Statistical Institute for Asia and the Pacific

Economic and Social Commission of Asia and the Pacific

United Nations

Regional Course on Integrated Economic Statistics to Support 2008 SNA Implementation

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

Reading Materials

Review of the Current Accounts of the 2008 SNA

Aloke Kar

Indian Statistical Institute

18 – 21 April 2017

Bangkok Thailand

Acronyms

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
KTA	Kitchen Table Account
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

<u>*Subscripts*</u>

bp	stands for	*at basic prices*
purp	stands for	*at purchasers' prices*
mp	stands for	*at market prices*

INTEGRATED TRANSACTION ACCOUNTS

The sequence of accounts discussed here is only the structure of transaction accounts of the *SNA* that helps measure what takes place in the economy, between which agents, and for what purpose. Each individual account will be taken up in the following lessons.

Economic Assets and Economic Flows

The resources utilized for production of goods and services to meet the present and future human needs and improve the level of human are broadly classified into the following categories:

- Human resources,
- Natural resources,
- Produced resources, and
- Financial resources.

Human resources consist of the population of the country and represent the human capital for production of goods and services, development of technology, and the command of resources that enable them attain the desired quality of life. They serve as means of production as well as the final users of other resources.

Natural resources provide the means (land, water, air, etc), basic materials for production (trees, minerals, biota, fauna, etc), and the environment essential for living and well-being of the people.

Produced 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 also include stock produced finished and semi-finished products and stock of raw materials with the enterprises that are expected to be used for further production. These assets are created from present and past production and provide services like housing, space for working and transportation.

Financial resources consist of stock of money and other financial assets[1] that represent purchasing power. While these 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). 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.

[1] Financial assets include stock of currency or ‘cash in hand’, bank deposits and cheques, loans given to others, bonds, equity & investment fund shares/ units etc.

Economic theory reckons the stock or volume of objects (including money and other financial assets) having *value in exchange* as wealth. Being endowed with *value in exchange*, all these should have ownership rights defined on them, since only those owned can be exchanged. Thus, all kinds of assets do not fall in the purview of macroeconomics. The SNA, being founded on the concepts and principles of macroeconomic theory, takes into consideration only those resources that have *value in exchange* or 'money value'.

Economic Assets

In the SNA, an *economic asset* is defined as 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.

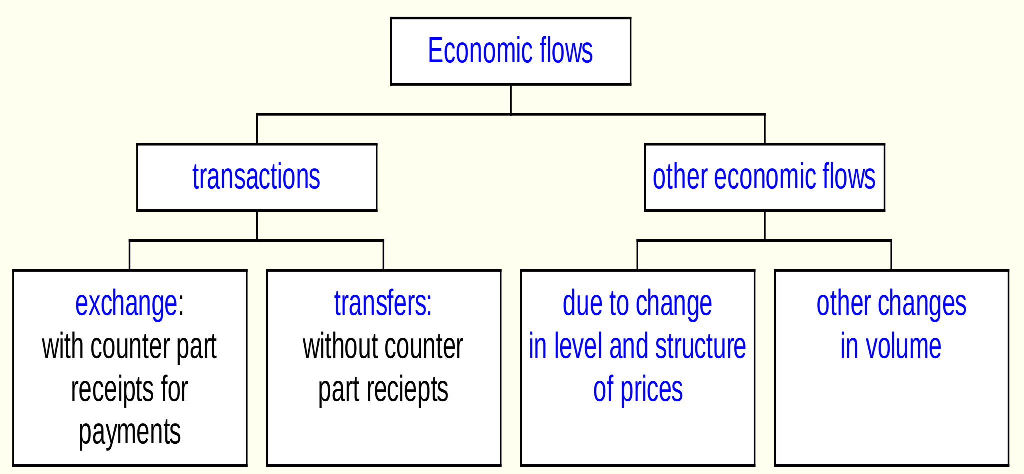
Goods held by a household for its own consumption also have *value in exchange*, but they are not used for further production. Thus, in the SNA, besides those on which ownership rights are not enforced, the goods held for consumption by the households are not treated as economic assets.

Examples of economic assets: animals in a farm; cultivated forests; automobiles owned by a company; refrigerators used by restaurants; stock of grains held by a trader or rice milling factory.

Examples of exclusion from economic assets: natural resources not owned by any one like water of river, air and animals in the wild; household durables like refrigerators, other electrical equipments, and furniture & fixtures; stock of grains held by households for its own consumption.

Kinds of Economic Assets

Kinds of Economic Flows



In the SNA, only those naturally occurring resources over which (individual or collective) ownership rights are established and are effectively enforced are treated as economic resources. The natural resources that are treated as economic assets are called *non-produced natural assets*.

Economic Flows

All that bring about changes in the volume of economic assets are defined as *economic flows* in the SNA. 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, 3.7]. Economic flows are key to compilation of national accounts. These flows involve the change in economic assets and the sum of these flows during the period is recorded in the system of national accounts. The flows may not all be in the form of transactions.

Kinds of Economic Flows

There are two kinds of economic flows: transactions and other economic flows.

Transaction: A transaction is an economic flow that involves interaction between institutional units by <u>mutual agreement</u> or an action within an institutional unit (like production, *CFC* and *CII*) that is analytically useful to treat like a transaction, often because the unit is operating in two different capacities.

Transactions are of two kinds:

- *Exchange:* in these transactions goods & services are exchanged between two or more institutional units or within institutional units operating in different capacities.
- *Transfers:* in these transactions one institutional unit provides goods or service to another unit without receiving anything in return as counterpart.

Other economic flow: Economic flows other than transactions which bring about change in value of assets and liabilities.

Other economic flows are of two kinds:

- *other changes in volume*: increases in assets caused by discoveries and decrease in assets caused by catastrophes - natural or human-made calamities;
- *changes due to change in level and structure of prices*: These are recorded as *holding gains or losses* [2].

[2] 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").

Transactions

Transactions are economic flows corresponding to actions of institutional units. These cover all flows whether monetary or non-monetary and whether connected with goods and services, distribution and redistribution of income, financial instrument or other non-produced assets. For compilation of national accounts, transactions are grouped in the following categories:

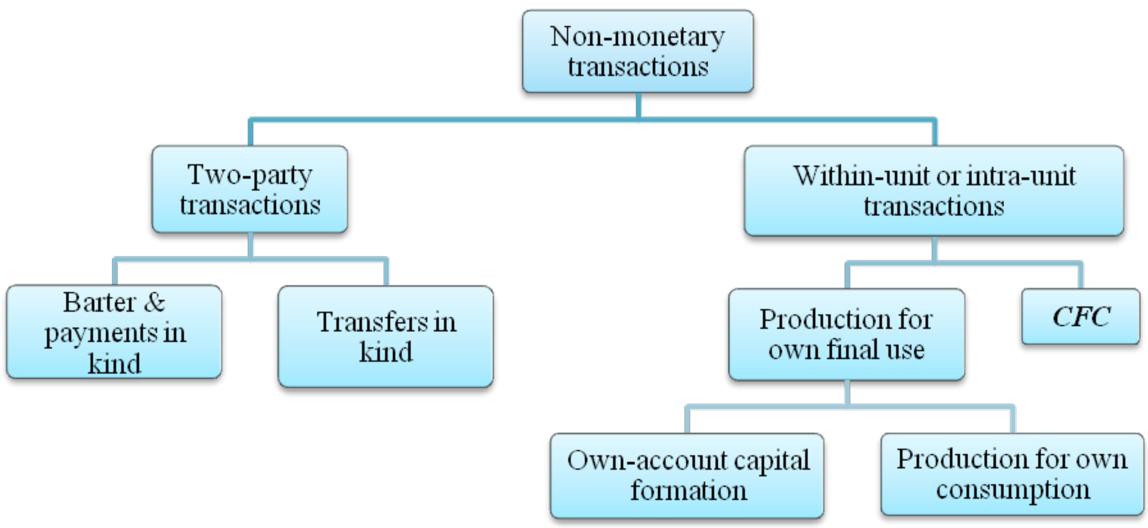
- *Transaction in goods and services*: shows origin and use of the goods or services;
- *Distributive transaction*: flow of income generated by production to the owners of resources (factors of production) and government and the redistribution of income and wealth;
- *Transaction in financial instruments (assets & liabilities)*: net acquisition of financial assets or net incurrence of liabilities for each financial instrument.

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 transaction is 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 transaction, it is at the time the liability or claim occurs. 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).

Non-monetary Transactions in the SNA

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 meals 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 transfers in kind. In the *SNA*, the non-market output is treated as *social transfers in kind* made to the households. Transactions relating to social transfers in kind are reflected separately in *Redistribution of income in kind account* and *Use of adjusted disposable income account*.

Measuring the value of 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 finished products into the inventory (recorded as part of changes in inventory)
- production for own consumption such as subsistence farming
- non-market production by general government and NPISHs for which they themselves are treated final consumers.

Production for *own final use* includes production of goods & services by households for their own final consumption and fixed capital formation by the owners of the enterprises. Usually, national accountants compile the estimates of values of monetary transactions from the statistics produced by others in the national statistical system. The task of estimating the values of non-monetary transactions is solely the role of the national accountants.

A Broad Classification 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. All these are recorded in the *Capital account* or *Financial account* of the SNA sequence of accounts. Transactions of current nature consist of all transactions that are not capital in nature.

Examples of transactions of *capital* nature: the flows like capital formation (purchase of a machinery by a production unit and putting or withdrawing raw materials or finished products in/from inventory); acquisition and disposal of non-produced non-financial assets like land; capital taxes and capital transfers.

Examples of transactions of *current* nature: purchase of raw materials (for intermediate consumption); sale or disposal of output, payments and receipts of production taxes & subsidies and income & wealth taxes; payments and receipts of compensation of employees and property income; final consumption, current transfers.

Taxes and Subsidies

Taxes are compulsory, unrequited payments (without counterpart receipts) in cash (or rarely in 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.

Taxes have an effect of increasing prices of goods and services in the market. Subsidies have the opposite effects. The following are the broad categories of taxes & subsidies:

Production taxes & subsidies

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

Income & Wealth Taxes: taxes on incomes, profits and holding gains like personal or corporate income tax, taxes on financial or capital transactions etc. These taxes are different from production tax.

Prices in the SNA

	Purchasers' price
Less	Gross trade and transport margins + product taxes *less* subsidies on consumers
Equals	**Producers' price**
Less	products taxes *less* subsidies payable/ receivable by their producers
Equals	**Basic price.**

Under *VAT* system of taxation, only deductible part of the VAT is considered as the product tax.

Capital taxes: consist of 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 or other transfers.

In the SNA, *production taxes & subsidies* are treated similar to (receipt of the government and payment by other institutional units) *primary income*. As for the second category - income & wealth tax - 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*. The taxes of the third category – capital taxes – are treated as capital transfers in the SNA and are recorded in the *Capital Account*.

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

Valuation of Transactions

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.

All monetary transactions are valued at the actual price agreed upon by the involved units. Market prices are thus the basic reference for valuation in the SNA. For the non-monetary transactions of goods and services - whether between institutional units or within units – the values are required to be estimated by the national accountants.

Ideally, internal transactions – i.e. within-unit transactions - are required to be valued at current values at the time these transactions occur, not at the original valuation. These internal transactions include entries into inventories, withdrawals from inventories, intermediate consumption, own-account fixed capital formation, consumption of fixed capital and production for final consumption by owners of unincorporated enterprises.

Constituents of Domestic 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.

Economic Territory: the area - geographic territory - under the effective economic control of a single government, within which persons, goods, and capital can circulate freely.

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[3] economic interest in its economic territory. 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.

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).

All resident units constitute the domestic economy. Thus, 'national income' represents the sum of incomes of all the 'resident' institutional units of a country, while 'domestic production' (gross or net) represents the value of production carried out within the economic territory.

Institutional Units

An institutional unit is defined as **a**n 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: households (natural units) and legal and social entities like corporations, government and NPIs.

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. They are:

[3] The term 'predominant' was included in the 2008 SNA.

- *Financial and Non-financial corporate sectors*: legal entities recognized by laws of the nation independently of its shareholders. It produces goods and services for the market that may be a source of profit to its owners - the shareholders. These are principally engaged in the production of market goods and services. Non-financial corporations provide goods and services of non-financial nature. On the other hand, financial institutions provide services related to financial instruments.

  Examples of Corporations (and Quasi Corporations): corporations, incorporated enterprises, public limited companies, public corporations, private companies, joint-stock companies, limited liability companies, limited liability partnerships, etc. These also include 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.

- *General government sector*: This is made up of government units, which organize and finance the provision of non-market goods and services, both
  - individual, such as health and education
  - and collective, such as defence, police
  - for households and community
  - that are provided free or not at *economically significant prices*.

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

- *Households sector*: 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.
- *Non-profit institutions serving households (NPISHs) sector*: The NPISHs are only those non-government NPIs (not controlled by the government) that serve households and produce non-market goods and services for households' consumption without charges or at prices not economically significant.

  Examples of NPISHs: Religious institutions like temples, shrines, mosques, churches; charitable organisations providing free education, health and cultural services like Red Cross, and trust-run educational institutions; local sporting and cultural clubs run on donations and contributions.

Basic SNA accounts

The *SNA* is designed to provide information about the assets and liabilities of the institutional sectors and the activities in which they engage, like production, consumption and the accumulation of assets, in a useful analytical form. The *SNA* captures economic flows of all kinds, both monetary and non-monetary transactions. All monetary transactions are between two units. There are transactions in the *SNA* framework that do not involve two institutional units. For instance, services of owner-occupied dwellings are produced and consumed by the same units – the households living in owned houses. The *SNA* sequence of accounts provide the aggregates for identifying the activities of analytical interest and capturing the transactions relevant to one stage or another of the process by which goods and services are produced and ultimately consumed.

To include the non-monetary transactions we have to include output of all kinds of production and disaggregate them into further sub-categories relevant for economic analysis.

In the system of national accounts, all transactions taking place in the economy are recorded in a consistent and systematic way, by making use of identities discussed in the earlier section. The three most important ones are:

- Total supply (domestic production and imports) and total use (domestic uses and exports) should be equal for each product.
- Total output of an industry should equal its inputs *minus* intermediate consumption *plus* the value of factor inputs.
- Total income generated in the domestic economy should equal the value of factor inputs.

These three rules form the basis for estimation of *gross domestic product* (GDP) by what are called the *production*, *expenditure* and *income approach*.

The accounting structure of the SNA also entails other identities relating financial and non-financial transactions. These are used for integrating data from a large variety of basic sources. Although GDP in current prices can be approached from the output side, the expenditure side or the income side, in the end there should be only one GDP. Balancing the data from the three approaches is essential to ensure their consistency and completeness. The SNA helps balancing the data.

In 1993/2008 SNA framework the main sets of accounts are:

- Current accounts:
    - *production account*
    - *income accounts*
        - *Generation of income account*

        - *Allocation of primary income account*
        - *Secondary distribution of income account*
        - *Use of income account*
- Accumulation accounts:
    - *capital accounts*
    - *financial account*
    - *other changes in assets account*
        - *other changes in volume of assets account*
        - *revaluation account*
- Balance sheet

All the accounts of the SNA, except *Balance Sheets* and the *Other Changes in Assets Accounts*, are constituted of the values of items representing transactions. This set of accounts is also described as "transaction accounts". The transactions are linked to the basic economic activities of production, income generation and distribution, consumption and capital formation.

Since, the transactions in the SNA framework is carried out between institutional units and assets are owned by institutional sectors, all these accounts and the balance sheets are compiled for the nation, each institutional sector and the rest of the world.

Besides these accounts, *supply and use tables* are compiled, only for the whole economy. This shows the sources of supply goods and services – industry-wise domestic production or imports - and different uses of these goods and services – exports or consumption or capital formation. It provides GDP estimate of the economy from production, income and distribution angles.

All the accounts of the SNA, except *Balance Sheets* and the *Other Changes in Assets Accounts*, are constituted of the values of items representing transactions. This set of accounts is also described as "transaction accounts". The transactions are linked to the basic economic activities of production, income generation and distribution, consumption and capital formation.

General Features of the Accounts

Like business accounts, each of these accounts of SNA have two sides, called

- '*resources*' and '*uses*' for **current accounts**
- '*changes in liability & net worth*' and '*changes in assets*' for **accumulation accounts**
- 'liabilities & net worth' and 'assets' for **Balance sheet**

Entries made in these accounts are based on the principle of double accounting, thus permit checking consistency.

The accounting structure - a complete set of flow accounts and balance sheets - applies to all institutional units / sub-sectors / sectors and total economy. However, all transactions are not relevant for all sectors.

Each account has a balancing item that is significant as a macro-economic aggregate like

- gross / net domestic product (GDP / NDP)
- gross / net national income (GNI/ NNI)
- disposable income
- saving and
- net lending/borrowing.

Goods and Services Account

The **Goods and Services Account** serves to capture all transactions in goods and services. It shows the sources of goods and services (production and imports), and the uses (intermediate and final consumption, investment in fixed capital and inventories, and exports). The goods and services account may be viewed as a combined *Supply-Use Table* (*SUT*), aggregated over all commodities and industries.

This account is founded on the identity:

$$\boldsymbol{GVO_{mp} = IC + PFCE + GFCE + GFCF + CIS}$$

$$+ \textbf{\textit{acquisition \underline{less} disposal of valuables}}$$

$$+ \boldsymbol{X - M} \text{ [discussed earlier]}$$

$$\Rightarrow \boldsymbol{GVO_{bp}} + (\boldsymbol{t\text{-}s}) \text{ on products} + \boldsymbol{M}$$

$$= \boldsymbol{IC + PFCE + GFCE + GFCF + CIS}$$

$$+ \textbf{\textit{acquisition \underline{less} disposal of valuables}} + \boldsymbol{X}$$

Goods and Services Account

Resources	**Uses**
Output, basic prices	Intermediate consumption
Taxes *less* subsidies on products	Final Consumption expnd:
Imports of goods & services	Households & NPISHs
	Gross Capital Formation
	GFCF
	Changes in Inventories
	Acquisition less disposal of valuables
	Exports of goods & services
Total supply	**Total use**

RoW Account

The rest of the world (*RoW*) account covers transactions between resident and non-resident institutional units. This is presented from the viewpoint of the rest of the world. In *Table 3.1*, 'sold products' of the *RoW* represent imports of goods and services (256) to the domestic economy and a resource for the *RoW*. Likewise, 'bought products' of the *RoW* (284) represent exports of the domestic economy and a use of *RoW*.

For an economy, the institutional units that are resident abroad and have some transaction with the residents form the *RoW*. The 'total economy' consists of all the institutional units which are resident of the economy. In the accounting structure, the *RoW* is treated as if it is another institutional sector. Thus, a resource for the *RoW* is a use for the total economy and *vice versa*. Thus, 'paid income' and 'paid transfers' of the *RoW* are respectively 'received income' and 'received transfers' of the domestic economy. *Table 3.1* shows that, all the first three identities relating to non-financial transactions, viz.

1. Value of products sold + imports ≡ Value of products purchased + exports
2. Primary income receivable from domestic units & *RoW*

   ≡ Primary income payable to domestic units & *RoW*
3. Transfers payable from domestic units & *RoW*

   ≡ Transfers receivable to domestic units & *RoW*

are satisfied for the total economy. These hold good for the individual sectors as well, only they cannot be verified from the information given in the table. [Also see *Box 3.1*: *External transactions in the* SNA]

External Transactions in the *SNA*

In the *SNA*, the RoW accounts are not presented separately. But, the entries for the flows involving the RoW are necessary to balance each of the *income accounts* in the sequence of accounts. For example, the difference between GDP and GNI results from transactions of primary income between the residents and the RoW, which are included in both uses- and resources-sides of *allocation of primary income account*. There are no entries for flows involving RoW in the *production account* and *generation of income account* because the use made of the goods and services in the RoW is not relevant for the domestic economy. For the same reason, there are no entries involving the RoW for intermediate or final consumption or for fixed capital formation (except in rare cases for acquisition and disposal of non-produced assets).

The following are the RoW-related entries normally appearing in the *SNA* sequence of accounts:

- Entries for imports and exports form part of the goods and services account.
- Entries for transactions of primary income - compensation of employees and property income – in the *allocation of primary income account*.
- Entries for transfers: current transfers in the *secondary distribution of income account* and capital transfers in the *capital account*.
- Entries for transactions in financial assets and liabilities in the *financial account*.

In the *SNA* sequence of transaction accounts, there is no place for recording balancing items of the RoW account. But, two of the balancing items of *Balance of Payment* accounts (BPM6) are inbuilt in the *SNA* sequence of accounts. They are:

» *external balance on goods and services*, which is the difference between imports and exports.

» *current external balance* which is the sum of all resources from RoW less all uses going to RoW, including imports and exports. This corresponds to *savings* of the RoW in the *use of income accounts*.

Main Identities and Sequence of Accounts

Commodity balance identity: [also called *product balance identity*]

$$GVO_{mp} \equiv IC + PFCE + GFCE + GFCF + CII$$

$$+ \text{ acquisition } \underline{\text{less}} \text{ disposal of valuables} + X - M \quad \ldots \quad [1]$$

where *PFCE* stands for *private final consumption expenditure,* which is *HFCE* and final consumption expenditure of the NPISHs

and *GFCE* stands for *Government final consumption expenditure*.

Production-side identity:

$$GDP_{mp} \equiv GVO_{bp} - IC + \text{product } (t\text{-}s) + (t\text{-}s) \text{ on imports} \quad \ldots \quad \ldots \quad [2]$$

Income-side identities:

$$GDP_{mp} \equiv (CE + OS \,\&\, MI) \text{ generated in domestic enterprises}$$

$$+ \text{ product } (t\text{-}s) + (t\text{-}s) \text{ on imports} \quad \ldots \quad \ldots \quad [3]$$

$$GNI \equiv (CE + OS \,\&\, MI) \text{ generated in domestic enterprises}$$

$$+ \text{ product } (t\text{-}s) + (t\text{-}s) \text{ on imports}$$

$$+ \text{ CE from RoW (net)} + \text{PI from RoW (net)} \ldots \quad \ldots \quad [4]$$

$$GNDI \equiv \text{GNI} + \text{(net) current transfers}$$

$$+ \text{ (Net) taxes on income \& wealth from RoW} \quad \ldots \quad [5]$$

Expenditure-side identities:

$$GDP_{mp} \equiv PFCE + GFCE + GFCF + CII$$

$$+ \text{ acquisition } \underline{\text{less}} \text{ disposal of valuables} + X - M \quad \ldots \quad \ldots \quad [6]$$

$$\textit{Gross Savings} \equiv GNDI - PFCE + GFCE \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad [7]$$

This implies

Net lending from RoW ≡

Gross Savings + (net) Capital transfer receivable

<u>minus</u> (*GFCF + CII + acquisition <u>less</u> disposal of valuables*)

- acquisition <u>less</u> disposal of non-produced non-financial assets

… … … … [8]

Sequence of Accounts

In the system of national accounts, all transactions taking place in the economy are recorded in a consistent and systematic way, by making use of identities discussed in the earlier section. The three most important ones are:

- Total supply (domestic production and imports) and total use (domestic uses and exports) should be equal for each product.
- Total output of an industry should equal its inputs *minus* intermediate consumption *plus* the value of factor inputs.
- Total income generated in the domestic economy should equal the value of factor inputs.

These three rules form the basis for estimation of *gross domestic product* (GDP) by what are called the *production*, *expenditure* and *income approach*.

In 1993/2008 SNA framework the main sets of accounts are:

- Current accounts:
  - *production account*
  - *income accounts*
    - *Generation of income account*
    - *Allocation of primary income account*
    - *Secondary distribution of income account*
    - *Use of income account*
- Accumulation accounts:
  - *capital accounts*
  - *financial account*
  - *other changes in assets account*
    - *other changes in volume of assets account*
    - *revaluation account*
- Balance sheet

Current accounts – record production, income generation, distribution and redistribution of income. This group consists of

Production account	based on	identity [2]
Income accounts		
– *Generation of income account*	based on	identity [3]
– *Allocation of primary income account*	based on	identity [4]
– *Secondary distribution of income account*	based on	identity [5]

– *Use of income account* based on identity [7]

Accumulation accounts – record all changes in assets and liabilities:

- ❖ *Capital account* based on identity [8]
- ❖ *Financial account*
- ❖ *Other changes in assets account*
    - » *Other changes in volume of assets account*
    - » *Revaluation account*

Balance sheets record the stocks of assets and liabilities and the difference between them.

All the accounts of the SNA, except *Balance Sheets* and the *Other Changes in Assets Accounts*, are constituted of the values of items representing transactions. This set of accounts is also described as "transaction accounts". The transactions are linked to the basic economic activities of production, income generation and distribution, consumption and capital formation.

Since, the transactions in the SNA framework is carried out between institutional units and assets are owned by institutional sectors, all these accounts and the balance sheets are compiled for the nation, each institutional sector and the rest of the world. However, all transactions are not relevant for all sectors.

Besides these accounts, *supply and use tables* are compiled, only for the whole economy. This shows the sources of supply goods and services – industry-wise domestic production or imports - and different uses of these goods and services – exports or consumption or capital formation. It provides GDP estimate of the economy from production, income and distribution angles.

All the accounts of the SNA, except *Balance Sheets* and the *Other Changes in Assets Accounts*, are constituted of the values of items representing transactions. This set of accounts is also described as *transaction accounts*. The transactions are linked to the basic economic activities of production, income generation and distribution, consumption and capital formation.

General Features of the Accounts

Like business accounts, each of these accounts of SNA has two sides, called

- '*resources*' and '*uses*' for **current accounts**
- '*changes in liability & net worth*' and '*changes in assets*' for **accumulation accounts**
- 'liabilities & net worth' and 'assets' for **Balance sheet**

***SNA* Sequence of Transaction Accounts in *net* terms**

Uses / changes in assets		**Resources**/changes in liability & net worth	
Production Account			
870	Intermediate consumption	GVO_{bp}	1199
		Products sold (at basic price)	1133
		For own use	23
10	*CFC*	Non-market	43
		(*t-s*) on products & import duties	126
445	***B.1 NDP***		
Generation of Income Account			
153	Compensation of employees	***B.1 NDP***	445
130	Production (*t-s*) & import duties		
162	***B.2 OS + B.3 MI*** *(net)*		
Allocation of Primary Income			
		B.2 OS + B.3 MI *(net)*	162
		Compensation of employees	152
121	Property income	Property income	118
		Production (*t-s*) & import duties	130
441	***B.5 NNI***		
Secondary Distribution of Income Account			
		B.5 NNI	441
3	Current transfers paid	Current transfers received	3
441	***B.6 NNDI***		
Use of Disposable Income Account			
		B.6 NNDI	441
408	Final consumption		
33	***B.8 Gross savings***		
Capital Account			
		B.8 Net savings	33
2	Capital transfers paid	Capital transfers received	1
23	Gross Capital formation		
- 10	*CFC*		
19	***B.9 Net lending / borrowing***		
Financial Account			
203	Net acquisition of financial assets	Net incurrence of liabilities	184
		B.9 Net lending / borrowing	19

CFC in Transaction Accounts

What is missing from the *SNA* accounts in *Table 3.5* is the *CFC*. Recall from *Lesson I* that the entire sequence of accounts can be produced in *gross* or *net* terms. In *Table 3.5*, the *SNA* accounts are shown in *gross* terms, i.e. without entering *CFC* in any of the transaction accounts.

For *SNA* sequence of accounts in *net* terms, one has to take *CFC* into consideration in the sequence of accounts. In the sequence of accounts (in *net* terms), the *CFC* is entered in the 'change in assets' side of the capital accounts, with a negative sign. To illustrate, let us assume that the estimate of *CFC* is **10**. The resulting sequence of accounts is shown in *Table 3.6*.

Note that *CFC* appears just twice in *Table 3.6* – once in the uses-side of the production account (**10**) and next in the 'changes in assets' of the capital account (**-10**). All the balancing items get changed to corresponding aggregates in net terms[4].

Balancing items

In this context, it is necessary to review the implications of including balancing items in the structure of the *SNA* accounts. One of the most important implications of the double accounting principle of accounting is that the difference or balance of non-financial transactions of the economy (as well as each institutional unit and institutional sectors) is counter balanced by the difference between the uses- and resources-side of financial transactions.

Recall that each of the transaction accounts have a balancing item, which is derived as the difference between the sums of resources- and uses-sides of the accounts. The balancing item, thus obtained is shown on the uses-side (or 'changes in assets' side) of each account and is repeated in the resources-side of the next account in the sequence. This is followed in all the non-financial transaction accounts – from the production account to the capital account. As a result, the sum of entries on the two sides of the non-financial accounts after introducing the balancing items remains the same as before. Thus, the difference between the sums of two sides will still be the *balance of non-financial transactions*, which is shown as ***Net lending / borrowing*** in the capital accounts – the last in the sequence of non-financial accounts.

[4] In fact, the balancing items in both 'gross' and 'net' terms along with the *CFC* are shown in all the transaction accounts.

Box 3.4:
Balancing Items in Full Sequence of Accounts

Account	Balancing item
Current accounts	
Goods and services account	
Production and Generation of Income accounts	
Production account	Value added
Generation of income account	Operating surplus/mixed income
Distribution and use of income accounts	
Allocation of primary income account	Balance of primary income
Secondary distribution of income account	Disposable income
Redistribution of income in kind account	Adjusted disposable income
Use of income accounts	
Use of disposable income account	Saving
Use of adjusted disposable income account	Saving
Accumulation accounts	
Capital account	Net borrowing(+)/Net lending (-)
Financial account	Net borrowing(+)/Net lending (-)
Other changes in assets account	
Other changes in volume of assets account	
Revaluation account	
Balance Sheets	
Opening balance sheet	Net worth
Closing balance sheets	Net worth

The *Redistribution of income in kind account* records social transfers in kind as resources for households and uses of government and NPISHs.

The *Use of adjusted disposable income account* is a variant of the *Use of disposable income account* which takes the balancing item from *Redistribution of income in kind account*.

Entries in Transaction Accounts – a Sum Up

This is a summary of how the main entries are made in the accounts of the System, for both monetary and non-monetary transactions. For the monetary transactions, the actual money flows are categorised as: (i) transactions in goods & services, (ii) transactions of primary income, and (iii) transactions of transfers.

We will use the following as an additional notation to indicate the accounts and institutional sectors involved.

Institutional Sectors

FC	Financial corporations
NFC	Non-financial corporations
GG	General Government
NPI	NPISHs
HH	Households
TE	Total economy

Accounts [combined with 'R' & 'U' to indicate resources and uses-sides or 'change in liability & net wealth' and 'Change in assets']

Pr	Production
GI	Generation of Income
PI	Allocation of Primary Income
SI	Secondary Distribution of Income
RSI	Redistribution of Income in Kind
UI	Use of Disposable Income
UAI	Use of Adjusted Disposable Income
Cp	Capital
Fn	Financial
Re	Revaluation

We will first examine the monetary non-financial transactions.

Entries in Transaction Accounts (except financial accounts) – Monetary Transactions

Actual money flow	***Categorised/ Partitioned/ reallocated / attributed/ re-routed as***	**Entries in the Accounts**
Transactions in goods & services		
Sale of products by producers	GVO_{bp} for FC, NFC & HH	Pr-R of FC, NFC & HH
	Product taxes less subsidies	Pr-R of TE GI-U of TE PI-R of GG
	Negative component of FCE for GG & NPI	UI-U of GG & NPI
Sale of products by traders	Positive component of GVO_{bp}	Pr-R of traders
	Product taxes less subsidies	Pr-R of TE GI-U of TE PI-R of GG
Sale of non-produced assets	Value of sales of non-produced assets less taxes	Cp-U of all sectors
	(wealth) taxes	SI-U of all sectors SI-R of GG
Sale of used products by HH	Negative component of HFCE[5]	UI-U of HH
Sale of used produced assets	Negative component of GFCF[6]	Cp-U of all producers
Purchase of products by producers	IC	Pr-U of all producers Pr-R of GG & NPI Pr-R if for 'own use'
	GFCF	Cp-U of all producers
	For payment of *w&s* in kind	GI-U of all producers
Purchase of products by traders	Negative component of GVO_{bp}	Pr-R of traders
Purchase of (used & unused) products by HH	GFCF, if dwelling unit	Cp-U of HH
	IC, if for maintenance of dwelling	Pr-U of HH
	HFCE, otherwise	UI-U of HH
Purchase of products by GG for social transfers	FCE	UI-U of GG
	Social transfer in kind	RSI-R of HH RSI-U of GG UAI-U of HH UAI-U of GG (-ve)
Purchase of non-produced	Value of purchase of non-produced	Cp-R of all sectors

[5] Just 'HFCE' indicates the positive component.
[6] Just 'GFCF' indicates the positive component.

Entries in Transaction Accounts (except financial accounts) – Monetary Transactions

Actual money flow	***Categorised/ Partitioned/ reallocated / attributed/ re-routed as***	**Entries in the Accounts**
assets	assets	
Purchase of used produced assets	GFCF	Cp-U of all producers
Cost of capital transfer	GFCF	Cp-U of all producers
Transactions of primary income		
Wages & salaries (*w&s)* in cash & kind receivable	CE	PI-R of HH
Interest receivable from financial intermediary institutions	SNA interest	PI-R of all
	FISIM	UI-U of HH Pr-U of all producers except FC Pr-R of FC
Interest receivable from other institutions	Investment income	PI-R of all
Dividends receivable	Investment income	PI-R of all
Investment income receivable by insurance agencies / pension funds	Property income	PI-R & PI-U of FC
	Premium / contribution supplements	SI-R of FC SI-U of insurers
Rent on non-produced assets receivable	Rent	PI-R of all
Production tax receivable	Taxes on products	PI-R of GG
	Other taxes on production	PI-R of GG
Production subsidies payable	Subsidies on products	PI-R of GG (-ve)
	Other subsidies on production	PI-R of GG (-ve)
w&s payable in cash	CE	GI-U of all producers Pr-R of GG & NPI Pr-R if for 'own use'
Employers' social contribution	CE	Pr-U of all producers Pr-R of GG & NPI Pr-R if for 'own use'
	Employees contribution *less* insurance service charges	SI-U of HH SI-R of FC
	Insurance service charges	Pr-R of FC PI-U of HH
Interest payable by financial	SNA interest	PI-U of FC

Entries in Transaction Accounts (except financial accounts) – Monetary Transactions

Actual money flow	***Categorised/ Partitioned/ reallocated / attributed/ re-routed as***	**Entries in the Accounts**
intermediary institutions	FISIM	Pr-R of FC
Interest payable other institutions	Investment income	PI-U of all except FC
Dividends payable	Investment income	PI-U of FC & NFC
Rent on non-produced assets payable	Rent	PI-U of all
Production tax payable	Taxes on products	GI-U of TE
	Other taxes on production	GI-U of producers
Production subsidies receivable	Subsidies on products	GI-R of TE (-ve)
	Other subsidies on production	GI-R of producers (-ve)
Transactions of transfers		
Taxes on income & wealth receivable	Current taxes	SI-R of GG
Social contributions receivable	Social contribution	SI-R of all employers
	Social insurance service charges	SI-R of all employers (-ve)
Social benefits & assistance receivable	Social benefits (other than those in kind) & assistance receivable	SI-R of HH
Non-life insurance premiums receivable	Other current transfers	SI-R of FC
Non-life insurance benefits receivable	Other current transfers	SI-R of all
current transfers receivable	Other current transfers	SI-R of all
Taxes on income & wealth payable	Current taxes	SI-R of all
Social contributions payable	Social contribution	SI-R of HH
	Social insurance service charges	SI-R of HH (-ve)
Social benefits & assistance payable	Social benefits (other than social transfers in kind) & assistance payable	SI-U of all employers
Non-life insurance premiums payable	Other current transfers	SI-U of all
Non-life insurance benefits payable	Other current transfers	SI-U of FC
Current transfers payable	Other current transfers	SI-U of all

Only the important entries relating to the non-monetary transactions are indicated in the table below:

Entries in Transaction Accounts (except financial accounts) – Non-monetary Transactions

Actual money flow	***Categorised/ Partitioned/ reallocated / attributed/ re-routed as***	**Entries in the Accounts**
Non-market production	GVO_{bp}	Pr-R of GG & NPI
	FCE of government and NPISHs	UI-U of GG & NPI
Production for own final consumption	GVO_{bp}	Pr-R of HH
	HFCE	UI-U of HH
Entry to inventories	CII - Material inputs	Cp-U of producers
	CII - Finished goods & work-in-progress	Cp-U of producers
Withdrawal from inventories	CII - Material inputs	Cp-U of producers (-ve) Pr-U of producers
	CII - Finished goods & work-in-progress	Cp-U of producers (-ve) Pr-R of producers
Adjustments for change in the pension entitlements	This is an exception transaction in the accounts	UI-R of HH UI-U of FC