

**Module Three: Linking Economic Censuses and surveys with
key national accounts aggregates**



Session 3.1 to 3.3: Production Account and Generation of Income Account

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Support 2008 SNA Implementation
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Contents

- Economic Assets
- Economic Flows
- Transactions
- Production, Primary Income, Property Income
- Valuation of Transactions
- Expenditure – final use
- Main Identities and Sequence of Accounts

Economic Assets

Economic Assets

Resources for Production

Provide human labour and entrepreneurship for production of goods and services.

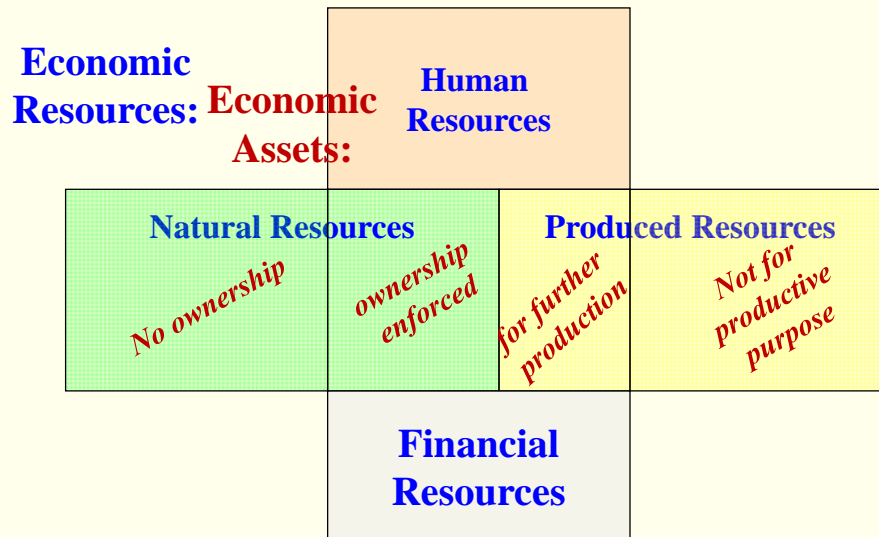
Consist of means (like land, water, air, etc) and basic materials for production (like trees, minerals, biota & fauna)

human-made means of production such as machinery, equipment, buildings, roads/ bridges, livestock, inventory of goods, etc.

For most financial assets, there is a corresponding liability

Economic Assets

Economic Resources & Economic Assets



Economic Assets



Some Questions

- Are
eco
- Q 1. Finished goods held in the stock are produced assets. When they are sold in market the company gets economic benefits.
 - Q 2. NOT an economic asset. Durable goods held by the households for consumption are not treated as economic assets, since no economic benefit is derived from them.
 - Q 3. Produced assets – provides economic benefit to the restaurant.
 - Q 4. NOT economic assets –no one owns them.
 - Q 5. Financial asset.
 - Q 6. Produced asset.
 - Q 7. NOT economic assets –no economic benefit.
 - Q 8. Non-produced natural assets – owned by the government.

Economic Assets

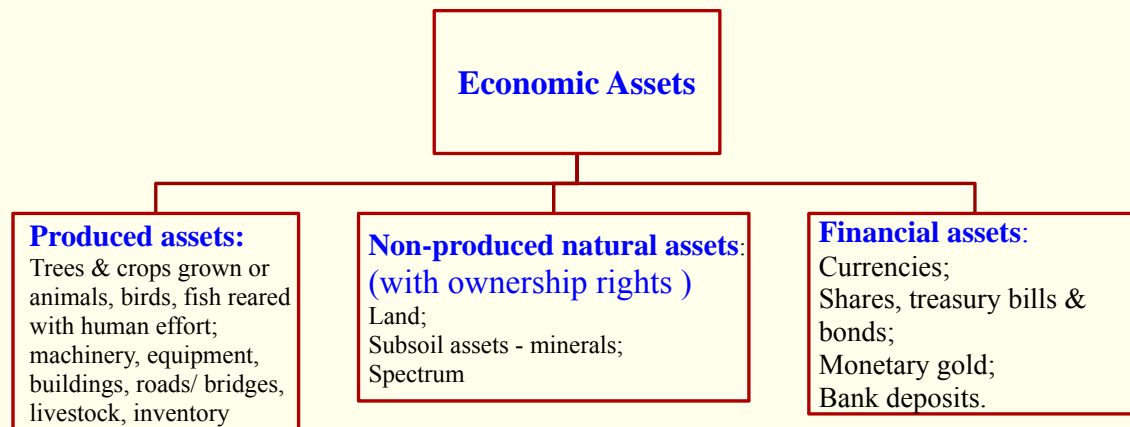
Economic Assets - Definition

Economic assets are store of value (money value or *exchange value*)

- over which ownership rights are enforced, individually or collectively (like by government or community) and
- from which economic benefits can be derived by holding it or using it in a production process.

Economic Assets

Economic Assets - Classification



Economic Assets

Household durables - Excluded

- Goods held for consumption
 - like stock of food, clothing and
 - household durables » **refrigerators, furniture and automobiles**by the households are NOT treated as economic assets in the SNA.
- Well-defined ownership but not used for *productive purposes*.
- Thus, NO *economic benefit* » NOT *economic asset*

Economic Flows

Economic Flows

All that bring about changes in the volume of economic assets are defined as *economic flows* in the SNA.

Examples:

- sale & purchase of goods & services
- production of goods and services
- payment of taxes
- payments & receipts of transfers
- destruction of economic assets by natural or human-made calamities
- increase in value of an asset caused by holding it over time.



Some Questions – Economic flows

State whether TRUE or FALSE.

1. Destruction of property by calamity is NOT economic flow. **Q 1. FALSE**
2. Price appreciation of real estate property is economic flow. **Q 2. TRUE**
3. Donations to charitable organisations is NOT transaction. **Q 3. FALSE**
4. Discovery of mineral deposit is NOT transaction. **Q 4. FALSE**
5. Addition to stock of finished products is transaction. **Q 5. TRUE**
6. Purchase of precious stones is transaction of capital nature. **Q 6. TRUE**
7. Drawing water from river for irrigating land is not a transaction. **Q 7. FALSE**
8. Values of non-monetary transactions are not observable. **Q 8. TRUE**

Economic Flows

Economic Flows - classification

all kinds of production activities

An economic flow reflects

- creation, transformation, exchange, transfer or
- extinction or emergence of economic value or
- change in composition or value of stock of economic assets/liabilities.

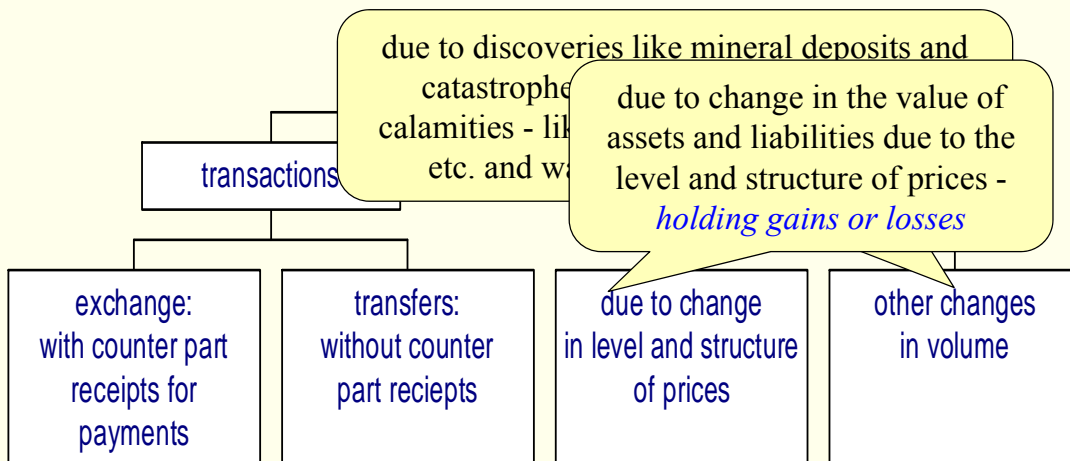
Examples: donations, contributions, social benefits, and income taxes.

- The flows in category (a) are called **transactions**;
- those in category (b) **'volume change'** and
- those in category (c) are caused by **'changes in level and structure of prices'**

all sales and purchases of goods & services as well as financial assets

Economic Flows

Economic Flows - classification



Transactions

Transactions

Transactions - Definition

- A **transaction** is an economic flow that involves interaction
 - between institutional units by **mutual agreement** or
 - an action within an institutional unit that is analytically useful to treat like a transaction, often because the unit is **operating in two different capacities** (2008 SNA, para 3.7).
- In other words, transactions involve interaction by mutual agreement for exchange of goods & services of economic value and financial assets between institutional units or within institutional unit operating in different capacities.

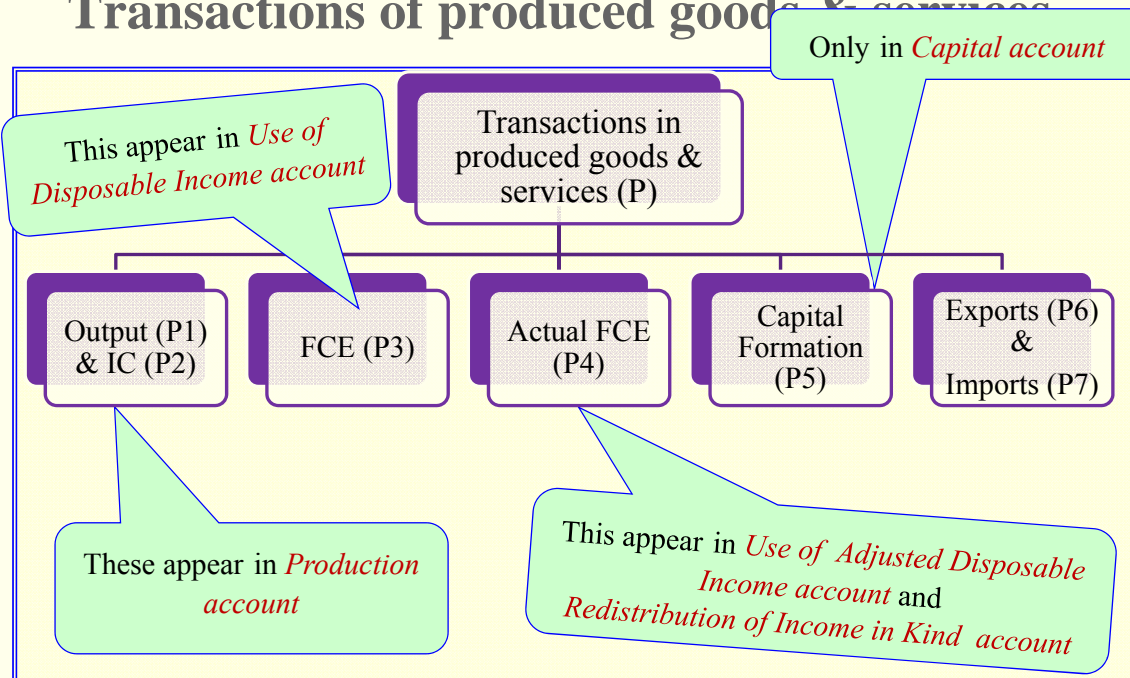
Transactions

Types of transactions

- **Transaction in goods and services:** Transactions in goods and services or products. Two kinds: transactions in
 - Produced goods and services or products [P codes]
 - Non-produced assets [NP codes]
- **Distributive transactions** [D codes]: Two kinds:
 - Distribution of income generated in production of goods & services [D1 – D4 codes]
 - Transfers [D5 – D9 codes]
- **Transactions in financial assets and liabilities** [F codes]: net acquisition of assets and net incurrence of liabilities.

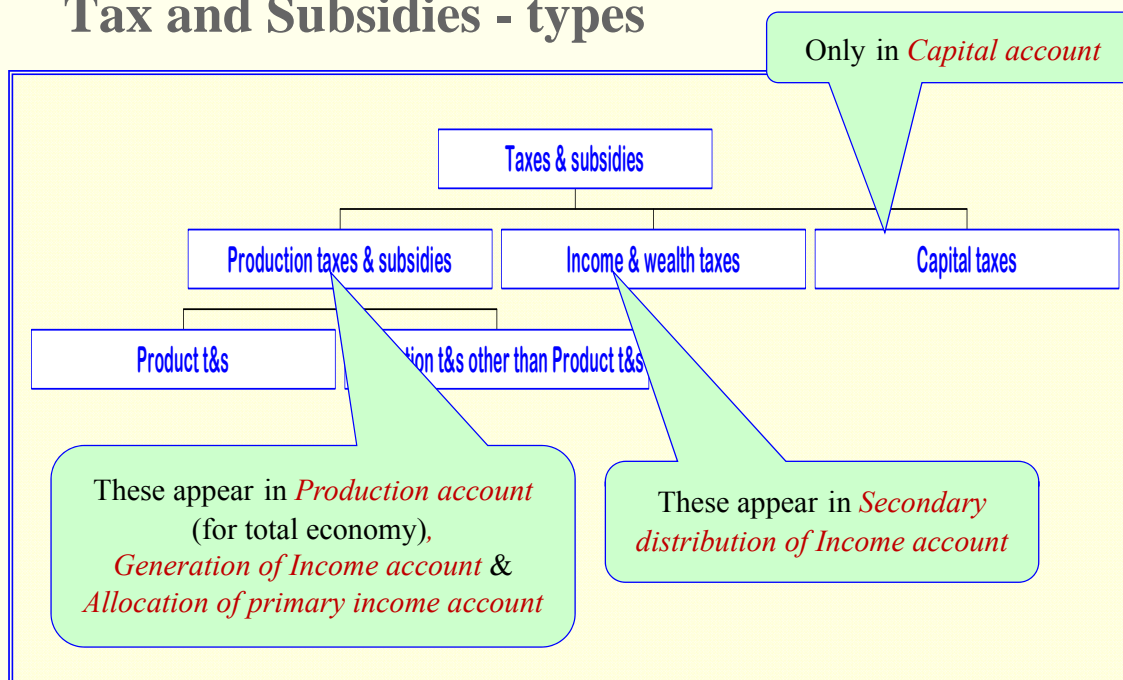
Transaction

Transactions of produced goods & services



Transaction

Tax and Subsidies - types



Transaction

Production Taxes & Subsidies

- **Product taxes & subsidies:** payable / receivable by the enterprises per unit of goods & services produced
 - like excise, sales tax, product subsidies and value added tax (VAT).
- **Other taxes and subsidies on production:** All other taxes / subsidies except those on products that the enterprises pay / receive for engaging in production
 - like payroll taxes / subsidies, taxes on land & building, business licenses, pollution tax and pollution control subsidies.



Transaction

A few Questions

Which of the following are considered as transactions? If yes, whether transfer or exchange?

- a) Picking co-passengers pocket
- b) Production of crops
- c) Payment of income tax
- d) Sale of smuggled goods
- e) Entire payment of non-life insurance
- f) Payment made after losing a bet
- g) Hiring services of a professional murderer to kill one's rival

Production

Production

Production Boundary of 2008 SNA

includes:

production of all individual or collective goods or services that are supplied to units or intended to be so supplied

Own-account production of all goods that are retained by their producers for their own final consumption or capital formation

Own-account production of the following services by households and corporate sectors:

- housing services by owner-occupiers (ownership of dwellings)
- domestic and personal services produced by employing paid domestic staff
- services that produces intellectual property products for own-account capital formation.

Intellectual property products are results of research & development activities or innovations and artistic endeavours.

Examples:

results of research and development, mineral exploration and evaluation, computer software and databases, and entertainment, literary or artistic originals.



Some Questions – Production Boundary

Note down your answers for each question before proceeding.

State whether the following are in the production boundary.

1. Free education services provided by government & NPISHs **Q 1. Yes**
2. Banking services not explicitly charged for – like FISIM. **Q 2. Yes**
3. Activity of picking pocket. **Q 3. No, it is NOT a transaction.**
4. Services of owner-occupied dwellings **Q 4. Yes**
5. Earning from gambling **Q 5. No, it is transfer.**
6. Smuggling. **Q 6. Yes, it is illegal trading.**
7. Teaching ones own children at home. **Q 7. No, service within household.**
8. Making dress for the children in the household. **Q 8. Yes, dress making is production of goods.**

Production

Value Added – *the measure of production*

- *Gross Value Added (GVA)* is defined as the *gross value of output (GVO)* minus the value of goods & services used as *intermediate consumption (IC)* to produce the output.

$$GVA = GVO - IC$$

- The value of goods & services produced in an economy is measured as the sum of *GVA*s of **all resident production units** of the economy.

$$GDP = \sum GVA$$

- Value added in net terms, the *Net Value Added (NVA)*, is the measure of production of an enterprise.

$$NVA = GVA - CFC.$$

Production

Factor Compensation

Services provided by these *factors of production* are called *factor services*.

The payments made for use of factor services by the enterprises are called *factor payment* or *factor compensations*.

Factor of production	Factor payment / compensation
Labour	Compensation of employees (CE)
Land & natural resources	Rent
Capital	Interest
entrepreneurship	Profit
Mixed Income	(CE + profit + interest + rent) for the (own-account) household enterprises.

Production and Production Process

Rent and Rentals

Both are payment for getting users rights on non-financial assets:

Rent for use of non-produced non-financial assets

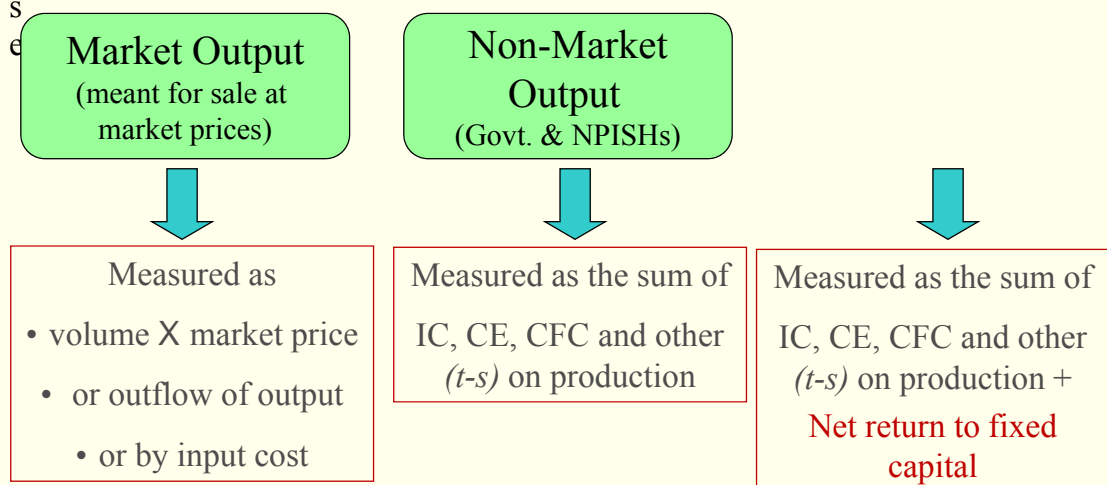
Examples: rent on land and other natural resources, payment made to the government by a mobile phone company for spectrum rights etc.

Rental for use of produced non-financial assets.

Examples: rental for building, machinery, transport equipment, artistic originals, patents, etc.

Production

Measuring Different Kinds of Output





Production Boundary

Two more questions

Question 1:

Other things remaining the same, when a bachelor marries his lady cook,
GDP (increases / decreases / remains the same)

Answer to Question 1: decreases [because services provided by a hired cook is in the production boundary, while services provided by household members are not]

Question 2:

Other things remaining the same, when a spinster living in a rented dwelling marries the landlord, GDP (increases / decreases / remains the same)

Answer to Question 2: remains the same [because housing services provided by dwelling units – whether owned or rented - are always included in the production boundary]

Measuring Output

Recording of Output

Output is recorded if the goods and services being produced

- are **provided** (sold or given free) to other institutional units
- are used for **capital formation** of the same establishment;
- enter **inventories**
 - even if eventually are withdrawn from inventories for use as intermediate consumption in the same establishment in a later period;

Measuring Output

Recording of Output (*contd.*)

Output is recorded if the goods and services being produced

- by a household unincorporated enterprise (growing maize, for example) are used for the **household's own consumption**;
- remain unfinished (**work-in-progress**) at the end of the accounting period - recorded as being produced and entering inventories.

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Measuring Output

Disposal of Output

Output of an enterprise is disposed of in the following three ways:

- **Sales** - Sale of goods and services for cash, credit, or barter
- **Change in inventory (CII)** - addition/reduction to inventory of finished goods, goods in process, or goods for resale
($CII = \text{closing inventory} - \text{opening inventory}$)
- **Own final use** - goods and services used for own final consumption and own capital formation

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Measuring Intermediate Consumption

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Measuring *IC*

Intermediate Consumption (*IC*)

- *IC* is recorded when it is actually used in the process of production.
- Thus, the entire purchase of raw materials is not always included in *IC*.
- *IC* of raw materials is measured as:
purchases *less CII* of raw materials.

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IC in Goods for Processing

When goods are sent for processing from a unit *A* to unit *B*

- *IC* of *B* does NOT include ‘goods received for processing’,
- but, *IC* of *A* includes ‘goods sent for processing’.

R&D and Mineral Exploration

- The output of mineral exploration and R&D activities are capitalised, i.e. treated as capital formation.
- The output of such activities are mostly valued at cost.
- Thus, expenditures on goods & non-factor services for own-account capital formation, such as
 - mineral exploration,
 - R&D and
 - constructions for own useare included in *IC*, *GVO* and *GFCF*.

Military Inventories

- Military weapon systems are classified as fixed assets.
- Single-use items, such as ammunition, missiles, rockets, bombs, etc., are treated as military inventories
- These form part of *IC* when put to use.

FISIM in Production Account

- *FISIM* is the output of financial intermediation activities of financial institutions.
- The *FISIM* produced by the financial institutions is consumed by non-financial institutional units
 - either as *IC*
 - or as final consumption.
- The use of *FISIM* is not observable – no survey data can give an estimate of this.
- *FISIM* is first estimated as output of the financial institutions and allocated to households and enterprises as their use as *IC* and final use.

Measuring IC

Allocation of FISIM

FISIM allocation		GVA by Industry – Adjusted for FISIM			
Industry	IC	Industry	GVO_{bp}	IC	GVA_{bp}
Agriculture	5	Agriculture		72	
Mining	7	Mining		29	
Manufacturing		Manufacturing			
Construction		Construction			
....				
Financial intermediation	0	Financial intermediation	FISIM (say = 127)		
.....				
.....				
Personal services		Personal services			
TOTAL	77	TOTAL			

Next, FISIM allocated to IC is allocated to different sectors

FISIM is first distributed into IC and final consumption

IC (= 77 say) and final consumption (= 50 say)

Allocated FISIM is added to IC of respective sectors

Measuring IC

Rearranged Transaction in SNA

- In the SNA, often a single monetary transaction taking place between institutional units is decomposed to more than one transactions.
 - The values of these re-arrangements help in presenting the values of transactions according to the SNA framework and affect the channels through which the transactions are seen as taking place, the number of transactions that are seen as taking place, or the units that are seen as being involved.
 - Three types of re-arrangements are often involved:
 - partial re-arrangement
 - rerouting
 - reallocation
- often involve a component of IC.



Some Questions

State whether TRUE or FALSE.

1. Expenditure on user rights of non-produced resources is not included in *IC*. **Q 1. TRUE**
2. Military expenditures on purchase of weapons systems is included in *IC*. **Q 2. FALSE**
3. Expenditures on mineral exploration, *R&D* and all other own-account capital formation valued at cost are included in *IC*, *GVO* and *GFCF*. **Q 3. TRUE**
4. For an enterprise, the SNA interest is included in property payment and FISIM in *IC*. **Q 4. TRUE**
5. Employers' social contributions are included in *IC*. **Q 5. FALSE**
6. Employees' stock option is included in *CE*. **Q 6. TRUE**

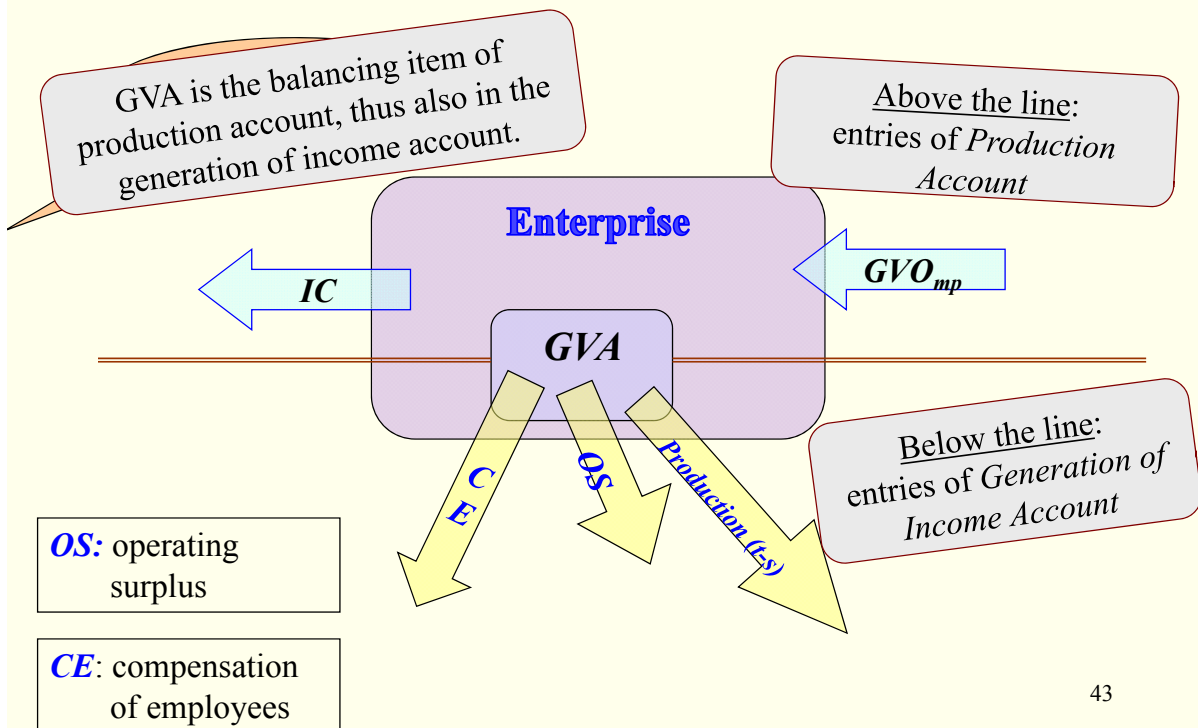
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Production and Production Process

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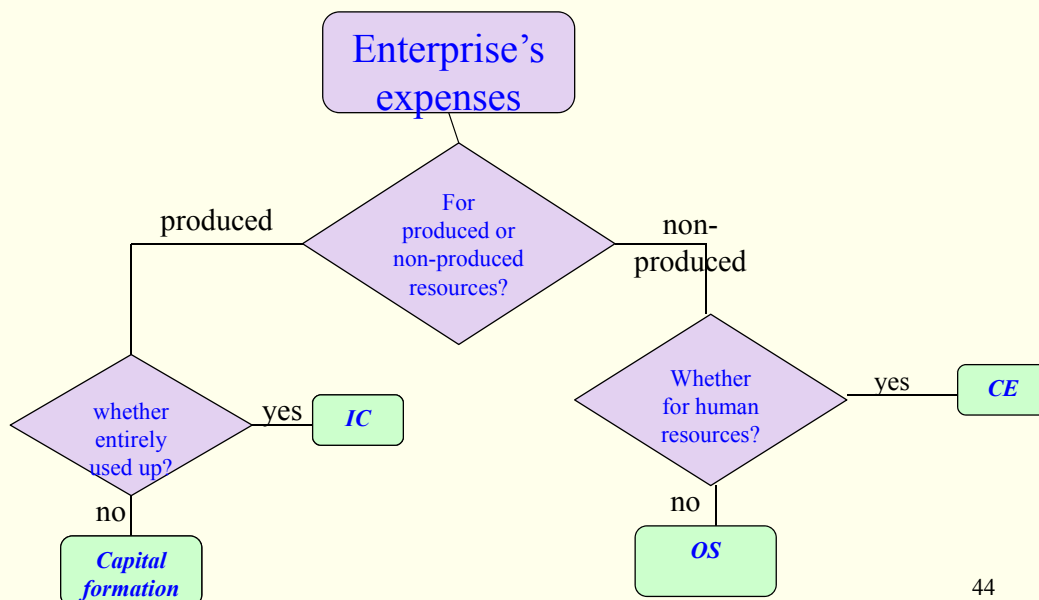
Production and Production Process

Production Process and Accounts



Production and Production Process

IC or CE or OS? – A Simple rule



Production and Production Process



State whether *IC* or *OS* or *CE* or tax

1. A company's expenses for security guards
 - a. on the company's employment role Q 1a. *CE*
 - b. provided by another company Q 1b. *IC*
 - c. employed through an agent Q 1c. *CE*
2. Company expenses for hired office space. Q 2. *IC*
3. Company's payment to government for land lease. Q 3. *OS*
4. A liquor shop's payment to government for annual permit. Q 4. *tax*
5. Payment to a worker for meeting business travel expenses. Q 5. *IC*
6. Payment made for distribution rights for a period of time by film distributor to the producer of the film. Q 6. *IC*

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Production Account and Generation of Income Account

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Applicability

Production account: records all the production-related flows, other than income generated.

Generation of Income account: records the flows like payment of compensation of employees, operating surplus and mixed income.

These two accounts can be compiled for

- individual production units like individual establishments
- or a group of establishments
- as well as institutional sectors and the total economy.

Underlying Identities

For total economy

Production account:

$$GDP_{mp} \equiv GVO_{bp} - IC + \text{product } (t-s) + (t-s) \text{ on imports.}$$

Generation of Income account:

$$GDP_{mp} \equiv (CE + OS \& MI) \text{ generated in resident enterprises} \\ + \text{production } (t-s) + (t-s) \text{ on imports.}$$

Production and Income Generation Accounts

Accounts Structure

Uses		Resources	
Production Account			
Intermediate consumption	GVO_{bp}	Market output (at basic price)	
		For own use	
		Non-market	
		(t-s) on products & import duties	
B.1g GDP			
CFC			
B.n1 NDP			
Generation of Income Account			
		B.1g GDP	
		B.1n NDP	
Compensation of employees			
Product & import (t-s)			
Other Production (t-s)			
B.2g & B.3g OS+MI (gross)			
B.2n & B.3n OS+MI (net)			

Usually, product & import taxes less subsidies are shown only in the accounts of the Rest of the economy.

Thus, product & import taxes less subsidies are shown here only for the total economy.

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Production and Income Generation Accounts

For Household & Corporate Sectors

Uses		Resources	
Production Account			
Intermediate consumption	GVO_{bp}	Market output (at basic price)	
		For own use	
		Non-market	0
		(t-s) on products & import duties	
B.1g GDP			
CFC			
B.n1 NDP			
Generation of Income Account			
		B.1g GDP	
		B.1n NDP	
Other Production (t-s)			
B.2g & B.3g OS+MI (gross)			
B.2n & B.3n OS+MI (net)			

This is by definition zero.

Expenses on materials for production for own use are included in both the accounts.

MI for household enterprises & only OS for ownership of dwellings

Only OS for corporate sector

Usually not presented

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Production and Income Generation Accounts

For General

This is by definition zero.
The revenue earned by the government or NPISHs from sale of goods & services at nominal prices is NOT included.

Production Account		Resources	
	Intermediate consumption	GVO_{bp}	
		Market output (at basic price)	0
		For own use	
		Non-market	
		(<i>t-s</i>) on products & import duties	
	B.1g GDP		
	CFC		
	B.n1 NDP		
Generation of Income Account			
		B.1g GDP	
		B.1n NDP	
	Compensation of employees		
	Net import (<i>t-s</i>)		
	Other Production (<i>t-s</i>)		
	B.2g OS (gross)		
0	B.2n OS (net)		

This is by definition zero

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Production and Income Generation Accounts

Why is **OS (net)** zero for general government and NPISHs?

General government and NPISHs do NOT carry out market production.

Both non-market output and output 'for own use' for general government and NPISHs are valued at cost as follows:

$$GVO = IC + CE + CFC + \text{other production } (t-s).$$

Thus, the resources-side of generation of income account is

$$GVA = CE + CFC + \text{other production } (t-s)$$

and uses-side consists of **CE** and **other production (*t-s*)**

As a result, the balancing item (in net terms) – **OS (net)** – is zero.

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Production and Income Generation Accounts



State whether TRUE or FALSE.

1. Usually, product & import taxes less subsidies are shown ONLY in the accounts of the total economy. **Q 1. TRUE**
2. Production account for a segment of the economy provide GVA at basic prices **Q 2. TRUE**
3. Cost of raw materials for market production is included in one of the entries of the generation of income account **Q 3. FALSE**
4. *CE* is recorded in production account. **Q 4. FALSE**
5. Cost of materials for R&D activities (for own use) are included in both the resources and uses sides of production account. **Q 5. TRUE**
6. Production and generation of income account can be compiled for industrial sectors (by ISIC). **Q 6. TRUE**

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Thanks