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CHANGES BETWEEN THE UN SYSTEM OF NATIONAL ACCOUNTS OF 1993 AND THAT OF 1968

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While the new version of the System of National Accounts 1993 (SNA 1993) recommended by the United Nations retains the basic theoretical framework of the old version (SNA 1968), it does contain more clarifications and justifications of the definitions, concepts, accounts and classifications presented. One of the most important features of the new System is the flexibility of its implementation: flexibility in the use of classifications as well as in extending the so-called satellite accounts that use product and income concepts that are alternative to those of the central framework. In addition, the System is harmonised with other related statistical systems and introduces a number of features that reflect analytical and policy concerns of countries and international organisations, describes and incorporates population and employment data and pays special attention to the conceptual implications of economies in transition. The aim of this paper is to review and investigate in detail the main changes between the two systems in a consistent manner covering the whole range of concepts included in the central framework of SNA 1993.

1. INTRODUCTION

The System of National Accounts 1993 retains the basic theoretical framework of the 1968 SNA². It contains more clarifications and justifications of the concepts presented, it is harmonised with other related statistical systems and it introduces a number of features that reflect analytical and policy concerns of countries and international organisations.

2. THE MAIN FEATURES OF SNA 1993

The classifications and concepts of the central framework are internally more closely linked up with each other and more fully harmonised externally

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²Sources: UN System of National Accounts, New York, 1968 and UN System of National Accounts, New York, 1993.

with standards of related statistical systems than in the 1968 SNA. Particular attention has been given to the production boundary with regard to coverage of own-account production of goods and services. Also, more precise criteria have been established for the delineation and coverage of the financial sector and identification and classification of financial instruments in light of the many innovations in this field in recent years. The central framework retains input-output tables as an integral part of the System particularly as the basis for balancing supply and demand. It includes a detailed breakdown of the household sector by sub-sectors including all accounts which facilitate the links between SNA and social accounting matrices (SAMs). The System also describes and incorporates population and employment data. The System pays special attention to the conceptual implications of some of the structural features of economies in transition.

There are two important elements of flexibility built into the System. a) The flexible use of classifications, which is based on a hierarchical structure of classifications of transactors, transactions and assets that permits adaptation of data detail to data availability and other specific circumstances of different countries. This flexible use of classifications does not change the concepts of the central framework. b) The flexibility in extending the System to so-called satellite accounts that use product and income concepts that are alternative to those of the central framework. A description of satellite accounts relating to the environment provides a notable example of this kind of flexibility.

3. CHANGES BETWEEN SNA 1993 AND SNA 1968

This paper will only highlight the main differences between the two Systems while refraining from exhaustive comparison of definitions.

The main differences could be discussed in groups as follows:

3.1. Accounting Structure and New Balancing Items

In the 1993 SNA the overall sequence of accounts of institutional units and sectors is now subdivided into (1) current accounts, (2) accumulation accounts and (3) balance sheets.

3.1.1. Current Accounts

The 1993 SNA partitions the production account of the 1968 SNA into two accounts (a) a production account, where the balancing item is "value added", and (b) a generation of income account, with "operating surplus/mixed income" as the balancing item. The generation of income account has been moved to the next group of accounts.

This second group of accounts is divided into the following accounts: (a) generation of income account, with "operating surplus/mixed income" as the balancing item; (b) allocation of primary income account, with "balance of primary incomes" as the balancing item; (c) secondary distribution of income account, with "disposable income" as the balancing item; (d) redistribution of income in kind account, with "adjusted disposable income" as the balancing item; and (e) use of income account, with "saving" as the balancing item.

The 1993 SNA recommends a cross-classification output, intermediate consumption, gross value added and its components by type of sector and industry. It does not use the terminology "dual sectoring" sometimes used in the 1968 SNA.

The 1993 SNA introduces a distinction between the operating surplus of certain unincorporated enterprises owned by households and the operating surplus of other enterprises. It introduces a new name for the net operating surplus arising from the productive activities of unincorporated enterprises owned by households. The new category is called mixed income because it usually reflects remuneration for work done by the owner of the enterprise as well as a return to entrepreneurship.

The 1993 SNA introduces a new concept called balance of primary incomes which is the sector equivalent of national income. The sum of the balance of primary incomes across sectors is GNI which is the new term for what was called gross national product (GNP) in the 1953 SNA.

3.1.2. Accumulation Accounts

The 1993 SNA divides the capital finance account of the 1968 SNA into two accounts. The two accounts are (a) the capital account, with "net

lending/borrowing" as the balancing item; and (b) the financial account also with "net lending/borrowing" as the balancing item. An additional entry called "changes in net worth due to saving and capital transfers" is identified in the capital account.

In the 1993 SNA the reconciliation account of the 1968 SNA has been integrated into a new set of accumulation accounts which cover all changes between two successive balance sheets. Two new accounts are introduced: (a) the other changes in volume of assets accounts, with "changes in net worth due to other changes in volume of assets" as the balancing item; and (b) the revaluation account with "changes in net worth due to nominal holding gains/losses" as the balancing item. The latter account is further broken down into two sub-accounts in order to separate real holding gains/losses in both financial and non-financial assets/liabilities from neutral holding gains/losses that are merely proportionate to changes in the general price level. Consequently, the 1993 SNA incorporates a new balancing item, "changes in net worth" which includes three sub-elements: (a) changes in net worth, due to saving and capital transfers; (b) changes in net worth due to other changes in volume of assets, and (c) changes in net worth due to nominal holding gains/losses.

3.1.3. Balance Sheets

The accounting structure of the System integrates the balance sheets as an additional group. The 1968 SNA did not specify balance sheets in detail; they were developed later in a separate publication.

3.2. Institutional Unit

The 1993 SNA defines an institutional unit as an economic entity that is capable in its own right of owning assets, incurring liabilities and engaging in economic activities and in transactions with other units. Corporations providing ancillary-type services to a parent corporation are merged with the parent corporation into one single institutional unit. Also included in the corporate sectors as separate institutional units are quasi-corporations. The 1968 SNA did not include explicit definitions for institutional units but made reference to one criterion availability of complete accounts. It did not make reference to the requirement that information on withdrawals of entrepreneurial income had to be available.

The 1993 SNA introduces a distinction between an analytical unit and an observable unit in the production accounts in the supply and use and input-output tables. The analytical unit is used in the construction of the input-output table.

The 1993 SNA recommends that in agriculture the statistical unit and the definition of output should be the same as for other market producers. The establishment in agricultural activities refers to the individual agricultural holding. As in the case of other activities, the output includes transactions between agricultural holdings but excludes products for intermediate consumption within the same agricultural holding. It may be necessary to use either the "gross-gross" measurements of output, or the concept of the "national farm" in which agricultural products used either in the same or other agricultural holdings are entirely omitted. The 1968 SNA did not deal explicitly with the definition of statistical unit and gross output in agriculture.

The 1968 SNA terms "corporate enterprises" and "quasi-corporate enterprises" have been shortened to "corporations" and "quasi-corporations" in the 1993 SNA.

3.3. Institutional Sectors

3.3.1. Financial and non-Financial Sectors

The 1993 SNA has enlarged the 1968 SNA financial sector to include auxiliaries engaged primarily in activities that facilitate financial intermediation or provide financial services without placing themselves at risk.

In subsectoring non-financial and financial corporate and quasi-corporate enterprises, the 1968 SNA distinguished between public and private enterprises but did not distinguish between resident enterprises that are subject to foreign control and those that are not.

The 1993 SNA recommends the following subsectors for the non-financial and financial corporation sectors: public corporations, national private corporations and foreign controlled corporations.

The 1993 SNA recommends that holding companies should be assigned to the institutional sector in which the main activity of the group of subsidiaries is concentrated. They should be classified as financial corporations only when the main activity of the group of corporations they control is financial.

The 1993 SNA sub-sectors financial corporations as follows: (a) central bank; (b) other depository corporations; (c) other financial intermediaries except insurance corporations and pension funds; (d) financial auxiliaries; and (e) insurance corporations and pension funds. Thus, the sub-sector "Other depository corporations" has been established to include all financial corporations except the central bank whose principal activity is financial intermediation.

Since the word "bank" has in some countries a meaning that is different from the new interpretation in the System, the 1993 SNA has changed two 1968 SNA related terms as follows: "depository corporation" is used instead of "bank" and "financial intermediation services" instead of "banking services".

In the 1993 SNA, financial unincorporated enterprises owned by households, such as individuals engaged in financial intermediation or in services auxiliary to financial intermediation are classified in the households sector.

The 1993 SNA treats money lenders who incur liabilities to mobilise funds as financial intermediaries included in the households sector and their output is measured the same way as that of other financial intermediaries. Money lenders who make loans from their own resources are also considered producers of financial services provided their services can be measured. Money lenders were not explicitly referred to in the 1968 SNA.

3.3.2. General Government

The 1993 SNA recommends two ways for sub-sectoring general government; a) include social security funds as part of each level of government at which they operate, or b) as a sub-sector separate from the operations of all levels of government. The 1968 SNA recommended only the latter classification.

The 1993 SNA introduces state government as an additional level of government between central and local government. This breakdown is only to be applied in those countries where it is meaningful.

3.3.3. Household Sector

The 1993 SNA recommends sub-sectoring the households sector on the basis of the nature of the household's largest source of income. The following sub-sectors are distinguished: (a) employers; (b) own-account workers; (c) employees; and (d) recipients of property and transfer income. The 1993 SNA also suggests sub-sectoring households on the basis of other criteria of an economic, socio-economic or geographical nature.

3.4. Production Boundary

The production boundary in the 1993 SNA is only slightly different from the one in the 1968 SNA. In defining the production boundary, the 1993 SNA depends on the distinction between goods and services. It includes the production of all goods within the production boundary, and the production of all services except personal and domestic services produced for own final consumption within households (other than the services of owner occupiers and those produced by employing paid domestic staff).

3.4.1. Own Account Production

With regard to own-account production of goods by households, the 1993 SNA has removed the 1968 SNA limitations which excluded the production of goods not made from primary products, the processing of primary products by those who do not produce them and the production of other goods by households who do not sell any part of them on the market.

In general, labour inputs are valued at actual compensation paid even if this is very low or even zero. However, in the case of production of tangible fixed assets for own use resulting from communal household activities, an estimate of the value of labour input is needed in order to calculate the total cost of the assets.

The coverage of own-account production is clarified. The storage of agricultural goods produced by households is included within the production boundary as an extension of the goods producing process, as is the supply of water (water-carrying).

3.4.2. Production of Services for Own Use

The 1993 SNA, like the 1968 SNA, excluded from the production boundary the production of services by households for own final consumption. Included, however, is the production of services of owner-occupied dwellings and the production of services for own final consumption by employing paid domestic staff. The 1993 SNA explains that in the central framework no values are recorded for unpaid domestic or personal services produced within households. The 1993 SNA does, however, suggest that in satellite accounts an alternative concept of gross domestic product (GDP) be elaborated which is based on an extended production boundary, including estimates for household production of services for own use.

3.4.3. Financial Intermediation Services

The 1993 SNA calculates the output of financial intermediation services indirectly measured (FISM) in the same way as the 1968 SNA, i.e., as the difference between property income received and interest paid. The property income received should exclude that part which is received from investment of own funds. However, contrary to the 1968 SNA, the 1993 SNA, in principle, recommends to allocate the consumption of these services between users treating the allocated amounts either as intermediate consumption by enterprises or as final consumption or exports. The 1993 SNA suggests that the allocation between different uses could be made on the basis of the difference between interest paid or received by financial intermediaries and a “reference rate” that does not include the value of financial intermediation services, such as an inter-bank lending rate or a central bank loan rate, or some other appropriate method. However, the allocation could be made using different criteria or methods, when appropriate.

The 1993 SNA recognises that, in practice, it may be difficult to find any method of allocating financial intermediation services indirectly measured among different users and, therefore, accepts that some countries may prefer to continue to use the method proposed in the 1968 SNA whereby the whole of the services are allocated to intermediate consumption of a national industry.

The 1993 SNA uses a new term "output of financial intermediation services indirectly measured" to replace the 1968 SNA term "imputed output of bank services".

3.4.4. Illegal Activities

The 1993 SNA makes it clear that the illegality of a productive activity or transaction is not a reason for excluding it from the system. Comprehensive coverage of illegal activities is essential in order not to introduce errors and imbalances in the accounts. The 1968 SNA did not give clear guidance on the coverage of illegal activities.

3.5. Valuation

The 1993 SNA recommends the identification of non-monetary flows and re-routings wherever possible, especially when they are large and significant. In this way, analysts interested in identifying only the monetary transactions in the economy can do so. The 1968 SNA made no such recommendation.

The 1993 SNA refers to output prices received by producers, which may be either basic prices or producers' prices, and to purchasers' prices that apply to intermediate and final uses.

In the case of valuation of output in basic prices, all taxes less subsidies on products including import taxes need to be added to the sum in order to derive GDP, in the case of valuation of output in producers' prices, only VAT and import taxes need to be added.

3.5.1. Taxes

The 1993 SNA has eliminated the 1968 SNA distinction between true and approximate basic prices since the "true price" is not observable.

The 1993 SNA replaces the 1968 SNA term "indirect taxes" by the term "taxes on production and imports".

The 1993 SNA has also replaced the 1968 SNA term "direct taxes" by the term "current taxes on income wealth, etc.", and the previous category of

capital transfers to government, including estate and gift taxes and non-recurrent taxes on property are treated as capital taxes.

The 1993 SNA recommends that breakdowns of taxes beyond the main categories should be in terms of the GFS and OECD Revenue Statistics tax classifications. While no calculation of total taxes is required within the 1993 SNA accounts, compulsory social contributions are summed with taxes to reach the concept of total taxes used by the GFS and OECD Revenue Statistics. For this purpose the 1993 SNA provides a breakdown of social security contributions so that compulsory contribution can be identified separately and added to taxes to match up with the GFS/OECD concept of total taxes.

3.5.2. *Output*

The 1993 SNA distinguishes three types of output: a) market output, b) output for own final use and, c) other non-market output. Market output is output that is sold at economically significant prices. Output for own final use such as subsistence output of agricultural products or own account produced capital goods, while not sold on the market, are valued at the average prices of similar products traded on the market. Other non-market output which includes goods and services produced by government and non-profit institutions serving households and provided free, or at prices that are not economically significant, to individual households or the community, is valued at cost.

The distinction between market producers, producers for own final use and other non-market producers replaces the distinction in the 1968 SNA between "industries" and "other producers". Producers for own final use which were included in the 1968 SNA in "industries" are now distinguished as a separate category.

The criterion in the 1993 SNA for making a distinction between market and other output makes it possible to include all heavily subsidised public enterprises as market producers provided their prices are considered economically significant from the point of view of cost and demand. The 1968 SNA made a distinction between government producing units that sold the kind of goods and services often produced by what is called "business establishments" and government departments engaged in the usual social and

community activities of government. In the 1993 SNA the distinction between market and non-market output depends on whether the price is economically significant from the point of view of cost and demand.

The 1993 SNA distinction between market output, output produced for own final use and other non-market output has simplified the principles of valuation. Valuation of products of market producers is always based on the prices for which they are sold in the market. Output produced for own final use is valued on the basis of prices of similar products made by market producers where these exist. Other non-market output is valued as the sum of costs.

3.5.3. Subsidies

The 1993 SNA, like the 1968 SNA, treats all current transfers made by government to producers as subsidies, even if they benefit specific groups of the population or all households. However, recognising the importance of these “consumption” subsidies in some countries, the 1993 SNA recommends a supplementary presentation of subsidies by purpose where “consumption” subsidies can be identified. This presentation would make it possible to show, outside the System, actual final consumption with an alternative valuation that includes the value of consumption subsidies.

3.5.4. Actual Consumption

The 1993 SNA introduces the concept of actual final consumption for households and government to supplement the 1968 SNA concept of final consumption expenditure. Actual final consumption of households covers goods and services which are actually supplied to households, irrespective of whether the ultimate bearers of the expense are government, non-profit institution serving households or households themselves. The actual consumption concept utilises the distinction between individual consumption and collective consumption within final consumption expenditure by government. For households it is equal to the sum of household final consumption expenditure plus individual consumption items identified within consumption expenditure of government and non-profit institutions serving households. For government, actual consumption consists only of collective consumption. Non-profit institutions serving households have no actual consumption.

The difference between final consumption expenditure and actual final consumption of households is treated in the accounts of the 1993 SNA as (current) social transfers in kind provided by government and non-profit institutions serving households to households. For households, the imputed transfers are added to disposable income.

The 1968 SNA did not identify different concepts of final consumption and disposable income. It only included one concept of final consumption expenditure and one concept of disposable income.

3.5.5. Social Contribution and Benefits

The 1993 SNA treats pension contributions and benefits in the secondary distribution of income accounts as current transfers which affect the level of disposable income of households. In order not to change the value of saving of households and maintain consistency with the item in the financial accounts called "changes in the net equity of households in the life insurance reserves and in pension funds" in line with the 1968 SNA treatment, the 1993 SNA introduces an adjustment item in the use of income accounts called "adjustment for the change in net equity of households in pension funds", which is recorded as "resources" for households and as "uses" for financial corporations or other sectors. In the case of pension funds belonging to the financial corporations sector, the 1968 SNA only included an entry in the financial account where the difference between pension contributions and benefits is recorded as part of the change in the net equity of households in pension funds.

In the 1993 SNA social contributions and benefits are not restricted to transactions with government and employers as they are in the 1968 SNA. Social benefits in the System are current transfers received by households intended to provide for the needs that arise from certain events or circumstances, such as sickness, unemployment, retirement, housing, education or family circumstances. Education grants, which in the 1968 SNA were treated as social assistance grants, are treated in the 1993 SNA as social benefits.

3.5.6. Social Transfers in Kind

The 1993 SNA recommends an exceptional and provisional treatment for social transfers in kind made by state-controlled enterprises in countries in transition to their employees as an extension of government policy to provide health, education and recreational services to the population. As a transitional treatment, it is recommended to create "quasi-SPISHs" which receive a transfer from the parent enterprise and pass them on to households as social transfers in kind to be included in the redistribution of income in kind account. As a consequence of this treatment, these expenditures enter only actual final consumption of households and not their final consumption expenditure, thus affecting adjusted disposable income and not disposable income. The 1968 SNA treated these expenditures as compensation in kind, entering consumption expenditure and disposable income of households.

3.6. Boundary of Assets and Capital Formation

In the 1993 SNA the assets recorded in the balance sheets of the System are economic assets. These are defined as entities over which ownership rights are enforced by institutional units, individually or collectively, and from which economic benefits may be derived by their owners by holding or using them over a period of time. With regard to the classification of assets, the 1993 SNA distinguishes at the first level of the classification between non-financial assets (AN) and financial assets/ liabilities (AF). Within non-financial assets, it distinguishes between produced and non-produced assets and within each of these between tangible and intangible assets.

In the 1993 SNA produced assets include not only tangible fixed assets, but also intangible fixed assets such as mineral exploration, computer software and entertainment, literary or artistic originals.

In the 1993 SNA non-produced assets also include tangible non-produced assets and intangible non-produced assets. The tangible non-produced assets include land, subsoil assets, non-cultivated biological resources and water resources. The intangible non-produced assets include patented entities, leases and other transferable contracts, purchased goodwill and other intangible non-produced assets.

3.6.1. Natural Assets

The 1993 SNA includes specific guidelines with regard to natural assets that are economic assets in the SNA sense. Two types are distinguished: i.e. a) assets whose growth is the result of human cultivation and are treated as produced assets, and b) all other natural assets including land, subsoil assets, non-cultivated biological resources and water resources that are not cultivated but are under control of institutional units and are treated as non-produced assets. The cultivated natural assets that are treated as produced assets are further broken down into two groups, i.e., (a) cultivated assets which are included in the classification under tangible fixed assets and cover livestock for breeding, dairy, draught, etc., and vineyards, orchards and other plantation of trees yielding repeat products: and (b) work-in-progress on natural growth products which is included in the classification under inventories as work - in-progress on cultivated assets and includes the growth of products such as livestock for slaughter, timber, agricultural crops, and fruits that are the products of orchards and plantations.

The 1968 SNA did not include much guidance on the balance sheets of the system and consequently provided little information on the coverage of assets. In principle, however, the 1968 SNA included produced tangible and non- produced tangible and intangible assets within its asset boundary, but did not provide for the inclusion of produced intangible assets.

The 1993 SNA treats expenditures on mineral exploration as gross fixed capital formation resulting in the creation of an intangible fixed asset under produced assets. All expenditures are included, no matter whether the exploration is successful or not. The 1968 SNA treated expenditures on mineral exploration as intermediate consumption.

3.6.2. Software

The 1993 SNA treats systems and standard applications computer software that a producer expects to use in production for more than one year as an intangible fixed asset, no matter whether the computer software is purchased in the market--separately or together with the hardware--or developed in-house. It also includes databases which the enterprise expects to use for more than one year. The 1968 SNA was treating expenditures on software which is bought as an integral part of a major hardware purchase as gross fixed capital formation, but software purchased or developed independently was treated as intermediate consumption.

3.6.3. Literary and Artistic Works

The 1993 SNA includes in output literary or artistic works which are produced for sale whether they are produced by employees or by self-employed workers. Therefore it treats expenditure on these outputs as gross fixed capital formation resulting in the creation of an intangible fixed asset. Consequently, fees, commissions, royalties, etc., stemming from licensing others to make use of the works are treated as payments for services rendered.

3.6.4. Research & Development

Like the 1968 SNA, the 1993 SNA continues to treat expenditures on research and development as intermediate consumption, not gross fixed capital formation. However, it recommends that these expenditures be identified within intermediate consumption to facilitate the development of satellite accounts for research and development.

3.6.5. Royalty

The 1993 SNA, by convention, does include licensing related services in output and, therefore, royalty and similar payments in respect of patent licenses are considered payment for services and not property income as in the 1968 SNA. The same treatment is applied to payments for services of trademarks and franchising in respect of other non-produced intangible assets.

3.6.6. Military Expenditure

The 1993 SNA treats as gross fixed capital formation all expenditures by the military on fixed assets of a kind that could be acquired by civilian users for purposes of production and that the military use in the same way; this would include airfields, docks, roads, hospitals and other buildings or structures. On the other hand, military weapons, and vehicles and equipment whose sole purpose is to launch or deliver such weapons, are not to be treated as gross fixed capital formation but as intermediate consumption. The 1968 SNA excluded from gross fixed capital formation almost all military expenditures except those on construction or alteration of family dwellings for personnel of the armed forces.

3.6.7. Cultivated Assets

The 1993 SNA includes in output the growth of cultivated assets including the growth of livestock and fish stock, vineyards, orchards, plantations and timber tracts, as well as the growth of agricultural crops and fruits which are products of plantations and the like. Cultivated growth should be distinguished from growth of biological resources, which are not cultivated but are under human control. Such growth is treated as other volume changes in the 1993 SNA. Output based on controlled but not cultivated growth and

also output based on non-controlled natural assets (e.g., gathering of fuel, wood, fruit gathering, hunting, etc.,) continues to be recorded when the products are harvested. The 1968 SNA included in output (and subsequently in gross fixed capital formation) only the natural growth of livestock and fish stock. Output of agricultural products, orchards and timber tracts was recorded only at the moment of harvest.

3.6.8. Work-in-progress

The 1993 SNA clarifies that fixed assets with a long period of production should be recorded as gross fixed capital formation at the time when the ownership of the output produced is transferred to the eventual user of the asset. Output that is not transferred and continues to belong to the builder or producing enterprise must be recorded as either work-in-progress or as an addition to inventories of finished goods, depending on whether the asset is finished or not. The 1968 SNA recommended that fixed assets with a long production period should be recorded as gross fixed capital formation at the moment the purchaser took legal possession of the assets.

The 1993 SNA recognises that certain kinds of services take a long time to produce, e.g., architectural design, software development, project development, writing of books, etc. Work-in-progress in service industries is to be recorded as change in inventories by the producers of such services. The 1968 SNA did not include any work-in-progress on services.

3.6.9. Inventories

The 1993 SNA includes all goods held by the government in inventories. This new treatment is symmetrical with the treatment of goods stored by market producers.

The 1968 SNA only treated strategic materials as inventories.

3.6.10. Consumer Durable Goods

Like the 1968 SNA, the 1993 SNA treats expenditures by households on consumer durable goods as final consumption. However, the 1993 SNA recognises that information about stocks of consumer durables with detail by

type of durable is of considerable interest and therefore should be presented as memoranda items to the balance sheets.

3.6.11. Valuables

The 1993 SNA includes a third category of capital formation called “acquisitions less disposal of valuables” covering expenditures on produced assets that are not used primarily for production or consumption, but acquired and held as stores of value. Examples of valuables are precious metals and stones, antiques and other art objects. When a valuable which was previously not included in the balance sheet of any sector becomes an economic asset in the 1993 SNA sense, it enters the balance sheet of the sector in question through the account for other volume changes (economic appearance of produced assets). The 1968 SNA treated these acquisitions less disposal in various ways. In the case of households they were dealt with as final consumption expenditure.

3.6.12. Historical Monuments

Historical monuments are treated in the 1993 SNA as produced assets. They are not separately classified but included as part of the categories of produced assets that refer to dwellings and other buildings and structures. Sales and purchases of historical monuments are treated as positive gross fixed capital formation of the purchasing sector and as negative capital formation of the sector selling the asset. When a historical monument which was previously not included in the balance sheet of any sector becomes an economic asset in the 1993 SNA sense, it enters the balance sheet of the sector in question through the other changes in the volume of assets account (economic appearance of produced assets). The 1968 SNA did not specifically deal with the treatment of historical monuments.

3.6.13. Voluntary Production

The 1993 SNA treats construction activities carried out collectively by groups of volunteers as production carried out by the households involved. The fixed assets produced in this way are recorded as output and gross fixed capital formation of households first and then they are allocated to the balance sheet of the sector responsible for their upkeep. The allocation is accomplished by making a capital transfer which involves a negative gross fixed capital formation of households and a positive gross fixed capital formation of the sectors non-profit institutions serving households or general government. While the 1968 SNA also treated the output as gross fixed

capital formation, it did not provide explicit guidance on the sector to which such gross capital formation should be allocated.

3.6.14. Consumption of Fixed Capital

The 1968 SNA suggested that consumption of fixed capital need not be calculated in respect of such assets as roads, dams and breakwaters because it was assumed that the maintenance and repair performed on these assets was sufficient to ensure that these assets had infinite service lives. The 1993 SNA recommends that consumption of fixed capital should be calculated for assets such as roads, dams and breakwaters.

In the 1993 SNA not all gross fixed capital formation is reflected in a separate identifiable asset. In some instances there is not a one-to-one correspondence between transactions in gross fixed capital formation by type and fixed assets by type. The relation between the classification of changes in assets and assets was not explicitly dealt with in the 1968 SNA. Consumption of fixed capital related to these capital formation elements is treated as an integral part of consumption of fixed capital of the produced assets to which these expenditures are applied. The consumption of fixed capital also includes the writing off of the elements of gross fixed capital formation that add to the value of non-produced assets.

3.6.15. Financial Assets

The 1993 SNA includes a more precise and elaborate description of a broad range of financial assets and distinguishes them from non-financial assets and from financial "contingent positions". Where an unconditional relationship exists on the part of both debtor and creditor, there exists an actual financial asset and liability. Thus, bankers' acceptances are classified as actual assets but letters of credit are not. The 1968 SNA had limited descriptions of financial assets and therefore also did not deal with contingent positions.

The 1968 SNA recognised two kinds of gold: (a) gold held as a financial asset, including gold owned by the monetary authorities; and (b) other gold used for industrial purposes. The 1993 SNA distinguishes these types of gold; (a) monetary gold owned by the monetary authorities as a component of international reserves; (b) gold held as a store of value; and (c) other gold

used for industrial purposes. Items of gold jewellery of relatively small value purchased by households are not treated as assets, but as part of household consumption expenditure.

The 1968 SNA included a distinction between "currency and transferable deposits" and "other deposits" The 1993 SNA includes only the total of "currency and deposits" in the first level of classification of financial assets while suggesting that sub-elements should be compiled only if they are analytically useful.

The 1968 SNA short-term/long-term maturity distinction has become less relevant because of the improved facilities available in financial markets to re-finance short-term financial assets. Therefore, the 1993 SNA retains this distinction but only as a secondary classification criterion.

3.7. The Treatment of Insurance

The 1993 SNA has replaced the 1968 term "casualty insurance" by the term "non-life insurance".

The basis of measuring the output of insurance has been changed. Income from the investment of insurance technical reserves is now taken into account when measuring the value of the services provided to policyholders. The income is distributed to policy-holders as a property income flow, "property income attributed to insurance policy-holders" and repaid the insurance corporations as premium supplements. This treatment applies to both life and non-life insurance.

In the 1968 SNA non-life premiums and claims were recorded when payable. In the 1993 SNA, non-life premiums are recorded on the basis of premiums earned and non-life claims on a claims due basis. The differences between premiums payable and earned and claims due and payable are included in a new financial asset, "Prepayments of premiums and reserves against outstanding claims".

3.8. Financial Leasing and Operating Leasing

In the 1993 SNA financial leases are distinguished from operating leases. Assets acquired under financial leasing arrangements are to be treated as

assets of the lessees, and the lessors hold a corresponding financial asset which is the equivalent of a loan. Lease payments under financial leases must be divided between interest payments recorded under current transactions and repayment of the loan recorded in the financial account. The 1968 SNA did not recognise financial leases and, as a consequence, treated them in the same manner as operating leases.

3.9. New Financial Instruments

The 1993 SNA identifies a number of new financial instruments which were not treated explicitly in the 1968 SNA, including repurchase agreements, derivatives and secondary instruments and deep discounted bonds.

Repurchase agreements include the simultaneous sale of securities with the agreement to repurchase those same securities at a later date; they are regarded as financial instruments that are similar to loans secured by securities.

The 1993 SNA recommends that the difference between the issue price and the value at maturity of zero-coupon and other deep-discounted bonds should be treated as interest and that this interest should be converted into a series of annual or quarterly payments over the full lifetime of the instruments. Deep discounted bonds were not dealt with explicitly in the 1968 SNA.

3.10. The Resident Units and Persons

The 1993 SNA and the fifth edition of the BPM use the "centre of economic interest" as the basic criterion for determining whether or not an entity is a resident. The 1993 SNA specifies that an institutional unit be normally deemed to have a centre of economic interest if it has already engaged in economic activities and transactions in the country for one year or more or if it intends to do so for one year or more. However, the 1993 SNA emphasises that one year is suggested only as a guideline.

The 1993 SNA as well as the fifth edition of the BPM recommend that students should be treated as residents of the country from which they originate however long they study abroad. With regard to the residence of individuals working abroad under long-term contracts and of technical

assistance personnel, the 1993 SNA recommends no changes, in principle, from the 1968 SNA.

With regard to the residence of enterprises, the 1993 SNA recommends little change from the 1968 SNA, except in the treatment of installation services and of enterprises engaged in construction. The 1993 SNA recommends flexible application of the one-year rule as a guideline. Enterprises engaged in installing equipment abroad are considered residents of their home country even if the installation takes more than one year to complete.

3.11. Foreign Trade and Balance of Payments

The fifth edition of the BPM as well as the 1993 SNA recommend that goods that are sent abroad for processing and later on re-imported should be recorded gross by the processing economy as well as by the economy that sent the goods for processing, if the processing involves a substantial physical change in the goods. The value of the good before and after processing should be shown as part of the trade in goods. This recommendation does not entail any change for the 1993 SNA from the 1968 SNA.

The 1993 SNA as well as the fifth edition of the BPM make a distinction between repairs performed on investment goods and repairs performed on other goods. The value of repairs on investment goods should be shown as part of trade in goods while other repairs should be classified as service items. The 1968 SNA did not make this distinction. The BPM, on practical grounds, however, includes the value of all repairs as part of trade in goods.

The 1993 SNA values total imports of goods on a f.o.b. basis. Thus the 1993 SNA includes the transport and insurance services provided by non-residents after the goods have left the frontier as imports of services. Since the 1968 SNA always valued imports of goods in c.i.f. values, the 1968 SNA did not record the transport and insurance services provided by non-residents on imported goods as imports of services, and imputed an export of services corresponding to transport and insurance services provided by residents on imported goods. These two distortions have disappeared in the 1993 SNA.

The 1993 SNA no longer makes a distinction between final consumption on a domestic and national basis. As a consequence, in principle, it would no longer separately identify direct purchases in the domestic market by non-resident households which are exports of goods and services and resident households expenditures abroad which are imports of goods and services within the classification of international transactions in services as did the 1968 SNA. Nevertheless, as these direct purchases cannot readily be identified as specific types of goods and services, they remain treated as separate adjustment items in the supply and use table or input-output tables which comprise various types of goods and services that are lumped together as "travel" in the BPM. The 1968 SNA showed private final consumption expenditure as derived from final consumption of households in the domestic market first, and then adjusted it to a national basis by deducting direct purchases in the domestic market by non-resident households and adding resident household expenditures abroad.

The 1993 SNA, in conformity with the fifth edition of the Balance of Payments Manual, includes the international flows of reinvested earnings attributable to direct investors as part of the property income flow in the external and corresponding domestic sector accounts. A contra-entry, and with opposite sign, is included in the financial account, under the item called "shares and other equity".

The 1993 SNA, in conformity with the fifth edition of the BPM, treats the write-off of bad debt and expropriation of property without compensation as "other volume changes". These actions affect outstanding claims in the balance sheets but they are not transactions to be included in the capital and financial accounts. In contrast, when the cancellation of a debt involves a voluntary, contractual arrangement (debt forgiveness) between the parties concerned, it is considered a financial transaction and the offsetting entry to the reduction in debt should be treated as a capital transfer. The 1968 SNA treated the write-off of bad debts, etc., as transactions recorded in the second part of the capital finance account with an offsetting entry reflected under current transfers.

The 1993 SNA treats gold monetisation/demonetisation in the same way as the fifth edition of BPM, that is, as entries in the other changes in the Volume of Assets Account. The 1968 SNA treated these transactions as

exports and imports in the merchandise trade account. The fifth edition of the BPM incorporates the same treatment as the 1993 SNA.

According to both the 1993 SNA and the fifth edition of the Balance of Payments Manual, the exchange rate to be used for conversion from one currency into another is the rate prevailing at the transaction date, or if that is not available, the average rate for the shortest period applicable.

The midpoint between buying and selling rates should be used and the difference between that rate and the buying or selling rate is to be classified as a financial auxiliary service charge. In the case of multiple exchange rates that are the result of official exchange rate policies, the net proceeds accruing to the authorities as a result of transactions involving these multiple rates should be treated as implicit taxes or subsidies. These taxes or subsidies are calculated for each transaction as the difference between the value of the transaction at the actual exchange rate and a "unitary rate" which is calculated as the weighted average of all transactions in the external account.

3.12. Real Terms and Volume Measurements

The 1993 SNA incorporates the calculation of trading gains and losses from changes in the terms of trade as an integral part of the System. These gains and losses are added to GDP at constant prices to derive real GDP. In the calculation of gains and losses from changes in the terms of trade, the 1993 SNA suggests that, if there is uncertainty about what numeraire index to select to deflate the current trade balance, the arithmetic average of price indexes for exports and imports should be used.

The 1993 SNA includes net national disposable income in real terms and derives it sequentially from GDP in constant prices in two alternative ways. The recommended method is to calculate, first, real GDP and then calculate real net national disposable income by using the price deflator for gross national final expenditures (final consumption expenditure plus gross capital formation) to convert net primary incomes and current transfers from abroad to real terms. However, the system recognises that there is no unique way of defining income aggregates in real terms and, therefore, suggests an alternative method of deflation where all net current receipts from abroad including exports minus imports, primary incomes and current transfers are

deflated by a single deflator, i.e., the implicit deflator for net national final expenditures.

The 1993 SNA is more flexible with regard to the choice of index number to calculate price and volume measures for GDP and other aggregates. The best single measure of changes in the volume of GDP is considered to be an annual volume chain index for GDP which can also be used to generate value series by extrapolating GDP in the base year. The 1968 SNA did not recommend the use of chain indices.

The 1993 SNA recommends that comparisons of the volume of GDP, or GDP per capita, between countries should be based on international volume indices that use the same kinds of methodology as international price and volume measures. For this purpose, currencies have to be converted at purchasing power parities (PPPs). The 1968 SNA did not consider the use of PPPs to make international comparisons.

The 1993 SNA recommends that most goods or services that are sold at different prices should be treated as different products or, at least, different qualities of the same product when compiling price indices.

The 1993 SNA recommends that price indexes for unique structures should be based on a limited number of representative structures that should be selected and carefully defined. Experts in the field are then requested to make estimates of what it would cost to build these structures in successive years. The 1968 SNA did not include any guidance on the calculation of price indices for unique products.

The 1993 SNA stresses that valuing the output of non-market producers as the sum of costs does not mean that their output cannot be distinguished from the inputs used to produce them. Volume movements for non-market output should therefore be based on output and not input indicators, whenever possible. Adjustments should also be made for changes in quality. The 1968 SNA gave very little guidance on the measurement of the real output of these non-market services.