THE JAMAICAN SYSTEM OF NATIONAL ACCOUNTS
CONCEPTS AND DEFINITIONS

OVERVIEW OF THE SYSTEM

The revision of the Jamaican System of National Accounts is based on the United Nations System of National Accounts 1993 (1993 SNA). This appendix presents a description of the conceptual framework for the national accounts system and briefly outlines the sources used in the compilation of the national accounts. The 1993 SNA is a comprehensive, accounting framework within which economic data can be presented on the operation of the nation's economy in much the same way as business accounts describe the operation of an enterprise. It is an integrated set of economic accounts, balance sheets and other tables describing all economic flows and stocks taking place within a country. It is based on a set of internationally agreed concepts, definitions, classifications and accounting rules within which economic data can be presented.

The system is built around a sequence of interconnected flow accounts which record different types of activities taking place in the economy. It is based on a double entry system of accounting in which each transaction must be recorded twice within the same unit, once as a resource and the other as a use. Each account has a balancing item which is the residual between the total resources and total uses recorded on the two sides of the account. The balancing item from one account is carried forward as the first item on the following account.

The accounts can be implemented at different levels of aggregation, from the level of the unit to the level of the national economy. The following are the main accounts in the system:

1. **Current accounts:** these accounts record production of goods and services, income generation and distribution and income used for consumption and saving. The current accounts are further broken down into the following:
   i. The production account: this account records the production of goods and services as defined by the production boundary.
   ii. The income accounts: these are a group of accounts which show how incomes are generated, distributed to institutional units, redistributed through taxation and transfer payments and used for final consumption and saving.

2. **Accumulation accounts**: these accounts record acquisition and disposal of financial and non-financial assets and liabilities and changes in net worth. The accumulation accounts are:
   i. The capital account which records acquisitions and disposals of non-financial assets as a result of transactions with other units, or due to internal book-keeping transactions linked to production.
   ii. The financial account which records the acquisition and disposal of financial assets and liabilities and shows how net lending/borrowing from the capital account is reflected in transactions in the financial items.
   iii. Other changes in assets accounts.

3. **Balance Sheets:** show the value of the stock of assets and liabilities at the beginning and end of an accounting period.

The entries in the accounts usually reflect transactions between economic agents that participate in the economic process or the stocks and balances that result from the transactions. The system recommends that all transactions be recorded on an accrual basis, that is, at the time they occur.

The Central framework of the system also includes the following:

- Production accounts for industries
- Supply and use and input output tables
- Price and volume measures
- Detailed flow of funds.

An important feature of the 1993 SNA is that it facilitates the development of satellite accounts. A satellite account allows for the exploration of specific parts of the national accounts which are not shown in the standard formats of the system. Tourism, for instance, is not explicitly identified as an industry in the national accounts but is connected to, and forms part of various industries. It is therefore not possible to show the effects of tourism in a country by the standard representation of the national accounts. The industries in the national accounts are developed from the perspective of the producer while tourism on the other hand is primarily built from the demand side, that is, who consumes it.

The Jamaican System of National Accounts is based on the 1993 United Nations System of National Accounts (1993 SNA). The concepts and definitions generally conform to 1993 SNA standards. In a few instances however there have been variations due to local conditions or the unavailability of adequate data (these will be pointed out at the appropriate sections of this document).

The structure of the 1993 SNA allows for a phased implementation by countries at different stages of development. The Jamaican system does not include the full range of information recommended in the 1993 SNA. Included in this system are:

1. Accounts of the nation
    - Gross domestic product by expenditure and income
    - Generation and use of disposable income
    - Capital accounts
    - Rest of the world accounts
2. Value added by industry
3. Supply and use tables
4. Tourism satellite account (TSA).

CONCEPTS AND DEFINITIONS

In developing the national accounts it is necessary to classify the economic agents, establish accounts for each economic agent and then summarise the data.

Classifications in the National Accounts System

Classifications are key elements in the SNA and the main building blocks of the accounting framework. Classifications are used in different circumstances and processes within the SNA. The system of national accounts includes a large number of economic transactions which are carried out by a number of economic agents. These transactions involve numerous goods and services. Presentation of such transactions requires that elementary units are grouped to obtained meaningful interpretation. This ensures that there is comparability over time and internationally. The classification systems that are utilized in the Jamaican system are based on the adaptation of international classifications to reflect local circumstances.

Economic activity is reflected in the transactions of all economic agents in the domestic economy. Depending on the analytical focus, these economic agents can be classified as:

1. Institutional units and sectors
2. Establishments and industries.

Institutional Units and Sectors

An institutional unit is an economic entity that is capable in its own right of owning assets, incurring liabilities, and engaging in economic activities and transactions with other entities. There are two main institutional units:

- Households – these consist of groups of persons sharing domestic arrangements
- Legal entities – these are created for purposes of production and are mainly corporations, non-profit institutions or government units.

Institutional units are classified into sectors and sub-sectors based primarily on the differences in their financial role, behaviour and experience. The resident institutional units that make up the total economy are grouped into five mutually exclusive institutional sectors:

- The non-financial corporations sector
- The financial corporations sector
- The general government sector
- The non-profit institutions serving households sector
- The household sector.

“Resident” is the concept that differentiates which units belong to the domestic economy and which belong to the Rest of the World (ROW). A resident institutional unit has a centre of economic interest in the economic territory of that country. That interest is indicated by having a dwelling or place of production for long or indefinite period of time (generally one year or more). The application of the concept of residency raises the following boundary issues:

a) Foreign workers – residence is assigned to the economy in which they have their centre of economic interest. An exception is cross border workers where residence is assigned on the basis of where their principal dwelling exists.
b) Corporation - residence is assigned to the country in which they are legally constituted and registered.
c) Offshore banks and other enterprises - residence is assigned to the country where the activity takes place.
d) Mobile equipment (aircraft, ships, etc) - when mobile equipment is used in international waters or airspace, the activity is attributed to the country in which the operator maintains residence. However, when the equipment is used in another country, the enterprise is considered to have an economic interest in that country.
e) Governments – land, building, embassies, military installations, research facilities etc. owned by governments are always resident of the country to which they relate and not of the country within which they are located.
f) International organizations - these are extra-territorial entities and are residents of no country.

Establishments and Industries

An industry is a grouping of establishments engaged in similar kinds of activities. An establishment is an enterprise or part of an enterprise that is situated in one location in which only a single productive activity is carried out or the principal activity accounts for most of its value added.

Establishments are the statistical units used in the compilation of the production accounts in the Jamaican system. Since an establishment may perform different activities and produce more than one output to be used by other establishments, they are classified according to their principal activity or output. The principal activity is the activity from which the establishment earns most of its revenue. Secondary activities are those activities carried out within an establishment, in addition to the principal activity, that are suitable for delivery outside the establishment. The output of an establishment is therefore the sum of the output of the principal and secondary activities. Establishments can also engage in ancillary activities. These are defined as activities that provide supporting services for the principal or secondary activities. The output of an ancillary activity is not explicitly recognized or recorded separately in the system.

The classification of industries used in the accounts is the Jamaica Industrial Classification (JIC 2005). This is a local adaptation of the United Nations International Standard Industrial Classification of all Economic Activities (ISIC Rev.3). The production accounts by industry are calculated at the five digit level of the JIC. However due to data constraints some aggregation of the five digit JIC is done. (See Appendix 2)

The value added by industry is presented using the following industries:

i. Agriculture, Forestry & Fishing
ii. Mining & Quarrying
iii. Manufacture
iv. Electricity & Water Supply

v. Construction
vi. Wholesale & Retail Trade; Repairs & Installation of Machinery
vii. Hotels & Restaurants
viii. Transport, Storage & Communication
ix. Finance & Insurance Services
x. Real Estate, Renting & Business Activities
xi. Producers of Government Services
xii. Other Services

Establishments owned by government are not included in the industry "Producers of Government Services" if they:

a. Charge prices for their output that are economically significant
b. Are operated and managed in a similar way to a corporation
c. Have a complete set of accounts so that their operating surplus, savings, assets and liabilities can be separately identified and measured.

These establishments are included in the industries in which their main activity falls.

Flows and Stocks

There are two basic forms in which information about the economy is recorded in the accounts and tables: flows and stocks. Flows refer to actions and events that take place within a time period. Stocks refer to a position at a point in time.

Economic flows reflect the creation, transformation, exchange or extinction of economic value. They involve changes in volume, composition, or value of assets and liabilities. There are two types of economic flows: transactions and other flows.

Transactions are economic flows that result from:

- The exchange of economic value
- Voluntary transfer by one unit to another of a certain amount of economic value without a counterpart.

Transactions usually involve interactions by mutual agreement between institutional units, as well as certain actions within institutional units. Examples of actions within institutional units that constitute transactions are consumption of fixed capital and own account capital formation. Transactions can be either monetary or non monetary. Monetary transactions include expenditure on consumption of goods and services, wages and salaries, interest and dividends and taxes.

Non-monetary transactions include barter, remuneration in kind such as meals and housing services, and transfers in kind. Since all entries in the accounts have to be measured in terms of money, non-monetary transactions have to be indirectly measured or otherwise estimated. Illegal actions that arise from mutual agreement between parties are treated as transactions in the system. However an illegal action that is a crime against person or property such as theft is excluded.

Other economic flows are changes in the value or volume of assets and liabilities resulting from events other than transactions. These include revaluation of assets and liabilities and changes in volume due to events such as mineral discoveries, growth of natural forest and major national disasters.

Transactions and other flows are grouped according to their nature:

1. *Transactions in goods and services* describe their origin and use. The origin can either be from domestic production or from imports. Use can be classified as intermediate consumption, final consumption, capital formation or export.
2. *Distributive transactions* are transactions by which the value added generated by production is distributed to labour, capital and government as well as the redistribution of income and wealth.
3. *Transactions in financial instruments* refer to the net acquisition of financial assets or the net incurrence of financial liabilities.
4. *Other accumulation entries* are transactions and other economic flows that change the quantity or value of assets and liabilities.

The System of National Accounts records transactions on an accrual basis. This means that transactions are recorded when they occur, not when payments are made.

- Output is recorded in the period when production takes place
- Intermediate consumption is recorded when inputs enter the production process and not at the time when they were purchased by the producer
- Services are recorded when they are provided
- Transfers of assets are recorded when legal ownership changes.

Production

One very important aspect of the national accounting system is the measurement of production. Production is a basic concept, which can be defined as the process whereby labour, materials, accumulated capital assets and technical knowledge (factors of production) are applied to the task of making valuable goods and services. The SNA however uses a more restricted definition of production, known as the production boundary. Activities that fall within the production boundary are:

a) Production of all goods whether produced for the market, for own final consumption or for capital formation.
b) Production of services if
   - Sold on the market
   - Supplied to units other than the producer
   - Produced by paid labour
c) Production of own-account housing services.

The production boundary also includes

1. Production of government services and output of other non-profit institutions (other non-market output)
2. Banking services not explicitly charged for
3. Services of pension funds
4. Services of life and casualty insurance companies
5. Output used as payments in kind, for example, compensation of employees.

Illegal and concealed production and the underground economy are also included in the production boundary. The Jamaican system includes some forms of illegal activities. However, because of data constraints the illegal drug trade is not included.

Household activities included in the production boundary

1. Services provided by paid domestic staff.
2. Housing services of owner occupied dwellings.
3. Major do-it-yourself repair and maintenance of durable goods used in production (fixed capital) and dwellings (own account capital formation).
4. Agricultural production, storage and processing.
5. Illegal production activities.
7. Concealed production activities.

Transactions outside the production boundary

1. Domestic services produced and consumed by the same household without paying domestic staff.
2. Minor do-it-yourself repair and maintenance of durable goods and dwellings.
3. Goods and services produced and used by the same producer (establishment) in the same accounting period.

Gross Domestic Product (GDP)

The measurement of the total production of an economy is the Gross Domestic Product (GDP). This is the single most widely used indicator of economic performance. It is the total unduplicated value of the goods and services produced in a country or region during a given period. There are three equivalent ways to estimate GDP.

1. Production approach
2. Income approach
3. Expenditure approach

The Production Approach

The production approach to calculating GDP is the sum of the value added of all industries. The value added of an industry is equal to its gross output (mainly its sales) less its purchases from other industries (intermediate consumption).

The Production Account for Industries

The production account allows for the compilation of GDP using the production approach. It records the production of goods and services as defined by the production boundary. Output from production is recorded on the right side of the account (resources). Inputs are recorded on the left side of the account (use). The balancing item in this account is value added.

Production Account of a Producer

Uses		**Resources**	
Intermediate Consumption	700	Gross Output	1,000
Gross Value added	*300*		

Output

Output comprises those goods or services that are produced within an establishment that become available for use outside that establishment. It includes inventories of work-in-progress and finished goods. Three categories of output are recognized in the national accounting system.

1. Market output:
   a) The value of goods and services sold at economically significant prices
   b) The value of goods and services bartered
   c) The value of goods and services used for payment in kind, including compensation in kind
   d) The value of goods and services supplied by one establishment to another in the same institutional unit to be used as intermediate input
   e) The value of changes in inventories of finished goods and work-in-progress.

   Market output = sales plus changes in inventories of finished goods and work in progress.

2. Output for own final use includes:
   a) Production of capital goods for own gross fixed capital formation
   b) Household production of products for own final consumption such as agricultural goods produced and consumed by the same household and owner-occupied housing services.

   Output for own final use can be estimated using the market prices of similar goods or as the sum of the production costs including a mark up for normal profit.

3. Other non-market output consists of goods and services produced by Government and Non-Profit Institutions Serving Households (NPISH). These goods and services are usually supplied free or at prices that are not economically significant.

Other non-market output = sum of production costs.

Output of Particular Industries

Wholesale & Retail Trade

The output of the Wholesale & Retail Industry is measured by the total value of the trade margins realized on the goods purchased for resale. Goods purchased for resale are not treated as part of intermediate consumption when they are resold with only minimal processing such as grading, cleaning, packaging, etc.

The value of output = the value of sales, including sales at reduced prices

Plus	the value of goods purchased for resale and used for intermediate consumption, compensation of employees, etc.
Minus	the value of goods purchased for resale
Plus	the value of additions to inventories of goods for resale
Minus	the value of goods withdrawn from inventories of goods for resale
Minus	the value of recurrent losses due to normal rates of wastage, theft or accidental damage.

Financial Intermediaries (except insurance and pension funds)

These are institutions which intermediate between lenders and borrowers by channelling funds between them. They include banks and other financial institutions that incur liabilities on their own account by either taking deposits or by issuing bills, bonds or other securities. They in turn lend funds on different terms and conditions by making loans or advances, or by purchasing bills, bonds or other securities from other institutional units, such as households, governments and corporations. The rates of return they receive on the funds they lend are generally higher than the rates they pay on the funds they borrow. The difference between the interest earned and the interest paid is therefore an implicit charge to customers for the services provided and is referred to as financial intermediation services indirectly measured (FISIM). This forms part of the output of financial intermediaries.

These institutions also provide secondary services or auxiliary activities, such as, investment advice, currency exchange and real estate transactions. Charges for these services are usually in the form of fees or commissions and also form part of their output.

Output for Financial Intermediaries = Property income receivable (interest received + dividends) *(Excluding the value of any property income receivable from investment of their own funds, as such income does not arise from financial intermediation)*

Minus	Total interest payable
Plus	Bank charges, commissions, fees, income earned from foreign exchange dealings.

Insurance and Pension Funds

Insurance is also a form of financial intermediation in which funds are collected from policy holders and invested in financial or other assets. These are held in technical reserves to meet future claims arising from the occurrence of the events specified in the insurance policy contract. As insurance companies do not charge explicitly for the service of providing financial protection, the value of such services has to be estimated indirectly. The value of the output of the services produced by insurance enterprises is therefore estimated as revenues from premiums and interest on investments *less* expenses in the form of expected claims and changes in allocations to technical reserves.

The basic accounting principle used to estimate the value of output of insurance services is as follows:

Total actual premiums earned
Plus Total premium supplements
Minus Changes in actuarial reserves
Minus Total claims due.

- Actual premiums earned refer to those parts of the premiums payable in current or previous periods which cover the risks incurred during the accounting period in question. They are not equal to the total premiums payable during the accounting period, as only a portion of premiums payable covers the risk incurred for that accounting period. The other portion which is a prepayment for subsequent periods, forms part of the technical reserves.
- Claims due for the accounting period in question refer to claims actually payable within the accounting period plus changes in the reserves against outstanding claims.
- During the period between the premium being paid and the claim being payable, the sum involved is at the disposal of the insurance corporation to invest and earn income. The interest or other income earned from this investment is referred to as premium supplements.
- Changes in the actuarial reserves refer to allocation to the technical reserves set aside to cover the risk of insuring future periods.

Producers of Government Services and Private Non-Profit Institutions Serving Households (NPISH)

Goods and services produced by government units and NPISH are usually supplied free or at prices that are not economically significant. Economically significant prices may not be charged because of government policy (e.g. education, health services) or because it could be difficult to monitor and control the consumption of these services (e.g. public administration or law and order). To ensure consistency in valuation, these services are valued by the sum of the costs incurred in their production i.e. the sum of:

- compensation of employees
- intermediate consumption
- consumption of fixed capital
- other taxes less subsidies on production.

Intermediate Consumption

Intermediate consumption consists of the value of the goods and services that are used as inputs in the production process. The goods or services may either be transformed or used up by the production process. It also includes the value of all the goods or services that support the production process, such as, accounting, data processing, transportation, storage, maintenance, security. Other items included in intermediate consumption are:

- fees and commissions
- royalties that are payable under licensing arrangements
- the rentals paid on the use of fixed assets that are leased from other institutional units under operating leases.

<u>Distinction between operating and financial lease</u>

The leasing of fixed assets to institutions usually falls under two categories: operating and financial.

- Operating lease refers to the renting of machinery and equipment for specified periods of time that are significantly shorter than the total expected service life of the machinery or equipment. Operating lease is a form of production in which the owner of the machinery (the lessor) provides a service to the user (the lessee). The maintenance and repair of the equipment is treated as part of the service provided to the lessee. It is under this lease that the consumption of fixed capital is charged to the lessor.
- Financial leasing is a method of financing the acquisition of fixed assets. Rentals under this lease are therefore treated as a combination of loan repayments and interest payments and not as part of the intermediate consumption. The consumption of fixed capital is charged to the lessee.

<u>Transactions excluded from intermediate consumption</u>

- Expenditure on valuables, such as, works of art and precious metals. Valuables are assets acquired as stores of value and are not used up in production
- Costs incurred in the gradual using up of fixed assets owned by the enterprise. The decline in the value during the accounting period is recorded as consumption of fixed capital.

<u>Boundary between intermediate consumption and gross fixed capital formation</u>

1. Expenditure on large items of machinery and equipment is recorded as gross fixed capital formation. Regular expenditure on small durables such as hand tools are treated as intermediate consumption.
2. Regular maintenance and repair of fixed assets used in production is classified as intermediate consumption. However major renovation and reconstruction are treated as gross fixed capital formation. Major repairs and renovation increase the life span of the asset and goes beyond what is required to keep the fixed asset in good working order.

Valuation of Output, Intermediate Consumption and Value Added

Output can be valued at either basic or producers' prices. The 1993 SNA however recommends basic prices especially when a system of value added tax (VAT) is in operation. Intermediate consumption is valued at purchasers' price. Basic price refers to the amount receivable by the producer from the purchaser for a unit of a good or service produced less any tax payable, plus any subsidy receivable as a result of its production or sale. It excludes transport charges invoiced separately by the producer. Producers' price is the basic price plus tax payable (except value added tax) less subsidies receivable. It excludes transport charges invoiced separately by the producer. Purchasers' price is the amount paid by the purchaser, excluding any deductible VAT. It includes any transport charges paid separately by the purchaser for delivery of the goods.

- Purchasers' Prices
  Less trade & transport margins
  Less GCT
- Equals Producers' Prices
  Less other taxes on products (except GCT)
  Plus subsidies on products
- Equals Basic Prices

The Income Approach

The income approach to measuring GDP is the sum of compensation of employees, operating surplus, consumption of fixed capital and taxes on production and imports less subsidies on production and imports.

Compensation of employees

This is defined as total remuneration, in cash and in kind, received by employees from an employer for work undertaken during the accounting period. A person must be engaged in an activity that falls within the production boundary to be classified as an employee. An employer/employee relationship exists when there is a voluntary agreement (formal or informal) between an enterprise and a person. The person works for the enterprise in return for remuneration in cash or kind.

Self-employed persons however do not receive compensation of employees but mixed income. Self-employed persons are defined as sole or joint owners of the unincorporated enterprise in which they work. This unincorporated enterprise is not incorporated as a legal entity separate from the household.

Compensation of employees is recorded on an accrual basis and includes:
a) Gross wages and salaries
b) Employers' social contributions.

Gross wages and salaries

This comprises all payments made to employees before deductions of income tax, NIS, NHT, etc. It includes the following:

- Allowances paid regularly, such as housing, uniform and travelling allowances
- Wages paid during vacation and sick leave
- Overtime payments
- Commissions, bonuses, gratuities and tips.
- Wages and salaries in kind

Employers' social contributions

These are contributions paid by employers on behalf of employees to private pension funds, social security schemes, insurance schemes, etc. These are geared towards providing benefits for the employees in the event that circumstances affect their ability to earn income, such as, accidents, sickness, retirement, etc. These social contributions may be actual or imputed.

- Employers' actual social contributions – these consist of contributions paid directly to the social security or other schemes by the employer on behalf of employees
- Employers' imputed social contributions – in this case the employer maintains social schemes for employees without using an insurance company or established pension fund. Contributions are imputed based on the amount of social benefit that the employee would receive in the event of loss of income. The employer provides this benefit from his own resources.

Boundary between compensation of employees and intermediate consumption

In the production process some goods and services are used as inputs while others are consumed by employees involved in that process. It is necessary to differentiate whether these goods and services are compensation of employees or intermediate consumption.

- Goods and services that are provided to the employees by the employer free of charge or at reduced prices, and are of direct benefit to the employees only, are treated as compensation of employees. These include:
  a. Housing services used by members of the employee's household
  b. Uniforms which the employee wears frequently inside and outside of the workplace
  c. Meals and drinks, including those consumed on business trips
  d. Motor vehicles provided for the personal use of the employee
  e. Nursery services provided for the children of employees.

- Goods and services that the employer provides in order for employees to carry out their duties, and are of benefit to both the employees and the employer, are treated as intermediate consumption. These include:
  a. Housing services at the workplace that cannot be used by members of the employee's household, such as, barracks, dormitories, etc.

b. Uniforms or special clothing which the employee wears exclusively at the workplace
c. Medical examinations
d. Accommodation and transportation services provided for employees on business trips, including reimbursement of expenses for these services

Taxes less subsidies on production and imports

Taxes are compulsory, unrequited payments made to government by other institutional units. Taxes on production and imports consist of:

1. Taxes on products
2. Other taxes on production

Taxes on products

Taxes on products are taxes payable on goods and services when they are produced, delivered, sold, transferred or otherwise disposed of by their producers. Examples of these are:

a) Value added tax such as the General Consumption Tax (GCT)
b) Taxes and duties on imports (excluding GCT) e.g. import duties
c) Other taxes on products (excluding GCT and import duties) e.g. special consumption tax (SCT), excise tax, taxes on financial transactions, contractors' levy.

Other taxes on production

These are all taxes except taxes on products that an establishment incurs as a result of engaging in production. Examples of these are:

a) Payroll taxes such as education tax and NHT contributions
b) Business and professional licences
c) Property tax payable by businesses
d) Taxes on the use of fixed assets e.g. motor vehicle licences.

Subsidies

Subsidies are current, unrequited payments that government makes to enterprises. Payments are based on the level of production or the quantities or values of the goods or services that are produced, sold or imported. Subsidies are designed to influence the level of production, the prices at which outputs are sold, or the remuneration of institutional units engaged in production. Subsidies are not payable to final consumers. They consist of:

- Subsidies on products - subsidies payable per unit of a good or service
- Other subsidies on production - subsidies except subsidies on products which are paid to resident enterprises as a consequence of engaging in production.

Difference between Taxes and Fees

One of the functions of government is to regulate the use and ownership of certain goods or the pursuit of certain activities. Permission is usually granted by issuing a licence or certificate on the payment of a fee. If the issue of the licence involves little or no work by government and is granted automatically on the payment of a fee, then such fee is treated as a tax. If, however, the issue of the licence is used to increase some regulatory function, such as, checking the competence or qualification of a person or the efficiency and safe functioning of equipment, then the fees are treated as purchases of a service from government. If these fees are clearly out of proportion with the services rendered, they are treated as taxes. If paid by households, the taxes are classified as current taxes but if paid by business they are treated as other taxes on production.

Operating surplus and mixed income

Operating surplus/mixed income is the surplus accruing from the production process before deducting interest charges, rents or other property incomes payable. The income accruing to unincorporated enterprises owned by households is referred to as mixed income. This implicitly contains an element of remuneration for the work done by the owner and other household members that cannot be identified separately from the return to the owner as an entrepreneur. Operating surplus from owner occupied dwellings is excluded.

Consumption of Fixed Capital

Consumption of fixed capital is the decline in the value of the fixed assets used in production during the accounting period. This decline is a result of physical deterioration, normal obsolescence or normal accidental damage. It excludes the value of fixed assets destroyed by acts of war or unusual events and major natural disasters which occur infrequently. The 1993 SNA recommends that consumption of fixed capital be calculated using the actual or estimated prices of fixed assets prevailing at the time and not at the prices prevailing at the time the goods were originally acquired. In the Jamaican system however depreciation is used as the indicator for consumption of fixed capital.

Expenditure Approach

The expenditure approach to calculating GDP is the sum of household spending, government spending on goods and services, investment in fixed capital (construction, machinery and equipment), change in inventories and exports less imports of goods and services

Final Consumption Expenditure

In the system of national accounts final consumption expenditure is undertaken by households, NPISH, and government.

<u>Household final consumption expenditure</u>

This consists of expenditure of resident households on the consumption of goods and services, whether produced locally or imported. It excludes expenditure on fixed assets in the form of dwellings or on valuables. Expenditures on major renovation and improvement to dwellings by households are treated as gross fixed capital formation. When dwellings are occupied by their owners, the imputed value of the housing services forms part of the output of the Real Estate industry and are considered to be the final consumption expenditure of households.

The following are also included in household consumption:

1. The value of goods produced by households for own consumption such as agricultural products.
2. Income in kind received by employees. However, if these goods and services are provided to enable employees to carry out their work they are treated as intermediate consumption and not household consumption.
3. Household consumption of FISIM.
4. The service charge component of insurance premiums paid by households.

Expenditure by households on goods and services should be recorded at the moment purchases are made irrespective of delays in the delivery of goods. In the case of hire purchase arrangements, the purchase should be considered to occur at the time the contract is signed or if there is no formal agreement, at the time the goods are delivered.

Household expenditure is recorded at the purchasers' prices paid by households including any taxes on products payable at the time of the purchase. It also includes transport charges incurred by the purchaser which was not included in the invoiced price. The final consumption expenditure of resident households is calculated as follows:

Final consumption expenditure of (resident and non-resident) households in the domestic market

Plus Direct purchase abroad by resident households

Less Direct purchase in the domestic market by non-resident households

Equals Final Consumption expenditure of resident households

Final consumption expenditure of resident and non-resident households in the domestic market is classified by type of commodities and purpose. The classification system used is the Classification of Individual Consumption by Purpose (COICOP).

Government and Non Profit Institutions Serving Households (NPISH) Final Consumption Expenditure

Final consumption expenditure of government and NPISH is the value of goods and services produced by the industry for its own use. This is the difference between the gross output and the total value of sales of goods and services.

Gross Fixed Capital Formation

Gross fixed capital formation is defined as that part of the current output of goods and services, which adds to the stock of capital, and therefore increases the future potential income flows of the economy. It is measured by the value of acquisitions less disposal of new or existing fixed assets. The following are the main types of gross fixed capital formation:

1. Tangible fixed assets, namely:
    - dwellings
    - other buildings and structures
    - machinery and equipment
    - cultivated assets such as trees and livestock that are used continuously to produce fruits, milk, etc.
2. Intangible fixed assets, namely:
    - mineral exploration
    - computer software
    - entertainment, literary or artistic originals
3. Major improvements to tangible non produced assets including land
4. Costs associated with transfer of ownership of non-produced assets.

Changes in Inventories

Inventories consist of:

- raw materials - goods owned by producers that have been purchased for intermediate consumption but not yet used
- finished goods - goods produced for sale but not yet sold
- work in progress.

A change in the prices of the items in the economy's total inventory leads to a change in the value of these inventories without there having been any physical change in the quantities of goods held. To remove the impact of holding gains from the valuation of inventories therefore, the perpetual inventory method (PIM) is recommended. Under this method, additions to inventory are valued at the prices prevailing at the time of their entry and withdrawals from inventory are valued at the time of their withdrawal. The Jamaican system however does not employ this method currently but accepts the valuation placed on inventories by the establishments.

Acquisition less Disposal of Valuables

Valuables are assets that are acquired as stores of wealth and are not used up in production. They do not deteriorate over time and are expected to at least hold their value. Included are jewellery, works of art, antiques and precious stones and metals.

Exports less imports of goods and services

Exports of goods and services consist of sales, barter or gifts or grants of goods and services from residents to non-residents. Imports of goods and services consist of sales, barter or gifts or grants of goods and services from non-residents to residents. Both exports and imports of goods are valued f.o.b.

Reconciliation of the Estimates

GDP estimates based on the three approaches are consolidated on the Gross Domestic Product by Expenditure and Income Account (Account I). The tables do not reflect statistical discrepancies as adjustments are made to the Private Final Consumption Expenditure and changes in stock.

Supply and Use Table

The Supply and Use Table is an integral part of the 1993 SNA. It is presented in the form of matrices and records the total supply of goods and services in the economy and how that supply is allocated, whether for intermediate or final use, or for export. It also allows for the reconciliation of the estimates between the supply and use of goods and services in the economy and to identify gaps in the estimates. The concepts and definitions used in the compilation of the Supply and Use Table are the same as those used in other parts of the national accounts system.

Constant Price Estimation

Change in the Gross Domestic Product (GDP) results from the contribution of two changes: change in the quantity of goods and services produced and change in the price at which the goods and services are sold. GDP at current prices measures both changes as production is valued at prices of the given period. On the other hand, GDP at constant prices measures the quantity change as production is valued at base year prices. The rate of change from period to period provides an indication of economic performance as it eliminates the price effect and only shows the change in volume of goods and services produced.

Transactions in goods and services can be decomposed into price and volume:
Value = Price x quantity.

Current and constant prices can therefore be expressed as the following:
Current prices: (Price for year t) x (Quantity for year t)
Constant prices: (Price for year 0) x (Quantity for year t), where:
t = current period and
0 = base year period

Value added at constant prices are prepared only by the production approach. The base year for the constant prices is 2003. The estimates are calculated at the five digit product group level and then summed to arrive at total value added for the economy. Estimates at constant price are derived by the single deflation method and involves the extrapolation of base year value added using volume indicators. These can be estimated from

- the deflation of gross output by some appropriate price index
- physical quantities

This method of single deflation is used as there is not sufficient data on producers' prices to permit separate deflation of output and intermediate consumption.

Sources of Data

Value Added By Industry

Data from a wide variety of sources are used in the compilation of the national accounts statistics. The main data source is the Annual National Income Survey that is administered to a sample of establishments. All establishments employing fifty or more employees and twenty per cent of establishments with ten to forty-nine employees are included in the sample. Information from this survey is used to compile the production and generation of income accounts for most industries. In addition, data from administrative records, financial statements of establishments, merchandise trade, population and housing census and a variety of household surveys are included in the statistics.

Agriculture, Forestry & Fishing

Traditional Export Agriculture: Data on production and production expenses are obtained from commodity boards regulating the respective activities. Financial statements from large farms are also used.

Other Agricultural Crops and Animal Farming: Data on quantity and prices are obtained from the Data Bank and Evaluation Division of the Ministry of Agriculture. In cases where prices are not supplied, data are obtained from major producers or purchasers. Information on the cost of production is obtained from the Farm Management Section of the Ministry of Agriculture. Financial statements from large farms are also used.

Fishing: Fisheries Division of the Ministry of Agriculture provides information on output and costs.

Where output of a particular commodity is not measured by the Ministry of Agriculture or a commodity board, production estimates are based on exports, where relevant, and/or household consumption patterns. Imputation is also made for use as intermediate consumption.

Mining & Quarrying

Bauxite & Alumina: The bauxite and alumina companies, the Jamaica Bauxite Institute, and External Trade Statistics are the main data sources.

Quarrying: Data are obtained from the Annual National Income Survey and the Department of Mines and Geology.

Manufacturing

The Annual National Income Survey is used to obtain data on establishments with more than ten employees. The survey data are supplemented by information from administrative records. Output of establishments with fewer than ten employees is estimated from administrative records, household consumption and other surveys and studies.

Electricity & Water

Data on output and costs are obtained from the financial statements of the enterprises.

Construction

Output is estimated using a commodity flow approach. Data on the flow of locally produced and imported building materials are used. Costs are derived from the Annual National Income Survey.

Wholesale & Retail Trade; Repairs & Installation of Machinery
Wholesale & Retail Trade: Output is estimated using a commodity flow approach. Data on the flow of locally produced and imported goods are used. Costs are derived from the Annual National Income Survey and other supplementary data.
Repairs: Annual National Income Survey, Household Expenditure Survey, Labour Force Survey, administrative records and the Consumer Price Index (CPI) are the main data sources.
Installation of Machinery and Equipment: Output is estimated using a commodity flow approach. Data on the flow of imported machinery & equipment are used. Costs are derived from the Annual National Income Survey and other supplementary data.

Hotels & Restaurants
The main data source for establishments with more than ten employees is the Annual National Income Survey. The survey data are supplemented by information from administrative records, including tourist expenditure information from the Jamaica Tourist Board. Output of establishments with fewer than ten employees is estimated from administrative records, household consumption and other surveys and studies.

Transport, Storage & Communication
The main data source for establishments with more than ten employees is the Annual National Income Survey. The survey data are supplemented by information from administrative records. Output of establishments with fewer than ten employees is estimated from administrative records, External Trade Statistics, household consumption and other surveys and studies.

Finance & Insurance Services
Main data sources are: Annual National Income Survey, statutory returns of financial institutions to regulatory authorities and Bank of Jamaica accounts. Supplementary information is also obtained from business associations and other administrative records.

Real Estate, Renting & Business Activities
Real Estate: Data sources are the population census, the Household Expenditure Survey, Survey of Living Conditions and the CPI.
Business Activities: The main data source for establishments with more than ten employees is the Annual National Income Survey. The survey data are supplemented by information from administrative records and Labour Force and Employment and Earnings surveys. Output of establishments with fewer than ten employees is estimated from administrative records and other surveys and studies.

Producers of Government Services
Estimates of revenue and expenditure of central government, government educational institutions, statutory bodies, and parish councils are the main data sources.

Other Services
The main data source for establishments with more than ten employees is the Annual National Income Survey. This is supplemented with data from administrative sources, the Household

Expenditure Survey, Labour Force Survey, Employment & Earnings Survey, Survey of Living Conditions and the CPI.

The Non-Observed Economy

Some producer units are not captured through the basic data gathering mechanisms described above. These include:

- informal sector production
- production of households for own final use
- underground production
- illegal production

Alternate methods therefore have to be developed to estimate value added of these activities. The following are the methods used:

- Supply based methods – data on the supply of inputs such as labour are used to estimate output.
- Demand based methods – production is determined by using indicator data on specific uses of a good or service
- Commodity flow method – this method involves balancing total supplies and uses of individual products.

Gross Domestic Product by Expenditure

Government Final Consumption Expenditure

Revenue and expenditure of central government, government educational institutions, statutory bodies, and parish councils are the main data sources

Private Final Consumption Expenditure

A commodity flow approach is used to estimate household final consumption expenditure. Data are obtained from the production accounts compiled in the National Accounts estimates, External Trade statistics, the Household Expenditure Survey, the Survey of Living Conditions and Balance of Payments.

Gross Fixed Capital Formation

Gross fixed capital formation is estimated by the commodity flow method. The main data sources are the imports and domestic production of capital goods relating to construction materials and machinery and equipment. Data from the production accounts (national accounts estimates) of industries and the balance of payments are used to estimate intangible fixed assets.

Changes in Inventories

This is derived from the production estimates. The Annual National Income Survey is the primary data source on inventories.

Imports and Exports of Goods and Services
External trade data produced by STATIN is the source for imports and exports of goods. Balance of payments data produced by the Bank of Jamaica (BOJ) is the source for trade in services.

Gross Domestic Product by Income

Compensation of Employees
The data sources are: Annual National Income Survey and financial statements from establishments. Information on employment in small enterprises and the non-observed economy is obtained from the Labour Force Survey.

Consumption of Fixed Capital
The data sources are: Annual National Income Survey and financial statements from establishments.

Taxes less Subsidies on Production
The data sources are the monthly statements of government revenue and estimates of revenue and expenditure of Central Government and Departments.

REVISION POLICY

As part of the improvement in the System of National Accounts, revisions are carried out in order to incorporate the most current information from the regular surveys, censuses, administrative records, public sector accounts etc. The first estimate is preliminary and this is followed by two subsequent revisions. The estimates are however open for revisions when new or improved data becomes available.

Reference
1. United Nations. **System of National Accounts, 1993**. New York, 1993.