

## Chapter 5.0 **THE UNITED NATIONS SYSTEM OF NATIONAL ACCOUNTS (SNA); OTHER SYSTEMS.**

While several national accounting systems exist, it can be said that the System of National Accounts (SNA), which has been proposed by the United Nations is the best known, as well as the most widely applied. This system was published for the first time in 1953, with a revised edition in 1968. A few years ago, a new revision of the system has been published, commonly called 'SNA 1993'. The main objective of the SNA is to offer countries a flexible, but coherent, national accounting framework which is supposed to cater for the needs of a wide variety of countries, having different socio-economic structures, while allowing for different uses of the system in different circumstances. Although the SNA has been adopted by most countries, variation exists in the ways in which countries have been implementing the system, the degree of detail in which the system is followed and the degree of accuracy of the estimates of the items presented in the accounts. At present, the national accounts of most countries are (still) mainly based on the '68 version; however, an increasing number of countries is making efforts to adjust their system towards the '93 edition.

Though this is not the place to present a comprehensive and detailed overview of the SNA, a brief description of the structure and main components of the system is presented below. First something will be said about the 1968 edition, next some of the main features of the 1993 edition will be highlighted. For a more systematic, yet brief presentation of the structure and main components of SNA '93 reference may be made to the Annex to section 5.2.

### 5.1 SNA 1968

This system is made up of a set of so-called Standard Accounts, and a set of Supporting and Supplementary Tables. Among the more important accounts and tables included in these sets are the following:

- a) a set of four main accounts for the economy as a whole, the so-called Consolidated Accounts for the Nation. This set, which is annually being compiled by almost all countries, is composed of the following four accounts:
  1. A consolidated production account for the economy, similar to the production account for the economy model C presented in section 4.1;
  2. A consolidated income-outlay account for the economy, similar to the income-outlay account for the economy model C presented in section 4.1;
  3. A consolidated capital account for the economy, similar to the capital account model for the economy presented in section 4.1 (without, however, the lower component re changes in financial assets and liabilities);
  4. An external account, similar to the external account model version A presented in section 4.1 (in other words, without the third component re changes in financial assets and liabilities as included in version B).

- b) various types of accounts and tables applying to lower levels of aggregation, such as sectors, industries, etc. Among these are:
- production accounts for branches of economic activity, somewhat similar to the production account model for a branch presented in section 4.1;
  - commodity accounts for different groups of more or less homogeneous commodities, similar to the commodity account model presented in section 4.1;
  - income-outlay accounts for institutional sectors, similar to the corresponding models presented in section 4.1 (however, without the breakdowns 'domestic - abroad');
  - capital accounts for institutional sectors, somewhat similar to the capital account model version B presented in section 4.1 (however, without the breakdowns 'domestic - abroad');
  - a table showing the Value Added and its composition by branch of economic activity;
  - a table showing government final consumption expenditure according to cost composition and purpose;
  - a table showing the composition of final consumption expenditure of households;
  - a table showing the composition of gross fixed capital formation;
  - a table showing the National Income, and the National Disposable Income;
  - tables showing income-outlay, capital, and financial transactions for various sectors and branches.

Note that of the accounts and tables mentioned under (b) the production accounts for branches of activity, the commodity accounts, the income-outlay accounts for institutional sectors and the capital-finance accounts for institutional sectors should be interpreted as dis-aggregations of the production account, the income-outlay account and the capital-finance account for the nation.

The above mentioned accounts and tables refer to values in current prices. A number of tables referring to values in constant prices have also been included in the system.

Below a brief outline will be given of the structure of the national accounts of Sri Lanka, representing a typical application of SNA '68. The outline will include the presentation of the four consolidated accounts for the nation as referred to under (a) above.

## APPLICATION: THE NATIONAL ACCOUNTS OF SRI LANKA

As far as Sri Lanka is concerned, two institutions are engaged in compiling on a regular basis national accounts estimates, namely 1. the Department of Census and Statistics (DCS) of the ministry of Policy Planning and Implementation; 2. the Central Bank of Sri Lanka (CBSL).

The work of DCS in this connection includes among other things the preparation of consolidated accounts for the economy; sectoral income-and outlay accounts; sectoral capital accounts; value added estimates (including breakdown by components) for branches of economic activity; commodity accounts for selected groups of commodities. The various estimates prepared by DCS refer to values expressed at current as well as at constant prices. In general it can be said that DCS follows the SNA guidelines and recommendations in its national accounts work.

The work of CBSL on national accounts, which is based too on the SNA guidelines, includes among other things estimates of a number of macro-economic aggregates and components, such as GDP, private and government final consumption expenditure, investment expenditure, foreign transactions, saving, etc.; as well as estimates of value added by branches of economic activity. Also the CBSL estimates relate to values in both current and constant price terms.

The 'National Accounts of Sri Lanka 1989', published by DCS, includes among others the following accounts and tables:

- four consolidated accounts for the economy (current prices)
- income-outlay account government (current prices)
- capital accumulation account government (current prices)
- income-outlay account households (current prices)
  
- table value added main branches of economic activity (current prices)
- tables 1987- 1989 breakdown of value added by cost components main branches of economic activity (current prices)
- table value added main branches of economic activity (constant prices)
- table value added sub-branches of agriculture (current prices)
- table value added sub-branches of agriculture (constant prices)
- tables 1987-1989 supply and disposition of agricultural sector commodities (current prices)
- table value added sub-branches of manufacturing (current prices)
- table composition private final consumption expenditure (current prices)
- table supplementary analysis composition private final consumption expenditure (current prices)

- table composition private final consumption expenditure (constant prices)
- table composition government final consumption expenditure (current prices)
- table composition government final consumption expenditure (constant prices)
- table composition gross fixed capital formation (current prices)
- table supplementary analysis composition gross fixed capital formation (current prices)
- table composition gross fixed capital formation (constant prices)
- table external transactions on current account
- summary table national product/income aggregates

Note, that some of the tables may be expressed in terms of T-accounts. For example, the tables concerning value added by branch of economic activity, and the breakdown by cost components may, in a combined way be expressed as T-accounts, as such representing production accounts for branches of economic activity. The table concerning supply and disposition of agricultural sector commodities may be expressed in terms of a set of T-accounts, as such representing a set of commodity accounts.

The part dealing with national accounts estimates of the Statistical Appendix of the 'Annual Report 1989' of CBSL includes among others the following tables:

- summary table national product/income aggregates
- table value added main branches of economic activity (current prices), factor costs
- table value added main branches of economic activity (constant prices), factor costs
- tables re gross national expenditure (current prices)
- table composition private final consumption expenditure (current prices)
- table composition gross fixed capital formation (current prices)

Other parts of the Statistical Appendix include tables which provide details on a number of national accounting items. Among these are tables relating to external transactions and to government finance.

By way of illustration we have reproduced (see tables 7 to 10 below) the four consolidated accounts for the economy of Sri Lanka (years 1986 to 1989), from The 'National Accounts of Sri Lanka 1989' (DCS). These accounts are almost identical to the SNA format. The following additional remarks may be made with respect to these accounts:

### Account No. 1 - Gross Domestic Product and Expenditure

This account is similar to the production account for the Economy, version C, as presented earlier. The item 'Compensation of Employees' refers to wages and salaries, including allowances, etc. The item 'Consumption of fixed capital' refers to depreciation allowances. The item 'Increase in Stocks' refers to investments in stocks, while that of 'Gross Fixed Capital Formation' refers to investments in fixed assets.

### Account No. 2 - National Disposable Income and its Appropriation

This account is similar to the income-outlay account for the Economy, version C, as presented earlier. Most of the items speak for themselves. Note that the items 'Compensation of Employees from rest of the World', 'Property and Entrepreneurial Income from rest of the World', and 'Other Current Transfers from Rest of the World' are all in net terms. The sum of the first two of these items gives the total net factor income from abroad.

### Account No. 3 - Capital Finance

This account is comparable to the capital account for the Economy presented earlier. The item 'Net Lending to the rest of the World', which is the balancing item of this account, is negative, for all four years concerned.

This means that on balance there has been borrowing from the rest of the World, because domestic resources plus capital transfers from abroad were insufficient to finance the gross accumulation. The actual gross investment taken place in the economy is equal to the sum of the items 'Increase in Stocks' and 'Gross Fixed Capital Formation'.

### Account No. 4 - The Rest of the World

This account is similar to the upper panel (i.e. the Current Transactions panel) of the External Account for the Economy as earlier presented. The Capital Transactions panel has not been given. If it would have been given, it would have included, among other things, the capital transfers from abroad. Note that the various flows of transactions from and to the rest of the World are not given in net terms, but according to their respective components.

The surplus of the Nation on Current Transactions, which is the balancing item of the Current Transactions panel, gives for all four years negative figures. This indicates that Sri Lanka was re its current transactions vis-a`-vis the rest of the world in a deficit position in these years. Since for all four years the net capital transfers from abroad were positive (see account No. 3), the overall deficit of Sri Lanka vis-a`-vis the rest of the world has been smaller, ceteris paribus, as would have become clear in case the Capital Transactions panel would have been given in this account.

The items as incorporated in these four Consolidated Accounts for the Nation have, with a few exceptions, all been recorded twice, i.e. once as an incoming, and once as an outgoing. This is in conformity with the double-entry registration principle, an accounting principle which is well known from business accounting. However, the double-entry principle is usually not fully maintained in a country's national accounting system, as the accounts at the sub-national level (i.e the dis-aggregated accounts) are normally not fully interlocking, for which reason the double-entry principle cannot be applied throughout.

TABLE 7 ACCOUNT NO. 1 – CONSOLIDATED ACCOUNTS FOR THE NATION – GROSS DOMESTIC PRODUCT AND EXPENDITURE

					(Rs. Million)				
					1986	1987	1988	1989	
Compensation of Employees	78,740.8	86,387.9	98,695.8	110,032.7	Government Final Consumption Expenditure	22,989.6	26,203.5	30,331.0	32,584.8
Operating Surplus	61,682.3	66,411.3	82,267.1	92,191.9	Private Final Consumption Expenditure	130,727.7	138,753.7	163,092.2	184,378.7
Consumption of Fixed Capital	7,698.8	8,799.5	9,569.5	10,193.7	Increase in Stocks*	1,364.8	-152.6	1,389.1	4,421.1
Indirect Taxes	26,437.0	20,273.8	30,448.5	38,224.2	Gross Fixed Capital Formation	38,494.0	43,947.6	47,847.5	50,968.4
Less: Subsidies	2,118.6	2,050.9	2,206.9	2,412.5	Exports of Goods and Services	42,601.6	50,763.2	57,885.4	68,485.7
					Less: Imports of Goods and Services	63,737.4	70,693.8	81,771.2	92,608.7
Gross Domestic Product	172,440.3	188,821.6	218,774.0	248,230.0	Expenditure on Gross Domestic Product	172,440.3	188,821.6	218,774.0	248,230.0

\* Includes Statistical Discrepancy

TABLE 8 ACCOUNT NO. 2 – CONSOLIDATED ACCOUNTS FOR THE NATION – NATIONAL DISPOSABLE INCOME AND ITS APPROPRIATION

					(Rs. Million)				
					1986	1987	1988	1989	
Government Final Consumption Expenditure	22,989.6	26,203.5	30,331.0	32,584.8	Compensation of Employees	78,740.8	86,387.9	98,695.8	110,032.7
Private Final Consumption Expenditure	130,727.7	138,753.7	163,092.2	184,378.7	Operating Surplus	61,682.3	66,411.3	82,267.1	92,191.9
Saving Net	15,735.8	19,591.7	20,702.2	26,011.1	Compensation of Employees From Rest of the World	-3870.9	-4699	-5265.9	-5906.1
					Property and Entrepreneurial Income from Rest of the World				
					Indirect Taxes	26,437.0	29,273.8	30,448.5	38,224.2
					Less:				
					Subsidies	2,118.6	2,050.9	2,206.9	2,412.5
					Other Current Transfers from Rest of the World	7,982.5	9,225.8	10,186.8	10,844.4
Gross Domestic Product	168,853.1	184,548.9	214,125.4	242,974.6	Disposable Income	168,853.1	184,584.9	214,125.4	242,974.6

TABLE 9 ACCOUNT NO. 3 – CONSOLIDATED ACCOUNTS FOR THE NATION – CAPITAL FINANCE ACCOUNT

					(Rs. Million)				
Disbursements	1986	1987	1988	1989	Receipts	1986	1987	1988	1989
Increase in Stocks	1,364.8	-152.6	1,389.1	4,421.1	Saving, Net	15,135.8	19,591.7	20,702.2	26,011.1
Gross Fixed Capital Formation	38,494.0	43,947.6	47,847.5	50,968.4	Consumption of Fixed Capital	7,698.8	8,799.5	9,569.5	10,193.7
					Capital Transfers from Rest of the World	5,114.3	5,311.1	6,588.2	6,189.8
Net Lending to the Rest of the World	-11909.9	-10092.7	-12376.7	-12994.9					
Gross Accumulation	27,948.9	33,702.3	36,859.9	42,394.6	Finance Gross Accumulation	27,948.9	33,702.	36,859.9	42,394.6

TABLE 10 ACCOUNT NO. 4 – CONSOLIDATED ACCOUNTS FOR THE NATION – THE REST OF THE WORLD

					(Rs. Million)				
					1986	1987	1988	1989	
Export of Goods and Services	42,601	50,763	57,885	68,486	Import of Goods and Services	63,737	70,694	81,771	92,609
Compensation of Employees from the Rest of the World	1,893	2,056	2,197	2,074	Compensation of Employees from the Rest of the World	5,764	6,755	7,463	7,980
Property and entrepreneurial Income from the Rest of the World					Property and entrepreneurial Income from the Rest of the World				
Other Current Transfers from the Rest of the World	8,873	10,324	11,386	12,201	Other Current Transfers from the Rest of the World	890	1,098	1,199	1,357
					Surplus of the Nation on Current transaction	-17024	-15404	-18965	-19185
Current Receipts	53,367	63,143	71,468	82,761	Disposal of Current Receipts	53,367	63,143	71,468	82,761

## 5.2 SNA 1993

First of all it is important to state that SNA '93 is based on the same broad concepts as SNA '68. Furthermore, the '93 version, like the earlier edition, allows for aggregated and dis-aggregated accounts. Although in this version no explicit reference is being made to the four consolidated accounts for the nation, the compilation of these accounts is clearly implied.

In general it may be said that SNA 1993 in its structure is more elaborate than the previous version, among other things with respect to the various types of accounts distinguished in this new system. Differences between the types of accounts distinguished in SNA '68 on the one hand, and SNA '93 on the other, are the result of two kinds of changes, i.e.:

- A) Changes in the presentation of some of the accounts as known already from SNA '68. Some of these changes concern the **splitting-up** of the original accounts into two or more sub-accounts. Cases in point are the production account, and the income-outlay account. Among the reasons for doing this is that of obtaining more balancing items which are felt to be of analytical significance.
- B) Introduction of entirely **new types** of accounts. These new types include:
- accounts which show changes in the volumes of assets (financial and non-financial) due to causes other than economic transactions (the so-called 'other changes in volume of assets account');
  - accounts which show changes in the values of assets (financial and non-financial) and liabilities due to price changes (the so-called 'revaluation accounts');
  - balance sheets, and changes in balance sheets.

### **AD A) above: The splitting-up of accounts.**

The splitting-up of the production account and the income-outlay account may be demonstrated (in a somewhat stylized manner) as follows:

#### PRODUCTION ACCOUNT

##### Production account - SNA 1968

In the production account below the operating surplus item is the balancing item.

OUTG.	PRODUCTION ACCOUNT		INC.
Interm. Consumption		Gross Output	
Comp.of Employees			
Ind. Taxes, net			
Cons. of fixed Capital			
OP.SURPLUS			
Total		Total	

Production account and Generation of Income account - SNA 1993

In the SNA 1993 the production account according to SNA 1968 has been split-up into two sub-accounts, i.e. a simplified production account and a so-called 'generation of income account'. The value added item is the balancing item in the former type of account; the operating surplus item is the balancing item in the latter type of account

OUTG.	PRODUCTION ACCOUNT		INC.
Interm. Consumption		Gross Output	
VALUE ADDED			
Total		Total	

OUTG.	INCOME GENERATION ACCOUNT		INC.
Comp.of Employees		Value added	
Ind. Taxes, net			
Cons. of Fixed Capital			
OP.SURPLUS			
Total		Total	

Note, that after addition and consolidation of the two accounts above the original SNA 1968 production account will be obtained.

## INCOME - OUTLAY ACCOUNT

Below the splitting-up of the income-outlay account SNA '68 into a number of sub-accounts is demonstrated for the sector non-financial enterprises. Each sub-account has its own balancing item.

### Income-outlay account - SNA 1968

In the income-outlay account below the saving item is the balancing item.

OUTG.	INCOME - OUTLAY ACCOUNT NON-FINANCIAL ENTERPRISES	INC.
Property income paid	Op.surplus	
- interest, rent	Property income rec.	
- distrib. profits	Other curr. transf. rec.	
Direct taxes paid		
Other curr, transf. paid		
SAVING		
Total	Total	

### Income-outlay sub-accounts - SNA 1993

OUTG.	ENTREPRENEURIAL INCOME ACCOUNT NON-FINANCIAL ENTERPRISES	INC.
Property income paid	Op.surplus	
- interest, rent	Property income rec.	
ENTREPRENEURIAL INCOME		
Total	Total	

The balancing item in the above sub-account, i.e. 'entrepreneurial income', is more or less equivalent to the concept of current profit in business accounting.

OUTG.	APPROPR. OF OTHER PRIMARY INCOME ACCOUNT NON-FINANCIAL ENTERPRISES	INC.
Property income paid - distrib. profits		Entrepreneurial income
PRIMARY INCOME		
Total		Total

The balancing item in the above sub-account, i.e. 'primary income', can be considered the sectoral equivalent of the concept of national income.

OUTG.	SECONDARY DISTRIBUTION OF INCOME ACCOUNT NON-FINANCIAL ENTERPRISES	INC.
Direct taxes paid		Primary income
Other curr, transf. paid		Other curr. transf. rec.
DISPOSABLE INCOME		
Total		Total

The balancing item in the above sub-account, i.e. 'disposable income', can be considered the sectoral equivalent of the concept of national disposable income.

OUTG.	USE OF INCOME ACCOUNT NON-FINANCIAL ENTERPRISES	INC.
SAVING		Disposable income
Total		Total

The balancing item in the above sub-account, i.e. 'saving', is identical to that of the income-outlay account SNA 1968.

Note, that after addition and consolidation of the sequence of sub-accounts presented above the original SNA 1968 income-outlay account will be obtained.

**AD B) above: The introduction of entirely new types of accounts.**

The nature of these types of accounts may be briefly outlined as follows:

OTHER CHANGES IN VOLUME OF ASSETS A/C	
Changes in assets	Changes in liabilities and net worth
Ch. in Non-fin. Ass.	Ch. in Liabil.
Ch. in Fin. Ass.	<b>Ch. in Net Worth</b>
Total	Total

The Other Changes in Volume of Assets Account shows changes in the volumes of different kinds of financial and non-financial assets and liabilities due to causes other than the accumulation transactions recorded in the Capital Account and the Financial Account. Examples include: discoveries or **depletion of subsoil resources**, destruction by political events (e.g. war) or by natural catastrophes (e.g. earthquakes). But also **degradation of land, water resources and other natural assets** may be recorded in this account, provided these assets have been recorded in the balance sheet as well.

REVALUATION A/C	
Changes in assets	Changes in liabilities and net worth
Ch. in Non-fin. Ass.	Ch. in Liabil.
Ch. in Fin. Ass.	<b>Ch. in Net Worth</b>
Total	Total

The Revaluation Account shows changes in the values of assets and liabilities due to changes their (relative) prices during the accounting period.

BALANCE SHEET	
Assets	Liabilities and net worth
Non-fin. Ass. gross	Liabil
Accum Cons F Cap (-)	
Non-fin. Ass. net	<b>Net Worth</b>
Fin. Ass	
Total	Total

The Balance Sheet, which is a stock account, shows the value of the assets (financial and non-financial) and the liabilities at a specific point in time, as well as the difference between assets and liabilities, called 'net worth'. The latter item is the balancing item.

CHANGES IN BALANCE SHEET (BS 31/12 - BS 1/1)	
Assets	Liab. & net worth
Ch. in NF Ass gr	Ch. in Liabil
Ch. Accum Cons F C (-)	
Ch. in NF Ass n	<b>Ch. in Net Worth</b>
Ch. in Fin Ass	
Total	Total

The Changes in Balance Sheet Account shows the differences in balance sheets for two successive accounting periods.

### Flows and stocks

The extensions as implied by A) and B) described above result into an accounting system which is characterized by a sequence of different types of accounts which relate not only to different kinds of **flows** (e.g. output, income, consumption expenditure etc.), but also to **stocks** (of financial as well as non-financial assets, and of liabilities), and changes in these stocks.

Such sequence of accounts may be compiled for domestic institutional sectors; the rest of the world; and the economy as a whole.

## Supply & Use Table (SUT)

Another important component of SNA '93 is formed by the so-called Supply & Use Table (SUT) system. A brief presentation of this system, which forms the basis for the construction of input-output tables (see the next chapter), can be found in the Annex to this section on the structure and main components of SNA '93.

## Production accounts for branches and for institutional sectors

A final point concerns the following. SNA '68 recommends the compilation of disaggregated production accounts only by branch of production activity, not by institutional sector. SNA '93 on the other hands calls for both (be it in the new style as described above, i.e. the simplified type of production account together with the income generation account). In order to understand the relationship between these accounts for branches of production activity on the one hand and for institutional sectors on the other, the following may be said.

The accounts for branches of production activity are based on establishment data, classified by kind of production activity (agricultural activities, mining activities etc.). In this connection an establishment should be understood as a production unit characterized by: a main kind of production activity; a single physical location; a single management. Examples of establishments are: farms, mines, factories, workshops, shops, banks, hospitals, etc. They form the most direct level at which primary statistical data related to production can be collected. Establishments can be grouped together in homogeneous groups according to their main kind of activity, irrespective of the institutional units to which they belong (see below). Such a group is often referred to as a branch of economic (or: production) activity.

Establishments are owned by institutional units. In this connection an institutional unit should be understood as an economic unit which is capable of owing assets and incurring liabilities on its own behalf. In principle it can engage in any kind of economic transaction. Institutional units may be distinguished from each other according to their specific type of economic behaviour. Examples of different types of institutional units are: households, enterprises, non-profit institutions, government authorities. A group of the same type of institutional units is called an institutional sector.

An institutional unit may own one or more establishments. For example, while a small enterprise will normally own just one farm, shop or factory, a large one may own a couple of shops, or a couple of factories, or a couple of banks, etc. A ministry of health may have established and manage a number of state hospitals, a non-profit organisation may own one or more schools etc.

From the above it will be clear that establishment-wise collected data on production may be classified according to the main kinds of production activity carried out by the establishments, no matter what kind of institutional unit they belong to. On the basis of this, production accounts by kind of production activity may be compiled. Aggregation of these production accounts give an economy-wide production account, of which the value added total equals GDP. On the other hand it is also possible to classify these establishment-wise collected data

according to the institutional unit to which they belong. In this way production accounts by institutional sector may be compiled. Aggregation of these production accounts should again give an economy-wide production account, of which the value added total equals GDP. Production accounts by institutional sector may also be derived from data directly collected at the level of the institutional unit (i.e. profit and loss data, income and expenditure data etc.), rather than from establishment-wise collected data. Theoretically speaking, the two approaches for the compilation of production accounts by institutional sector should yield the same results. In practice, the two may be used in combination with each other.

### 5.3 Other international systems

Although the national accounts of the vast majority of countries are based on the SNA system, this does not mean that this is the only system which has been proposed internationally. As was already mentioned earlier, the United Nations have also published an alternative system, namely the System of Material Product Balances (MPS). This system has been developed in response to the need of the (formerly) centrally planned economies for a national accounting framework appropriate for their circumstances. It differs in a number of respects from the SNA. Not only do differences exist in the kinds of accounts distinguished, but also in the definition of the aggregate flows of product and income. These differences, at least to a certain extent, reflect ideological differences. In order to enable international comparison, conversion systems have been developed which are meant to express data presented in one system (say MPS) in terms of the other system (SNA).

However, since almost all countries concerned are switching from centrally planned economies to market-oriented types of economies, a corresponding change in national accounting system is taking place, i.e. a switch from MPS to SNA. As a result, hardly any of these countries implement the MPS system anymore.

The European System of Integrated Economic Accounts (ESA), used by member countries of the European Union to report to the Statistical Office of the Union (Eurostat), is yet another system of national accounts. The 1995 version of this system is based on SNA '93, and very similar to it.