# Foundational Economic Statistics

# Module 3

# Concepts and definitions of the System of National Accounts

**Objective:** To elaborate the concepts and definitions those underpin the SNA and other economic statistics. It gives further details on the module that provides an overview of macroeconomic statistics. Specifically, the module elaborates the concepts relating to the SNA framework of measuring economic activities introduced briefly in Module 2 (Overview of Economic Statistics) and gives further details of the underlying rationales and recommendations. Moreover, it includes the exact definitions of the related terms and how are they related to each other. The common rules and recommendations underlying the collection and presentation of national accounts are discussed in latter modules.

**Learning Activities:** The reading material of the module is organised in FOUR different sessions. Each session requires about an hour to complete. In addition, each session has a number of exercises that you should try after reading the material. There are also a set of end-module exercises that you should attempt after completing the module to test your understanding of the core concepts of the 2008 SNA.

**Acronyms**

|  |  |
| --- | --- |
| Acronym | English term |
| *CE* | Compensation of employees |
| *CFC* | Consumption of Fixed Capital |
| *CII* | Change in Inventories |
| *FCE* | Final Consumption Expenditure |
| *GCF* | Gross Capital Formation |
| *GDCF* | Gross Domestic Capital Formation |
| *GDP* | Gross Domestic Product |
| *GFCE* | Government Final Consumption Expenditure |
| *GFCF* | Gross Fixed Capital Formation |
| *GNDI* | Gross National Disposable Income |
| *GNI* | Gross National Income |
| *GVA* | Gross Value Added |
| *GVO* | Gross Value of Output |
| *HFCE* | Household Final Consumption Expenditure |
| *IC* | Intermediate Consumption |
| *IPP* | Intellectual Property Product |
| *M* | Imports |
| *MI* | Mixed Income |
| *NDP* | Net Domestic Product |
| *NNI* | Net National Income |
| *NVA* | Net Value Added |
| *NVO* | Net Value of Output |
| *NPI* | Non-Profit Institution |
| *NPISH* | Non-Profit Institution Serving Households |
| *OS* | Operating Surplus |
| *PFCE* | Private Final Consumption Expenditure |
| *PI* | Property Income |
| *RoW* | Rest of the World |
| *SNA* | System of National Accounts |
| *TTM* | Trade & Transport Margin |
| *(t-s)* | taxes *minus* subsidies |
| *VAT* | Value Added Tax |
| *X* | Exports |
| *Subscripts* |  |
| *bp* | *at basic prices* |
| *purp* | *at purchasers’ prices* |
| *mp* | *at market prices* |

# Concepts and definitions of the System of National Accounts - Session I

## **Introduction to macro-economic framework**

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Please recall from Module 2 that various economic agents, or transactors in an economy produce, consume and accumulate goods and services. They carry out these activities using available resources – land and other natural resources, labour, man-made capital, entrepreneurial ability and other goods and services.

Balanced ‘circular flow of money’ is the core idea on which the theory of macroeconomics is founded. This leads to the fundamental relationship in macroeconomic:

Production (***Y***) ≡ Consumption (***C***) + Investment (***I***)

‘Investment’ in the above identity represents accumulation.

National income of an economy represents the total income earned by those residing in the economy during an accounting period – usually one year. The residents mostly earn their income from the production processes in which they participate. Participation in production process may simply be by

* providing labour or
* making available the assets

required for carrying out production. As we will presently see, the income generated through the process of production carried out in a closed economy is equal to the value of production (***Y***) of the economy. [A closed economy is one that has no economic dealings with other economies.]

Income earned by the residents from participation in the production process is, in turn, spent on purchasing the goods and services produced in the economy. A part of the income earned is spent on consumption of goods and services (***C***) produced in the economy, and the rest is saved. The savings made by the individuals are in turn utilised by production units (either directly or through banks) for making investments (***I***) for further production. These are used for financing the expenditures made by the production units for acquiring physical assets like plants & machinery, building & constructions and transport equipment, which are used for further production. Thus, we have the fundamental identity of macro-economics. The concepts of the System of National Accounts (SNA) are based on the macro-economic framework, which is built on this identity.

First, let’s understand what ‘production of an economy’ actually means and how is it measured in national accounting.

**3.1 Measuring Production**

Recall that, among all the economic statistics by a national statistical office, *Gross Domestic Product* (GDP) is the most important one. It is the measure of production of an economy. In general terms, production may be described as an activity in which an individual or a group of individuals uses inputs to produce outputs. Thus, purely natural process, for example, the unmanaged growth of fish stocks in the international waters is not production, whereas the activity of fish farming is production. In other words, there is no production without human involvement.

To illustrate what is production and how its value can be measured, let’s look at an imagined island country called *Monojima*.

*Example 1*: Measuring Production in *Monojima*

There were only 5 households – **A**, **B**, **C**, **D** & **E** – residing in *Monojima* in 2010, who had no interaction with the outside world. The residents used the local currency called *Cowry* but there was no government.

Production activities carried out by the 5 households were as follows.

**A** had a solar panel that produced electricity worth 120 *Cowries*. It sold electricity worth 90 *Cowries* to other households; used for its own boat-repairing business 10 *Cowries* and the rest (20 *Cowries*) for own consumption. It also received 25 *Cowries* from family **B** for the boat repair services.

Family **B**, a fisherman household, sold fish worth 70 *Cowries* to family **A** and 130 to the other households and consumed fish worth 50 in its own family.

Family **C** produced wheat of 420 *Cowries* and sold the entire amount to **D**, spending 10 *Cowries* on electricity (from **A**) for wheat farming.

Family **D** produced flour of 660 *Cowries* and sold the entire amount to **E**, spending 20 *Cowries* on electricity (from **A**) for running the flour mill.

Family **E** produced bread worth 1090 *Cowries*, spending 15 *Cowries* on electricity. It sold bread worth 800 *Cowries* (from **A**) and rest was used for consumption of his own family.

First let’s look at the production activities of households **C**, **D** & **E**. The question is what is the value of output of the households **C**, **D** & **E** taken together?

The sum of outputs of the three households works out to be 2170 *Cowries*. Is 2170 the value of output of the three households taken together?

In 2170 *Cowries*, the value of flour consumed (660 *Cowries*) for making bread is included. Again, the value of flour produced – 660 *Cowries* – includes the value of wheat (420 *Cowries*). To take 2170 *Cowries* as the value of production by the three households will amount to double counting. For each of the three households, measuring value of “production” requires netting out of the value of goods and services (produced by other households) consumed in the process of production from the value of its output.

|  |  |  |
| --- | --- | --- |
| **Family** | **Produced** | **Value of output**  **(***Cowries***)** |
| **C** | Wheat | 420 |
| **D** | Flour | 660 |
| **E** | Bread | 1090 |
| **C, D & E** | **total** | **2170** |

All the three households had purchased electricity from **A** for carrying out their production activities. Since the value of electricity produced has to be included in the output of family **A**, the value of electricity used by the three households **C**, **D** & **E** should also be netted out to avoid double counting. Thus, the family **D** added value worth (660 – 420 – 20 =) 220 *Cowries* by producing flour to the value of wheat produced by family **C**. Similarly, the family **E**’s value of production (of bread) would be (1,090 – 660 – 15 =) 415 *Cowries* and that of family **C** (420 – 10 =) 410 *Cowries*. The value of production by the households **C**, **D** & **E** taken together would be 1045 (and not 2170).

Similarly the value of production by

family **A** would be (120 + 25) – 10 = 135

family **B** would be 250 – 25 = 225

[The value of production by an individual production unit thus arrived at is called (gross) value added. The term ‘gross’ will be explained later in this session.]

The value of production carried out by the production units (in this case 5 households) is given by the sum of value added by individual units.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Family** | **Produced** | **Value** (Cowries) | | |
| **output** | **Input** | **Value added** |
| **A** | Electricity & repairs | 120 + 25 = 145 | 10 | 135 |
| **B** | Fishing | 250 | 25 | 225 |
| **C** | Wheat | 420 | 10 | 410 |
| **D** | Flour | 660 | 420 + 20 = 440 | 220 |
| **E** | Bread | 1090 | 660 + 15 = 675 | 415 |
| **All** | **total** | 2170 | 1125 | **1405** |

**Gross value added** (*GVA*), **gross value of output** (*GVO*) and **intermediate consumption (***IC***)**

*Value added* represents the contribution of a producing unit (or a segment of an economy) to the total production of the economy. It measures the *value* that a unit *adds* to the commodities that it uses as inputs, i.e. *intermediate consumption*.

Output is the value of goods and services produced by an establishment. The monetary value of the goods and services produced is the *gross value of output* (***GVO***). A part of the goods and services produced in an economy is used as raw materials and other inputs for production of other goods & services. This is deducted from the sum of value of outputs of enterprises to obtain the value of goods and services produced in the economy during the period. The goods & services purchased by the enterprises for using them as inputs for further production are called *intermediate consumption* (***IC***) in national accounts.

For each individual production unit, *Gross Value Added (****GVA****)* is defined as the gross value of output *minus* the value of goods & services (intermediate consumption) used to produce the output.

*GVA* = *GVO* - *IC*

This represents the value of production (in gross terms) of each production unit. The *production* of an economy, i.e. the money value of goods & services produced by the enterprises, is measured as the sum of *value added* of all the enterprises of the economy.

**Gross Domestic Product(*GDP*)**

The sum of *Gross Value Added* of all the production units is the commonly-used measure of production for an economy. This is called **Gross Domestic Product** (***GDP***).

** [*i* represents *i*th production unit and the summation is over all such units in the economy]

For *Monojima*, we have seen that the *GDP* in 2010 was 1405.

Note that the payments and receipts of rent, interest and wages & salaries do not appear in the calculation of *GDP*, we have discussed so far. These are treated as what the participating households get as income out of the production activities.

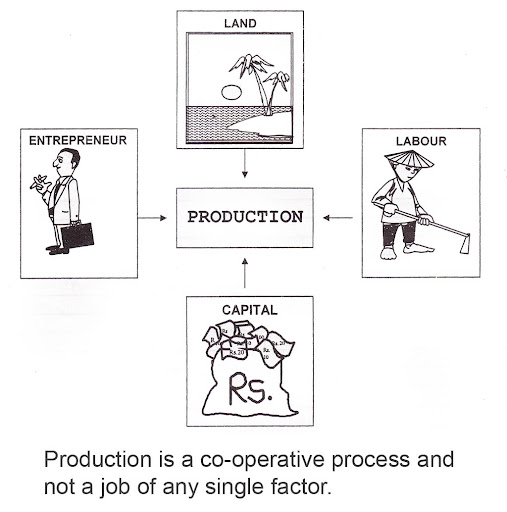
## **3.2** **Production Process**

Production processes require assets and persons to work for production of goods and services, besides the inputs. The services provided by human labour, natural assets like land and the capital (financial assets) are called *factor services* – labour, land, capital and entrepreneurship [See *Box 3.1*]

***Box 3.1***

**Factors of production**

Factors of production are the resources employed in production processes that facilitate production but do not become part of the product or become significantly transformed by the production process.



In macroeconomics, land (natural resources), [labour](http://en.wikipedia.org/wiki/Labor_(economics)), [capital](http://en.wikipedia.org/wiki/Capital_(economics)) (finance) and [entrepreneurship are](http://en.wikipedia.org/w/index.php?title=Enterprise_(economics)&action=edit&redlink=1) treated as factors of production, which are directly or indirectly owned by the households. Services provided by these factors in production process are called *factor services*.

The payments made for use of factor services by the enterprises are called *factor payment* or *factor compensations*. The total value of these payments is described as *factor incomes* generated by production, which is the *factor cost*, i.e. the cost incurred for acquiring factor services for production. However, the concept of factor cost is no longer used in valuation of production in the system of national accounts since 1993 SNA.

We have seen, all that an enterprise earns after meeting all costs of production – inputs and factor services – is the GVA of the enterprise. This is then distributed to households providing the factor services in form of *factor compensation*. [See *Box 3.2*]

***Box 3.2***

**Factor Compensations**

An enterprise, which is a legal entity like a corporate body or a company, obtains factor services (directly or indirectly) from the households for carrying out production. Payments made in return of the factor services provided by the households are called factor compensations. The enterprise distributes the earnings from production (which is value added and not the value of output – see *Box 3*) as factor compensations to those who provide the factor services.

**Factor Factor compensation**

Land (natural resources) Rent

Labour Wages & salaries (compensation of employees)

Capital Interest

Entrepreneurship Profit

(dividends to shareholders)

A part of the income generated from production also flows to the government in form of (production) taxes. The treatment of taxes in the national accounts is discussed later.

**Compensation of Employees** (***CE***) is the total remuneration in cash or in kind payable by employers to employees for the work done.

**Operating Surplus** (***OS***) is the balance or residual after all the costs, including labour costs, and (production) taxes (*less* subsidies) are deducted from the value of goods and services produced. Thus, ***gross operating surplus*** includes

* ***interest*** payable to lenders of financial assets,
* ***rent*** payable to owners of non-produced assets, such as land and sub-soil assets
* ***profit*** payable to share-holders and undistributed profits.

**Mixed Income** (***MI***)

For the unincorporated enterprises that are owned by households like proprietorship & partnerships, the owners and their family members work without wages & salaries. The earnings of the owners and family members of such enterprises are partly ***compensation for their labour*** and partly ***operating surplus***. The earnings of the owners and family members are called mixed income (***MI***). It is the balance or residual in household enterprise, after netting out

1. intermediate consumption
2. all production taxes (*less* subsidies) paid by the enterprise and
3. payments made to paid employees from the value of output.

*Example 2: Factor compensation*

1. During an accounting period, a bread-producing firm, which is a company

produced bread worth 15,000 Rials

using flour worth 10,000 Rials

paid salary of employees 1,000 Rials

and spent on electricity, fuel, and other incidentals 2,000 Rials.

Clearly, during the accounting period,

value of output 15,000 Rials value of intermediate consumption 12,000 Rials (10,000 + 2,000)

Thus, the gross value added of the company is 3,000 Rials.

Assuming payment of rent and interest to be 0, the profit and gross operating surplus of the firm is also 2,000 Rials.

1. Now, suppose the firm had to pay a rent of 500 Rials and an interest of 250 Rials during the accounting period. Its factor payments would in that case be

Paid salary of employees 1,000 Rials

Rent 500 Rials

Interest 250 Rials

Profit 1,250 Rials

GVA would still be 3,000 Rials and gross Operating surplus 2,000 Rials

1. Next, if the bakery firm had been run by an individual proprietor (an unincorporated enterprise) with no amount paid as rent and interest,

GVA will still be 3,000 Rials

Operating surplus will be  0 Rials

and Mixed income will be 2,000 Rials.

**Consumption of Fixed Capital (*CFC*)**

In the process of production, a part of the capital goods (like plants & machinery, buildings, warehouses and workshops) gets used up, which is called depreciation in business accounting. In national accounting, the term used in place of depreciation is *consumption of fixed capital* (***CFC***). [See *Box 3.3*] The net contribution of an enterprise to economy’s production is not just the difference between values of output and *IC* but is value of output minus ***IC*** net of ***CFC***. Value added in net terms, the *Net Value Added (NVA)*,is the measure of production of an enterprise.

*NVA = GVA – Consumption of fixed capital* (*CFC*)*.*

Thus,  *NDP = GDP – Consumption of fixed capital* (*CFC*)

*Example 3: Consumption of Fixed Capital (CFC)*

***Box 3.3***

**Consumption of Fixed Capital (*CFC*)**

Capital goods and services are not used up completely during an accounting period. Only a part of them is consumed in the production process. The capital stock (produced resource, i.e. human-made assets, in the form of buildings, infrastructure, machinery and equipment) undergoes wear and tear as a result of physical deterioration, normal obsolescence or normal accidental damage while being used in the production process. The value of the wear and tear of the assets used in the process of production is defined as *Consumption of Fixed Capital* (*CFC*) in the SNA. Consumption of fixed capital is the cost of fixed assets used up in production in the accounting period.

Consumption of Fixed Capital (*CFC*) is a cost of production and is calculated for all fixed assets, but not for valuables and non-produced assets (discussed later). It is valued using actual or estimated prices of fixed assets prevailing at the time the production takes place but not the prices at the time fixed asset was originally acquired.

As a general rule, for all macro-economic aggregates in the SNA, the difference between its ‘gross’ value and ‘net’ value is CFC. For example,

Net Value Added (*NVA*) = Gross Value Added (*GVA*) *minus* *CFC*

Net Domestic Product (*NDP*) = Gross Domestic Production (*GDP*) *minus* *CFC*

Net National Income (*NNI*) = Gross National Income (*GNI*) *minus* *CFC*

Net profit = *Gross profit* *minus* *CFC*

Net operating surplus = *Gross operating surplus* *minus* *CFC*

Net Savings = *Gross savings* *minus* *CFC*

Note that ‘depreciation’ in business accounting, which also represents wear & tear of fixed assets, is not acceptable in national accounting, since it is based on historical book values. In fact, *CFC* is not observable. It is mostly estimated by the national accountants using indirect methods – using models and estimates of economy’s capital stock.

Now, suppose that the CFC of machinery and equipment of the bread-producing firm in *Example 2* is 50 Rials. The value of its

NVA will be 2950 Rials (3000 – 50)

Net operating surplus will be 1950 Rials (2000 – 50)

Net profit will be 1200 Rials (1250 – 50)

*Points to note*

* *Gross Value Added (****GVA****)* is gross value of output (***GVO***) *minus* the value of goods & services (intermediate consumption, ***IC***) used to produce the output.
* *GVA* is the measure of production carried out by a production unit during an accounting period.
* The sum of *Gross Value Added* of all the production units of an economy is called Gross Domestic Product (***GDP***).
* Factors of production are not entirely used up in the production process in an accounting year.
* Services provided by factors of production are called *factor services*.
* *Factor compensations* are the amounts payable for participation of the factors in production process.
* *Factor compensations* are not included in intermediate consumption.
* Only non-factor services used in production process are included in intermediate consumption.
* *Operating surplus* is the sum of rent, interest and profit.
* Only the firms run by households (like proprietorship & partnerships) generate *mixed income*.
* A production unit cannot generate *operating surplus* and *mixed income* at the same time.
* *CFC* represents the part of the capital goods (like plants & machinery, buildings, warehouses and workshops) used up in the production process during the accounting period.
* Net contribution of a production unit to economy’s production is measured by *NVA*.
* For all macro-economic aggregates in the SNA, the difference between its ‘gross’ value and ‘net’ value is the *CFC*.
* For a company, the NVA is distributed as *compensation of employees* and *net operating surplus*, i.e. rent, interest and net profit.
* For a household enterprise, the NVA is distributed as *compensation of employees* and *net mixed income*.

## **3.3 Circular flows of income and output**

We started this session by noting that

“Income earned by the residents from participation in the production process is, in turn, spent on purchasing the goods and services produced in the economy.”

This implies that the value of production is equal to the income generated from production, which in turn is equal to the expenditure made for purchase of the goods & services produced. Let’s once again look at the example of *Monojima* to understand how the income and expenditure are equal to the value of production.

*Example 4*: Income and value of expenditure in *Monojima*

Now, it is known that the Family **A** owned all the agricultural land in the island. It received rent (on land) of 200 *Cowries* from family **C**. Family **A** also earned interest of 100 *Cowries* from family **E** for a loan given for setting up a bakery. For its own business, family **A** employed one person from family **B**, and paid him 50 *Cowries*.

Note that these payments and receipts do not appear in the calculation of *GDP*, we have discussed so far. Instead, these are treated as the income the participating households get out of the production activities.

The household undertaking the production activity gets whatever is left after all the costs – on inputs, payment of employees, payment of rent and payment of interest. This forms the entrepreneurial income of the producer household.

Incomes earned by each of the 5 households of *Monojima* are as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Family** | **wages** | **Rent/ interest** | **Entrepreneurial income** | **total** |
| **A** | 0 | 200 + 100 = 300 | 135 – 50 = 85 | 385 |
| **B** | 50 | 0 | 225 | 275 |
| **C** | 0 | 0 | 410 – 200 = 210 | 210 |
| **D** | 0 | 0 | 220 | 220 |
| **E** | 0 | 0 | 415 – 100 = 315 | 315 |
| **All** | 50 | 300 | 1055 | **1405** |

Total income of the households of *Monojima* was 1405 – same as the GDP.

Turning to expenditure, we have seen that only a part of the goods and services are ultimately consumed by the households. This is called **Final Consumption** a represents the expenditure made by the households. For *Monojima* in 2010, it was as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Family** | **Final consumption** (*Cowries*) | | | |
| Bread | Electricity | Fish | **total** |
| **A** | Purchased bread worth 800 | 20 | 70 |  |
| **B** | Purchased electricity of 90, of which that worth 45 was spent for production.  Final consumption was thus 45. | 50 |
| **C** | Purchased fish worth 130 from **B** |
| **D** |
| **E** | 290 |
| **All** | **1090** | **65** | **250** | **1405** |

The expenditure also works out to be 1405, thus establishing equivalence of production, expenditure and income.

***Circular flows in a two-sector exchange economy***

This interrelation between income, production and expenditures on consumption and investment is referred to as ‘circular flow of income and output’.

*Figure 1* illustrates the circular flows in the simplest (oversimplified) kind of an economic structure. It omits the government. It also omits external transactions like international trade. In this two-sector structure of an exchange economy, there are only households and enterprises. In this structure, if a household runs an enterprise, the household and the enterprise are treated as two separate entities. Thus, all productive activities are assumed to be carried out only in the enterprises. Households purchase all the goods and services produced by the enterprises.

***Figure 1*:**

**Basic Circular Flow in an Exchange Economy**

Two-sector Model

*Goods & services*

*Expenditure on goods & services*

*Expenditure on goods & services*

*Labour and other factor services*

**Households**

**Enterprises**

The blue lines in the diagram represent the real flows of commodities produced and factor services, and the brown lines their images in terms of monetary flow, in the reverse direction.

In this representation of economic flows, households (households in our example) provide factor services to the enterprises (production units); in return the enterprises pay factor compensations to the households, in form of wages & salaries, rent, interest and profit. The enterprises’ earnings from the sales of goods and services are distributed to households providing the factor services. The money distributed to the households providing factor services is called *factor compensation*.

The households, on the other hand, spend the income (earned as factor compensations) for purchasing the goods and services produced by the enterprises. All final goods and services are bought by households. This describes the basic circular flow in an exchange economy - the sale of factor services for factor compensations and the expenditure of money income on the goods and services produced using the factors services.

*Example 5*: *Monojima* – a different scenario

By 2018, *Monojima* underwent a structural change. By that time the number of households had increased to 20. But, there was only one enterprise that carried out all the production activities. The enterprise produced all goods – like food, clothing, houses, tractors and other machinery – and services – like education, health, housing and personal services – for the residents of the island. Households provided all the labour required and purchased whatever the enterprise had to sell. It was still a closed economy (i.e. had no overseas transactions) and had no government. In 2018, the enterprise

* was a partnership of three different households;
* sold all the goods and services produced during the year;

(capital goods like tractors & other machinery, houses, etc. were purchased by the households owning the enterprise for carrying out production in the enterprise)

* hired land from other households and paid them *rent*;
* borrowed money from other households and paid them *interest*;
* engaged workers from households and paid wages and salaries (*w&s*) to workers.

In 2018, the accounts of the enterprise showed that

* Value of goods and services sold: 15,000 cowries
* Rent paid: 1,200 cowries
* Interest paid: 900 cowries
* Wages and salaries paid: 8,900 cowries

The *value of production* (***Y***) of the economy in 2018 was clearly 15,000 cowries – the value of goods & services produced and sold by the enterprise, which was the only production unit in the economy. Materials used for production – intermediate consumption – were also produced by the enterprise itself.

The partners earned a profit of 4,000 cowries (= 15,000 – 1,200 – 900 – 8,900). The income of the other households was 11,000 cowries (the sum of rent, interest and wages & salaries received from the enterprise for the land, loans and labour provided to the enterprise). Thus, the *national* *income*, i.e. the total income of all the residents of *Monojima*, during 2018 was also 15,000 cowries – same as the *value of production* (***Y***).

Since all the goods & services – those for consumption and the capital goods – produced in the economy were sold during the period, the total expenditure of the households – *final demand aggregate* – was also 15,000 cowries. Capital goods purchased by the partner households for running the enterprise represents investment (***I***), called capital formation in the SNA. The purchase of the rest represents consumption (***C***), final consumption in the SNA, of all the resident households.

Note that, in this structure of an economy, the value of production of the economy is the national income, i.e. the income of the households, which in turn is equal to the expenditure on purchase of goods & services made by the households.

Questions that immediately arise are: “what about goods and services that are produced but not sold in the marketplace?” and “if the goods & services produced during a period remains unsold, how can production be equal to expenditure?” We will see later that these are included in *change in inventories* (*CII*), which is considered a part of capital formation – a component of aggregate expenditure – in the SNA.

*Points to note*

* In a closed economy, the value of production (net of *CFC*) is equal to the income generated from production.
* In a closed economy without a government,
  + NDP is equal to net national income.
  + NDP is equal to the expenditure made on purchase of the goods & services produced.
  + value of real flows of commodities produced and factor services are accompanied by matching monetary flows in the reverse direction.

## **3.4 Three Approaches of measuring GDP**

The circular nature of the real and monetary flows establishes the equivalence of production, income generated from domestic production and expenditure. The money that enterprises earn from production of goods & services is the same as the money that firms spend as factor payments to households (directly or through financial institutions).

Thus, GDP can be measured by any one of the following approaches:

* *production* *approach*: by summing up the GVA of all the production units in the economy
* *income* *approach*: by summing up income of all the households in the economy
* *expenditure* *approach*: by summing up all expenditure made on goods & services produced in the economy.

**End of session learning activities**

Click on the box below to open the end-session exercise file

**Module-3 Session-I – End-session Exercise**

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# Concepts and definitions of the System of National Accounts - Session II

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**3.5 Domestic economy**

The SNA is an accounting system for a national economy, i.e. the economy of a country. All its aggregates either refer to the national economy or its economic transactions with other economies. Thus, when we speak of measuring different macro-economic aggregates of an economy, it is necessary not only to have an idea of economic territory but also a clear definition of what constitutes an economy.In the SNA a national economy is referred to as ‘total economy’ and is defined as:

all institutional units residing in the economic territory of a country (during the accounting period) constitute its economy.

The definition involves three concepts: Economic territory, Residence and Institutional Units.

***Economic Territory***

The concept of **economic territory** in the SNA, in its broadest sense, is the area under the effective economic control of a single government. Economic territory of a country refers to the geographic territory administered by the government of the country within which persons, goods, and capital can circulate freely. This includes airspace, territorial waters, and continental shelf in international waters for which the country has exclusive rights; territorial enclaves (like embassies, consulates, military bases, scientific stations, and information or immigration office) located in other countries with political agreement with the host country. These are used by governments – either owned or rented them – for diplomatic, military, scientific, or other purposes with the formal agreement of governments of the territories where the land areas are physically located.

***Residence***

An institutional unit, (a household, an enterprise, a non-profit unit etc.) is treated as a resident unit of a country when it has centre of predominant economic interest in its economic territory. [The term ‘predominant’ was included in the 2008 SNA].

A unit is considered to have centre of predominant economic interest in an economic territory if it has

* a dwelling or
* a place of production activity for long or indefinite period of time, generally one year or more.

All resident units constitute the domestic economy. To have a centre of predominant economic interest in a territory is to have ownership of land or ownership of structures or to engage in production in a territory for a long period of time (at least one year). [see *Box 3.4*]

|  |  |
| --- | --- |
| ***Box 3.4*:**  **Residence criteria** | |
| **Institutional units** | **Determined by** |
| Individuals | Residence of the household of which they form part. |
| Unincorporated enterprises | If not a quasi-corporate, same residence as their owners. |
| Corporations and NPIs | Normally the country of registration or where legally constituted. Branch in a different country is treated as a quasi-corporate in the host economy. |
| 1. Owners of land, buildings & immovable structures 2. Extractors of sub-soil resources. | Deemed always to have a centre of economic interest in the country where they are located. Thus, for all land & buildings owned by non-residents, a notional resident unit (with non-financial asset and direct investment liability) is assumed. |

Recall that when we say ‘national income’ we mean the sum of incomes of the ‘resident’ institutional unit of the country. On the other hand, ‘domestic production’ represents the value of production carried out within the economic territory. In fact, it refers to the value of all goods and services produced by the resident institutional units of the country. The entrepreneurial activities of these units are normally confined within the economic territory, except for activities like shipping, airways, other cross-border transports and communications.

*Points to note*:

* Military personnel and civil servants, including diplomats employed abroad by a country, are treated as residents of the economic territory of the country that employs them.
* Students are residents of their country of origin, however long they study abroad.
* International organizations are not considered residents of any national economy, but their workers are residents of the economy in which they are expected to have their abode for at least one year.
* Owners of buildings and non-produced assets, such as land, sub-soil assets or legal constructs (leases etc.), even if they are not actually residents, are treated as residents of the economy. This is because such assets remain in the economy and serve the production activities of the economy. Transactions involving these are not treated as a part of exports or imports.
* Output of multi-national corporations (MNCs) is part of the output of the country within whose economic territory production takes place.
* Cross-border workers’ residence is determined on the basis of where the principle dwelling exists and not where the productive activity takes place.
* Long-term foreign workers – applying one year rule – are treated as residents of the country where they work.
* Diplomats and military personnel in foreign controlled bases remain residents of the home country regardless of how long they stay abroad.
* The activity of international trade, i.e. exports and imports, is by definition a transaction between a resident and a non-resident institutional unit.
* For non-financial corporations undertaking cconstruction work abroad, the site offices (subsidiary unit) is treated as non-financial corporations of the country where the work is carried out. If there is no site office, the value of construction work is treated as import/export of service.
* Mobile equipment, such as aircrafts, ships, drilling rigs and platforms, if used in international waters or airspace, the activity is attributed to the country of the operator’s residence.
* But, if such a mobile equipment is used in another country for more than 12 months, a notional quasi-corporate body is assumed with centre of predominant economic interest in that country.
* All production that take place in Special economic zones (with special custom, tax or labour regimes) is domestic in nature and units are included in the non-financial corporations sector.

## **Institutional Units**

The theoretical framework used for measuring national income is built on the premise that all economic transactions take place only through institutional units. An institutional unit is defined as an economic entity that is capable of

* owning assets,
* incurring liabilities,
* carrying out economic activities taking decisions on all aspects of economic life and
* engaging in transactions with other entities.

There are two main types of institutional units:

1. persons or group of persons in the form of households and
2. legal and social entities whose existence is recognized by law or society like

Corporations – financial and non-financial,

Non-profit institutions serving households and

Government.

Those in category (ii) are independent of persons, or other entities, that may own or control them.

### **3.5 Institutional Sectors**

In the SNA, institutional units are classified into five main categories called *institutional* sectors. The classification is based on its objectives and behaviour in the economy.

a) Non-financial corporations sector;

b) Financial corporations sector;

c) General government sector;

d) Households sector;

e) Non-profit institutions serving households (NPISH) sector.

A corporation (and Quasi Corporations) may be a *non-financial* and *financial corporation*.

***Financial and non-financial corporations***

A corporation is a legal entity recognized by laws of the nation independently of its shareholders. It is created for the purpose of producing goods and services for the market that may be a source of profit to its owners. It is collectively owned by shareholders. The Government can also be a shareholder of a company. These are variously called as corporations, incorporated enterprises, public limited companies, public corporations, private companies, joint-stock companies, limited liability companies, limited liability partnerships, etc.

These are principally engaged in the production of market goods and services, i.e. they sell their products at market prices, and driven by the objective of making profit. These can own assets and enter into contract.

The corporate sector also includes cooperatives, partnerships or single proprietorship or unincorporated enterprise that operate like a corporation (*quasi-corporation*). Unincorporated enterprises are treated as *quasi-corporations* in SNA, if these institutions keep a complete set of accounts.

Corporations and quasi-corporations are classified into non-financial and financial corporation in national accounts. Non-financial corporations provide goods and services of non-financial nature. On the other hand, financial institutions provide services related to financial instruments. They are mostly engaged in financial intermediation like banks, and insurance companies. The financial corporations sector can be divided into the following sub-sectors:

* The central bank;
* Other depository corporations/banks;
* Other financial intermediaries, such as investment banks, financial leasing
* companies, hire purchase companies and consumer credit companies;
* Financial auxiliaries, such as securities brokers and loan or insurance brokers;
* Insurance corporations and pension funds.

***Quasi-corporations***

*Quasi Corporation* is an unincorporated enterprise that functions as if it were a corporation. These are unincorporated enterprises owned by households, Government or non-resident units that behave like corporations and have complete set of accounts. The 1993 SNA (and 2008 SNA) recommends that quasi-corporate bodies should be included in the corporate sector. The withdrawals of entrepreneurial income shown in their accounts are analogous to and should be treated like the payments of dividends in case of corporations.

A full set of accounts must exist for unincorporated enterprise to be classified as a quasi-corporation. Quasi corporation is treated as a separate institutional unit from its owner. Further, as for the corporate units, in the balance sheet of a quasi Corporation,

asset = liabilities (net worth is always zero in practice).

Quasi-corporations include the following kinds of institutional units:

1. Uunincorporated enterprises owned by residents and operated like corporations.
2. Unincorporated enterprises owned by non-resident deemed to be resident institution because they engage in significant production for long period of time.
3. Cooperatives, Limited liability partnership, unincorporated enterprise owned by government, unincorporated enterprise or partnership owned by households which are operated like they are privately owned corporations, or unincorporated enterprise which belongs to institutional unit’s resident abroad: permanent branches.

***Government***

This is made up of government units, which organize and finance the provision of *non-market* goods and services, both

***Box 3.5***

**Economically significant prices**

Economically significant prices are prices that have a significant effect on the amounts that producers are willing to supply and on the amounts purchasers wish to buy. These prices normally result when:

a. The producer has an incentive to adjust supply either with the goal of making a profit in the long run or, at a minimum, covering capital and other costs; and

b. Consumers have the freedom to purchase or not purchase and make the choice on the basis of the *prices charged****.***

The implication of these in practice is that the sales normally cover the majority of the production costs. The SNA does not provide any objective criterion to define ‘majority of the production costs’. Normally, the value of output (excluding both taxes and subsidies on products) if sold at economically significant prices should at least, on an average, be half of the production costs over a sustained multiyear period.

* *individual*, such as health and education services,
* and *collective*, such as defence, police and other public administration services,

for households and community that are provided free or not at *economically* *significant prices*. [see Box 3.5]

One of the main roles of the government is about distribution and redistribution of income and wealth through taxation, and other transfers.

This sector includes central government, provincial governments or state authorities, local authorities and the social security funds. Put simply, this sector has two functions:

* production of non-market services (education, health care, defence, policing, etc.) and
* redistribution of income and wealth (taxation and providing subsidies and social benefits).

To finance the cost of these functions, general government levies taxes and social contributions. Government agencies are structured differently from the corporate sector units, since government services are not sold at market prices; they are largely free of charge. Moreover, general government agencies do not run for making an operating profit.

In the SNA, output of government services is classified as non-market production, i.e. the output is not sold at economically significant prices. The output is thus valued at cost. Moreover, almost the entire value of its output is also included in the government final consumption expenditure (*GFCE*).

*Households*

A household is an institutional unit composed of persons or group of persons with common arrangement for food and shelter while pooling their income. The sector includes all resident household units as consumers and also all the unincorporated enterprises (not classified as corporation or quasi corporation) owned by them. Recall that, unincorporated enterprises that are owned by households and maintain complete business accounts are treated as quasi-corporations and are included in the corporate sector.

Households are different from corporations in that they undertake final consumption. However, like corporations, they may also engage in production. Household unincorporated market enterprises are created for the purpose of producing goods or services for sale or barter on the market. They can be engaged in virtually any kind of productive activity: agriculture, mining, manufacturing, construction, retail distribution or the production of other kinds of services. They can range from single persons working as street traders or shoe cleaners with virtually no capital or premises of their own to large manufacturing, construction or service enterprises with many employees.

*Non-Profit Institutions Serving Households (NPISHs)*

Non-profit institutions are legal or social entities created to provide goods and services to other institutional units. Their status does not permit them to create income, profit or financial gains for those who control and finance them. NPISHs include only NPIs that serve households and produce non-market goods and services without charges or whose prices are not *economically significant*.

NPISHs are principally engaged in production of non‑market services for households and their main resources are voluntary contribution of households and other institutions. Examples:

* Religious institutions like temples, shrines, mosques, churches.
* Charitable organisations providing free education, health and cultural services like Red Cross, trust-run educational institutions.
* Local sporting and cultural clubs run on donations and contributions.

*Points to note*

* Corporations cannot be final consumers. Only Government, households and NPISHs can incur *final consumption expenditure*.
* A corporate body cannot incur final expenditure for the benefit of households. When it provides goods or service to its employees, they must either be compensation of employees or intermediate consumption.
* The whole of the profit or income accruing to a corporation ultimately benefits other institutional units, namely, its shareholders.
* Mixed income can be generated only in the household sector.
* Some NPIs are market producers. For example, hospitals, schools or colleges that charge fees that enable them to recover their current production costs, or trade associations financed by subscriptions from non-financial corporate. These NPIs are treated in the same way as corporations in the System.
* Other NPIs that are controlled by government are treated as government units.
* The remaining NPIs are treated as a special group of units called non-profit institutions serving households (NPISHs).
* A holding company is treated as a financial corporation in the 2008 SNA.
* Housing services owner-occupied dwellings are produced and consumed by the households sector. The entire *GVA* generates operating surplus.
* Corporations engaged in the financial leasing is to be classified in the Financial corporation sector. [see Box 1.6]
* Unincorporated enterprises of Households (if they maintain a complete set of accounts) should be included in Non-financial corporations sector.
* Central Bank, with all its activities, is classified in the Financial corporation sector.
* All government-owned units engaged in financial intermediation must be classified in Financial corporations sector provided that they maintain a full set of accounts separately from those of government
* Unincorporated enterprises of Households if they engage in financial activities such as financial intermediation, money changing or investment advisory services, pawn brokers and money lenders (2008 SNA) and maintain a complete set of accounts should be included in Financial corporations sector.

## **3.7 Economic assets and Economic flows**

Please recall from Module 2 that macro-economics is the study of the behaviour and performance of a whole economy. This section elaborates this little more with a few basic tenets of the subject. Understanding what economics, in general, deals with is essential for appreciating the underlying rationale of the SNA definitions of economic assets and flows. Let’s begin with a definition of ‘economics’.

**Realm of Economics**

Paul A. Samuelson has defined “Economics is the study of how people and society end up choosing, with or without the use of money, to employ scarce productive resources that could have alternative uses to produce various commodities and distribute them for consumption, now or in the future, among various persons and groups in society”

In the definition, “choice of use” refer to human acts of

* + Production: creation of goods & services with human effort
  + Consumption: use of produced goods & services for human satisfaction
  + Accumulation: saving goods & services for future consumption and further production.

The “scarce productive resources” in the definition refer to only those resources that are used for production, consumption and accumulation, and also have *value in exchange*. Scarcity is the gap between human desires and available resources. Scarcity forces people to make economic choices and nations to divide their scarce resources between those for present consumption and for future development.

To exchange one thing for another is a trait unique to human beings. Value of an object can be judged by its use to human beings or by its power of purchasing other objects. The latter is referred to as *value in exchange*. Things acquire value in exchange from the gap between unlimited wants and limited resources. Thus, only the resources that are scarce have value in exchange.

Economic theory reckons the stock or volume of objects having *value in exchange* as wealth and thus deals with only those human acts that

* + involve exchange of objects (money, goods & services) between economic entities that have *value in exchange*; or
  + bring about changes in the volume of such objects like production (by definition with human effort), consumption and other uses.

Economics also reckons all kinds of between-entity flow of money as well.

*Points to note*

* Economic theory reckons the stock or volume of objects having *value in exchange* as wealth.
* Natural resources available free is not taken into account in conventional economics.
* Alternative uses of resources refer to the three human acts of production, consumption and accumulation.

**Economic Resource and Economic Assets**

Think of the kind of sources we draw upon for just a mid-day meal, which is only one form of human consumption of goods and services. Coming to think of all kinds of human consumption, a multitude of geographically dispersed sources are tapped to meet the human wants and needs. A planner needs to take stock of all the resources that could be utilized to produce goods and services to meet the wide range of human needs – both for the present and the future – and improve the level of human wellbeing.

*Economic Resources*

The level of resources available in the present is referred to as *stock* of resources. Taking stock of available resources and their use in the processes of production and consumption of goods and services is a necessary step for socio-economic analysis. These resources are broadly classified into the following four kinds:

* Human resources,
* Natural resources,
* Produced capital resources, and
* Financial resources.

*Human resources* consist of the population of the country and made up of the different age groups. Those in productive age group (15-59 or 64 years) represent the human capital for production of goods and services, development of technology, and the command of resources that would enable the other population group attain the desired quality of life. It is also the age group which is capable of the reproduction for the next generation. The roles/functions of human resources in a socio-economic framework are in the following forms:

* People manage the resources;
* People serve as means of production;
* People are consumers or users of resources; and
* People reproduce themselves.

*Natural resources* provide the means (land, water, air, etc.), raw materials for production (trees, minerals, biota, water, etc.), and the needed environment for the living and well-being of people. While some of these resources can reproduce themselves (renewable resources, biota), others (fossil oil, mineral deposits) cannot. Besides being a basic source of raw materials, natural resources serve as means of production; absorb waste products of production, and other social and economic processes; and provide consumption services to people. What is to be noted is that a significant part of the growth and regeneration of natural resource like trees, crops or other vegetation or the rearing of animals, birds, fish, etc., take place under direct human control.

*Produced capital resources* consist of human-made means of production such as machinery, equipment, buildings, roads/ bridges, livestock, inventory of goods, etc. that enables expansion of capacity of industries to produce goods and services. These assets, which are created from present and past production, contribute to the welfare of the population. The expansion, quality and full utilization of these resources are among the objectives of a society in development. Produced resources are used as means of production as well as materials for production besides providing services like housing, space for working and transportation.

***Figure 2***

**Assets Classification in 2008 SNA**

*Financial resources* consist of stock of money and other financial assets that represent purchasing power. These provide the means for efficient flow and use of the resources in market economies. While financial resources are not directly used for production or for consumption, they help in facilitating all the flows in the use and transfers of goods and services. For every financial resource or financial asset, there is a corresponding liability except for monetary gold, and to some extent Special Drawing Rights (SDR). [SDR or Special Drawing Rights is a reserve asset created by the IMF] For example, currency, a financial instrument is an asset of the holder and the liability of the Central Bank; loan is another financial asset for which the creditor has a claim on the debtor who has the liability.

*Economic Assets*

All kinds of assets do not fall in the purview of macroeconomics.

Since, human resources do not have an explicit money value (at least not legally since the abolition of slavery in early 19th century), they do not as such appear in the national accounts. Only the services provided by human resources are treated as factors of production like labour and entrepreneurship.

Similarly, national accounts do not encompass all natural resources. Only those naturally occurring resources over which individual ownership rights are established and are effectively enforced appear in the national accounts. Certain natural resources like air, oceans, remote inaccessible forests that are, in practice, not under human control, are excluded from the realm of national accounts. Also excluded are the natural assets that do not bring any economic benefits to their owners, given the technology, scientific knowledge and prevailing price structure. Thus, known deposits of minerals that are not commercially exploitable in the foreseeable future are not included in the SNA.

In the SNA is therefore only a part of the economic resources is considered as *economic assets*. Economic assets include

* only the kind of natural resources mentioned above,
* produced capital resources and
* financial resources.

The natural resources that are treated as economic assets are called *non-produced natural assets*.

The SNA defines *economic asset* is a 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.

Thus, in the SNA, the goods held for consumption by the households are not treated as economic assets. For example, household durables like refrigerators, other electrical equipment, furniture and automobiles are not included in the assets boundary of the SNA. Whereas automobiles owned by a company or refrigerators used by restaurants are treated as assets in the SNA, since they are used in the production process. Stock of grains held by households for its own consumption is not treated as assets, while the same held by a trader or rice milling factory is treated as produced assets.

*Economic stocks*indicate the position of holdings of assets and liabilities (assets and liabilities are discussed in some more detail in a latter session.) at a point in time and the SNA records stocks in accounts, usually referred to as *balance sheets*, at the beginning and end of the accounting period. Stocks result from the accumulation of prior transactions and other flows, and they are changed by transactions and other flows in the period (note that stocks of produced goods and intermediary goods are referred to as “inventories” in the SNA).

**Economic Flows**

***Figure 3***

**Kinds of Economic Flows**

****

Economic flows are the key to the compilation of national accounts. Outcomes of all human acts and natural events that bring about changes in stock of economic assets are considered as economic flows. Thus, economic flows and changes in stocks are intrinsically connected. Economic flows represent what takes place in the economy and are measured as the money-value of the changes in stock brought about by them. The SNA defines economic flows as

*Economic Flows* reflect creation, transformation, exchange, transfer or extinction of economic value, and involve change in volume, composition, or value of institutional unit’s assets and liabilities. [2008 SNA, para. 3.7]

Human acts that cause economic flows are production, consumption, investment, exports & imports; income. Economic flows also include financial transactions, i.e. transactions in financial assets and liabilities (discussed later). Financial assets and liabilities emanate from using economic resources or as consequence of flows of goods and services. Human acts can also bring about changes in the stock of assets – expanding it by discoveries and innovations or reducing it by human-made calamities, such as war. Reduction in stock of assets is also caused by natural calamities. In addition, changes in value of stock arising from changes in price structure (i.e. relative prices of goods and services) are also considered as economic flows.

In other words, an economic flow reflects

* + 1. creation, transformation, exchange, transfer (examples: all activities of production, consumption, accumulation and associated money flows and other money flows)
    2. extinction or emergence of economic value (examples: discovery of new natural resources bringing about creation of assets; and invention & innovation of new designs and ideas bringing about obsolescence of older ones).
    3. change in composition or value of stock of economic assets/liabilities (examples: holding gains or loss).

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. The last two categories together called ‘other economic flows’.

The national accounts statistics (NAS) are presented in form of a comprehensive, consistent, flexible set of macro-economic aggregates representing economic flows and stocks. Typically, a set of main aggregates of NAS consists of those discussed at the end of this module.

**Transactions**

As the SNA defines, *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 are of two kinds:

*Exchange*: in these transactions goods & services are exchanged between institutional units or within institutional units operating in different capacities. For example: buying & selling in the market, providing factor services for factor compensation and incurring financial liability for receipt of assets (as company does when issuing shares to shareholders).

*Transfers*: in these transactions one institutional unit provides goods or service to another unit without receiving anything in return as counterpart. For example: donations made by households to NPIs, money sent home by a non-resident worker, premiums payment (partly) and receipts of claims for non-life insurance and income tax payment.

**Other economic flows**

Economic flows other than transactions which bring about change in value of assets and liabilities. For example, discovery or depletion of sub‑soil assets, effect of natural or political events (wars, fire, etc....) and holding gains and losses due to change in level and structure of prices fall in this category of economic flows.

These are the flows which are not classified as transactions. These flows include the increases and losses in assets due to

* discoveries of mineral deposits and destructions of assets by natural or human-made calamities, such as like tsunami, earthquakes, flood etc. and war, riots and civil violence;
* change in the value of assets and liabilities due to the level and structure of prices.

The latter kind is called ‘changes due to change in level and structure of prices’ and are recorded as *holding gains or losses* [see *Box 2.1*]. The changes of the former kind are called ‘*other changes in volume*’ and are recorded as catastrophic loss. The flows falling in the category of ‘*other changes in volume*’ are neither due to transactions between institutional units, nor to holding gains and losses.

*Points to note*

* Economic theory takes only the resources having *value in exchange* into consideration.
* Economic resources are broadly classified into the following four kinds:
  1. Human resources,
  2. Natural resources,
  3. Produced capital resources and
  4. Financial resources.
* The natural resources that are treated as economic assets are called *non-produced natural assets*.

An *economic asset* is a store of value (money value or *exchange* value) over which ownership rights are enforced and from which economic benefits can be derived.

Households durables are not economic assets.

Outcomes of all human acts and natural events that bring about changes in stock of economic assets are considered as economic flows.

All human acts of production, consumption and accumulation result in economic flows. This also includes flow of funds.

Economic flows consist of (a) ‘transactions’ and other ‘flows’.

Flows representing ‘volume change’ and flows caused by ‘changes in level and structure of prices’ constitute ‘other flows’.

Transactions involve interaction by mutual agreement for exchange of goods & services of economic value.

Certain flows within an institutional unit (between entities operating in different capacities) also qualify as transaction. For example: CFC, CII and own-account production of goods & services.

Transactions also include between-units exchanges of financial assets.

***Box 3.6:***

**Holding Gains or Losses**

The concept holding gain (or loss) is an increase (decrease) in value that does not arise from the production process.

As defined in the SNA, *holding gains or losses* may accrue during the accounting period to the owners of financial and non-financial assets and liabilities as a result of a change in their prices (holding gains are sometimes referred to as “capital gains”).

Holding gains and losses on inventories and on other assets in the SNA are taken into account in the *Revaluation account*.

In the business accounts, often no distinction is made between earnings from production and holding gains, as both are accrued income to the owners. Thus, in SNA one needs to clearly identify the holding gains/ losses while estimating changes in inventories.

Foreign exchange gains and losses are also similarly considered in the system as holding gains and losses. Another example of mixing production and gains is the activities of real estate developer.

**End of session learning activities:** Click on the box below to open the end-session exercise file

**Module-3 Session-II – End-session Exercise**

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## **Concepts and definitions of the System of National Accounts - Session III**

## Contents

* 1. Kinds of Transactions
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  + Distribution of income – primary income
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End of session learning activities

**3.8 Kinds of Transactions**

Transactions are economic flows arising out of actions of institutional units. These cover all flows whether monetary or non‑monetary. These include all flows connected with goods and services, distribution and redistribution of income, financial instrument or other non-produced assets. These flows can also be actual observable flows or they can be notional flows. The notional flows are not observable and are thus estimated or imputed for accounting purposes.

*Between and within unit transactions*: Transactions may take place between institutional units or within the same institutional unit. Transactions between institutional units may be in the form of purchase of goods, payment of taxes, or distribution of income, accompanied with monetary flows or without monetary flows. The transactions within an institutional unit are necessarily non-monetary. Most common forms of within-unit transaction are production for own use, consumption of fixed capital (*CFC*) and change in inventories (*CII*).

*Monetary and non-monetary transactions*: Transaction may be monetary or non-monetary. The former involves flow of money and the latter does not involve flow of money. A monetary transaction is a two-party transaction for which one party make the payment and another party receives the payment or one party incurs a liability and the other party gets an addition to assets. The non-monetary transactions are without the equivalent monetary flow. The value of these transactions is measured indirectly, since these are not observable. Commonly their values are imputed based on prevailing market value. Following are some examples of non-monetary transactions:

***Box 3.7:* Non-monetary Transactions**

Transactions (as recognized in the SNA) which do not involve any money flow are ***non-monetary transactions***.

Barter transactions are those for which payment is made in kind in exchange of goods & services received. Being insignificant in presence in today’s world, it is not discussed in this note. [refer 3.79 & 3.125 of 2008 SNA for recommended treatment].

Payments in kind occur in the following forms:

* Remuneration in kind to employees like mid-day meal and accommodation provided to employees by the employer.
* Payment of other forms of factor compensations in kind like share of crops received by the landlord as rent on land.

Transfers in kind include gifts, charitable contributions and social transfer in kind. Issues relating to social transfers in kind are discussed in some detail later. Recognizing intra-unit transactions is necessary to get a fuller view of production. Production for own final use consists of

* own-account capital formation like a dwellings built by the households for themselves and putting in finished products in the inventory and other changes in inventory
* production for own consumption like subsistence farming
* non-market production by general government and NPISHs for which they themselves are final consumers.

In the sequence of accounts, the output of production for own final use appear in the resources-side in the *production account* and in the uses-side in either the *use of income account* or *capital account*. [Discussed in detail in latter modules]

Usually, national accountants compile the estimates of values of monetary transactions from what are produced by others in the national statistical system. The task of estimating the values of non-monetary transactions is solely of the national accountants.

* barter,
* own-account capital formation,
* housing services provided by owner-occupied dwellings,
* consumption of fixed capital,
* remuneration in kind,
* transfer in kind. [see Box 3.7]

*Illegal transactions*: Transactions which are illegal – smuggling of narcotics and other illegal activities – are also considered economic flows and therefore are recorded in the SNA. All of these activities are supposed to be covered in national accounts. In practice, however, not all of them are covered owing to lack of data.

The recording of all transactions, by convention, are on accrual basis, that is when the economic ownership is established or when the transaction is recorded in the books. In the case of financial transactions, the recording is made at the time the liability or claim occurs. [see Box 3.8]

Most of the transactions are monetary transactions involving at least one of the parties paying money or other financial asset, either with counterpart (exchange) or without counterpart (transfers).

***Box 3.8***

***Operational* and *Financial Lease***

A ***financial lease***is a contract between lessor and lessee whereby the lessor purchases a good that is put at the disposal of the lessee and the lessee pays rentals that enable the lessor, over the period of the contract, to cover all, or virtually all, costs, including interest; all the risks and rewards of ownership are, *de facto*, transferred from the legal owner of the good (the lessor) to the user of the good (the lessee).

An ***operating lease***, on the other hand is an agreement between a lessor and lessee for the rental of machinery or equipment for specified periods of time which are shorter than the total expected service lives of that machinery or equipment; the lessor normally maintains a stock of equipment in good working order which can be hired on demand, or at short notice, by users and is frequently responsible for the maintenance and repair of the equipment as part of the service which he provides to the lessee.

In the compilation of the national accounts, transactions are grouped in the following categories:

* *Transaction in goods and services*: exchange of goods & services – shows origin and use of the goods or services;
* *Distributive transaction*: consist of
  + flow of income generated in production process to the owners of resources (factors of production) and government and
  + secondary distribution of income;
* *Transaction in financial instruments* (*assets & liabilities*): net acquisition of financial assets or net incurrence of liabilities for each financial instrument.

*Nature of Transactions*

Another useful way of classifying transactions is by their nature. The transactions can be of *current* or of *capital* nature. A transaction of capital nature is linked to the acquisition or disposal of a financial or non-financial asset. Transactions of current nature consist of all transactions that are not capital in nature. These represent the volume of production, consumption, income or transactions that directly affect the level of disposable income like production taxes & subsidies and income taxes. For example, purchase of a machinery by a production unit (fixed capital formation) is a transaction of *capital* nature while purchase of raw materials (intermediate consumption) is one of *current* nature.

*Transactions of Current nature*

All transactions relating to production process are of current nature. For example, the flows like intermediate consumption, output, production taxes & subsidies, incomes generated and consumption of fixed capital are all of current nature. The other transactions of current nature include receipts and payments of primary income – income originating from production process and production taxes & subsidies.

Note that all the transactions of current nature cited in the preceding paragraph are all exchange transactions. The other important exchange transaction of current nature is final consumption expenditure – either of the government or households or NPISHs.

The other kind of transactions of current nature is *current transfer*. This category includes income and wealth taxes, transfers in cash or kind between households or between government and households or between government and enterprises. All the transactions in this category are recorded in the *Secondary Distribution of Income account*.

*Transactions of Capital nature*

All transactions relating to creation of or change in the level of assets fall in this category. For example, the flows like capital formation, acquisition and disposal of non-produced non-financial assets like land, capital taxes and capital transfers. All these are recorded in the *Capital account* of the SNA sequence of accounts.

*Points to note*

* Transactions cover all flows whether monetary or non‑monetary.
* Transactions may relate to goods and services, distribution and redistribution of income, financial instrument or other non-produced assets.
* Certain non-observable notional flows are transactions are thus estimated or imputed for accounting purposes.
* Transactions may take place within the same institutional unit.
* The transactions within an institutional unit are necessarily non-monetary.
* Transactions between institutional units may not be accompanied with monetary flows.
* The recording of all transaction, by convention, is on accrual basis.
* Transactions are classified as: *Transaction in goods & services*; *Distributive transaction* and *Transactions in financial instruments* (*assets & liabilities*).
* A transaction of *capital* nature is linked to the acquisition or disposal of a financial or non-financial asset.
* Transactions of *current* nature consist of all transactions that are not capital in nature.
* All transactions relating to production and consumption process are of current nature.
* Transfer can be of both current and capital nature.
* All transactions relating to creation of or change in the level of assets – capital formation, acquisition and disposal of land and capital transfers – are transactions of capital nature.

**Exchange of Goods & Services**

Exchange of goods and services consists of all two-party transactions relating to production, consumption and accumulation of assets. In these, one party delivers goods & services and the other makes the payment for them in cash or kind. All transactions of goods & services relating to production, such as purchase of intermediate consumption, sale or own-use of output, purchase of capital goods and final consumption, are included in this. Also included are the purchase and sale of non-produced natural resources such as land and mineral resources.

Some transactions are only internal bookkeeping transactions that are needed when a single unit engages in two activities, such as the production and consumption of the same good or service, but the great majority of transactions take place between different units on markets. Such intra-unit transactions are also treated as exchange. Typically, change in inventories (*CII*), consumption of fixed capital (*CFC*), production for own use fall in this category.

In other words, exchange transactions include:

* Sale and purchase of goods and factor & non-factor services relating to market production, such as sale of output, intermediate consumption, labour;
* Sale and purchase of goods and non-factor services relating to non-market production and production for own use;
* Consumption of produce from own account production;
* All final use of goods and non-factor services produced, such as final consumptions of households, government and NPISHs, fixed capital formation, change in inventory and acquisition of valuables;
* All capital formation and
* Exports and imports of goods and services.

**Distribution of Income – Primary Income**

As the 2008 SNA defines, *primary incomes are incomes that accrue to institutional units as a consequence of their involvement in processes of production or ownership of assets that may be needed for purposes of production*.

All income generated from production process are primary income. GVA at producer’s prices represents income generated in the process of production. The income thus generated is the primary income and it is distributed as

* Compensation of employees
* Mixed income and operating surplus
* Production taxes less subsidies [see *Figure 4*]

*Compensation of employees*: A major item of primary income is compensation of employees (CE) that represents the income accruing to individuals in return for their labour input into production processes. The CE is paid by the enterprises and receipts of workers’ households. Mixed income – the income accruing to individuals running household sector enterprises – are also direct payments received by the households who participate in the production process by giving labour and other factors of production.

*Operating surplus* (*OS*): The operating surplus, on the other hand, is paid by the enterprise to those participating in the production process without providing labour. This includes payment of rent on land and other natural resources, interest on the financial capital invested by other units and profit generated from production undertaken by the enterprise.

All these components of operating surplus eventually flows to the households, but are most often channelized through financial institutions, such as banks and non-depository financial agencies, in form of *property income*. That is to say, the operating surplus generated from a production process is distributed in form of property income to institutional units who lend financial or natural resources to the enterprises undertaking production. Property income is, thus, that part of primary income that accrues by lending or renting financial or natural resources, including land, to other units for use in production.

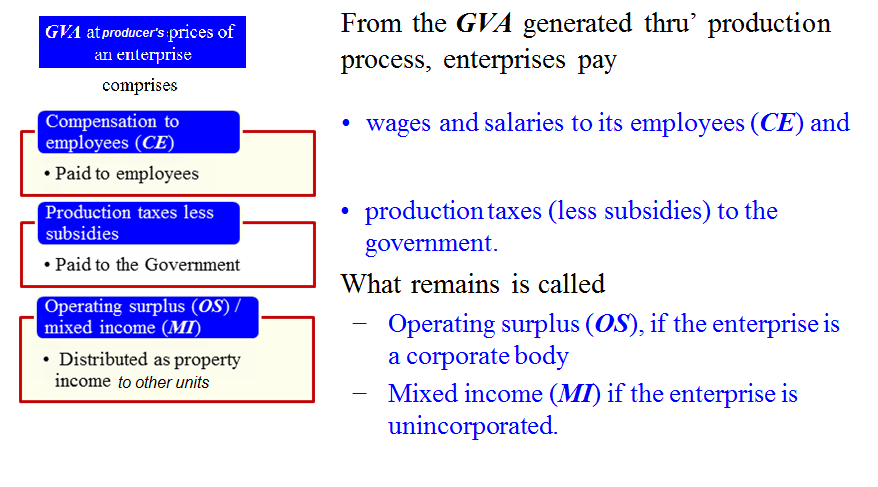
*Production taxes less subsidies*: Receipts from taxes on production and imports (less subsidies on production and imports) are treated as primary incomes of governments even though not all of them may be recorded as payable out of the value added of enterprises.

Primary income excludes:

* payments of social contributions to social insurance schemes and the receipt of benefits from them,
* current taxes on income, wealth, etc. and
* other current transfers (current transfers are recorded as redistributed income in the *secondary distribution of income account* discussed in a latter Module).

***Figure 4***

**Kinds of Primary Income Generated in Production Process**



*Property Income – Rent and Investment Income*

Recall that *property income* is one of the components of *primary income*, which accrue to institutional units as a consequence of their direct involvement in processes of production or ownership of assets that are needed for undertaking production. In concept, property income is the payment for the use of non-produced and financial assets in the production. Thus, in production if the land (a non-produced asset) is used, then the payment for its use made to the owner of the resource is a *property income* usually termed as *rent*. Other examples of property income for use of non-produced asset are Mineral royalties, Fishing rights, Spectrum rights, etc. *Property income* for the use of financial assets is in form of interest or dividends which are payable to the owners of the asset. These are called

*Investment income*

*Figure 5* shows the different kinds of investment incomes. *Rent* is the sum of rents on land and rents on subsoil assets. *Rents on land* are the amounts paid to a landowner by a tenant for the use of the land. *Rents on subsoil assets* consist of payments made to the owners of the subsoil assets by institutional units, permitting them to extract the subsoil deposits over a specified period of time.

Note that Building rent is not a property income even though the term rent is usually used because the building is a produced asset and not a non-produced asset. Thus, in the system, for the use of building or any other produced asset like machinery or equipment, rent is referred to as *rental*, a service charge and not a property income.

***Figure 5:***

**Property Income**

****

*Investment income* represents the factor compensations – interest and profit, generated in the process of production. Investment income is also earned through holding of financial assets.

**Secondary distribution of Income – Transfers**

Secondary distribution of income is the second stage in the process of income distribution and consists of transfers.

*A transfer is a transaction in which one institutional unit provides a good, service or asset to another unit without receiving from the latter any good, service or asset in return as a direct counterpart.*

Transfers are of two kinds: current transfers and capital transfers.

A *capital transfer* is one that is linked to the acquisition or disposal of an asset, either financial or nonfinancial. Institutional units treat capital transferred during the course of

the accounting period in the same way as capital held throughout the period. Capital transfers are often large and irregular but neither of these are necessary conditions for a transfer to be considered a capital rather than a current transfer.

Other transfers are described as *current transfers.* These consist of all transfers that are not transfers of capital. They directly affect the level of disposable income and should influence the consumption of goods or services. Current transfers are generally made in small quantities and are often made frequently and regularly.

Three main kinds of current transfers:

1. Current taxes on income, wealth, etc.;
2. Social contributions and benefits;
3. Other current transfers.

Current taxes on income and wealth are discussed in the next sections. Social contributions and benefits and other current transfers will be taken up in other modules.

*Points to note*

* The operating surplus is paid by the enterprise to those participating in the production process without providing labour.
* OS includes consists of rent, interest and profit generated from production undertaken by the enterprise.
* Production taxes and subsidies are primary incomes of the government.
* All the components of operating surplus eventually flow, in form of property income, to the households.
* Property income is a part of primary income.
* Property income is composed of rent and investment income.
* Investment income is composed of interest and profit accruing to those participating in the production process by lending or renting financial or natural resources, including land, to other units for use in production.
* *Rental* for the use of building or any other produced asset like machinery or equipment is a service charge.
* Receipt of *transfer* is not primary income.
* Taxes on income & wealth are current transfers.
* Social contribution and benefits, such as payment of insurance premiums and receipts of insurance claims, are treated as current transfers.
* Most common form of other current transfers is the remittances.
* Contributions made to NGOs and other philanthropic organisations are treated as current transfers.

**3.9 Valuation of transactions**

The price that a producer of a commodity gets is almost always different from what the consumer pays for it. The difference is mainly caused by the production taxes (and subsidies) on the product and the traders’ margins and transporters’ earnings in the distribution process of the product. The value of output to the producer is thus different from the expenditure made on it by the purchasers. But, the equivalence of production and expenditure is at the core of the framework of the SNA. The equivalence of the supply- and uses-sides is retained in the SNA adopting principles of valuation at various stages of production, distribution and consumption of goods and services. To understand the valuation of transactions in the SNA it is first necessary to discuss different kinds of taxes and subsidies. They are broadly of two kinds:

* + Production Taxes and subsidies
  + Income and wealth tax and capital tax

**Production Taxes and Subsidies**

***Box 3.9***

**Value Added Tax (VAT) – an illustration**

Suppose the Government fixes a 10% rate of VAT on the value of all goods and services sold in the market.

Thus, for a product sold at ¥ 100, a VAT of ¥ 10 is supposed to be paid to the government.

If the product requires IC (at purchasers price) of ¥ 66, then it would include a VAT of ¥ 6.

Then the amount ¥ 6 is deducted from the VAT of the producer of the product.

Thus, deductible VAT = ¥ 6 and

non-deductible VAT = ¥ 4.

The non-deductible part of the VAT (¥ 4) is the tax that a producer ultimately pays to the government. The product tax on the product will also be the same.

In concept, taxes are compulsory, unrequited payments (without counterpart receipts) in cash or kind, made by institutional units – households, enterprises and others - to government units. They are described as unrequited because government provides nothing in return directly to the individual unit making the payment. Subsidies are current unrequited payments by the government to enterprises for production activities only.

Collection of taxes and distribution of subsidies for production activities is integral part of a governments function and are called *redistributive activities of government*.Taxes have an effect of increasing prices of goods and services in the market. They reduce the financial resources in the hands of the households and enterprises, and thus affect the private consumption expenditure and capital formation. Subsidies have the opposite effects. The following are the two broad categories of 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*). [see *Box 3.9*]
  + *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.

**Income & Wealth Tax and Capital Taxes**

*Income and wealth tax*: Taxes on incomes, profits and holding gains, like personal income tax, corporate income tax, taxes on financial or capital transactions etc. These taxes are other than production tax. Like current transfers, these are included in *secondary distribution of income*.

*Capital Tax*: consist of capital levies (i.e. those taxes levied at irregular and very infrequent intervals on the values of the assets or net worth owned by institutional units) and taxes on capital transfers (i.e. taxes on the values of assets transferred between institutional units as a result of legacies, life-time gifts) or other transfers.

In the SNA, production taxes & subsidies (receipt of the government and payment by other institutional units) are treated as *primary income*. As for the other category, note that there are only taxes and no subsidies. The transactions of this category are treated as *current transfers* in the SNA and are recorded as *secondary distribution of income* *account* [discussed in detail in a latter module]. The taxes of the third category – capital taxes – are treated as capital transfers in the SNA and are recorded in the *Capital Account* [discussed in detail in a latter module].

Taxes on production and imports consists of taxes on products like value added type taxes, import duties, export taxes, taxes on products excluding VAT, and other taxes on production. Subsidies are unrequited payments that government units, including non-resident government units, make to enterprises on the basis of the levels of their production activities or the quantities or value of goods or services that they produce, sell or import.

Sometimes government charges fees for its services like passport fee, driving licenses fees or fees for issue of birth certificate. These are not treated as tax.

**Basic, producers’ and purchasers’ prices**

Production tax and subsidies on products bring about difference in their prices at different stages – production, distribution and sale. This causes different perception of prices for same transactions between *users* and *producers*, leading to the problem of valuation of goods & services under different transactions. Valuations recommended in SNA 1993/ 2008 are at basic prices, producers prices and purchasers prices.

*Basic price*is the amount receivable by the producer from the purchaser for a unit of a good or service produced less any tax payable, plus any subsidy receivable on that unit as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer. This includes all “other” production (taxes – subsidies) but excludes product taxes.

*Producers’ price*is the amount receivable by the producer from the purchaser for a unit of a good or service produced less any product taxes (including the non-deductible part of VAT) invoiced to the purchaser. It excludes any transport charges invoiced separately by the producer.

Producer price = basic price *plus* taxes on the output invoiced to the purchaser *less* subsidies receivable by the producer from the government.

*Purchasers’ price*is the amount paid by the purchaser *less* any taxes invoiced by the seller but deductible by the purchaser (like deductible part of VAT). The purchasers’ price include any transport costs and trade margin paid separately by the purchaser to take delivery at the required time and place. Note that all the prices exclude the deductible part of VAT.

**Purchasers’ price**

*Less* Gross trade and transport margins + product taxes less subsidies on consumers

*Equals* **Producer's price**

*Less*products taxes less subsidies payable/ receivable by their producers

*Equals* **Basic price.**

*A loaf of bread – Example* **(**money unit omitted**)**

A loaf of bread produced by a bakery is sold to the consumers at 140. The consumers buy it from the traders who purchase each loaf at 110 from the bakery. The bakery pays product tax of 10 to the government. Thus,

purchasers’ price of a loaf =140

trade and transport margin =30 [ = 140 – 110 ]

producers’ price of a loaf = 110 [ = 140 – 30 ]

basic price of a loaf = 100 [ = 110 – 10]

From the margin of 30 (=140 – 110), the traders pay production taxes (less subsidies) to the government and transport charges to the transporters.

*Points to note*

* Subsidies are current unrequited payments by the government to enterprises for production activities only.
* There are two broad categories of production taxes & subsidies - *Product taxes & subsidies* and *Other taxes and subsidies on production*.
* *Product taxes & subsidies* are payable / receivable by the enterprises for each unit of goods & services produced.
* *Other taxes and subsidies on production* are all other taxes / subsidies the enterprises pay / receive for engaging themselves in production.
* Production taxes (receipt of the government and payment by other institutional units) are treated as *primary income*.
* Production subsidies (payment by the government and receipt of other institutional units) are treated as *primary income*.
* GVA at producer’s prices is the income generated in the process of production
* GVA at producer’s prices is distributed as compensation of employees, mixed income, operating surplus and production taxes less subsidies.
* *Income and wealth tax* is treated as current transfers and included in secondary distribution of income.
* Valuations recommended in SNA 1993/ 2008 are at basic prices, producers prices and purchasers prices.
* Basic price includes all “other” production (taxes – subsidies) but excludes product taxes.
* Producers’ price = basic price *plus* taxes on the output invoiced to the purchaser *less* subsidies receivable by the producer from the government.
* Purchasers’ priceis the amount paid by the purchaser *less* any taxes invoiced by the seller but deductible by the purchaser (like deductible part of VAT).

**3.10 Circular flow - revisited**

*Circular flow in presence of Government and external transactions*

The simplified diagram in *Figure 1* (Session I) is elaborated in *Figure 2* to reflect the roles of the government, financial market, and international trade and investment. But, the core idea of a balanced circular flow of money still holds.

The value of goods & services produced in an economy is measured as the sum of value added of all enterprises of the economy. This is the value of the production carried out within the economy and is called *domestic product*.

*Figure 2* shows only the monetary flows. In this version of circular flow, all goods and services for *final use* (as against goods & services for intermediary use as inputs) are not bought by households alone. Some are bought by the government, which taxes the households (all taxes on business may be seen as though passed on to the ultimate consumers) to raise resources to finance itself. Some are bought by businesses seeking to invest, which raise the needed resources by issuing stock, issuing bonds, and borrowing - all of which take place in financial markets. This version also includes the transaction with the world outside the domestic economy – the Rest of the World (*RoW*). Note that in this diagram, ‘government’ includes only ‘public administration’. Other production activities of the government are included in “Enterprises”.

Households buy and sell goods and services from and to other households. Similarly, there are business-to-business buying and selling. The within-the-business-sector and within-the-household-sector transactions net out to zero. These are, thus, not shown as a part of the circular flow in *Figure 5*. To underline yet again, note that *Figure 5* does not show the monetary flow caused by the purchase of goods & services for *intermediate consumption* by one enterprise from another.

The enterprises then distribute their earnings from production of goods & services, i.e. *GVA*, in form of factor payments – compensation of employees (wages, salaries, benefits, etc.) and gross operating surplus (= rent + interest + gross profit). An equivalent statement, in net terms, would be “NVA is distributed as compensation of employees and net operating surplus, i.e. rent + interest + net profit.”

The sum of factor payments made by all enterprises constitutes the income generated from the domestic production, i.e. production of the economy. In addition, a part of the *GVA* also is paid to the government as production taxes (or the subsidies received from the government). Note that, in *Figure 5*, all taxes less subsidies - *(t-s)* in our notation - is shown to be paid by the households, since the product taxes less subsidies - *product(t-s)* in our notation - is eventually paid by the households.



Thus, for a single (say *i*th ) enterprise

*GVAi* = *CEi + OSi + MIi + product(t –s)i*

which when aggregated over all enterprises of the economy gives

*GDP* = *CE* + *OS* + *product(t-s)*

[Recall that ‘*CE*’ stands for compensation of employees; ‘*OS*’ for operating surplus and ‘*MI*’ for mixed income.]

This represents the "**income side**" of the circular flow, ignoring, for the time being, the flow of “*Primary Income from RoW (net)”* on the extreme left of the *Figure 5*.

The government also makes purchases from the enterprises, which in *Figure 5* represents *government final consumption expenditure* (*GFCE*). Total taxes flow to the government, which uses most of them for government purchases, and sends the remaining government budget surplus to (or to meet the budget deficits borrows from) the financial market.

The money that flows from households to enterprises as the households incur consumption expenditure on the produced goods and services is called *household final consumption expenditure* (*HFCE*). The term ‘final’ is used to distinguish it from ‘intermediate consumption’.

A part of the goods & services produced by the domestic enterprises is purchased by the rest of the world (exports). In the diagram, exports and imports are clubbed together and referred to as ‘net exports’. Exports serve as an addition to (and imports a subtraction from) total demand for domestically-made products.

Households *save* whatever is left of their incomes after paying taxes and making consumption expenditure. These savings flow into financial markets as the households put them in banks, mutual funds and other financial institutions. Businesses seeking to invest draw on this pool of savings for financing purchase of capital goods.

The enterprises borrow money from the financial market to meet their investment expenditures. The resident enterprises’ expenditure on purchase of capital goods & services is called domestic capital formation in national accounts - in gross terms, *gross domestic capital formation* (*GDCF)* and, in net terms, *net domestic capital formation* (*NDCF*).

The earnings of the enterprises are what the goods and services produced by them are worth. This is measured as the sum of *output at producers’ prices* *minus* *intermediate consumption* over all enterprises of the economy.

The value of production of the domestic enterprises (GDP) is realized as aggregate of the monetary flows from

* households as their final consumption expenditure (*HFCE*),
* government as its final consumption expenditure (*GFCE*),
* other domestic enterprises on account of purchase of capital goods & services (*GDCF*) and
* rest of the world (*RoW*), on account of exports (*X*) *net* imports (*M*).

Thus,



Besides, the government and households there is another kind of units that also makes final consumption. These are the non-profit institutions which provide free (or at a nominal cost) services like health and education services to the households. These are the non-profit institutions serving households (*NPISH*s) in the SNA. The combined consumption expenditure of the households and the NPISHs is referred as *private final consumption expenditure* (*PFCE*). Thus,

.

This is the "**expenditure side**" of the circular flow.

This establishes the equivalence of production, income and expenditure in an economy (ignoring ‘net primary income earning from *RoW*’ for the present). These are summarized as the fundamental macro-economic equations:

Production = ***GDP***  *at market prices*= = 

= Income = 

= Expenditure=

[Note that precise definitions of the terms printed in blue in the preceding paragraphs, including *output at producers’ price* and *GDP at market prices*, are discussed later in following sessions.]

*Points to note*

* GDP can be measured by three approaches – production, income and expenditure.
* By *production* *approach*, GDP = GVA of all the production units in the economy
* By *income* *approach*, GDP = sum of income of all the households in the economy (ignoring “*Primary Income from RoW (net)”*)
* By *expenditure* *approach*, GDP = sum of all expenditure made on goods & services produced in the economy. (ignoring “*Primary Income from RoW (net)”*)
* Total expenditure = final consumption expenditure + purchase of capital goods & services + exports *net* imports

(assuming *CII* = 0 and acquisition net disposable of valuables =0)

* *PFCE* represents final consumption expenditure of households and NPISHs.

[*CII* and *acquisition net disposable* of valuables are discussed in some detail in latter sessions]

**End of session learning activities:** Click on the box below to open the end-session exercise file

**Module-3 Session-III – End-session Exercise**

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# Concepts and definitions of the System of National Accounts - Session IV

# Distribution and Use of Income

# *Contents*

* 1. GDP at market prices
* Market prices
* GVA at basic prices and producers’ prices
* GDP at market prices
  1. Primary Income & its Distribution
  + Domestic product & National Income
  + Disposable Income
  1. Use of Disposable Income
  + Final consumption
  + Gross Domestic Capital formation – gross fixed capital formation, change in inventories and acquisition & disposal of valuables
  + Exports and imports
  + Gross Savings

End of session learning activities

The main transactions covered in the SNA relate to the activities of production, generation and distribution of income, consumption and accumulation. Production of goods and services is at the core of all these activities. So far, we have dealt with the SNA aggregates and their interrelationships without taking into consideration the production taxes and subsidies. We will now re-establish the relationships between the main aggregates, applying different prices for valuation of goods & services.

In this session, we will first take a relook at the measures of GVA and GDP and discuss the concepts of GVA at basic and producers’ prices and then define GDP taking different prices into account. Next, we will discuss about the SNA aggregates relating to primary income, secondary distribution of income and use of income. This session also consists of a brief discussion on use of goods and services produced in an economy. Finally, we will see how, during an accounting period, the use of income and the use of goods & services produced are related.

**3.11 GDP at Market Prices**

**Market Prices**

Prices paid by consumers are different from what the producers perceive as their receipts. This is because the taxes on products that are passed on to government are not included in the receipts of the producers. Further the trade and transport margins, which are output of the traders and transporters, are included in the prices of goods that consumers pay, but do not form part of the receipts of the producers of the goods.

In national accounts, the prices at which products are sold by the producers and those at which they are purchased by the consumers are defined as the ‘market prices’. Use of products is always recorded at purchasers’ prices. Thus, the macro-economic aggregates like final consumption expenditure or capital formation or intermediate consumption are always valued at purchasers’ prices. Output of products is always recorded at basic prices and the value of the economy’s domestic production is derived at ‘market prices’.

Note that in case of a household carrying out *production for own use*, notionally it is considered as a transaction between household the producer and household the purchaser. Thus, in such cases, as the producer is not required to pay any product tax to government and there is no trader and transporter involved, purchasers’ price will be equal to the basic price.

***GVA* at Basic Prices**

An enterprise’s earnings from production is the GVA at basic prices

=Receipts from sale of its products

*minus* (all product taxes – all product subsidies)

*minus* payments made for purchase of inputs

= Gross value of output at basic prices (*GVObp*)

*minus* *IC* at purchasers prices (*ICpurp*)

*GVA* at basic prices, *GVAbp* = *GVObp* - *ICpurp*

Since, *IC* is always measured at purchasers’ prices, we will henceforth exclude the subscript and just use ‘*IC*’.

***GVA* at Producers’ Prices**

We have seen that the economic activity of production creates (produces) goods and / or services from inputs of raw materials and other intermediate products, using (human) labour and available productive resources like machinery, buildings and land. An enterprise’s earnings from production is the GVA at producers’ prices

= Receipts from sale of its products

*minus* payments made for purchase of inputs

= Gross value of output at producers’ prices (*GVOpp*)

*minus* *IC* at purchasers prices

The GVA at produces’ prices is the value of income generated in the production process.

***GDP* at Market Prices**

*GDP* is the measure of production of an economy. This is valued at market prices.

*GDP* at market prices is defined (2008 SNA) as the sum of GVA at producers’ prices of resident enterprises in the economy, including the traders and transporters.

*GDPmp*= + (*t-s*) on imports.

Note that in addition to the sum of GVA at producers’ prices, the GDP at market prices include imports tax net import subsidies.

Thus, the above identity can also be written as

*GDPmp*= Σ*GVAbp* + product (*t-s*) + (*t-s*) on imports

*GDPmp* represents the primary income generated from the production undertaken within the domestic economy and gets distributed as

*CE* + *OS* + *MI* + production (*t-s*) + (*t-s*) on imports

The amount of value added at producers’ price generated by production is the GDP at market prices. In the earlier session we have seen how the income generated from production gets distributed.

*Points to note*

* The prices at which products are sold by the producers are taken as the ‘market prices’ on the supply side.
* The prices at which goods and services are purchased by the consumers are taken as the ‘market prices’.
* Intermediate consumption is always valued at purchasers’ prices.
* *GVA* at basic prices, *GVAbp* = Gross value of output at basic prices (*GVObp*) *minus* *IC* at purchasers prices (*IC*)
* The GVA at produces’ prices is the value of income generated in the production process
* *GVA* at producers’ prices = Gross value of output at basic prices (*GVOpp*)

*minus* *IC* at purchasers prices (*IC*)

* GDP at market prices include imports tax net import subsidies.
* *GDP* at market prices, *GDPmp*= + (*t-s*) on imports.
* *GDPmp* = Σ*GVAbp* + product (*t-s*) + (*t-s*) on imports.
* *GDPmp* = *GDPbp* + product (*t-s*) + (*t-s*) on imports.
* *GDPmp*= *CE* + *OS* + *MI* + production (*t-s*) + (*t-s*) on imports
* *GDP*, generally presented as the measure of production of an economy, this is valued at market prices.

**3.12 Primary income and its distribution**

Recall that, the income generated in a production process, which is equal to the *GVA* at producers’ prices of the production unit, is distributed as primary income to those providing factor services as factor compensations and to the government as production taxes (*less* subsidies). The *primary income*, from the recipients’ viewpoint, includes:

1. Compensation of employees received by the households;
2. Taxes *less* subsidies on production and imports (received only by the government);
3. Mixed income (accruing only to resident households);
4. *Property income*:
   1. *Investment income*: like interest and dividends;
   2. *Rent* on land and sub-soil assets.

So far, we have discussed production-, income- and expenditure-side aggregates without taking into account the ‘*primary income from RoW (net)*’ shown in *Figure 5* of Session III. We will now take into account the transactions with the rest of the world into consideration.

The residents of an economy receive primary income from the non-residents for providing factors services (of labour and capital, including financial and non-financial assets) for production activities carried out in the ROW. Conversely, the resident enterprises pay primary income to non-residents for using factor services provided by them. For example, earnings of seasonal workers residing in country ***A*** but working in country ***B*** is treated as receipt and payment of primary income of countries ***A*** and ***B*** respectively.

Also recall that the receipts of transfers are NOT treated as primary income. Similarly, the income taxes received from the households are not primary income of the government, while production taxes like VAT, excise duties, sales tax etc. received are treated as a part of its primary income. Primary income is generated in the production activity of resident producers and distributed mostly to other residents of the economy but also partly to non-residents. At the same time, residents also receive primary income from the rest of the world.

**Domestic product & National Income**

*National income* of an economy represents the income of its residents. Since 1993 SNA, it is called *gross national income* (*GNI*), which was previously referred to as *gross national product* (*GNP*). GDP measures the total production carried out within the economic territory of a country, while GNI measures the total income of all economic agents residing in the territory.

For an institutional unit, *Balance of Primary Income* is total value of the primary incomes receivable *less* total of the primary incomes payable. At the level of the total economy, the sum of *Balance of Primary Income* over all residents is called *gross national income, GNI.* The balance of primary of a household is shown in Example 1.

To arrive at an estimate of *GNI*, the gross domestic income (the income generated from domestic production, which, as we have seen, is same as *GDP*) has to be adjusted for the income of the residents from the production activity in the RoW and the income accruing to the non-residents out of that generated from domestic production. Thus,

*Gross National Income* (*GNI*) = *GDP* + (net) *primary income* earned (by the residents) from RoW.

For example, the GNI of Slovenia in 2002 was 23 000, which is same as the sum of its GDP (23128) and net primary income from RoW (-129). [refer to the table at the end of the text of this session.]

*Example 1*: *Balance of primary income of a household*

During an accounting period, a household with one member working in a food processing factory and another running a grocery, made the following transactions:

|  |  |
| --- | --- |
| Salary received from the factory: | 5,000 |
| Purchased processed food for sale from the same factory: | 10,000 |
| Remittances received from a relative living abroad: | 5,000 |
| Paid contribution to Traders’ Association (NPISHs): | 200 |
| Paid income tax of 10% on salary earnings: | 500 |
| Sells processed food: | 15,000 |
| Purchased household provisions: | 4,350 |
| Paid for electricity consumed in the grocery: | 150 |
| Paid to hired worker: | 1,000 |
| Paid sales (product) tax on sale of processed food | 150 |

Primary income earned by the household during the period

= salary received from the factory + GVA (income) from the grocery

= 5000 + (15000 – 10000 – 150) = 9850

Payment of primary income made by the household during the period

= salary paid + sales tax = 1000 + 150 = 1150.

Thus, the *balance of primary income* of the household = 9850 – 1150 = 8700.

Note that equivalence of production and income holds only in a closed economy. In fact, as we will see later, the equivalence of production- and expenditure-side aggregates is also affected by cross-border transactions.

**Disposable Income**

In general, *disposable income* is defined as the amount of money that households (and other institutional units) have available for spending and saving after [income taxes](https://www.investopedia.com/terms/i/incometax.asp) and net other current transfers have been netted out. That is to say, disposable income of an institutional unit is equal to its

net primary income + current transfers receivable – current transfers payable.

Note that income taxes and corporate taxes paid by the households and corporate units to the government are treated as ‘current transfers’.

The current transfers among the resident units in an economy not out to zero. Thus, for the economy whole, only cross-border receipts and payments of current transfers have a role in determining its disposable income.

*Example 2*: *Disposable income of a household*

Using the information provided in Example 1, we can work out the disposable income of the household. From the example, we have seen that its *balance of primary income* is 8700.

We also know that the household had received / paid

remittances from a relative living abroad (5000)

contribution to Traders’ Association (200) and

income tax of 10% on salary earnings (500).

Thus, the net transfers receivable of the household = 5000 – 200 – 500 = 4300

and its disposable income = primary income – net transfers receivable

= 8700 + 4300 = 13000.

We have seen that the national income of an economy is determined not only by its *GDP* but also by the net flow of primary income across its borders. Besides the cross-border flow of primary income, there are other cross-border transactions that determine the purchasing power of the residents. The most common examples of cross-border current transfers are remittances received or paid to the domestic economy by non-resident workers, and payments & receipts of insurance premiums and claims to / from non-resident insurance corporations. The current transfers from or to the rest of the world (RoW) makes the purchasing power at the disposal of the residents different from the *GNI*.

In the SNA, *transfers* are not treated as income. Receipts and payment of *transfers* from/ to RoW changes the amount of purchasing power with the residents. The income remaining at disposal of the residents after the cross-border transfers is called *gross national disposable income* (*GNDI*). This is related to *GDP* and *GNI* as follows:

*GNDI* = *GNI* + *(net) current transfers from RoW*

= *GDP* + *(net) primary income from RoW*

+ *(net) current transfers from RoW*.

*Example 3*: *Disposable income of an economy*

The GDP of an economy is known to be 23,128. Also, the estimates of CFC, flows of primary income and current transfers are as follows:

CFC 3,768

primary income receivable from the RoW 450

primary income payable to the RoW 579

Current transfers receivable from the Row 470

Current transfers payable to the Row 408

Then,

GNI = 3,768 + 450 – 579 = **23,000**

NNI = 23,000 – 3,768 = **19,232**

NNDI = 19,232 + 470 – 408 = **19,294**

*Points to note*

* Primary income flows across the national boundaries.
* Primary income is distributed mostly to the residents of the economy but also a part gets distributed to non-residents.
* Receipts of transfers are NOT treated as primary income.
* *Balance of Primary Income* is total value of the primary incomes receivable *less* total of the primary incomes payable.
* The sum of *balance of primary incomes* of all resident units of an economy is its Gross National Income (*GNI*).
* *Gross National Income* (*GNI*) = *GDP* + (net) *primary income* from RoW.
* *Disposable income* of an institutional unit is equal to its net primary income + current transfers receivable *minus* current transfers payable.
* *GNDI* = *GNI* + *(net) current transfers from RoW*

= *GDP* + *(net) primary income from RoW*

+ *(net) current transfers from RoW*.

**3.13 Use of disposable income**

The institutional units in the general government, NPISH and household sectors allocate their disposable income between final consumption and savings. The savings, in turn along with (net) capital transfers received, are utilized to acquire financial and non-financial assets. The acquisition, less disposal, of non-financial assets results in *capital formation* and the associated transactions take place

* either with other residential and non-residential units or
* within-unit acquisition of non-financial assets produced by the unit.

In the SNA, capital formation consists of

* Gross fixed capital formation (GFCF)
* Change in inventories and
* Acquisition *less* disposals of valuables.

**Final consumption**

The domestically used goods & services that are not put to use as *intermediate consumption* constitute the goods & services for *final use*. It is composed of two main components: *final consumption expenditure* and *capital formation*.

*Final Consumption of Expenditure*

Final consumption includes goods and services which are used by households or the community to satisfy their individual wants and social needs. Thus, final consumption is broken down into:

a) Final consumption expenditure of households;

b) Final consumption expenditure of general government;

c) Final consumption expenditure of NPISHs.

Note that, in the SNA, ‘final consumption’ by the corporate sector is not admissible.

*Household Final Consumption Expenditure (HFCE)*: All goods and services consumed by the households, whether durable (cars, refrigerators, air-conditioners etc.) or non-durable (food, clothes), are part of final consumption, with the exception of purchases for own-construction or improvements of residential housing, which are treated as part of gross capital formation.

*Government Final Consumption Expenditure (GFCE)*: The following are included in the final consumption expenditure of general government and non-profit institutions serving households:

a) Non-market output (which excludes own-account capital formation), which is measured by production costs less incidental sales of government output;

b) Expenditure on market goods and services that are supplied without transformation and free of charge to households (referred to by SNA as social transfers in kind)

The expenditure of the general government on services provided free to the households are included in ***GFCE***. Though these are actually consumed by the households, they do not make the expenditure and thus not included in the ***HFCE***. In the expenditure approach, the entire non-market output of the Government is considered to be consumed by the Government itself.

Government Final Consumption Expenditure, ***GFCE***

= Total Government output + goods & services purchased to be provided free to the population *minus* receipts from sale of goods & services.

[The approach adopted for estimating Government’s and NPISHs’ output is discussed in a latter module]

*Final Consumption Expenditure of NPISH*: As for the government, the entire non-market output of the NPISH (net of receipts from sale of goods & services) constitutes the final consumption expenditure of the NPISHs.

**Gross Domestic Capital Formation (*GDCF*)**

Gross capital formation in SNA is the same as the concept of ***investment in capital goods*** used by economists. It includes only produced capital goods (machinery, buildings, roads, artistic originals, research & development activities etc.) and improvements to non-produced assets.

Note that non-produced assets, such as land, natural resources and intellectual property products, are also used as assets for production in an establishment or enterprise. In business accounting, investment includes acquisitions less disposals of non-produced assets, but these are not included in gross capital formation in the SNA. The non-produced assets do not affect the value of investment in capital goods since the sale of a non-produced asset by one economic entity is offset by a purchase of the same asset by another economic entity.

*Gross domestic capital formation* includes:

a) *Gross fixed capital formation*;

b) Changes in inventories;

c) Acquisition *less* disposals of valuables (such as jewelry and works of art).

Gross Domestic Capital Formation (*GDCF*) is defined as

***GDCF = GFCF +*** change in inventories (***CII***)**+** acquisition*less* disposals of valuables***.***

*Gross Fixed Capital Formation (GFCF)*

***GFCF*** is the resident producers’ acquisition *less* disposal of produced assets that are used repeatedly for production, including produced assets acquired by purchases, barter, capital transfers and produced for own use. In addition, ***GFCF*** also includes additions to certain non-produced assets like:

* major improvement of non-produced assets (such as land)
* cost of transfer of ownership of non-produced assets

It also includes animals, plants, etc. used repeatedly for production. For example, trees in a rubber plantation or milch animals in a dairy farm. These are treated as

* + addition to inventory while growing
  + fixed assets once production starts
  + *CFC* in case of extinction and reduction of productivity.

Gross fixed capital formation includes:

a) Acquisition less disposal of new or existing produced assets, such as dwellings, other building structures, machinery & equipment, cultivated assets (trees and livestock), mineral exploration, computer software, entertainment, literary/ artistic originals, and other intangible fixed assets like intellectual property products.

b) Costs of ownership transfers on non-produced, non-financial assets, such as land.

c) Major improvements to produced and non-produced, non-financial assets that extend the lives of assets (e.g. reclamation of land from sea, clearance of forests, rock etc., draining of marches or irrigation of forests, and prevention of flooding or erosion);

d) Household durables for household operated activities.

Acquisition can be in terms of purchase, own-account production, barter, capital transfer in kind, financial leasing, natural growth of cultivated assets and major repairs of produced assets. Disposal can be in terms of sale, barter, capital transfer in kind or financial lease. Exceptional losses, such as those due to natural disasters, are not recorded as disposal.

It excludes:

* Household durables for household’s own use should be included in *HFCE*
* Purchase of non-produced assets like land.

*Change in Inventories (CII)*

Inventories include:

* unsold finished products
* goods for sale with the traders
* unused raw materials (inventories) - materials and supplies
* work-in-progress (growing crops, maturing trees and livestock, uncompleted structures, uncompleted other fixed assets, partially completed film productions and software).

Enterprises have stocks of these at the beginning and end of an accounting period. In National Accounts, the difference between the stocks at the end and at the beginning of the accounting period is called “*Change in Inventories*”.

**Exports / Imports**

***Box*: *3.10***

**Exports/ Imports - exceptions**

However, there are some exceptions that require imputation of change of ownership:

1. transactions in land, buildings and non-movable non-produced assets. [These are still used for production purposes in the domestic economy, even if these changes hands between a resident and a non-resident.]
2. transactions in financial assets (stocks, bonds, money, monetary gold etc.). [Financial assets are neither goods nor services]
3. financial leasing,
4. deliveries between affiliated enterprises
5. goods sent for significant processing to order or repairs and
6. goods bought from non-residents and sold to non-residents by commodity dealers within the same accounting period are not recorded as exports or imports.

Exports and imports between the domestic economy and the rest of the world are transactions between residents and non-residents of an economic territory, regardless of whether there are corresponding physical movements of goods across borders.

Exports – flow of goods and services from resident units to nonresident units

Imports – flow of goods and services from nonresident units to resident units

Imports and exports of goods are valued free on board at the border of the exporting country (f.o.b.):

* + basic prices
  + *plus* the related transport and distributive services up to that point of the border, including the cost of loading on to a carrier for onward transportation
  + *plus* any taxes less subsidies on the goods exported.

Exports are valued free on board (*f.o.b*.), which, by definition, should be equivalent to purchasers' prices since they include domestic transport and trade costs to bring the good to the ports, and also include taxes *less* subsidies on products paid by the purchasers or received by the producers.

Imports must also be valued f.o.b. but are valued at the prices at the foreign custom frontier. To derive imports *f.o.b*., cost of freight and insurance services between the two borders must be estimated and deducted from imports *c.i.f*. Freight and insurance services on imports may be provided by either residents or non-residents.

***Gross Savings***

(*Gross*) *Savings* of the domestic economy is defined as

*Gross savings* = *disposable income* *minus* private final consumption expenditure

= *GNDI* - (*PFCE* + *GFCE*)

Using the expenditure- and income-side identities and taking capital transfers into account, this reduces to

*Gross Savings* = *GDCF* + acquisition *less* disposal of valuables+ acquisition *less* disposal of non-produced non-financial assets- (net) Capital transfer receivable+ net lending (to RoW)

*Points to note*

* The disposable income is used either for consumption or savings.
* The domestically used goods & services that are not put to use as *intermediate consumption* constitute the goods & services for *final use.*
* The two main components of final use are: *final consumption expenditure* and *capital formation*.
* ‘Final consumption’ by the corporate sector is not admissible.
* Purchases for own-construction or improvements of residential housing are not treated as final consumption of the households.
* GDCF includes only produced capital goods and improvements to non-produced assets.
* Acquisition of land and natural resources is not included in capital formation.
* Gross Domestic Capital Formation (*GDCF*) is composed of *GFCF*, *CII*and acquisition*less* disposals of valuables***.***
* The costs of ownership transfers on non-produced, non-financial assets, such as land, are included in GFCF.
* GFCF includes natural growth of cultivated assets and major repairs of produced assets.
* Work-in-progress is accounted for in the CII.
* All exports and imports a residential unit and a non-residential unit.
* Both exports and imports are valued at f.o.b.
* (*Gross*) *Savings* of the domestic economy is defined as *disposable income* *minus* private final consumption expenditure minus government final consumption expenditure.

**End of session learning activities:** Click on the box below to open the end-session exercise file

**Module-3 Session-IV – End-session Exercise**

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**Module-3 – End-module Exercise**