factor cost to market price Answer: Not in extracted key

Q.35 (CUET 2024) When there is an unexpected rise in sales:

- A) Aggregate demand declines B) There will be unplanned accumulation of inventories C) There will be unplanned decumulation of inventories D) Normal profit becomes lower Tests: Unplanned inventory accumulation Answer: Not in extracted key

Q.38 (CUET 2024) Identify the correct statement regarding Circular Flow of Income in a two-sector economy:

- A) Household receives factor services from firms B) Household invests while firms save C) Firms produce goods and services D) Household supplies factor services to government Tests: Circular flow of income - two-sector economy Answer: Not in extracted key