



**GENERAL BUREAU
OF
STATISTICS**



**National Accounts:
Macro-Economic Aggregates
in Suriname, 2015-2019**

**Sources and Methods Rebased series
(Base Year 2015, SNA 2008 compliant)**

Supply = Output + Imports

Use = IC + FCE + GFCF + Δ Inventories + Exports

Supply = Use

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GBS, May 2021

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General Bureau of Statistics – Suriname

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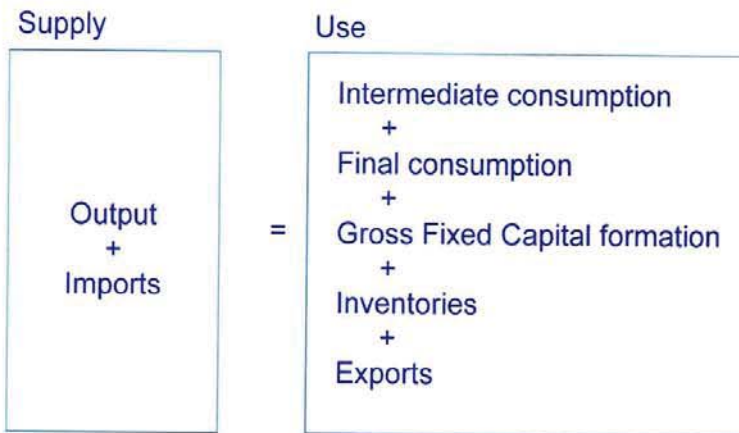


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PREFACE

In March 1973, the General Bureau of Statistics (GBS) commenced producing National Accounts Statistics for Suriname and the first publication, pertaining to the year 1972 was released in January 1974. The GBS has always been one for transparency because regularly it has released information about the compilation of its National Accounts, under various names, but which always included something about “Sources and Methods”. So far “Sources and methods”, were released separately from an actual National Accounts publication, but in 2012 we decided that they should be integrated.

- The first “Sources and Methods, Manual for compiling National Accounts in Suriname” (internally called van Schaaijk Report), was released in June 1974
- The second “National Accounts Statistics for Suriname: Sources and methods” (internally called Lal Report), was released in September 1985
- The third “Sources and methods for Annual Production Data” (internally called Hughes Report), was released in November 2002.
- The fourth “Sources and Methods”, Rebased Series (Base year 2007, SNA 1993 compliant, internally called Blokland Report) was released in March 2012

The National Accounts aggregates often demanding most of the attention are the Gross Domestic Product (GDP) and the Gross National Product (GNP). It is well-known that these aggregates can roughly be compiled according to 3 methods: the Output method, the Expenditure method and the Income method. In principle all these three methods should yield the same final result, but in practice that is not the case. There are “statistical discrepancies”

In this publication – **which includes an extensive “Sources and Methods”, the fifth in the history of the GBS** – several aggregates are included, for example Gross Domestic and Gross National Product, in current and constant prices, GDP by kind of activity and deflators, as well as Expenditure on GDP. Anyway, there will be something for everyone’s fancy. New for Suriname is the production of a Supply and Use table an important tool to obtain consistency among the 3 methods used to compile GDP. SUT 2015 is the first but will not be the last!


No data has been changed in this version. The only differences between the December 2020 version and this May 2021 version are splitting of Annex V into V.1 and V.2 and the addition of Annex X: Compensation of Employees 2015-2019; **expansions which are all for the benefit of the users.**

There is a separate vote of thanks on the next page, but we feel it is necessary to start on this page to give thanks. For the realization of this publication, we thank all responding establishments and institutions and express our deepest appreciations to all consultants, especially Mr. José Terán Vargas of INEGI Mexico. Mr. Terán’s contribution has been well above the call of duty and he worked tirelessly with his counterparts to achieve these results. There is no doubt in our mind that internally this will be called “GBS/Terán Report”. Finally, thanks are due to the staff of the National Accounts Section of the GBS managed by Mrs. Denise Sjahkit-Wagiman (+597-474861/-473737 / ext 242) and Mrs Safora Presierie-Nijon from Scientific Research and Planning assigned to National Accounts, where one has to be for more information or to provide meaningful criticism.

General Bureau of Statistics – Suriname, May 2021

Iwan A. Sno

Director



VOTE OF THANKS

As Director of the ABS/GBS of Suriname, for realizing this endeavour I wish to thank profoundly:

REGIONAL AND INTERNATIONAL

CARICOM, especially the **Statistics Programme** headed by Dr. Philomen Harrison, for all the regional training and other support provided.

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UNSD and UNECLAC

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List of Abbreviations and Acronyms

ABS/GBS	General Bureau of Statistics
BM	Bench Mark
BPI	Construction Price Index aka Building Materials Price Index
CARTAC	Caribbean Regional Technical Assistance Centre
CBS	Central Bank of Suriname
CIF	Cost Insurance Freight
COE	Compensation of Employees
COICOP	Classification of Individual Consumption According to Purpose
CPC	Central Product Classification
CPI	Consumer Price Index
CPV	Current Price Value
DOF	Department Of Fisheries
EGDP	Expenditure on Gross Domestic Product
EQS	Economic Quarterly Survey
FC	Financial Corporation
FISIM	Financial Intermediation Services Indirectly Measured
FOB	Free On Board
GDP-P	Gross Domestic Product by Production
GDP-E	Gross Domestic Product by Expenditure
GDP-I	Gross Domestic Product by Income
GFCF	Gross Fixed Capital Formation
GNDI	Gross National Disposable Income
GNI	Gross National Income

GVA	Gross Value Added
HH	Households
INEGI	Instituto Nacional de Estadística y Geografía/ National Institute of Statistics and Geography (of Mexico)
ISIC Rev.	International Standard Industrial Classification Revision
IC	Intermediate Consumption
ICP	International Comparison Program
I-O	Input-output
KPV	Constant Price Value
LFS	Labor Force Survey
MOA	Ministry of Agriculture
MONR	Ministry of Natural Resources
NA	National Accounts
NAS	National Accounts Survey
NFC	Non Financial Corporation
NPISH	Non Profit Institution Serving Households
PPI	Producer Price Index
PRASC	Project for the Regional Advancement of Statistics in the Caribbean
RIPDs	Rent, Interest, Profits, Dividends (factor Income)
R&D	Research and Development
SNA 93	System of National Accounts 1993
SNA 2008	System of National Accounts 2008
SUT	Supply and Use Table(s)
UN(O)	United Nations (Organization)

Symbols

* provisional / preliminary figure; # revised figure; . missing data

0 rounded to zero / less than half the unit used; - zero; empty cell Not applicable

Executive Summary

- In response to a request from the General Bureau of Statistics (GBS) of Suriname and in consultation with IMF's Western Hemisphere Department, the Real Sector Statistics Advisor at the Caribbean Regional Technical Assistance Centre (CARTAC) undertook a technical assistance (TA) mission to Paramaribo, to review and provide advice on improving the national accounts estimates at current prices and rebasing the constant price estimates of Suriname, including consistency with the *System of National Accounts 2008*. Also TA was received from PRASC (**Project for the Regional Advancement of Statistics in the Caribbean**) and from INEGI-Mexico, the National Institute of Statistics and Geography in Mexico (**INEGI** by its name in Spanish: Instituto Nacional de Estadística y Geografía).
- There are three different methods to make GDP calculations namely: Production, Income and Expenditure. These three methods generate different results and to find the most accurate result the GBS uses Supply and Use Tables as a balancing framework that reconciles the three methods of GDP. **The balance estimates produced are used to benchmark the national accounts.**
- It is expected that the revision and rebasing of the national accounts will bring major improvements in the current and constant price estimates, arising from broader coverage, conceptual and methodological changes, and improved estimation procedures.
- Since December 2020 the GBS produces annual estimates of GDP by economic activity (GDP-P) at current and constant 2015 prices; as well as annual current price estimates for GDP by expenditure (GDP-E), GDP by Income (GDP-I) and Supply and Use Tables (SUT) 2015 that are broadly consistent with the *System of National Accounts 2008*. Annual estimates of Gross National Income and Gross National Disposable Income are also compiled. Quarterly GDP estimates are not compiled as yet. Support has been received from CARICOM Statistics Programme, CARTAC, PRASC and most importantly from INEGI Mexico.

Chapter 1 UNITED NATIONS SYSTEM OF NATIONAL ACCOUNTS 1993 and 2008

1.1 Three approaches to compile Gross Domestic Product (GDP)

There are three approaches for deriving GDP:

- a. the Production approach or the Objective method
- b. the Income approach or the Subjective method
- c. the Expenditure approach or the Expenditure method

Each approach should, conceptually, deliver the same estimate of GDP.

A summary description of each approach is as follows:

- a. GDP using the Production approach is derived as the sum of gross value added for each industry, at basic prices, plus taxes less subsidies on products. Basic values represent the amounts received by producers, including the value of any subsidies on products, but before any taxes on products. The difference between the sum over all industries of gross value added at basic prices, and GDP at market prices, is the value of taxes less subsidies on products;
- b. GDP using the Income approach is derived as the sum of compensation of employees, gross operating surplus, gross mixed income and taxes less subsidies on production and imports;
- c. GDP using the Expenditure approach is derived as the sum of all final expenditures, changes in inventories and exports of goods and services less imports of goods and services

1.2 Overview 1993

The *System of National Accounts 1993* (SNA93) was adopted by the United Nations Statistical Commission during its 27th session in 1993 as the international standard for compilation of national accounts statistics and for the international reporting of comparable national accounting data. It is published jointly by the United Nations, the Commission of the European Communities, the International Monetary Fund, the Organization for Economic Co-operation and Development, and the World Bank.

The SNA93 is the internationally agreed standard set of recommendations on how to compile measures of economic activity. The SNA describes a comprehensive, consistent and integrated set of macroeconomic accounts in the context of a set of internationally agreed concepts, definitions, classifications and accounting rules.

The SNA is:

Comprehensive—all designated activities are covered,

Consistent—identical values are used for the consequences of a single economic action and

Integrated—all consequences of a single economic action are captured in the accounts¹ and balance sheets, in such a way that together they constitute a coherent, closed system

Together, these principles provide a comprehensive accounting framework within which economic data can be compiled and presented in a format that is designed for purposes of economic analysis, decision-taking and policy-making.

In addition, the SNA provides an overview of economic processes, recording how production is distributed among consumers, businesses, government and foreign nations. It shows how income originating in production, modified by taxes and transfers, flows to these groups and how they allocate these flows to consumption, saving and investment. Consequently, the national accounts are one of the building blocks of macroeconomic statistics forming a basis for economic analysis and policy formulation.

The SNA is intended for use by all countries, having been designed to accommodate the needs of countries at different stages of economic development. It also provides an overarching framework for standards in other domains of economic statistics, facilitating the integration of these statistical systems to achieve consistency with the national accounts.

The international recommendations are expressed in terms of a set of concepts, definitions, classifications and accounting rules that comprise the standard for measuring such items as gross domestic product (GDP), the most frequently used indicator of economic performance. GDP combines all the output (or production) undertaken by all firms, nonprofit institutions, government bodies and households in a given country during a given period, regardless of the type of goods and services produced, provided that the production takes place within the country's economic territory. In most cases, GDP is compiled quarterly or annually. In Suriname, GDP estimates are compiled annually by the GBS.

1.3 Concepts and Definitions 1993

The concepts and definitions used in this publication are those stated in the “United Nations Manual - A System of National Accounts 1993”.

Gross output

The Gross output of an establishment is the value of the goods and/or services produced by the establishment, whether they are sold or not. It is measured by taking together the receipts of sale of goods and of provided services, the value of work in progress, the value of the change in inventories of finished goods and the value of produced capital goods for own use.

¹ At least the idea is that all economic activities have to be captured / covered, but even the most heroic efforts cannot prevent unrecorded activities in all countries of the world; more so in some than in others.

The **basic price** is the amount receivable by the producer inclusive of taxes on products and exclusive of subsidies on products. The equivalent of imported products is the cost insurance freight (c.i.f.) value at the border.

Gross output for "general government" and for "non-profit institutions serving households" are computed as the sum of the cost of intermediate consumption expenditure, compensation of employees and consumption of fixed capital.

Intermediate consumption

"Intermediate consumption of industries" covers non-durable goods and a service used up in production and includes repairs and maintenance of the capital stock and is valued at purchasers' prices. The purchasers' price is the amount payable by the purchaser exclusive of deductible taxes on products (e.g. deductible value added tax). "Intermediate consumption of general government" is made up of acquisitions (purchases and transfers in kind) of new goods and services on current accounts.

Value added

The value added is equal to the gross output at basic prices less the value of intermediate consumption at purchasers' prices.

Gross Domestic Product (GDP)

The sum of value added of all domestic producers gives the Gross Domestic Product (GDP). It represents the aggregate money value of all goods and services produced within a country out of economic activity during a specified period usually a year.

GDP at basic prices

GDP at basic prices is obtained as the difference between output and intermediate consumption where output is valued at basic prices and intermediate consumption at purchasers' prices.

GDP at market prices

GDP at market prices is equal to the GDP at basic prices plus taxes (net of subsidies) on products.

Gross National Income (GNI)

GNI includes all revenues by anyone with the same nationality.

GDP plus net primary income from the rest of the world gives Gross National Income.

Gross National Disposable Income (GNDI)

The sum of Gross National Income (GNI) and net transfers from the rest of the world gives Gross National Disposable Income (GNDI).

Gross Operating Surplus

Gross Operating Surplus is defined as the excess of value added over the cost of employees' compensation and other taxes on production and imports net of subsidies.

Gross National Saving

Gross National Disposable Income (GNDI) less total final consumption expenditure gives Gross National Saving.

Financial intermediation services indirectly measured (FISIM)

FISIM is the difference between interest received and interest paid by banks excluding those received on own funds.

Goods-producing industries

Goods-producing industries comprise "Agriculture, Hunting, Forestry and Fishing", "Mining and quarrying", "Manufacturing", "Electricity, Gas and Water Supply" and "Construction".

Service industries

Service industries include "Wholesale and Retail Trade"; "Hotels and Restaurants", "Transport, Storage, Communications", "Financial Intermediation", "Real Estate, Renting and Business Services", "Public Administration", "Education", "Health and Social Work", "Other Community, Social and Personal Service activities.

Taxes on production and imports

Taxes on production and imports comprise all taxes that enterprises incur by engaging in production. There are two categories of taxes, namely taxes on products and other taxes on production. Taxes on products are payable on goods and services when they are produced, sold or used. Examples are excise duties, import duties and Value Added Taxes (VAT). Other taxes on production are taxes payable out of the value added of producers. This category of

taxes includes taxes levied on property, fixed assets and labor employed. Examples are municipal rates, motor vehicle licenses and business licenses.

Deflator

The weighted average of the price changes of the components of a particular variable. The deflator determines together with the volume change, the change in value.

GDP deflator

The Gross Domestic Product deflator (GDP-deflator) is a measure of price changes in the economy. It is calculated by dividing the Nominal GDP with the Real GDP.

Government final consumption expenditure

Government final consumption expenditure refers to expenditure incurred for the provision of collective services. Final consumption expenditure incurred by households comprises the value of goods and services purchased by households including the value of imputed rent of owner occupied dwellings. For a better measure of standard of living, actual private final consumption expenditure is used.

Private final consumption expenditure

Private final consumption expenditure covers goods and services supplied to households, irrespective of whether these goods and services are actually paid by government or households themselves. Consequently, it consists of expenditure incurred by households and government on the provision of individual services.

Final Consumption expenditure

Consumption expenditure is made up of final consumption expenditure of households and of government. Government final consumption expenditure is further disaggregated into collective and individual consumption expenditure. Collective expenditure consists of the services which government provides to the community as a whole, for example, security and defense whereas individual expenditure is made up of expenses incurred in providing services which are mostly beneficial to individuals, mainly in respect of health and education.

Change in inventories

Change in inventories includes the value of the physical change in inventories of raw materials, work in progress and finished goods held by producers.

Exports and Imports of goods and services

Both exports and imports are measured on an f.o.b. basis. Exports and imports of goods are compiled according to the General Trade System, using the national boundary as the statistical frontier.

All goods entering the country are recorded in imports and goods leaving the country, in exports. However, for the sake of continuity and consistency gross imports and exports through the customs and the free zone area are shown separately.

Gross Fixed Capital Formation (GFCF)

Gross Fixed Capital Formation (GFCF) consists of the net additions to the assets of producers of tangible reproducible goods which have an expected lifetime of use of more than one year. These assets are buildings, plants, machinery and transport equipment. The additions are valued at purchasers' prices. Non-reproducible tangible assets such as land and mineral deposits are not included in gross capital formation. However, outlays on improvement of land and development of mining sites are considered as gross domestic fixed capital formation.

Durable goods purchased by households, with the exception of dwellings, are not classified as capital formation but are treated as consumption expenditure.

Compensation of employees

Compensation of employees comprises all payments of wages and salaries by producers to their employees. Payments in kind and contributions to social security and to private pension fund, casualty insurance and similar schemes are also included.

Wages and salaries in cash comprise all payments which employees receive in respect of their work, before deductions of employees' contributions to social security schemes. Payments such as refund of traveling of work, commissions, overtime, bonuses, and cost of living allowances are also included. Payments in kind include goods and services provided to employees free of charge or at greatly reduced prices which are clearly of direct benefit to the employees as consumers.

Gross Mixed Income:

Mixed income is the surplus or deficit accruing from production by unincorporated enterprises owned by households; it implicitly contains an element of remuneration for work done by the owner, or other members of the household, that cannot be separately identified from the return to the owner as entrepreneur but it excludes the operating surplus coming from owner-occupied dwellings.

1.4 Major Recommendations to transition from 1993 to 2008

The System of National Accounts 2008 (2008 SNA) retains the basic theoretical framework of its predecessor, the System of National Accounts 1993 (1993 SNA). However, in line with the mandate of the United Nations Statistical Commission, the 2008 SNA introduces treatments for new aspects of economies that have come into prominence, elaborates on aspects that have increasingly become the focus of analytical attention and clarifies guidance on a wide range of issues. The changes in the 2008 SNA bring the accounts into line with developments in the economic environment, advances in methodological research and needs of users.

The Changes from 1993 SNA are grouped as follows:

1. Further specifications of statistical units and revisions in institutional sectoring

- a. Producer unit undertaking ancillary activities to be recognized as a separate establishment in certain cases

Unit undertaking purely ancillary activities to be recognized as separate establishment if:

- statistically observable, in that separate accounts for the production it undertakes are readily available, or
- if it is located in a geographically different location from the establishments it serves.

The ancillary establishment classified according to its own principal activity

The value of output should be derived on a sum of costs basis, including the costs of the capital used by the unit

The 1993 SNA treated a producer unit undertaking purely ancillary activities always as an integral part of the establishment it served

- b. Holding company

Holding company allocated to the financial corporation's sector

In the 1993 SNA the holding companies were recommended to be assigned to the institutional sector in which the main activity of the group of subsidiaries is concentrated

- c. Head office

The 2008 SNA therefore, recommends that the head office should be allocated to the non-financial corporation's sector unless all or most of its subsidiaries are financial corporations, in which case it is treated by convention as a financial auxiliary in the financial corporation's sector. 1993 SNA did not give explicit guidance for treatment of head offices

- d. Sub-sectoring of the financial corporation's sector revised
- e. Informal sector – presented separately within household sector
- f. Definition of financial services enlarged

2. *Further specifications of scope of transactions including the production boundary*

A. Research and Development (R&D):

- i. Output of Research and Development is no longer treated as intermediate consumption but rather as gross fixed capital formation.
- ii. A separate establishment should be distinguished for it when possible
- iii. The 2008 SNA recommends that the output of the R&D should be valued
 - o at market price if purchased (outsourced); or
 - o as the sum of total production costs plus an appropriate mark-up if undertaken on own account
- iv. The 1993 SNA by convention treated the output of R&D as intermediate consumption.

B. Method for calculating financial intermediation services indirectly measured (FISIM) is refined:

- i. Output of central bank clarified
- ii. Recording of output of Non-life insurance services Improved
- iii. Valuation of output for own final use by households and corporations to include a return to capital

3. *Extension and further specification of concept of assets, capital formation and consumption of fixed capital (CFC)*

- Change of economic ownership introduced:
- Asset boundary extended to include R&D
- R&D products are included within intellectual property products.
- Extension of the assets boundary and government GCF to include expenditure on weapon systems:
- Weapon systems are recognized as produced assets and classified separately
- Asset category “computer software” modified to include databases:
- The information, computer and telecommunications equipment has been included as a new category under machinery and equipment
- Revised classification of assets introduced
- Mineral exploration and evaluation
- Land improvements:
 - 1993 SNA - records improvements to land as gross fixed capital formation, but in the balance sheet includes such improvements with land itself
 - 2008 SNA - treats land improvements as a category of fixed assets distinct from the non-produced land asset as it existed before improvement

The 1993 SNA recognized that research and development is undertaken with the objective of improving efficiency or productivity, or deriving other future benefits. However, although these characteristics have the nature of investment activities, research and development was treated as part of intermediate consumption. It was recommended, though, that it should not be treated as an ancillary activity but that a separate establishment should be identified as secondary activity.

The 2008 SNA recommends that the output of research and development should be valued at market prices if purchased (outsourced) or at the sum of total production costs plus an appropriate mark-up representing the costs of fixed assets used in production if undertaken on own account. Research and development undertaken by specialized commercial research laboratories or institutes is valued by receipts from sales, contracts, commissions, fees, etc. in the usual way. Research and development undertaken by government units, universities, non-profit research institutes, etc. is non-market production and should be valued on the basis of the total costs incurred excluding a return to capital used.

4. Further refinement of treatment and definition of financial instruments and assets

The 1993 SNA calculated FISIM as the difference between property income receivable and interest payable

The method for calculating financial intermediation services indirectly measured, widely known as FISIM, has been refined in the light of experience in implementing the 1993 SNA recommendations. By convention the 2008 SNA recommends that FISIM applies only to loans and deposits and only when those loans and deposits are provided by, or deposited with, financial institutions. The 2008 SNA calculates the output of FISIM on loans (y_L) and deposits (y_D) only, using a reference rate (rr). Assuming that these loans and deposits attract interest rates of r_L and r_D respectively, the output of FISIM should be calculated according to the formula $(r_L - rr) y_L + (rr - r_D) y_D$.

5. Further specifications of the scope of transactions concerning government and public sector

Recognizing the fact that the powers, motivation and functions of government are different from those of other sectors of the economy and that it organizes its operations through different institutional units, the 2008 SNA gives extra guidance for the distinction between general government and public corporations

6. Harmonization between concepts and classifications of SNA and BPM6

- i) Goods sent abroad for processing is now manufacturing services rather than goods trade
- ii) Merchanting is now treated as goods trade rather than services trade (change in residency of ownership of goods for resale)

Chapter 2 SURINAME SYSTEM OF NATIONAL ACCOUNTS 1993 versus 2008

2.1 Introduction

The National Accounts of Suriname are the official, standardized statistics on the national economy of Suriname. The System of National Accounts provides a quantitative description of the economic process in Suriname and its economic relations with abroad. In order to achieve comparable statistics, national accounts should treat different industries and sectors of the economy uniformly. Gross Value Added plays an important role as an indicator of economic growth.

In 2012, the system of National Accounts was adjusted in accordance with guidelines laid down in the System of National Accounts 1993 (SNA1993) and classified according to the International Standard Industrial Classification (ISIC) Rev. 3. As a result, they give a better picture of some relatively recent developments, such as the greatly increased importance of services, automation, information and knowledge.

Technical assistance missions were undertaken to address the deficiencies identified by the General Bureau of Statistics (GBS) of Suriname to enhance the quality of GDP estimates of Suriname to international standards. In this context we had missions from CARTAC, PRASC and INEGI-Mexico. These missions identified additional deficiencies.

The GBS compiles and disseminates annual national accounts statistics. The main aggregates compiled on a regular basis are GDP by type of economic activity at current prices and at constant prices. In addition the GBS compiles estimates of other macro-economic aggregates such as Gross National Income and Gross National Disposable Income.

In this publication the reader will encounter Gross Domestic Product (GDP) by production in current and constant (2015) prices, GDP by Expenditure, GDP by Income for the years 2015-2019 and a Supply and Use Table 2015 (SUT 2015), as much as possible in line with the System of National Accounts 2008 (SNA2008). The Establishments are classified according to *ISIC* Rev.4.

The GDP estimates are compiled by economic activity within the framework of a complete production account consisting of output, intermediate consumption and GVA at current and at constant prices using improved deflators and extrapolators. National accounts can be presented in nominal or real amounts, with real amounts adjusted to remove the effects of price changes over time.

The 1993 SNA represents a major advance in national accounting and embodies the result of harmonizing the SNA and other international statistical standards more completely than in previous versions. The 2008 SNA, which is an update of the 1993 SNA, addresses issues brought about by changes in the economic environment, advances in methodological research and the needs of users.

2.2 Scope of National Accounts and Conceptual Framework

The broad objective of the System of National Accounts (SNA) is to provide a comprehensive conceptual and accounting framework for compiling and reporting macroeconomic statistics for analyzing and evaluating the performance of an economy.

The previous national accounts series consisted of estimates of GDP by production in current and constant 2007 prices, and GDP by Expenditure at current prices, Gross National Income and Gross National Disposable Income following the concepts, definitions and classifications broadly consistent with the *System of National Accounts, 1993 (1993 SNA)*. Establishments are classified according to the International Standard Industrial Classification (*ISIC*) Rev 3.

The revised system, comprises estimates of GDP by production at current and at constant 2015 prices, and GDP by Expenditure and by Income at current prices, and Supply and Use Tables (SUT) for 2015, following the concepts, definitions and classifications broadly consistent with *System of National Accounts, 2008 (2008 SNA)*. In addition macro-economic aggregates such as Gross National Income and Gross National Disposable Income are derived. The Establishments are classified according to the International Standard Industrial Classification (*ISIC*) Rev. 4. The GBS does not compile Institutional sector accounts, Integrated economic accounts and Quarterly National Accounts as yet.

2.3 Supply and Use Tables for 2015

What Are Supply-Use Tables?

Supply and Use / Supply-Use Tables (SUTs) are designed to support the production of GDP through coherent and regular benchmarking of estimates. The national accounts deal with production, income and expenditures and accumulation. These economic flows and stocks are organized into a sequence of accounts.

Supply and use tables focus on the process of production, the use of goods and services in the economy and the income accruing to factors of production. They help describe inter-industry relationships in the economy – how much one industry depends on others other industries as both suppliers of their inputs and consumers of their output.

Supply and use tables are a powerful tool to compare and contrast data from various sources and improve the coherence of the economic information system.

They permit analysis of markets and industries and allow productivity to be studied at a disaggregated level. They are usually built from establishment data and provide a link to detailed economic statistics outside the scope of the SNA.

The supply table describes the supply of goods and services, which are either produced in the domestic industry or imported. The use table shows where and how goods and services are used in the economy. They can be used either in intermediate consumption or in final use; which in turn is divided into consumption, capital formation and exports. Furthermore the use table shows the income generated in the production process.

Methodology and classification:

The Suriname Supply and Use Tables 2015 calculations are based methodologically on the basic concepts of the System of National Accounts (SNA 2008) of the United Nations Organization (UN). SUT compilation requires a large number of data gathered in a highly detailed level. The Information sources used in this system are of the most varied and in many cases can also be secondary, but they can play an important role in balancing the flow of products.

The Suriname SUT 2015 was intended to consist of 71 commodities based on CPC 2 digit and 23 industries based on ISIC rev4. (see page 22, Framework Suriname SUT 2015).

The rows in a SUT represent the goods and services in basic prices and the columns represent the industries.

Statistical Benefits

Supply and use tables serve primarily statistical purposes and provide an integrated framework for checking consistency and completeness of data.

In order to make GDP calculations more reliable, statisticians use three different methods: production, income and expenditure.

These three methods may generate different results. In order to eliminate those differences and to find the most accurate result, statisticians use supply-and-use tables as a balancing tool. (Sometimes the differences are just noted as “Statistical Discrepancies”).

Data sources

The data sources comprise Information provided by various statistical and administrative sources. The data used, come from statistics producers or other national institutions such as Ministries, Customs Department, Central Bank of Suriname, Establishments and others. By comparing these sources with each other, we are able to have a better view of the economy which is comprehensive, consistent, coherent and fully integrated.

Statistical sources include data obtained from records and surveys on various economic units or households, among which we may mention: the Register of Enterprises; Enterprise Survey; Household Budget Survey; Price Statistics Survey, Agriculture statistics and the environment, etc, Administrative resources include administrative data collected by other institutions for various purposes, among which we may mention: the Annual Financial Statements; Balance

of payments, Public administration fiscal statistics; foreign trade statistics; The sales and purchases; etc.

The concepts that underlie the Supply and Use tables are the same as for the rest of the System of Macroeconomic Accounts:

- Production boundary
- Output
- Consumption
- Final and intermediate expenditures
- Gross fixed capital formation and the asset boundary
- Income
- Valuation concepts
- Institutional units (Establishments grouped as industries)

Production is an activity, carried out under the responsibility, control and management of an institutional unit, which uses inputs of labour, capital, and goods and services to produce outputs of products (goods and services).

Products are goods and services (including knowledge-capturing products) that result from a process of production.

Goods are physical, produced objects for which a demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets.

Services are the result of a production activity that changes the conditions of the consuming units, or facilitates the exchange of products or financial assets.

Within the Supply and Use frame work, income arising from production is also referred to as primary inputs. Labour and capital are inputs of primary factors. Their compensation is seen as an input into the production process in much the same way as gravel is seen as an input into making cement. Produced goods and services can have a range of different uses in the economy:

Intermediate use (Intermediate consumption)

Consists of the value of the goods and services consumed as inputs by a process of production.

Final use

Final use reflects goods and services that are entirely consumed in the accounting period, but are not inputs to further production.

This includes;

- a. Final Consumption

- b. Gross Capital Formation
 - c. Exports
- a. Final consumption by households, NPISH and government reflects consumption of goods and services to satisfy needs and wants (eating, recreation) *or* the delivery of non-market services (policing, education).
 - b. Gross capital formation reflects the use of goods or intellectual property used in successive processes of production (not immediately transformed/used up in production processes).
 - c. Exports reflect goods that exit the resident economy for use by non-residents for either intermediate or final use.

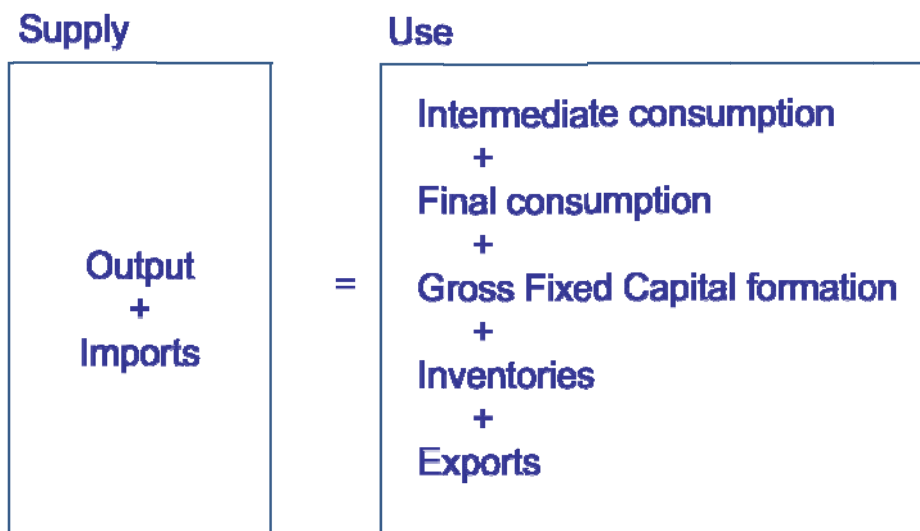
The amount of a product available within the economy must have been supplied either by domestic production or by imports. This represents the SUPPLY of a product in the economy.

The same amount of the product entering an economy in an accounting period must be used for intermediate consumption, final consumption, capital formation (including changes in inventories) or exports. This represents the USE of a product within the economy.

Within the context of the System of National Accounts

- SUPPLY = USE
- This is known as the supply-use identity or put in the context of macroeconomic theory supply = demand.

The identity takes the form of (at basic prices):



The national accounting “Supply=Use” Identity states that the total supply of a commodity (domestic output plus imports) must be consumed or used (intermediate consumption, final consumption, investment and exports).

In the System of National Accounts another key accounting identity states that inputs must be fully ‘compensated’ for their contribution to production. In other words, the value of an industry’s output is equal to the compensation provided to all inputs to its production.

In addition to the flow accounts and balance sheets described earlier, the central framework of the SNA also contains detailed supply and use tables in the form of matrices that record how supplies of different kinds of goods and services originate from domestic industries and imports and how those supplies are allocated between various intermediate or final uses, including exports. These tables involve the compilation of a set of integrated production and generation of income accounts for industries by drawing upon detailed data from industrial censuses or surveys.

The supply and use tables 2015 (SUT 2015) provide an accounting framework whereby the total supplies and uses of individual types of goods and services have to be balanced with each other. The SUT 2015 also provide the basic information for the derivation of (detailed) input-output tables that may be used for purposes of economic analysis and projections.

Framework Suriname SUT 2015

Estimation of Supply side

The Suriname SUT 2015 was intended² to consist of 71 commodities based on CPC 2 digit and 23 industries based on ISIC rev4. The rows represent the goods and services in basic prices and the columns represent the industries. The first column of the table shows the output by industry in a commodity/industry matrix. The next column includes the imports by commodity provided by the trade department and the imports of services provided by the Central Bank of Suriname. The third column includes the trade margins. Trade and transport margins are estimated based on the output of the retail and wholesale trade industry and the output of freight. This output is divided by the total demand of goods industries that use retail and wholesale trade. Followed by the column with the taxes less subsidies on product estimated using government data. The last column is the sum of all the previous columns to provide an estimate for total supply of a certain good at purchasers’ prices.

² The ABS/GBS regrets to note that detailed information was not received from the Tax Office, resulting in an SUT with many spurious zeros; therefore the Bureau had to resort to aggregating the information.

Table 2.0a: Supply Table at purchasers' prices

Components Product groups	Total Output	Imports	Total supply at basic prices	Trade and transport margins	Taxes less subsidies on products	Total supply at purchasers prices
	27,633,557	8,781,498	36,415,055	(0)	1,372,302	37,787,356
0 - Agriculture, forestry and fishery products	2,708,902	91,521	2,800,423	470,514	77,239	3,348,176
1 - Ores and minerals; electricity, gas and water	2,134,086	20,189	2,154,275	187,204	(177,017)	2,164,462
2 - Food products, beverages and tobacco; textiles, apparel and leather products	562,768	961,221	1,523,989	584,440	237,559	2,345,989
3 - Other transportable goods, except metal products, machinery and equipment	2,411,829	2,361,590	4,773,419	1,206,206	776,253	6,755,878
4 - Metal products, machinery and equipment	1,498,124	3,057,858	4,555,982	2,370,906	165,088	7,091,976
5 - Constructions and construction services	3,714,285	-	3,714,285	-	78,334	3,792,619
6 - Distributive trade services; accommodation, food and beverage serving services; transport services; and electricity, gas and water distribution services	7,286,637	633,592	7,920,229	(4,819,271)	86,041	3,186,999
7 - Financial and related services; real estate services; and rental and leasing services	2,181,353	121,108	2,302,461	-	18,420	2,320,881
8 - Business and production services	2,176,703	1,534,418	3,711,121	-	103,986	3,815,107
9 - Community, social and personal services	2,958,870	-	2,958,870	-	6,399	2,965,269

Estimation of Use side

The first column of the use side is the total intermediate consumption by industry. For the estimation of IC the cost structure survey of 2007 was converted to CPC_2. Data on value-added by industry is available on the published National Account sheet. Total intermediate consumption by industry is equal to industry production minus industry value-added. IC is then calculated as the cost per product multiplied by IC per product divided by the total cost. The data from the column HFCE is based on coicop_2. It got mapped to cpc_2 with some additional splits for certain products. The monthly HFCE data reflects the consumption pattern for the survey period 2013/2014. HFCE data for 2015 is estimated by applying the inflation rate calculated by using the growth in consumer price index for 2013 to 2015. The column Gross Fixed Capital Formation is the sum of Private and Government Investment in Machinery & Equipment, Public goods, Inventories and Intellectual Property Products. The column Exports & Re-Exports is the Trade data converted to CPC 2 digit.

Table 2.0b Use Table

Components Product groups	Total Intermediate Consumption	Final consumption expenditure	Gross capital formation	Exports	Re- exports	Total use at purchasers prices
	11,491,212	11,263,214	7,888,165	6,924,793	219,973	37,787,356
0 - Agriculture, forestry and fishery products	1,514,160	1,033,428	281,849	517,543	1,196	3,348,176
1 - Ores and minerals; electricity, gas and water	1,402,305	175,907	34,000	552,108	143	2,164,462
2 - Food products, beverages and tobacco; textiles, apparel and leather products	643,306	1,247,845	(15,676)	327,125	143,389	2,345,989
3 - Other transportable goods, except metal products, machinery and equipment	3,373,313	1,653,279	793,868	911,259	24,159	6,755,878
4 - Metal products, machinery and equipment	251,426	661,212	2,752,374	3,375,877	51,086	7,091,976
5 - Constructions and construction services	-	-	3,792,619	-	-	3,792,619
6 - Distributive trade services; accommodation, food and beverage serving services; transport services; and electricity, gas and water distribution services	554,455	1,577,335	13,036	1,042,173	-	3,186,999
7 - Financial and related services; real estate services; and rental and leasing services	1,812,359	505,318	(27,432)	30,636	-	2,320,881
8 - Business and production services	1,753,600	1,685,150	208,285	168,072	-	3,815,107
9 - Community, social and personal services	186,288	2,723,740	55,240	-	-	2,965,269

2.4 Annual GDP by Industrial activity (Current and constant prices)

The main data source used in the compilation of annual GDP by industrial activity is the annual enterprise survey, a.k.a. annual national accounts survey (ANAS). This survey covers all enterprises with 10 and more employees and includes information regarding turnover, intermediate consumption, compensation of employees, capital formation, changes in inventories and number of employees. The survey covers all industries except for Agriculture, Animal Husbandry, Forestry and Fishing, and Financial Intermediation. The information for these industries is collected from respectively the Ministry of Agriculture, the Ministry of Spatial Planning, Land and Forest Management and the Central Bank.

An Establishment Census was conducted in 2016 and data has been collected, mainly according to the situation per December 2015.

Another data source is the quarterly enterprise survey. The GBS has conducted quarterly surveys since the 1970's. The survey includes data regarding turnover, compensation of employees, employment and output of manufacturing by product.

Data related to the financial sector are provided by the Central Bank of Suriname (CBoS). The GBS sends the related questionnaires to the CBoS. In addition the CBoS provides the GBS with their annual reports.

The source for government related activities is the government budget as received from the Ministry of Finance.

Other sources used are:

- Ministry of Agriculture, Animal Husbandry and Fishery: quantity and price data for selected agricultural products
- Customs; import and export of goods
- financial statements of selected enterprises
- Central Bureau for Electronic Administration

Compilation procedures:

Agriculture, Forestry and Fishing

For *growing of crops*, the Agriculture Department provides annual data on area cultivated, production quantities and average basic farm gate (and producer) prices for 20 crop types. The CPV output for crops is estimated by multiplying the average basic price by the production quantity for each crop and aggregation, while the KPV output is estimated by multiplying the average basic price for 2015 by the production quantities for each crop and then aggregated. The value of imports of agricultural inputs is used to estimate the CPV IC, with the GVA derived as a residual. The BM I/O ratio for 2015 of 22 percent is used to derive the KPV IC and GVA. For *raising of livestock*, separate data on animals slaughtered (i.e.,

cattle, goats, sheep and pigs), and production data for poultry, eggs and milk are obtained from the Agriculture Department, along with the CPI price movement of meat, to compile the CPV output estimates. The base year price is used to estimate KPV output. The GBS uses separate I/O ratios by type of animal provided during the mission (i.e., cattle 75 percent, sheep and goats 44 percent, pigs 80 percent, and poultry and eggs—chicken and ducks—50 percent).

There are currently no estimates compiled for *hunting and trapping* activities. The main source for the benchmark estimate of output would be the HBS data on household consumption and exports data relating to the export of live wild animals (especially birds). The 2012 Census did not identify hunting households.

Production data on *forestry* cover logging of poles and round logs provided by the Forestry Department. Export prices for logs and a fixed I/O ratio of 27 percent are used to compile annual CPV and KPV estimates.

For *fishing*, the GBS receives annual data on total landed fish and shrimp catch quantities from the Fisheries Department and uses the annual average CPI price for fresh fish and the global shrimp price to compile the CPV and KPV output estimates. The Fisheries department estimated an I/O ratio of 40 percent which is used to derive the CPV and KPV IC and GVA estimates.

Mining and Quarrying

For *mining*, the ANAS data are used to compile the CPV estimates for the bauxite, crude oil and gold extraction and exploration activities. The company annual reports are used to ensure that output, IC and GVA is correctly split between the mining and the manufacturing activities. Weighted volume data and the 2015 BM I/O ratio are used to derive the KPV estimates. For gold extraction, the volume of pre-sifted earth is used as a volume indicator. The CPV estimates for *quarrying* of sand, gravel and stone are based on the ANAS data but the response rate is poor and a lot of the activity is informal.

Manufacturing

The manufacturing activities include production of alumina, processed gold, refined petroleum products, processed shrimps, rice, and other manufacturing; with the CPV estimates based on the ANAS data. With the exception of other manufacturing, the KPV output estimates are derived by extrapolating the 2015 BM estimate using quantities of production. For other manufacturing a volume index based on quantities imported raw materials is used. The 2015 I/O ratios are used to derive the KPV, IC and GVA estimates.

Electricity, Gas, Steam and Air Conditioning Supply

Financial data from the ANAS are used to compile the CPV output, IC and GVA estimates; with kilowatt hours of electricity generated and distributed used to compile the annual KPV output estimates. The GVA estimates include the generating company, as well as the electricity distributor. *As the output for the industry is the value and volume of electricity distributed, and the GVA is the sum of GVA for generators and the distributor; the IC for the generating companies is calculated separately and deducted from their output to derive the GVA. The industry IC is derived as industry output less GVA of the generator and the distributor.*

Water Supply, Sewerage and Waste Management Activities

For water supply, ANAS data are used to compile the annual CPV estimates; with the annual KPV estimates being derived using fixed I/O ratios and quantities of water supplied. Estimates for sewerage and waste collection are not produced.

Construction

The CPV estimates for construction are compiled using a high level construction material inputs commodity flow approach. All imports of the relevant product codes for construction materials are included using the Customs value data, including product cost and freight plus import duties rates of 6 percent less 9 percent of paint imports (based on a company's report for the International Comparison Program (ICP)) plus domestic output of poles and wood products plus trade margins (3 percent) and 12 percent for services inputs (also based on a company's report for the ICP). These inputs make up total IC. A 40-percent-GVA-to-60-percent-IC ratio is used to derive the GVA. The total BPI is used as the deflator to derive the KPV estimates.

Motor Vehicle Sales and Repairs, and Wholesale and Retail Trade

The annual CPV output estimates for wholesale and retail trade are compiled using the ANAS data. The CPV estimates are deflated using a price index derived from deflating a subset of imports by the equivalent group level CPI for four CPI groups (i.e., food and non-alcoholic beverages, alcohol and tobacco, clothing and footwear, and household furnishings). Due to the partial coverage and high aggregation level of CPI used to derive the price deflator, there is certainly room for improvement. A fixed I/O ratio is applied to the output estimates to derive the IC and GVA estimates. Sales of motor vehicles and motorcycles are included under general wholesale and retail trade in the previous estimates but are separated in the ISIC Rev. 4 estimates.

Transport and Storage

The number of insured vehicles is used as volume indicator for road passenger transport to extrapolate the 2015 BM estimates. CPI transport is used to reflate the KPV estimates to derive the CPV estimates.

The data from the central bank regarding the value of purchases of tickets is used as a volume indicator to extrapolate the 2015 BM estimates for the Freight transport services. The 2015 I/O ratio is used to derive CPV and KPV IC and GVA estimates.

The KPV for supporting is estimated using the growth in ships handled. CPI transport is used to reflate the KPV estimates to derive the CPV estimates.

Accommodation and Food Service Activities

The CPV output estimates for hotels and restaurants are based on ANAS data; with the KPV output estimates derived using stay-over tourist arrivals as a volume indicator.

Information and Communication

For telecommunications, the KPV estimates are compiled with data retrieved from the website of World Bank regarding households using internet and CPI for communication to estimate the CPV. The BM I/O ratio is used to derive the KPV IC and GVA estimates. This is done in close consultation with the INEGI consultant.

Financial and Insurance Activities

Combined data for the CBoS and commercial banks is used to compile the CPV estimates. The imputed bank services charges method (i.e. interest receivable less interest payable) is used as a proxy for estimating FISIM (Financial Intermediation Services Indirectly Measured)

The main data source is the Central Bank of Suriname (CBoS) which provides the necessary information to the GBS using questionnaires provided by the GBS. In addition the CBoS provides their annual report which contains consolidated profit and loss accounts from the commercial banks.

The output of financial intermediation except insurance and pension funding at current prices is calculated as the difference between the interest received and paid (FISIM, Financial Intermediation services Indirectly Measured) plus fees and commissions received. This sub industry includes the output of the Central Bank.

The output of life insurance companies at current prices is calculated as premiums earned plus premium supplements minus claims plus changes in actuarial reserves, while the output of non-life insurance is equal to premiums earned plus premium supplements minus claims. In the previous methodology output at current prices of insurance both life and non-life was calculated as the premiums minus claims and the output of included the interest received minus paid from the Central Bank

In addition activities auxiliary to financial intermediation of which information from the exchange offices (Cambio's) which *were previously not included* are now included in the estimates. The output of financial activities auxiliary to financial intermediation is equal to the fees and commissions earned.

Since direct deflation of FISIM is not possible the preferred method for arriving at the output at constant prices is used for financial intermediation except insurance and pension funding. This it to extrapolate base year output by a volume index of the deflated loans and deposits. CPI is used as a proxy deflator for the loans and deposits.

The preferred method for calculating the output of life insurance would be to first collect information on the aggregate value of life insurance policies (owed or in force), deflate this by the all-items CPI and calculate a volume index of the value of life insurance policies. This volume index can be used next to extrapolate base year output. Due to lack of data, the methodology used is to extrapolate the output by the index of gross premiums deflated by the all items CPI.

The constant price output of non-life insurance should preferably be calculated separately for property insurance, automobile insurance and all other insurance. Due to lack of data the second best method is used by extrapolating the base year total output by the index of gross premiums deflated by the product specific CPI.

Real Estate Activities

For owner-occupied dwellings, the KPV estimates are derived by extrapolating the 2015 BM estimate using the 2004 and 2012 Census data on number of dwellings extrapolated using the number of electricity connections data. The 2000 HBS average estimate of imputed rents per dwelling is price adjusted using the all-items CPI to derive the CPV estimates. For rented dwellings, the methodology for deriving the KPV estimates is also based on Census numbers and extrapolated forward using adjusted electricity connections data. For real estate agents and property managers, the CPV and KPV estimates are derived by using the ANAS value and average wages data.

Professional, Scientific and Technical Activities

The ANAS value and employment data are used to compile the CPV and KPV estimates for all business services; with the BM I/O ratios used to derive the CPV and KPV IC and GVA estimates. Due to low response, a percentage of the output of most of the industries is used as total output for Research and Development. Since there is no IC involved in this, the total output is equal to total CPV.

The KPV are derived by using the all-items CPI as a deflator, since PPI is not yet produced in Suriname.

Public administration and defense; Compulsory Social Security Activities

For Government, the CPV estimates by function are compiled, using the *Classification of the Functions of Government* (COFOG), using Government accounts data from both soft copy and/or hard copy publications for each department/agency.

Data on COE is used for GVA. There is no estimate made for consumption of fixed capital (CFC) to add to the GVA. A weighted wage index is used to deflate the CPV GVA to compile the KPV GVA estimates.

Output for public administration and defense is calculated as the sum of costs. Intermediate consumption is equal to the value of materials purchased. Base year output is extrapolated by a volume index of employment to calculate output at constant prices. Intermediate consumption in the base year is extrapolated by the respective volume indices of output.

Education

The CPV and KPV estimates for non-government private education are based on the ANAS value and employment/average wages data. However, the ANAS data were inadequate, so LFS employment data by sub-industry is used to derive the KPV estimates first and then use CPI for education to reflate the KPV to derive the CPV estimates.

To align with ISIC Rev. 4, public education is included here. The annual CPV and KPV estimates for public education are compiled using the same approach as for public administration.

Human Health and Social Work Activities

The ANAS value and employment data are used as value and volume and value indicators to compile the CPV and KPV estimates respectively. Due to low ANAS response rates, LFS employment data by sub-industry is used to derive the KPV estimates first and the all-items CPI is used to reflate the KPV to derive the CPV estimates.

To align with ISIC Rev. 4, public human health and social work is included here. The annual CPV and KPV estimates for public health and social work are compiled using the same approach as for public administration.

Other Service Activities

The ANAS value and employment data are used as volume and value indicators to compile the KPV and CPV estimates respectively; the LFS employment movement for this industry and the all-items CPI have been used for 2015 onwards due to low ANAS response rates.

Taxes less subsidies on products

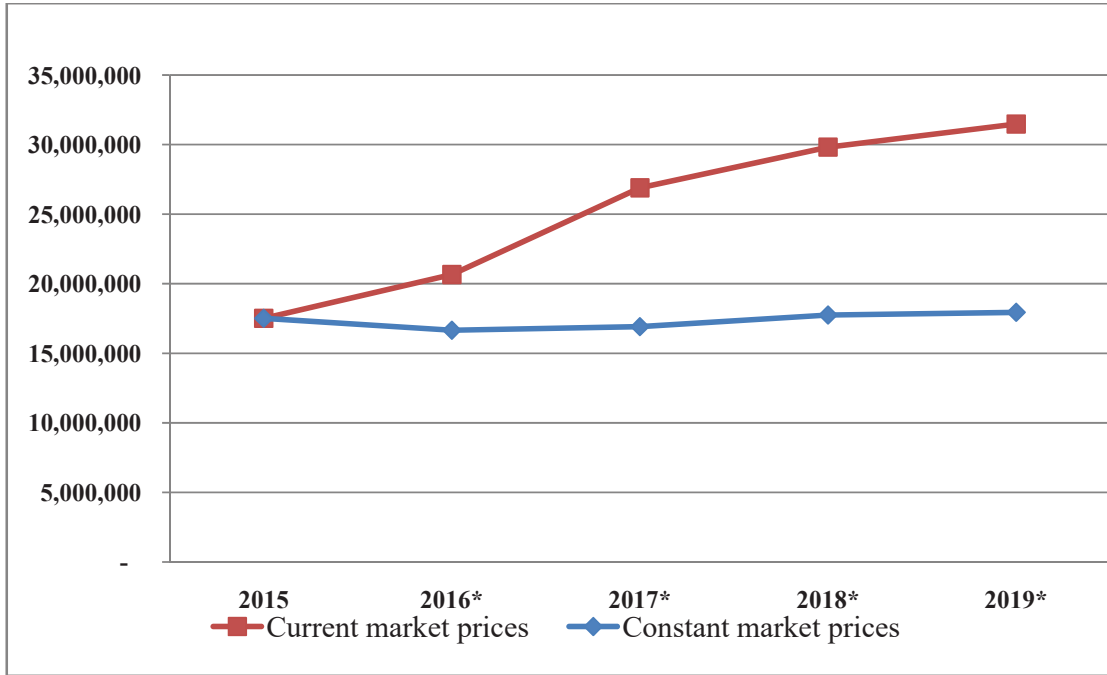
The indirect taxes less subsidies are derived from the budget of the Ministry of Finance reclassified to taxes less subsidies on products using 2008 SNA definitions. Taxes less subsidies at constant prices are based on the values at current prices multiplied by the base year ratio of taxes less subsidies over GVA.

Table 2.1: Gross Value Added at basic prices (1000 SRD) by kind of Economic Activity and GDP at Market prices 2015-2019 (current prices)

Industries	2015	2016*	2017*	2018*	2019*
A 01–03 Agriculture, forestry and fishing	1,822,952	2,224,604	2,936,143	2,991,850	2,727,737
B 05–09 Mining and quarrying (extraction)	739,236	1,147,829	1,731,423	1,718,358	2,165,033
C 10–33 Manufacturing (inclusive milling and refining)	2,013,250	2,768,674	6,349,541	6,358,955	5,429,802
D 35 Electricity, gas, steam and air conditioning supply	318,288	396,338	553,399	765,821	539,728
E 36–39 Water supply; sewerage, waste management and remediation activities	18,554	20,546	39,022	50,642	70,042
F 41–43 Construction	1,685,150	1,195,070	1,619,666	2,069,342	2,296,730
G 45–47 Wholesale and retail trade; repair of motor vehicles and motorcycles	2,968,677	4,096,570	4,944,069	5,659,395	5,895,346
H 49–53 Transportation and storage	695,719	551,375	571,351	848,175	743,569
I 55–56 Accommodation and food service activities	699,261	812,287	878,971	1,061,309	1,702,452
J 58–63 Information and communication	1,152,490	1,762,579	1,321,829	1,225,241	1,204,865
K 64–66 Financial and insurance activities	761,992	998,635	1,261,449	1,794,979	1,980,000
L 68 Real estate activities	752,385	871,476	913,634	996,332	1,078,975
M 69–75 Professional, scientific and technical activities	218,695	266,521	352,502	405,825	436,187
N 77–82 Administrative and support service activities	.	.	.	.	.
O 84 Public administration and defense; compulsory social security	1,071,236	1,044,225	1,174,954	1,381,719	2,204,549
P 85 Education	546,661	593,769	708,268	740,091	1,039,105
Q 86–88 Human health and social work activities	456,181	535,139	507,638	665,851	849,006
R 90–93 Arts, entertainment and recreation	.	.	.	.	.
S 94–96 Other service activities	221,617	262,555	324,121	379,683	438,288
T 97–98 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	.	.	.	.	.
U 99 Activities of extraterritorial organizations and bodies	.	.	.	.	.
Unknown	.	.	.	.	.
Gross Value Added basic prices	16,142,345	19,548,192	26,187,978	29,113,578	30,801,416
Taxes less Subsidies on Products	1,372,302	1,114,800	705,300	708,100	681,100
GDP at market prices	17,514,647	20,662,992	26,893,278	29,821,678	31,482,516

Table 2.2: Gross Value Added at basic prices (1000 SRD) by kind of Economic Activity and GDP at Market prices 2015-2019 (constant prices)

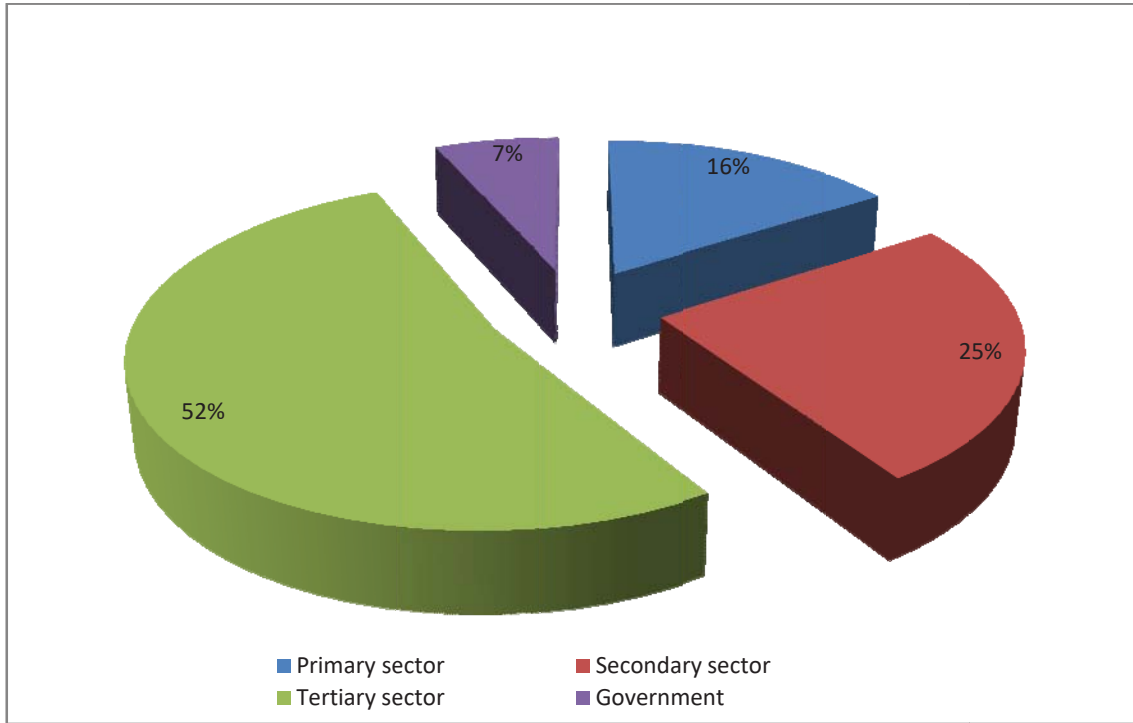
Industries	2015	2016*	2017*	2018*	2019*
A 01–03 Agriculture, forestry and fishing	1,822,952	1,823,821	1,706,858	1,561,865	1,268,001
B 05–09 Mining and quarrying (extraction)	739,236	578,478	659,187	694,889	554,044
C 10–33 Manufacturing (inclusive milling and refining)	2,013,250	2,104,166	2,563,872	2,713,866	2,504,079
D 35 Electricity, gas, steam and air conditioning supply	318,288	235,553	292,278	289,681	307,744
E 36–39 Water supply; sewerage, waste management and remediation activities	18,554	18,741	18,595	18,571	18,225
F 41–43 Construction	1,685,150	1,229,798	1,457,940	1,454,390	1,523,918
G 45–47 Wholesale and retail trade; repair of motor vehicles and motorcycles	2,968,677	2,965,107	2,497,015	2,752,394	2,749,649
H 49–53 Transportation and storage	695,719	534,023	647,500	717,115	694,693
I 55–56 Accommodation and food service activities	699,261	799,009	900,321	998,843	1,170,110
J 58–63 Information and communication	1,152,490	1,222,285	999,252	1,086,396	1,158,441
K 64–66 Financial and insurance activities	761,992	865,807	654,232	845,861	925,188
L 68 Real estate activities	752,385	812,215	848,850	896,963	922,440
M 69–75 Professional, scientific and technical activities	218,695	194,133	228,022	248,292	243,156
N 77–82 Administrative and support service activities	.	.	.	.	.
O 84 Public administration and defense; compulsory social security	1,071,236	914,702	1,107,359	1,153,592	1,622,133
P 85 Education	546,661	439,575	409,267	348,719	272,416
Q 86–88 Human health and social work activities	456,181	421,538	417,522	401,176	420,256
R 90–93 Arts, entertainment and recreation	.	.	.	.	.
S 94–96 Other service activities	221,617	190,539	181,798	178,683	186,411
T 97–98 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	.	.	.	.	.
U 99 Activities of extraterritorial organizations and bodies	.	.	.	.	.
Unknown	.	.	.	.	.
Gross Value Added basic prices	16,142,345	15,349,488	15,589,867	16,361,295	16,540,904
Taxes less Subsidies on Products	1,372,302	1,304,899	1,325,334	1,390,916	1,406,185
GDP at market prices	17,514,647	16,654,387	16,915,201	17,752,211	17,947,089



Graph 1: GDP (1,000 SRD) in current and constant market prices, 2015-2019

Table 2.3: Percentage contribution by kind of Economic activity to the nominal GDP at market prices, 2015-2019

Industries	2015	2016*	2017*	2018*	2019*
A 01–03 Agriculture, forestry and fishing	10.4	10.8	10.9	10.0	8.7
B 05–09 Mining and quarrying (extraction)	4.2	5.6	6.4	5.8	6.9
C 10–33 Manufacturing (inclusive milling and refining)	11.5	13.4	23.6	21.3	17.2
D 35 Electricity, gas, steam and air conditioning supply	1.8	1.9	2.1	2.6	1.7
E 36–39 Water supply; sewerage, waste management and remediation activities	0.1	0.1	0.1	0.2	0.2
F 41–43 Construction	9.6	5.8	6.0	6.9	7.3
G 45–47 Wholesale and retail trade; repair of motor vehicles and motorcycles	16.9	19.8	18.4	19.0	18.7
H 49–53 Transportation and storage	4.0	2.7	2.1	2.8	2.4
I 55–56 Accommodation and food service activities	4.0	3.9	3.3	3.6	5.4
J 58–63 Information and communication	6.6	8.5	4.9	4.1	3.8
K 64–66 Financial and insurance activities	4.4	4.8	4.7	6.0	6.3
L 68 Real estate activities	4.3	4.2	3.4	3.3	3.4
M 69–75 Professional, scientific and technical activities	1.2	1.3	1.3	1.4	1.4
N 77–82 Administrative and support service activities	.	.	.	.	.
O 84 Public administration and defense; compulsory social security	6.1	5.1	4.4	4.6	7.0
P 85 Education	3.1	2.9	2.6	2.5	3.3
Q 86–88 Human health and social work activities	2.6	2.6	1.9	2.2	2.7
R 90–93 Arts, entertainment and recreation	.	.	.	.	.
S 94–96 Other service activities	1.3	1.3	1.2	1.3	1.4
T 97–98 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	.	.	.	.	.
U 99 Activities of extraterritorial organizations and bodies	.	.	.	.	.
Unknown					
Gross VA Current	92.2	94.6	97.4	97.6	97.8
Taxes less Subsidies on Products	7.8	5.4	2.6	2.4	2.2
GDP at market prices	100	100	100	100	100



Graph 2: Percentage contribution per sector to the nominal GDP at basic prices, 2015

Table 2.4
Percentage contribution by kind of Economic activity to the real GDP at market prices,
2015-2019

Industries	2015	2016*	2017*	2018*	2019*
A 01–03 Agriculture, forestry and fishing	10.4	11.0	10.1	8.8	7.1
B 05–09 Mining and quarrying (extraction)	4.2	3.5	3.9	3.9	3.1
C 10–33 Manufacturing (inclusive milling and refining)	11.5	12.6	15.2	15.3	14.0
D 35 Electricity, gas, steam and air conditioning supply	1.8	1.4	1.7	1.6	1.7
E 36–39 Water supply; sewerage, waste management and remediation activities	0.1	0.1	0.1	0.1	0.1
F 41–43 Construction	9.6	7.4	8.6	8.2	8.5
G 45–47 Wholesale and retail trade; repair of motor vehicles and motorcycles	16.9	17.8	14.8	15.5	15.3
H 49–53 Transportation and storage	4.0	3.2	3.8	4.0	3.9
I 55–56 Accommodation and food service activities	4.0	4.8	5.3	5.6	6.5
J 58–63 Information and communication	6.6	7.3	5.9	6.1	6.5
K 64–66 Financial and insurance activities	4.4	5.2	3.9	4.8	5.2
L 68 Real estate activities	4.3	4.9	5.0	4.9	5.1
M 69–75 Professional, scientific and technical activities	1.2	1.2	1.3	1.4	1.4
N 77–82 Administrative and support service activities	.	.	.	.	.
O 84 Public administration and defense; compulsory social security	6.1	5.5	6.5	6.5	9.0
P 85 Education	3.1	2.6	2.4	2.0	1.5
Q 86–88 Human health and social work activities	2.6	2.5	2.5	2.3	2.3
R 90–93 Arts, entertainment and recreation	.	.	.	.	.
S 94–96 Other service activities	1.3	1.1	1.1	1.0	1.0
T 97–98 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	.	.	.	.	.
U 99 Activities of extraterritorial organizations and bodies	.	.	.	.	.
Unknown	.	.	.	.	.
Gross VA Current	92.2	92.2	92.2	92.2	92.2
Taxes less Subsidies on Products	7.8	7.8	7.8	7.8	7.8
GDP at market prices	100	100	100	100	100

Table 2.5: Percentage change of the real Value Added by kind of Economic activity per year, 2016-2019

Industries	2016*	2017*	2018*	2019*
A 01–03 Agriculture, forestry and fishing	0.0	(6.4)	(8.5)	(18.8)
B 05–09 Mining and quarrying (extraction)	(21.7)	14.0	5.4	(20.3)
C 10–33 Manufacturing (inclusive milling and refining)	4.5	21.8	5.9	(7.7)
D 35 Electricity, gas, steam and air conditioning supply	(26.0)	24.1	(0.9)	6.2
E 36–39 Water supply; sewerage, waste management and remediation activities	1.0	(0.8)	(0.1)	(1.9)
F 41–43 Construction	(27.0)	18.6	(0.2)	4.8
G 45–47 Wholesale and retail trade; repair of motor vehicles and motorcycles	(0.1)	(15.8)	10.2	(0.1)
H 49–53 Transportation and storage	(23.2)	21.2	10.8	(3.1)
I 55–56 Accommodation and food service activities	14.3	12.7	10.9	17.1
J 58–63 Information and communication	6.1	(18.2)	8.7	6.6
K 64–66 Financial and insurance activities	13.6	(24.4)	29.3	9.4
L 68 Real estate activities	8.0	4.5	5.7	2.8
M 69–75 Professional, scientific and technical activities	(11.2)	17.5	8.9	(2.1)
N 77–82 Administrative and support service activities	.	.	.	.
O 84 Public administration and defense; compulsory social security	(14.6)	21.1	4.2	40.6
P 85 Education	(19.6)	(6.9)	(14.8)	(21.9)
Q 86–88 Human health and social work activities	(7.6)	(1.0)	(3.9)	4.8
R 90–93 Arts, entertainment and recreation				
S 94–96 Other service activities	(14.0)	(4.6)	(1.7)	4.3
T 97–98 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	.	.	.	.
U 99 Activities of extraterritorial organizations and bodies	.	.	.	.
Unknown				
Gross VA Current	(4.9)	1.6	4.9	1.1
Taxes less Subsidies on Products	(4.9)	1.6	4.9	1.1
GDP at market prices	(4.9)	1.6	4.9	1.1

Table 2.6
Deflators (2015=100)

Industries	2015	2016*	2017*	2018*	2019*
A 01–03 Agriculture, forestry and fishing	100	122	172	192	215
B 05–09 Mining and quarrying (extraction)	100	198	263	247	391
C 10–33 Manufacturing (inclusive milling and refining)	100	132	248	234	217
D 35 Electricity, gas, steam and air conditioning supply	100	168	189	264	175
E 36–39 Water supply; sewerage, waste management and remediation activities	100	110	210	273	384
F 41–43 Construction	100	97	111	142	151
G 45–47 Wholesale and retail trade; repair of motor vehicles and motorcycles	100	138	198	206	214
H 49–53 Transportation and storage	100	103	88	118	107
I 55–56 Accommodation and food service activities	100	102	98	106	145
J 58–63 Information and communication	100	144	132	113	104
K 64–66 Financial and insurance activities	100	115	193	212	214
L 68 Real estate activities	100	107	108	111	117
M 69–75 Professional, scientific and technical activities	100	137	155	163	179
N 77–82 Administrative and support service activities	.	.	.	.	.
O 84 Public administration and defense; compulsory social security	100	114	106	120	136
P 85 Education	100	135	173	212	381
Q 86–88 Human health and social work activities	100	127	122	166	202
R 90–93 Arts, entertainment and recreation	.	.	.	.	.
S 94–96 Other service activities	100	138	178	212	235
T 97–98 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	.	.	.	.	.
U 99 Activities of extraterritorial organizations and bodies	.	.	.	.	.
Unknown					
Total VA	100	127	168	178	186
Taxes less Subsidies on Products	100	85	53	51	48
GDP at market prices	100	124	159	168	175

Table 2.7**National Income and other aggregates (1000SRD) per year, 2015-2019**

Social Economic Aggregates	2015	2016*	2017*	2018*	2019*
Gross Domestic Product (basic prices)	16,142,345	19,548,192	26,187,978	29,113,578	30,801,416
Taxes less of subsidies	1,372,302	1,114,800	705,300	708,100	681,100
Net factor Income (RIPDs)	(45,792)	(1,053,312)	(2,974,700)	(2,915,938)	(3,106,512)
Gross Domestic Product (market prices)	17,514,647	20,662,992	26,893,278	29,821,678	31,482,516
Gross National Income (basic prices)	16,096,553	18,494,880	23,213,278	26,197,640	27,694,904
Gross National Income (market prices)	17,468,855	19,609,680	23,918,578	26,905,740	28,376,004
Disposable Income	17,693,683	20,254,074	24,671,313	27,678,558	29,050,548
Mid-Year Population	567,291	575,763	583,400	590,100	598,000
Gross Domestic Product per capita in SRD	30,874	35,888	46,097	50,537	52,646
National Income per Capita in SRD	30,793	34,059	40,999	45,595	47,452

Table 2.8
Taxes and Subsidies (*1000 SRD) on
products per year, 2015-2019

Economic aggregates	2015	2016*	2017*	2018*	2019*
Indirect Taxes	1,595,202	1,359,900	1,542,000	1,952,300	2,173,100
of which:					
Import duties	356,400	350,100	502,200	676,600	756,300
Statistics duty	25,200	21,400	29,900	34,300	34,900
Wood export tax	15,800	32,300	76,900	90,500	92,500
Public entertainment tax	4,400	4,400	5,900	6,800	7,100
Excise on tobacco and cigarettes	93,100	77,500	85,300	83,100	78,600
Excise on alcohol free drinks /alcohol / beer	77,602	99,800	128,100	160,700	180,900
Fuel tax	577,400	295,000	186,500	280,900	358,100
Sales tax	445,300	477,400	661,200	872,400	845,800
Vehicle tax				2,900	46,800
Statistical Discrepancy		2,000	(134,000)	(255,900)	(227,900)
Subsidies on products	222,900	245,100	836,700	1,244,200	1,492,000
Taxes less Subsidies on products	1,372,302	1,114,800	705,300	708,100	681,100

Source: Ministry of Finance
 Section Economic Affairs
 Central Budget Accounts

2.5 Annual GDP by Expenditure (Current prices)

The goods and services account for the total economy brings together all supply of goods and services with all uses. The resources side shows categories of supply and the uses side the categories of use. The account sets the framework for the calculation of GDP by the expenditure approach. The method used is roughly in accordance with the World Bank Manual (2013).

The components of annual GDP by Expenditure are:

+ Final Consumption Expenditure:

- a. by households and non-profit institutions serving households
- b. by government

+ Gross Capital Formation

- a) Gross Fixed Capital Formation
 - i) business
 - ii) government
- b) Changes in Inventories

+ External balance of Goods and Services

- + Exports of goods and services, f.o.b.
- Imports of goods and services, c.i.f.

= GDP at market prices

Estimation of Household final consumption expenditure

The Household Budget Survey (HBS) is the main data source for the calculation of Household final consumption expenditure. The latest HBS was held in 2013/2014, but suffered from some coverage problems and therefore was not used in the calculation of the Benchmark value. The method used is according to the World Bank manual whereby Household Consumption Expenditure consists of:

- Subsistence agriculture is equal to the estimates used for agriculture by production approach.
- Imputed rental of owner occupied dwellings is equal to the output by production approach.
- Marketed goods and services are calculated as a residual.

Estimation of Government Final Consumption Expenditure

This was estimated as the sum of Public administration and defense, Health and social work and Education with data derived from the government budget.

Gross Fixed Capital Formation

The GBS derives the data on private sector fixed capital formation (sum of construction and machinery and equipment) from the enterprise survey while the data for the government sector is derived from the public account. First the value of machinery and equipment was estimated through the commodity flow method. To this was added the output of construction (less estimated repair construction) from the production side. Mineral exploration was also added. The sum of machinery and equipment, construction (excluding repair construction), vehicles and cultivated biological assets and mineral exploration equals the total value of fixed capital formation.

Changes in Inventories

Data on business inventories are derived from the enterprise survey. The data on valuation practices of inventories are not available to permit calculation of inventory valuation adjustment.

Imports and Exports

The exports and imports of goods are available on cash and accrual basis and the services on cash basis. The total exports and imports are calculated as the sum of goods on accrual basis and the services on cash basis. The data regarding the flow of goods are GBS figures as derived from the customs statistics and other sources are valued at c.i.f.

The data regarding services are derived from the Balance of Payments of the Central Bank of Suriname (CBoS) and are valued at f.o.b.

Table 2.9: Annual GDP by Expenditure in Current price, 2015-2019 (*1000 SRD)

GDP by Expenditure	2015	2016*	2017*	2018*	2019*
1. Final Consumption Expenditure					
	11,263,214	14,088,169	16,236,677	16,046,816	18,824,999
- Households	8,692,520	11,755,052	13,329,877	12,973,225	14,409,193
Subsistence agriculture	207	265	325	349	364
Imputed rental of owner occupied dwellings	128,645	207,026	263,614	297,438	318,694
Marketed goods and services	8,563,668	11,547,762	13,065,939	12,675,438	14,090,135
- General Government	2,570,694	2,333,117	2,906,800	3,073,591	4,415,806
2. Gross Capital formation	7,888,165	6,733,195	8,715,653	10,983,786	12,815,234
3. Exports	7,144,766	8,996,721	12,983,471	16,489,989	15,604,180
4. Minus imports	8,781,498	10,255,929	12,530,539	15,376,245	17,583,208
GDP by Expenditure	17,514,647	19,562,156	25,405,263	28,144,346	29,661,205

Chapter 3 INCOME METHOD (current prices)

3.1 The components intended for the GDP via the Income method

The components intended for the GDP via the Income method are:

- Compensation of Employees
- Gross Operating Surplus
- Gross Mixed Income
- Taxes less subsidies on production and imports

3.2 Calculation of the GDP according to the Income method

GDP according to the Income method is derived as the sum of compensation of employees, gross operating surplus, gross mixed income and taxes less subsidies on production and imports;

All income as measured in the SNA is generated by production. The GDP by income account shows who receives the immediate benefit from productive activity.

- **Compensation of employees** shows the return to labour or the income returned to labour for provision of its services.
- **Operating surplus** shows the return to capital or income returned to capital for the provision of its services (recorded gross and net).
- **Taxes less subsidies on production:** valuation adjustment to arrive at production (GDP) at market prices.

Calculation of the aggregates:

Compensation of Employees

Compensation of employees comprises all payments of wages and salaries by producers to their employees. Payments in kind and contributions to social security and to private pension fund, casualty insurance and similar schemes are also included.

Wages and salaries in cash comprise all payments which employees receive in respect of their work, before deductions of employees' contributions to social security schemes. Payments such as refund of traveling of work, commissions, overtime, bonuses, and cost of living allowances are also included. Payments in kind include goods and services provided to employees free of charge or at greatly reduced prices which are clearly of direct benefit to the employees as consumers.

Gross Operating Surplus:

Gross Operating Surplus is defined as the excess of value added over the cost of employees' compensation and other taxes on production and imports net of subsidies.

Gross Mixed Income:

Mixed income is the surplus or deficit accruing from production by unincorporated enterprises owned by households; it implicitly contains an element of remuneration for work done by the owner, or other members of the household, that cannot be separately identified from the return to the owner as entrepreneur but it excludes the operating surplus coming from owner-occupied dwellings.

Taxes less subsidies on production and imports:

Taxes on production and imports comprise all taxes that enterprises incur by engaging in production. There are two categories of taxes, namely taxes on products and other taxes on production. Taxes on products are payable on goods and services when they are produced, sold or used. Examples are excise duties, import duties and Value Added Taxes (VAT). Other taxes on production are taxes payable out of the value added of producers. This category of taxes includes taxes levied on property, fixed assets and labor employed. Examples are municipal rates, motor vehicle licenses and business licenses.

**Table 3.1 Components of GDP, 2015-2019: The Income Approach at current prices
(*1000 SRD)**

	2015	2016*	2017*	2018*	2019*
Compensation of Employees	8,769,197	9,404,060	10,721,248	12,139,065	13,183,885
Taxes on Production	.	.	.	.	.
Taxes on Products	1,595,202	1,359,900	1,542,000	1,952,300	2,173,100
Subsidies on Production	.	.	.	.	.
Subsidies on Products	222,900	245,100	836,700	1,244,200	1,492,000
Gross Operating Surplus	7,373,148	10,144,131	15,466,730	16,974,513	17,617,531
Mixed Income
GDP by Income	17,514,647	20,662,992	26,893,278	29,821,678	31,482,516

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ANNEXES

Annex I: Summary of Sources and Methods of GDP Compilation by Economic Activity

Revised series versus previous series (Current prices)

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Agriculture	Ministry of Agriculture (MOA), data on price and quantities: Trade data	Value of output obtained as the product of current year producer's price and production; Input structure of agriculture (growing of crops) taken from trade data and of animal husbandry (raising of livestock) was provided during one of the missions	Value of output obtained as the product of current year producer's price and production; Input structure of agriculture taken from intermediate cost structure survey
Forestry, logging, and related service activities	Foundation of Forest management and Forest supervision; data on quantities produced and related prices	Value of output obtained as the product of current year producer's price and production; Input structure of 27 %, was provided	Value of output obtained as the product of current year producer's price and production; Input structure unknown, assumed to be about 25 percent, which has to be revisited
Fishing	Department of Fishery (DOF); data on quantities produced and related prices	Value of output obtained as the product of current year price and production; Input structure of 40 percent was provided during the mission	Value of output obtained as the product of current year price and production; Input structure unknown, assumed to be about 25 percent, which has to be revisited

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Oil extraction	National Accounts Survey (NAS) data, Economic Quarterly Statistics (EQS) and annual report. Oil company information regarding quantity of oil extracted and the corresponding price.	Value of output obtained as the product of current year price and production; Input structure obtained from the annual report of the company	Value of output obtained as the product of current year price and production; Input structure obtained from the annual report of the company
Mining of gold	NAS/EQS/admin data	Value of output calculated as output constant extrapolated with price index of gold mining. Intermediate consumption derived from the NAS	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS
Oil refinery	NAS/EQS/annual report	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Alumina production (This ceased after 2015)	NAS/EQS	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS
Gold processing	NAS/EQS/admin data	Value of output calculated as quantity of gold milling extrapolated with price index of gold milling. Intermediate consumption derived from the NAS	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS
Processing of fish, shrimp, rice and wood	DOF, MOA, MONR	Value of output obtained as the product of current year price and production; Input structure for fish and shrimp is 40 percent; for wood processing 27 percent; for rice i/o structure from one of the major rice companies	Value of output obtained as the product of current year price and production; Input structure for fish and shrimp 0.71 ratio from the intermediate cost structure survey; for wood processing i/o ratio from agriculture; for rice i/o structure from one of the major rice companies

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Other manufacturing	NAS/EQS/Trade data	Value of output calculates as base year output extrapolated with the growth of export value of raw materials.	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS
Electricity, Gas, Steam and air conditioning Supply	NAS/EQS	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS.	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS
Water supply, Sewerage and Waste Management Activities	NAS/EQS	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS.	Value of output calculated as turnover adjusted for changes in inventories as derived from the NAS. Intermediate consumption derived from the NAS
Construction	NAS/EQS/Trade data	Commodity flow method	Commodity flow method
Wholesale and retail trade; Repair of motor vehicles and motorcycles	NAS/EQS/Trade data/CPI	Value of output calculated as the trade margin as derived from the NAS	Value of output calculated as the trade margin as derived from the NAS
Accommodation & Food Service Activities	NAS/EQS/Tourism Foundation	Value of output and intermediate consumption derived from the NAS	Value of output and intermediate consumption derived from the NAS

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Land transport	NAS/EQS/Traffic and Transport statistics	The KPV estimates reflated by CPI transport to arrive at CPV estimates	Value of output and intermediate consumption derived from the NAS
Air transport	NAS/EQS/CBoS	The KPV estimates reflated by CPI transport to arrive at CPV estimates	Value of output and intermediate consumption derived from the NAS
Supporting transport	NAS/EQS/ Traffic and Transport statistics	The KPV estimates reflated by CPI transport to arrive at CPV estimates	Value of output and intermediate consumption derived from the NAS
Postal services	NAS/EQS	Value of output and Intermediate consumption derived from the NAS.	Value of output and intermediate consumption derived from the NAS
Telecommunication	NAS / EQS /administrative data	The KPV estimates reflated by CPI transport to arrive at CPV estimates	Value of output and intermediate consumption derived from the NAS
Financial intermediation except insurance and pension funding	Central Bank of Suriname (CBoS)	Value of output calculated as the difference between the interest, fees and commissions received and the interest paid. Intermediate consumption derived from source as sum of operational expenditures	Value of output calculated as the difference between the interest, fees and commissions received and the interest paid. Intermediate consumption derived from source as sum of operational expenditures

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Insurance and pension funding except social security	NAS/EQS, Annual reports	Value of output calculated as premiums earned plus premium supplements minus claims plus changes in actuarial reserves. Intermediate consumption derived from source as sum of operational expenditures.	Value of output calculated as the fees and commissions earned. Intermediate consumption derived from source as sum of operational expenditures.
Real estate agents and property managers	NAS/EQS	Value of output and intermediate consumption derived from the NAS.	Value of output and intermediate consumption derived from the NAS.
Imputed rental of owner occupied dwellings	2004, 2012/ Census/ Electricity company	Value of output is estimated using the 2000 HBS average estimate of imputed rents per dwelling and price adjusted using the all-items CPI	Value of output equals the number of owner occupied houses from the 2004 Census multiplied by the average rental value of the respective years
Rented dwellings	Electricity company/ CPI	The KPV estimates reflatd by the all-items CPI to arrive at CPV estimates	Not estimated
Professional, Scientific and Technical Activities	NAS	Output is calculated using the NAS value and employment data for all business services.	Output is calculated using the NAS value and employment data for all business services.

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Education private	NAS/EQS	Value of output and Intermediate consumption derived from the NAS	Value of output and intermediate consumption derived from the NAS
Education public	Ministry of Finance	Output is calculated as the sum of costs. Intermediate consumption is equal to the value of materials purchased	Output is calculated as the sum of costs. Intermediate consumption is equal to the value of material purchased
Health private	NAS/EQS	Value of output and Intermediate consumption derived from the NAS	Value of output and Intermediate consumption derived from the NAS
Health public	Ministry of Finance	Output is calculated as the sum of costs. Intermediate consumption is equal to the value of materials purchased	Output is calculated as the sum of costs. Intermediate consumption is equal to the value of material purchased
Other services	LFS employment data from HBS; CPI	Constant reflatd using representative adjusted CPI price indices	Output and Intermediate consumption based on the NAS.
Government: (excl. Education and Health)	Ministry of Finance	Output is calculated as the sum of costs. Intermediate consumption is equal to the value of materials purchased	Output is calculated as the sum of costs. Intermediate consumption is equal to the value of materials purchased

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Taxes less subsidies on products	Ministry of Finance	The indirect taxes less subsidies are derived from the budget data reclassified to taxes less subsidies on products using 2008 SNA definitions.	Budget data on income and expenditure

Annex II: Summary of Sources and Methods of GDP Compilation by Economic Activity
Revised series versus previous series (constant prices)

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Agriculture	Ministry of Agriculture (MOA), data on price and quantities	Value of output in current prices deflated by the corresponding price indices	Quantity of agriculture production in the current years multiplied by the base year producer's price of agriculture production
Forestry, logging, and related service activities	Foundation of Forest management; data on quantities produced and related prices	Quantity of wood felled in the current years multiplied by the base year export price of wood and wood products	Quantity of wood felled in the current years multiplied by the base year export price of wood and wood products
Fishing	Department of Fishery (DOF); data on quantities produced and related prices	Value of output in current prices deflated by the corresponding price indices	Quantity of fish and shrimp as provided by the DOF in the current year by the export price in the base year
Oil extraction	NAS data, EQS and annual report. Oil company information regarding quantity of oil extracted and the corresponding price.	Output at current prices deflated by the Production Index of crude oil	Output at current prices deflated by the PPI of crude oil
Mining of bauxite	NAS/EQS, Bauxite Institute	Output at current prices deflated by the price index of bauxite produced	Output at current prices deflated by the export price index of bauxite produced

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Mining of gold	NAS/EQS/admin data	Output at current prices deflated by the price index of gold mined	Output at current prices deflated by the export price index of gold mined
Oil refinery	NAS/EQS/annual report	Base year output extrapolated by the quantity index of quantities of processed oil.	Base year output extrapolated by the quantity index of quantities of processed oil
Alumina production (This ceased after 2015)	NAS/EQS	Base year output extrapolated by the quantity index of quantities of processed alumina	Base year output extrapolated by the quantity index of quantities of processed alumina
Gold processing	NAS/EQS/admin data	Value of output in the base year 2015 extrapolated by the volume index of quantities of gold processed	Value of output in the base year 2007 extrapolated by the volume index of quantities of gold processed
Processing of fish, shrimp, rice and wood	DOF, MOA, Forestry Department	Output of the base year extrapolated by the physical quantity index of processed shrimp, fish, rice and wood resp.	Output of the base year extrapolated by the physical quantity index of processed shrimp, fish, rice and wood resp.
Other manufacturing	NAS/EQS/Trade data	Output of the base year extrapolated by the volume index of imported raw materials	Output of the base year extrapolated by the volume index of imported raw materials
Electricity, and water supply, private	NAS/EQS	Base year output extrapolated by the volume index of electricity and water produced	Base year output extrapolated by the volume index of electricity and water produced

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Construction	NAS/EQS/Trade data	Output at current prices deflated by the building materials price index	Output at current prices deflated by the building materials price index
Wholesale and retail trade; repair of motor vehicles and motorcycles	NAS/EQS/Trade data/CPI	Base year output extrapolated by a volume index of turnover; which equals turnover at current prices deflated by the CPI for goods	Base year output extrapolated by a volume index of turnover; which equals turnover at current prices deflated by the CPI for goods
Accommodation and Food Service Activities	NAS/EQS/Tourism Foundation	Base year output extrapolated by the index of the number of tourists staying in hotels	Base year output extrapolated by the index of the number of tourists staying in hotels
Land transport	NAS/EQS/busfare/ Traffic and Transport statistics	Base year Output extrapolated by the number of insured vehicles	Output at current prices deflated by the purchaser's price index of tickets sold
Air transport	NAS/EQS/Tourism Foundation/CBoS	Base year output extrapolated by the value of purchases of tickets	Base year output extrapolated by the volume index of the number of passengers transported
Transport Supporting	NAS/EQS/ Traffic and Transport statistics	Base year output extrapolated by the growth in ships handled	Base year output extrapolated by the volume index of the number of employees
Postal services	NAS/EQS	Base year output extrapolated by a volume index of employment	Base year output extrapolated by the volume index of the number of employees

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Telecommunication	NAS/EQS/admin	Base year Output extrapolated by the growth of households using internet.	Output at current prices deflated by the wage rate index
Financial intermediation except insurance and pension funding	Central Bank of Suriname (CBoS)	Base year output extrapolated by the volume index of the deflated loans and deposits. CPI is used as a proxy deflator for the loans and deposits.	Output at current prices deflated by the wage rate index
Insurance and pension funding except social security	NAS/EQS, Annual reports	Output extrapolated by the index of gross premiums deflated by the all items CPI.	Output at current prices deflated by the wage rate index
Real estate renting and business activities	NAS/EQS	Value of output in the base year extrapolated by the volume index of the number of employees	Value of output of the base year extrapolated by the volume index of the number of employees
Imputed rental of owner occupied dwellings	2004, 2012 Census/ Electricity company	Value of output in the base year extrapolated by the growth in electricity connections data	Output at current prices deflated by the average rental value
Tenant occupied dwellings	2004, 2012 Census/ Electricity company	Value of output in the base year extrapolated by the growth in electricity connections data	Not estimated
Education private	NAS/EQS	The LFS employment movement for this industry is used and CPI for education.	Output at current prices deflated by the wage rate index
Education public	Ministry of Finance	Base year output extrapolated by a volume index of employment	Base year output extrapolated by the volume index of the number of employees

Activity	Sources of Data	Method of Estimation	
		Revised series	Previous series
Health private	NAS/EQS	The LFS employment movement for this industry is used and CPI for health.	Output at current prices deflated by the wage rate index
Health public	Ministry of Finance	Base year output extrapolated by a volume index of employment.	Base year output extrapolated by the volume index of the number of employees
Other services	NAS/EQS	The LFS employment data is used as a volume indicator to extrapolate the BM to derive at the KPV output and GVA estimates	Current price output is deflated by the wage index .
Government: (excl. Education and Health)	Ministry of Finance	Base year output extrapolated by a volume index of employment / wage index	Base year output extrapolated by the volume index of the number of employees/ wage index
Taxes less subsidies on products	Ministry of Finance	Taxes at current prices multiplied by the base year ratio of taxes less subsidies over GVA.	Output at current prices multiplied by the base year taxes minus subsidies ratio

Annex III: CARTAC Abbasi (February 2017) mission findings & recommendations

The mission conducted a comprehensive review of the statistics prerequisites, concepts, data sources, and methods used to produce the national accounts. Areas for improving the source data were identified and recommendations have been made to expand the use of administrative data, especially from the Tax Department, Ministry of Finance (MOF) and the Central Bank of Suriname (CBS); update the business register going forward using both the results of the 2015 Establishment Census and regulatory data; redevelop the annual and quarterly business surveys; expand sub-annual collection of prices and volume data; and conduct the construction industry, trade and transport margin studies needed to compile the 2015 SUT and in rebasing the GDP.

There is scope to improve the annual GDP- P methodology, including implementing the 2008 SNA methodology for calculating and fully allocating financial intermediation services indirectly measured; work-in-progress methodology for agriculture and construction; discontinuing the use of fixed intermediate consumption (IC) to output ratios for current price estimates; improving deflation/reflation of IC; implementing the *International Standard Industry Classification Revision 4 (ISIC Rev.4)* for national accounts; and volume extrapolation of deflated imports and outputs at a more detailed level to derive taxes less subsidies on products in constant prices. The mission provided broad methodological advice on developing quarterly GDP-P estimates, even though any development is subject to additional budget.

The following are the mission's findings and detailed advice:

ISIC A - Agriculture, Forestry and Fishing

- For **growing of crops**

Suggested improvements to the methodology include using the value and volume estimates derived as indicators to extrapolate the 2015 SUT BM estimates; requesting monthly or quarterly data on quantities and prices to calculate monthly or quarterly values and aggregate the months/quarters for the annual estimates; adding a coverage adjustment for backyard production for own consumption using data from 2015 SUT based on the Household Budget Survey (HBS) data. Use household formation rates for extrapolation; ensuring the production data is adjusted for post-harvest loss and includes subsistence and production for own consumption by farmers; adding a coverage adjustment for other small crop types based on the 2015 SUT; using the 2015 SUT values for each IC component divided by total hectares cultivated to calculate 2015 KPV of IC per hectare and use that multiplied by the number of hectares cultivated to estimate KPV IC; updating the 2015 value of IC components using price indices in order to compile CPV IC or continue to use value of imports of inputs for crops but as a value indicator to extrapolate the BM estimate. In the longer-term, it would be better to use the WIP approach to compile separate quarterly IC and output estimates at current and constant prices for seasonal crops, with GVA derived as a residual.

- For **raising of livestock**

The GBS needs to collect the livestock production data from the Livestock Division on a quarterly basis and use separate I/O ratios by type of animal provided during the mission (i.e., cattle 75 percent, sheep and goats 44 percent, pigs 80 percent, and poultry and eggs—chicken and ducks—50 percent), as well as collecting annual data for the CPV I/O ratios. The 50 percent I/O ratio would continue to be used for rabbits, horses and donkeys. The coverage for cattle and pigs slaughtered is quite comprehensive, but needs to be increased for other animals that are slaughtered on farm (i.e., by a further 50 percent for goats and sheep, and 25 percent of chicken). The coverage also needs to be improved for honey production, chicken manure, ducks, rabbits and equines. As most butchers buy live animals from farmers and pay the abattoir a slaughter fee, the abattoir should be requested to provide quarterly data on average live carcass weight and price paid farmers by type of animal. It would be better to use these value and volume estimates as indicators to extrapolate the 2015 SUT BM estimates. In the medium-term, it is recommended that the WIP approach be used to compile separate quarterly IC and output estimates at current and constant prices, with GVA derived as a residual. The perpetual inventory model (PIM) demonstrated during the mission needs to be implemented to improve output estimates to include growth in live animals and slaughter of animals; as well as for estimating GFCF of breeding animals. This will require data on livestock inventories and data on birth and death rates that should be available from the Livestock Division; as well as imports of breeding and other animals.

- There are currently no estimates compiled for **hunting and trapping** activities. *The value of this activity should be investigated for inclusion in the 2015 SUT and rebased GDP series.*

- Production data on **forestry** cover logging of poles and round logs; traditional charcoal production and firewood gathering

It would be better to compile the estimates for each of the three products separately using the benchmark-indicator approach as the I/O ratios are different for each. The national accounts compiler needs to contact the Forestry Department to get best estimates of these ratios for the 2015 SUT, as well as collecting prices data for charcoal and firewood. Own account gathering of firewood and poles by rural households is not covered and needs to be included, using HBS data or asking the Forestry Department for under coverage adjustment ratios. Provision of data on a quarterly basis should also be requested. Imported charcoal prices could also be used to construct a proxy price index to reflate the KPV estimates to derive the CPV estimates.

- For **fishing**,

The GBS needs to work with the Fisheries Department to improve the value and volume information by fish species and to update cost structure information on an annual basis.

Use of fixed I/O ratios for CPV estimates should be discontinued. The 50 percent I/O ratio needs to be replaced by the 40 percent estimated by the Fisheries Department.

The coverage of output needs to be improved to include sale of fish bladders (estimated value to be provided by the Department) and subsistence fishing based on HBS data. Fish output needs to be estimated by species for the main fish types at least. There is a need to collect the volume data on a monthly or quarterly basis from the Department and apply monthly or quarterly average prices (using CPI prices for fish and shrimp adjusted to remove margins and taxes) to derive values that fluctuate through the year in order to improve the annual estimates and produce quarterly estimates.

ISIC B - Mining and Quarrying

- For **mining**,

Separate I/O ratios for each sub-industry based on the 2015 SUT should be used. As the ANAS does not include the production of small gold producers, it would be better to use the quantity of gold exports, adjusted for gold for domestic use as the volume indicator. This should be discussed with CBS staff. The value of own account exploration needs to be separately calculated to add to GFCF. The output, IC and GVA relating to mining exploration by informal operators and the petroleum exploration offshore by the 8-9 operators identified by the CBS and not covered in the ANAS needs to be added to the production and GFCF estimates.

- The CPV estimates for **quarrying** of sand, gravel and stone are based on the ANAS data but the response rate is poor and a lot of the activity is informal. *It would be better to estimate sand, gravel and stone quantities using construction industry average ratios from the study being done to weight the BPI.* The ratios are generally around four parts sand to one-part cement and two parts gravel to one-part cement. *It may be better to collect the purchase prices for sand, gravel and stone from hardware stores and use that to construct the price indices.*

ISIC C - Manufacturing

The manufacturing activities include production of alumina, processed gold, refined petroleum products, processed shrimps, rice, and other manufacturing; with. *It would be better to use LFS employment data for these industries.*

- *For the 2015 SUT and ISIC Rev. 4 series, separate estimates are to be produced using the benchmark-indicator approach for 20 industries (i.e., meat processing; fish and shrimp processing; processing of fruit, vegetables and edible oils;*

dairy products; rice, grain mill and animal feed products; bakeries; other food manufacturing; alcoholic beverages; soft drinks and bottled waters; wearing apparel; wood products; printing and recorded media; refined petroleum products; non-metallic manufacturing; gold processing; alumina production (if revived); fabricated metal production; furniture; other manufacturing; and repair and installation of machinery and equipment. The coverage for manufacturing will need to be improved to include informal sector and production for own use (e.g., fabricated metals, furniture). The publishing activities will be reclassified to communication and information services.

- *Other improvements needed include adding hides and skins output (secondary output of meat manufacturing); reducing the paddy volume data as a proxy of rice produced to 82 percent (rice/paddy ratio) and an estimate for animal feed produced based on the 18 percent residual; and adjusting the shrimp quantities based on Fisheries Department data to remove domestic consumption of fresh shrimp. In the absence of appropriate prices use the export price of the producers or CPI prices for rice and shrimp adjusted to remove margins and taxes. Currently, both industries are overestimated. Refined petroleum products manufacturing needs to be split into the four component products and estimated separately, especially the KPV using product quantities as composition of output has changed considerably. In the medium-term, the quarterly value indicator from the QNAS would be benchmarked to the annual CPV estimates based on the improved ANAS.*

The development of the PPI has been recommended. In the interim, more detailed level CPI should be used for deflation or reflation purposes. For example, use the CPI for jams/jellies as a deflator for preserved fruit and vegetables; CPI for bakery products for bakeries; CPI for soft drinks; CPI for alcoholic beverages; CPI for wearing apparel; CPI text books for printing; CPI cement for concrete products and the CPI for wood furniture. Similarly, data on more detailed level volume indicators needs to be collected and used where prices data may not be available to compile the KPV estimates. To the extent possible, the quarterly estimates should be compiled at the same level of detail as done for the annual compilation. For cases where a quarterly volume indicator is not available, use the QNAS data as a value indicator to extrapolate the BM estimates in order to derive the quarterly CPV estimates; with the relevant CPI used to deflate the CPV estimates to derive the annual KPV estimates.

If there are delays in receiving the latest volume or value data, a number of data options are available to estimate the movement for the latest month's missing output data. For example, imported volume of flour and the adjusted CPI for bakeries can be used for bakery products; imports of malt and other ingredients and the relevant adjusted CPI for alcoholic and non-alcoholic beverages; imports of textiles and adjusted clothing CPI for wearing apparel; imports of paper and CPI for text books for printing; or LFS employment data by industry for KPV and reflatd using the relevant proxy CPI for that industry.

ISIC D - Electricity, Gas, Steam and Air Conditioning Supply

Financial data from the ANAS are used to compile the CPV output, IC and GVA estimates; with kilowatt hours of electricity generated and distributed used to compile the annual KPV output estimates. The GVA estimates include the generating company, as well as the electricity distributor. *As the output for the industry is the value and volume of electricity distributed, and the GVA is the sum of GVA for generators and the distributor; it is necessary to calculate the IC for the generating companies separately and deduct this from their output to derive the GVA. The industry IC is derived as industry output less GVA of the generator and the distributor.*

- *The quarterly KPV estimates can be compiled by using quarterly data on kilowatt hours distributed as a volume indicator benchmarked to the annual KPV estimates. These quarterly KPV estimates would then be reflatd using quarterly prices information provided by the distributor or the CPI for electricity to derive a value indicator to be benchmarked to the annual CPV estimates to derive the quarterly CPV estimates (if QNAS value data are not available).*

ISIC E - Water Supply, Sewerage and Waste Management Activities

For water supply, ANAS data are used to compile the annual CPV estimates; with the annual KPV estimates being derived using fixed I/O ratios and quantities of water supplied. Estimates for sewerage and waste collection are not produced. *Water collection by households in the interior and rural areas needs to be included using data from the HBS and 2012 Census to identify the number of households, and the labor input or water pricing approaches used to value output and GVA. There would be no IC unless water pumps are used. It will be necessary to collect quarterly financial data for the CPV estimates and volume data on water distributed through the QNAS to use as a volume indicator to extrapolate the BM estimates to compile the quarterly KPV output, IC and GVA estimates, with the annual estimates being the sum of the quarterly estimates. The sewerage and waste collection activities should be estimated separately. The number of consumers billed for sewerage can be used as the volume indicator for sewerage.*

- The estimates for the private industrial and solid waste management and recovery companies should be included here in ISIC Rev. 4. In addition to ANAS data, the value and volume of exports of scrap metals and other materials recovered can also be used.

ISIC F - Construction

- *The effective margins and tax rates will need to be derived from the 2015 SUT. The poles are actually used for scaffolding and should be in GFCF rather than IC as they are used again for other projects.*

It would be better to use the CPI for building repairs and maintenance.

- *There are a number of improvements that can be made to the methodology in for the 2015 GDP series. The trade margin of 3 percent is low and needs to be reviewed, although the larger construction companies do import directly or buy directly from local producers. The local production of gravel, sand, stone, concrete products, fabricated metal products need to be added, in addition to the wood products. Deductions need to be made from the building material imports for materials used in producing domestic paints, ready mix cement, concrete, wood and fabricated metal products, and for wood and metals used for furniture manufacturing. These estimates should be based on extrapolating the 2015 BM estimates using the CPV and KPV IC for those industries. The data from the SUT should be used to split the GVA into labor costs, consumption of fixed capital (CFC), other taxes less subsidies on production and net operating surplus.*
- *. It is important that the projects selected include residential dwellings, other buildings and civil works.*
- *The commodity flow estimates need to be compiled at a more detailed level.*

ISIC G - Motor Vehicle Sales and Repairs, and Wholesale and Retail Trade

There is a need to separate the motor vehicle sales and repairs industry from other wholesale and retail trade in line with ISIC Rev. 4. As most wholesalers also sell retail and some retailers sell in bulk, it is not feasible to separate the two types of traders.

- *The estimation methodology can be improved by implementing the commodity flow approach to compile the quarterly and annual estimates at a disaggregated product group level.*

ISIC H - Transport and Storage

Separate estimates should be compiled for buses, taxis and freight transport. Bus, taxi and freight vehicle registration or licenses numbers can be used as volume indicators to extrapolate the 2015 benchmark estimates. Another option is to use non-fuel cargo

volumes for exports and imports from the Airport and Port Authority as a volume indicator for freight transport. The CPI for buses, CPI transport services and CPI transport can be used to reflate the KPV estimates to derive the CPV estimates, if the ANAS and QNAS data is not good enough for value indicators.

- *The residency of the ferry operator needs to be investigated. The 2012 Census data should be checked to see if there are any coastal or river boat/taxi operators. The KPV estimates for water transport can be compiled by extrapolating the 2015 SUT estimate using passenger movements and cargo volumes, with the transport CPI used for reflation to derive the CPV estimates.*
- *If accessible, it would be better to use domestic air fares or actual passenger numbers carried by the resident airlines. For branch operations, the treatment should be consistent with the balance of payments treatment, and so should be discussed with the CBS. Resident departures on these non-resident carriers would be the preferred volume indicator.*
- *. For the Airport and any other air transport support activities, a weighted volume indicator of air cargo volumes, aircraft movements and passenger arrivals and departures should be used to extrapolate the 2015 estimate to derive the KPV estimates. For the Ports, a weighted volume indicator of cargo volumes exported and imported, ship movements and arrivals and departures should be used to extrapolate the 2015 estimate to derive the KPV estimates.*
- *For freight forwarders and agents, the CPV estimates would be derived using the ANAS and QNAS; with the cargo volumes as the KPV indicator to derive the KPV estimates. If the survey data are not adequate, the KPV estimates can be reflated using the services CPI to derive the CPV estimates.*
- *For quarterly estimates, the same volume indicators can be used to compile the quarterly KPV estimates. The proposed services CPI can be used to reflate the quarterly KPV output estimates to derive value indicators to benchmark to the annual CPV output to derive the quarterly estimates. For quarterly CPV IC, the quarterly CPV output estimates can be used as value indicators benchmarked to the annual CPV IC estimates to derive the quarterly IC estimates; with the quarterly CPV GVA derived as residuals.*
- *The QNAS data can be used to compile the quarterly estimates.*
- *As the ANAS response rates are low and Director level intervention may be required to improve compliance. The QNAS data can be used as a quarterly value indicator benchmarked to the annual CPV estimates to derive the quarterly CPV estimates. It would be better to use the transport CPI to deflate the CPV estimates to derive the quarterly KPV estimates.*

ISIC I - Accommodation and Food Service Activities

The compilation needs to be done separately for accommodation services (e.g., hotels, resorts, guest houses, camping grounds and other short-term accommodation) and food and beverage catering services (e.g., restaurants, cafes, canteens, bars and other establishments whose main income is derived from catered food and drinks). Given the concerns about the coverage and quality of the ANAS, the demand side approach should be used to estimate the production of these industries.

- *Even though resident personal and business IC use of hotels may be small, household expenditure (i.e., 2015 SUT benchmark extrapolated forward using number of households and the IPD for tourist spend), business financial statements and Government accounts data should be used to derive the BM estimates.*
- *The CPI for meals away from home is not exhaustive and so does not fully represent restaurants or bars and taverns. A weighted composite price index of the meals away from home CPI, non-alcoholic beverages CPI and alcoholic beverages CPI (using weights from the 2015 SUT) should be used.*

ISIC J - Information and Communication

It would be better to estimate the KPV output for fixed phones, mobile phones, Internet usage and cable TV separately; using annual (and quarterly) volume data on fixed phone call minutes, mobile call minutes, Internet downloads and cable TV subscriptions to extrapolate the 2015 benchmark revenue for each product. The data should be requested from the relevant companies and the Government regulator. For quarterly estimates, the QNAS data can be used to compile value and volume indicators to benchmark to the annual higher level aggregates to derive the equivalent quarterly CPV and KPV estimates.

- **Publishing activities** will need to be reclassified from manufacturing to communication and information services. The CPV estimates are based the ANAS value and employment data. *For the KPV estimates, it would be better to use the CPI for newspapers to deflate rather than using employment data to extrapolate the BM.*
- **For audio-visual production and distribution activities, broadcasting and programming (i.e., the TV and radio stations),** the ANAS and QNAS value data and LFS employment data can be used as value and volume indicators to compile the CPV and KPV estimates. *It may be necessary to collect data on rates for advertising slots and take up rates for slots to better estimate CPV output and to derive a more representative price index. The LFS employment data and the services CPI can be used for the*

remainder.

- The KPV and CPV estimates for computer and related activities can also be derived using the ANAS and QNAS value data and LFS employment data as value and volume indicators. *If response rates are inadequate, it may be necessary to compile the annual and quarterly KPV estimates using the LFS employment as a volume indicator, with the services CPI used to reflate the KPV estimates to derive the CPV estimates.*

ISIC K - Financial and Insurance Activities

The CBoS needs to provide separate data for itself and the commercial banks on profit and loss; deposits, loans and advances; and interest payable and receivable by industry/businesses, households, Government and non-residents. There is also a need to improve the coverage of, and collect deposits and loans data for, non-bank financial institutions (e.g. credit unions, cooperatives).

- FISIM is being allocated by industry, Government and households. *However, business FISIM on deposits is not allocated by industry and some of the FISIM on deposits and loans is attributable to NPISHs and non-residents so needs to be reallocated. Industry output can be used as a proxy to allocate business FISIM on deposits. FISIM on mortgages should be added to real estate IC. FISIM for Government and NPISHs is added to IC and output in the public administration and other relevant workbooks as the final consumption expenditure for Government and NPISHs is calculated using the output adjusted for sales. FISIM attributable to non-residents and to households for deposits and non-mortgage loans are to be allocated to exports of services and household final consumption expenditure respectively.*

- For other financial services, the CPV estimates should be based on ANAS and QNAS data; with the KPV estimates derived using LFS employment and the 2015 I/O ratio. *The coverage of pension and other fund managers, financial brokers, foreign exchange dealers and remittance companies needs to be improved. The CBS and Foreign Exchange Commission should be able to provide data if not covered by GBS surveys.*

- *Life and non-life insurance need to be separated and calculated according to the 2008 SNA recommendations, as explained during the mission. Reinsurance premiums paid and claims received need to be separated out and treated consistent with the balance of payments.*

- *It may be better to derive the annual and quarterly KPV estimates using the stock of registered motor vehicles, dwellings and deflated value of life insurance policies as volume indicators.*

- The commission fees paid by insurance companies and shown in their

financial statement that are paid to local insurance agents are included in the output and GVA estimates. *However, a portion of the fees received would be IC and this needs to be estimated (even if it is only 10-15 percent). The services CPI can be used as a deflator or LFS employment used as a volume indicator to derive the KPV estimates.*

ISIC L - Real Estate Activities

- For owner-occupied dwellings, the KPV estimates are derived by extrapolating the 2007 BM estimate using the 2004 and 2012 Census data on number of dwellings extrapolated forward using building permits data. The 2000 HBS average estimate of imputed rents per dwelling is price adjusted using the all-items CPI to derive the CPV estimates. For rented dwellings, the methodology for deriving the KPV estimates is also based on Census numbers but these are extrapolated forward using the household formation rates. *The two volume indicators need to be consistent.* For real estate agents and property managers, the CPV and KPV estimates are derived by using the ANAS value and average wages data.
- *The methodology can be improved by using the actual rents CPI, redeveloping the volume indicators and adding estimates for rental of commercial property as these are not currently covered.*

ISIC M - Professional, Scientific and Technical Activities

- The ANAS value and employment data are used to compile the CPV and KPV estimates for all business services; with the BM I/O ratios used to derive the CPV and KPV IC and GVA estimates. *Veterinarian and photographic services need to be reclassified here in ISIC Rev. 4.*

As this industry includes accounting, auditing, legal and other professional services, it should be possible to use the ANAS and QNAS value and employment data to compile the annual and quarterly CPV output, IC and GVA, and KPV output estimates. The BM I/O ratios would be used to derive the annual and quarterly KPV IC and GVA estimates. The ANAS data would be used to update the annual CPV I/O ratios to derive the annual CPV IC and GVA estimates, with the quarterly CPV output estimates benchmarked to the annual CPV IC to derive the quarterly CPV IC and GVA estimates. If the ANAS and QNAS data are not adequate, the LFS employment data can be used along with the fixed I/O ratios to derive the KPV estimates; and the adjusted services CPI used to reflate the KPV output estimate to derive a value indicator to benchmark to the annual CPV output and IC estimates to derive the quarterly CPV output, IC and GVA estimates.

ISIC N - Administrative and Support Service Activities

- The ANAS value and employment data are used to compile the CPV and KPV estimates for all business services; with the BM I/O ratios used to derive the CPV and KPV IC and GVA estimates. *Tour operators and travel agents are currently included under land transport but will need to be reclassified here under ISIC Rev. 4.*
- As this industry includes rental of durable goods, machinery and equipment; security services; and other business services, it should be possible to use the ANAS and QNAS value and employment data to compile the annual and quarterly CPV output, IC and GVA, and KPV output estimates. The BM I/O ratios would be used to derive the annual and quarterly KPV IC and GVA estimates. The ANAS data would be used to update the annual CPV I/O ratios to derive the annual CPV IC and GVA estimates, with the quarterly CPV output estimates benchmarked to the annual CPV IC to derive the quarterly CPV IC and GVA estimates. If the ANAS and QNAS data are not adequate, the LFS employment data can be used along with the fixed I/O ratios to derive the KPV estimates; and the adjusted services CPI used to reflate the KPV output estimate to derive a value indicator to benchmark to the annual CPV output and IC estimates to derive the quarterly CPV output, IC and GVA estimates.
- Note that travel agents provide services mainly to residents, so using tourist arrivals is not an appropriate indicator. Resident departures should be used for travel agents as they sell tickets to residents and not to non-resident arrivals; or if not available, use employment data. The CPV output would then be deflated to derive the KPV output estimates and the BM I/O ratio used to derive the KPV IC and GVA estimates.
- For rentals of vehicles, the main companies should be included in the ANAS and QNAS, with the survey data used to compile the annual and quarterly CPV estimates; deflated using the adjusted land transport CPI and a composite IC price index to derive the KPV estimates. Registration of rental vehicles could also be used as a volume indicator for the KPV estimates. Data on the number of patents and copyrights and royalty payments can be used as the volume and value indicators benchmarked to the 2015 estimates to produce the annual and quarterly estimates for licensing of intangible assets.
- For the other administrative and support service activities, the ANAS data should be used for the larger units (e.g. security services) to derive the annual and quarterly CPV estimates, with the LFS employment data used as a volume indicator to produce the quarterly KPV estimates. For the informal units, the LFS employment data and adjusted services CPI and composite IC price index can be used to produce the quarterly value and volume indicators to extrapolate the BM estimates to produce the annual and quarterly CPV and KPV estimates.

ISIC O - Public Administration; Compulsory Social Security Activities

- For Government, the CPV estimates by function are compiled, using the *Classification of the Functions of Government (COFOG)*, using Government accounts data from hard copy publications for each department/agency. *Given the waste of staff time in data entry and potential errors, the GBS should ask for the data to be provided in Excel format.* Data on COE is used for GVA. There is no estimate made for consumption of fixed capital (CFC) to add to the GVA. A weighted wage index is used to deflate the CPV GVA to compile the KPV GVA estimates. The same methodology is used for public education, health and social work. *A PIM needs to be developed to compile CFC, as well as producing separate output and IC by economic activity for the General Government sector.*
- *The KPV estimates would be derived by separately for COE and IC components, including FISIM. The weighted wage index would be used to extrapolate the BM COE estimates to derive the KPV COE estimates. The detailed expenses on other goods and services in the Government accounts can be aggregated into broad expenditure groups, with the best proxy adjusted CPI (i.e., 2015 = 100) used to deflate the estimates to derive the KPV estimates.*

ISIC P - Education

- The CPV and KPV estimates for non-government private education are based on the ANAS value and employment/average wages data. However, the LFS employment movement for this industry and the CPI for education have been used for 2013 onwards due to low ANAS response rates. The BM I/O ratio is used to derive both CPV and KPV IC and GVA estimates. *The same methodology can be used to produce quarterly estimates but improved to produce output, IC and GVA estimates by level of education and by updating the CPV I/O ratio annually.* In addition to redesigning the sample of the ANAS and QNAS, possible data sources include the Universities' websites and student visa data. *The volume indicator can be improved using student enrolments data by level for both the annual and quarterly KPV estimates and the adjusted CPI for pre-primary and primary, secondary and tertiary education can be used to reflate the quarterly KPV output estimates to derive a value indicator to benchmark to the annual CPV output and IC estimates, with the GVA estimate derived as a residual. The coverage needs to be improved to include private tutoring, adult and other education using the 2015 SUT benchmark data.*

ISIC Q - Human Health and Social Work Activities

It would be better to use the medical services CPI. The coverage needs to be improved to include ambulance services and traditional healers/mid wives. The methodology can be improved to produce output, IC and GVA estimates at a more detailed level by type of medical service and by updating the CPV I/O ratio annually.

Separate estimates should be compiled for hospital services, doctors, dentists, laboratories/paramedical services and traditional healers/midwives. For hospital services, ANAS data should be used to compile the annual CPV estimates. The CPV output estimates can be deflated using the adjusted CPI for hospital services to derive the KPV output estimates. The fixed BM I/O ratio can be used to derive the KPV IC and GVA estimates. For doctors, dentists and paramedical services, ANAS data could be used to compile the annual CPV estimates. The CPV output estimates can be deflated using the adjusted CPI for doctors, dental and paramedical services respectively to derive the three KPV output estimates. The BM I/O ratios can be used to derive the respective KPV IC and GVA estimates. If ANAS data are inadequate, LFS employment data by sub-industry can be used to derive the KPV estimates first and then the relevant CPI can be used to reflate the KPV to derive the CPV estimates.

The quarterly KPV estimates can be compiled using QNAS and LFS employment data benchmarked to the annual KPV estimates. QNAS value or LFS income data (or the same CPI can be used to reflate the KPV output estimates) to produce a quarterly value indicator to benchmark to the annual CPV estimates. A composite IC price index can be used to reflate the KPV IC to derive the value indicator to benchmark to the annual CPV IC to derive the quarterly CPV IC and GVA estimates.

Separate estimates for private social work are not currently compiled and the coverage can be improved. As most will be NPISHs, the KPV estimates can be compiled using LFS employment as a volume indicator to derive the KPV estimates; with the adjusted CPI for social protection or hired care being used to reflate the KPV output estimates to derive the CPV output estimates if the ANAS response rates are inadequate.

To align with ISIC Rev. 4, public human health and social work should be included here. The annual CPV and KPV estimates for public health and social work are compiled using the same approach as for public administration. The same improvements can be made and the quarterly estimates then compiled using the improved methodology.

ISIC R - Arts, Entertainment, and Recreation

- *There is a need to measure the value of recreational/charter fishing and fishing competitions and add that here. Where possible, ANAS data should be used as a value indicator to derive the quarterly and annual CPV output estimates. The redesigned ANAS should be used to collect data to update the annual CPV I/O ratios. Where more representative volume indicators (e.g., gym and sports club memberships) are not available, the LFS employment data can be used as a volume indicator to extrapolate the BM estimates to compile the quarterly KPV output estimates, with the BM I/O ratios used to derive the KPV IC and GVA estimates. Where value data are not available, the*

quarterly KPV output estimates can be reflatd using representative adjusted CPI price indices (e.g., CPI for cultural services, recreational services, gambling, gym memberships and sports CPI) to produce quarterly value indicators to benchmark to the annual CPV output and IC estimates in order to compile the quarterly CPV estimates.

ISIC S - Other Service Activities

This industry is currently included in the other community, social and personal services industry. The ANAS value and employment data are used as volume and value indicators to compile the KPV and CPV estimates respectively; although the LFS employment movement for this industry and the all-items CPI have been used for 2014 onwards due to low ANAS response rates. *The methodology can be improved by compiling the estimates at the 2-digit ISIC level.*

- *Where possible, ANAS and QNAS data should be used as a value indicator to derive the quarterly and annual CPV output estimates. The redesigned ANAS should be used to collect data to update the annual CPV I/O ratios. Where more representative volume indicators are not available, the LFS employment data can be used as a volume indicator to extrapolate the BM estimates to compile the annual and quarterly KPV output estimates, with the BM I/O ratios used to derive the KPV IC and GVA estimates. Where value data are not available, the quarterly KPV output estimates can be reflatd using representative adjusted CPI price indices to produce quarterly value indicators to benchmark to the annual CPV output and IC estimates in order to compile the quarterly CPV estimates.*

ISIC T - Activities of Households as Employers

- This industry is implicitly included in the other community, social and personal services industry. The ANAS value and employment data are used as volume and value indicators to compile the KPV and CPV estimates respectively; although the LFS employment movement for this industry and the all-items CPI have been used for 2014 onwards due to low ANAS response rates. *The LFS employment data should be used as a volume indicator to extrapolate the BM to derive the KPV output and GVA estimates; reflatd using the domestic services CPI if available or the proposed services CPI.* There is no IC for this activity as those costs are part of HFCE. The same method can be used for the quarterly estimates.

Annex IV: Effect of the Revised Series on the Levels and Growth Rates of GDP

Due to improved methodologies, coverage and inclusion of latest data from surveys and other sources, all these has effect on the levels and growth rates of GDP. Current price estimates of GDP in 2015 base year went up by between 6 and 16 percent during 2015-2019 (see table IV-1). On average GDP current prices went up by 10.9%. It should be noted that the data from 2016-2019 are preliminary estimates and will be revised as additional data becomes available.

Table IV-1: Gross Domestic Product (GDP) at current prices old and new series and percentage difference

Year	GDP current new series (1,000 SRD)	GDP current old series (1,000 SRD)	Percentage difference %
2015	17,514,647	16,357,181	7.1
2016*	20,662,992	19,489,360	6.0
2017*	26,893,278	24,081,641	11.7
2018*	29,821,678	25,854,568	15.3
2019*	31,482,516	27,574,565	14.2

*) preliminary data

Table IV-2: Gross Domestic Product (GDP) at constant prices old and new series and percentage difference

Year	GDP constant new series (1,000 SRD)	GDP constant old series (1,000 SRD)	Percentage difference %
2015	17,514,647	9,853,540	77.7
2016*	16,654,387	9,305,701	79.0
2017*	16,915,201	9,469,684	78.6
2018*	17,752,211	9,713,989	82.7
2019*	17,947,089	9,740,045	84.3

*) preliminary data

Table IV-3: Gross Domestic Product (GDP) at constant prices, and real GDP growth at 2007 prices versus real GDP growth at 2015 prices.

Year	GDP constant 2015 prices (1,000 SRD)	GDP constant 2007 prices (1,000 SRD)	Real GDP growth rate 2015 prices	Real GDP growth rate 2007 prices
2015	17,514,647	9,853,540	0.7	-3.4
2016*	16,654,387	9,305,701	-4.9	-5.6
2017*	16,915,201	9,469,684	1.6	1.8
2018*	17,752,211	9,713,989	4.9	2.6
2019*	17,947,089	9,740,045	1.1	0.3

*) preliminary data

The structure of the economy as derived from the GVA contribution to GDP has not changed considerably. The main contributors to GDP are Agriculture, Manufacturing and Trade industry with a respective contribution of 9, 17 and 19 percent.

It should be noted that the industries are not fully comparable (with those used before) due to the change from ISIC rev 3 to ISIC rev 4.

The data from the revised series cover a wider range of activities e.g. the Real Estate Activities include Rented dwellings which were excluded in the previous calculations.

Annex V.1: Detailed explanation of differences: Old versus New in 2015

Industry	2015_PUB@	2015_SUT	Revision Difference level	Revision difference %
A+B Agriculture, hunting, forestry; fishing	1,480,822	1,822,951	342,129	23%
AA Agriculture, hunting, forestry	927,153	1,168,715	241,562	26%
AB Fishing	553,669	654,236	100,567	18%
B Mining and quarrying	505,255	739,237	233,982	46%
C Manufacturing	1,619,399	2,013,250	393,851	24%
D+E Electricity, gas and water supply	521,927	336,843	185,084	-35%
D Electricity, gas, steam and air conditioning supply	490,420	318,288	172,132	-35%
E Water supply; sewerage, waste management and remediation activities	31,507	18,554	12,952	-41%
F Construction	1,485,714	1,685,150	199,436	13%
G Wholesale, retail trade, repair of motor vehicles, motorcycles	2,993,463	2,968,677	24,786	-1%
GA Wholesale, retail trade, repair of motor vehicles, motorcycles and personal and household goods	2,993,463	2,765,057	228,406	-8%
GB Repair of motor vehicles and motorcycles		203,620	203,620	
H+I+J Transport, storage and communications	1,772,090	1,848,209	76,119	4%
H Transportation & storage	742,965	695,719	47,246	-6%
I Accommodation and food service activities (Hotels and restaurants)	692,990	699,261	6,271	1%
J Information and communication	1,029,125	1,152,490	123,365	12%
K+L+M+N Financial intermediation; real estate, renting and business activities	1,420,197	1,733,073	312,876	22%
K Financial intermediation	744,561	761,992	17,431	2%
L Real estate, renting activities	675,636	752,385	76,749	11%
M Professional, scientific and technical activities		218,695	218,695	
N Administrative and support service activities				
O Public administration and defense; compulsory social security	2,010,897	2,017,470	6,573	0%
P+Q+R+S Education; health and social work; other community, social and personal services	269,098	278,225	9,127	3%
P Education	13,061	13,145	84	1%
Q Human health and social work activities	256,037	43,463	212,574	-83%
R Arts, entertainment and recreation				
S Other service activities		221,617	221,617	

T Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use				
U Activities of extraterritorial organizations and bodies				
Plus: Statistical discrepancy				
VALUE ADDED, GROSS, at basic prices	14,771,852	16,142,345	1,370,493	9%
Plus: Taxes less Subsidies on products	1,585,330	1,372,302	212,930	-13%
Plus: Taxes on products	1,585,330	1,595,202	9,970	1%
Less: Subsidies on products		222,900		0%
Plus: Statistical discrepancy				
GROSS DOMESTIC PRODUCT	16,357,182	17,514,647	1,157,563	7.1%

@ See: <https://statistics-suriname.org/wp-content/uploads/2020/08/NRsheet-2015-2019-FINAL.pdf>

Annex V.2: Impact on GDP, reckoning with Source Data and Methodology

Economic Activity	Source Data	Methodology			2015- SNA 1993	2015- SNA 1993	2015- SNA2008
	Coverage	Value	Volume	Price	Industry-GVA Constant (2007=100)	Industry GVA Current	Industry GVA Current
Crops	Add Subsistence (+)	Subsistence agriculture is included	Post-harvest (-); I/O ratio high (+)	Avg. annual price used (-)	221,251	377,260	482,907
Livestock	Add farm slaughter (+)	Farm slaughter is included	I/O ratio revised (+)	prices not yet revised (-)	83,269	88,333	119,174
Hunting and trapping	Not Covered (+)	Not compiled yet (+)					
Forestry	Add own account (+)	Own account is not yet covered. No data available	revised I/O ratio		496,967	461,560	566,634
Fishing	Add own account, fish bladder sales, Guyana catch (+)	Own account fish bladder sales, Guyana catch not yet added. No data available	revised I/O ratio of 40% instead of 50%	prices not yet revised (-)	333,999	553,669	654,236
Mining	Add petroleum exploration off-shore (+)	Due to methodological aspects. Gold mining and other mining are adjusted. petroleum exploration off-shore is included.	Informal gold production is included (+)		508,763	505,255	739,236
Quarrying	To be improved (+)	Not yet improved due to data constraints (+)	Not yet improved due to data constraints (+)				
Manufacturing	Add meat processing, animal feed and improve informal sector (+)	Meat processing and Animal feed are included.	Due to methodological aspects. The IC in SUT 2015 is adjusted with ratio from COST STRUCTURE.	prices not yet revised (-)	1,723,729	1,619,399	2,013,250
Electricity		Due to methodological aspects. The IC in SUT 2015 is adjusted with ratio from Cost Structure	Revised methodology (-/+)		171,556	521,927	318,288

	Source Data	Methodology			2015- SNA 1993	2015- SNA 1993	2015- SNA2008
Economic Activity	Coverage	Value	Volume	Price	Industry-GVA Constant (2007=100)	Industry GVA Current	Industry GVA Current
Water, sewerage and waste management	Add sewerage and waste management; informal water (+)	Sewerage and waste management and informal water not added. No data available. Due to methodological aspects. The IC in SUT 2015 is adjusted with ratio from COST STRUCTURE	water collected for own use not yet added(+)				18,554
Construction	Add more local inputs (+)	More local inputs are added	Revised methodology (-/+)	BPI - New	650,635	1,485,714	1,685,150
Wholesale and retail trade	Deduct farmers sales (-); improve informal sector(+)	Repair of motor vehicles and motor cycles are added.	Revised methodology (-/+)		1,649,810	2,993,463	2,968,677
Land transport	Improve informal sector (+)	Revised methodology (-/+)	Revised methodology (-/+)		693,005	1,772,090	695,719
Water transport	Improve coverage (+)						
Air transport		Revised methodology (-/+)	Revised methodology (-/+)				
Transport support services	Add carparks (+)	Car parks not added. No data available. Revised methodology (-/+)	Revised methodology (-/+)				
Post and courier services	Add couriers (+)	Couriers are added.					
Hotels	Improve coverage of Hholds, business and Govt. use (+)	Coverage of Hholds, business and Govt. use are improved. Revised methodology (-/+)	Revised methodology (-/+)				
Restaurants and bars	Improve coverage of Hholds, business and Govt. use (+)	Coverage of Hholds, business and Govt. use are improved.	Revised methodology (-/+)		267,707	692,990	699,261

Economic Activity	Source Data	Methodology			2015- SNA 1993	2015- SNA 1993	2015- SNA2008
	Coverage	Value	Volume	Price	Industry-GVA Constant (2007=100)	Industry GVA Current	Industry GVA Current
Information and communication	Improve coverage of non-telecom activities (+)	Coverage of non-telecom activities improved. Revised methodology (-/+)	Revised methodology (+)				1,152,490
Financial services	Separate CBS; add credit union, Cambios and credit-granting (+)	Coverage improved. Credit unions and Cambios are added.	Methodology not yet revised (+)		566,064	744,561	761,992
Insurance services		Revised SNA methodology (-/+)	Revised SNA methodology (-/+)				
Real estate activities	Improve coverage for commercial property rental.	Coverage for commercial property rental is not yet improved. No data available.	Revised methodology (-/+)	Prices not yet revised	348,253	675,636	752,385
Business services	Improve coverage of own-account professionals/informal (+)	Coverage of own-account professionals is improved.	Revised SNA methodology (-/+)				218,695
Public services	Will add to GDP if CFC is calculated (+)	Education and Health and Social work are excluded	Revised SNA methodology (-/+)		1,037,782	2,010,897	1,071,236
Education	Tutoring and other (+)	Public education is added.	Revised methodology (-/+)		6,708	13,061	546,661
Health and social work	Improved coverage (+)	Public human health and social work is added	Revised methodology (-/+)	Prices not yet revised	47,581	122,203	456,181
Other services	Improved coverage (+)	Revised methodology: source data LFS employment movement	Revised methodology (-/+)	Prices not yet revised	77,522	133,834	221,617

Taxes less subsidies	Improved coverage (+)	More subsidies on products were deducted	Revised SNA methodology (-/+)		968,947	1,585,330	1,372,302
FISIM			Revised SNA methodology (-/+)				
Total GDP		Impact on GDP Levels			9,853,548	16,357,182	17,514,645

Notes: Impact on GVA/GDP - minor decrease; -- small decrease; -- larger decrease; + minor increase; ++ small increase; +++ larger increase or unsure (-/+)

There is a negligible difference (due to rounding) between total GDP in Annex V.1 and total GDP in Annex V.2

Annex VI: Correlation Table ISIC rev. 3 and ISIC rev. 4

ISIC rev 3		ISIC rev 4	
A B	Agriculture, Hunting and Forestry Fishery	A	Agriculture, Forestry and Fishing
C	Mining and Quarrying	B	Mining and Quarrying
D	Manufacturing	C	Manufacturing
E	Electricity, Gas and Water supply	D E	Electricity, Gas, Steam and Air conditioning supply Water supply; Sewerage, Waste management and remediation activities
F	Construction	F	Construction
G	Wholesale and Retail trade	G	Wholesale and Retail trade; Repair of Motor vehicles and motorcycles
H	Hotels and Restaurants	I	Accommodation and food service activities
I	Transport, Storage and Communication	H J	Transportation and Storage Information and communication
J	Financial Intermediation	K	Financial and Insurance activities
K	Real Estate, Renting and Business activities	L	Real Estate activities
		M	Professional, scientific and technical activities
		N	Administrative and support service activities
L	Public Administration	O	Public Administration and defense; compulsory social security
M	Education	P	Education
N	Health and Social work	Q	Human Health and Social work activities
O	Other Community, Social and Personal services	R S	Arts, Entertainment and Recreation Other Service Activities
P	Activities of households as employers	T	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
Q	Extraterritorial organizations and bodies	U	Activities of extraterritorial organizations and bodies
X	Unknown	X	Unknown

Annex VII: New Series: 2015-2019 per Sector

Current	2015	2016*	2017*	2018*	2019*
Primary Sector	2,562,188	3,372,434	4,667,566	4,710,208	4,892,770
Secondary Sector	4,035,242	4,380,629	8,561,628	9,244,760	8,336,303
Tertiary Sector	8,473,679	10,750,905	11,783,831	13,776,882	15,367,794
Government	1,071,236	1,044,225	1,174,954	1,381,719	2,204,549
GDP at basic prices	16,142,345	19,548,192	26,187,978	29,113,578	30,801,416
Taxes less Subsidies	1,372,302	1,114,800	705,300	708,100	681,100
GDP at market prices	17,514,647	20,662,992	26,893,278	29,821,678	31,482,516
Growth in % (new)	(8.3)	18.0	30.2	10.9	5.6
Growth in % (old)	(5.4)	19.1	23.6	7.4	6.7

Constant	2015	2016*	2017*	2018*	2019*
Primary Sector	2,562,188	2,402,298	2,366,045	2,256,754	1,822,045
Secondary Sector	4,035,242	3,588,258	4,332,685	4,476,508	4,353,966
Tertiary Sector	8,473,679	8,444,230	7,783,778	8,474,441	8,742,761
Government	1,071,236	914,702	1,107,359	1,153,592	1,622,133
GDP at basic prices	16,142,345	15,349,488	15,589,867	16,361,295	16,540,904
Taxes less Subsidies	1,372,302	1,304,899	1,325,334	1,390,916	1,406,185
GDP at market prices	17,514,647	16,654,387	16,915,201	17,752,211	17,947,089
Growth in % (new)	0.7	(4.9)	1.6	4.9	1.1
Growth in % (old)	(3.4)	(5.6)	1.8	2.6	0.3

Annex VIII: Supply and Use tables 2015

Detailed Output table

Industry Product groups	Primary industry	Secondary industry	Tertiary industry	Government	Total Output
	4,136,296	8,893,698	12,032,869	2,570,694	27,633,557
0 - Agriculture, forestry and fishery products	2,708,902				2,708,902
1 - Ores and minerals; electricity, gas and water	1,427,394	706,692			2,134,086
2 - Food products, beverages and tobacco; textiles, apparel and leather products		562,768			562,768
3 - Other transportable goods, except metal products, machinery and equipment		2,411,829			2,411,829
4 - Metal products, machinery and equipment		1,498,124			1,498,124
5 - Constructions and construction services		3,714,285			3,714,285
6 - Distributive trade services; accommodation, food and beverage serving services; transport services; and electricity, gas and water distribution services			7,286,637		7,286,637
7 - Financial and related services; real estate services; and rental and leasing services			2,181,353		2,181,353
8 - Business and production services			2,176,703		2,176,703
9 - Community, social and personal services			388,176	2,570,694	2,958,870

Detailed Intermediate Consumption Table

Industry Product groups	Primary industry	Secondary industry	Tertiary industry	Government	Total Intermediate Consumption
	1,574,108	4,858,456	4,505,424	553,224	11,491,212
0 - Agriculture, forestry and fishery products	218,050	1,240,613	55,364	133	1,514,160
1 - Ores and minerals; electricity, gas and water	117,229	1,076,170	179,736	29,170	1,402,305
2 - Food products, beverages and tobacco; textiles, apparel and leather products	118,773	241,036	257,613	25,884	643,306
3 - Other transportable goods, except metal products, machinery and equipment	874,580	1,179,645	1,171,171	147,917	3,373,313
4 - Metal products, machinery and equipment	31,854	207,977	10,925	670	251,426
5 - Constructions and construction services					
6 - Distributive trade services; accommodation, food and beverage serving services; transport services; and electricity, gas and water distribution services	50,036	181,418	281,095	41,906	554,455
7 - Financial and related services; real estate services; and rental and leasing services	46,955	346,123	1,226,528	192,753	1,812,359
8 - Business and production services	94,626	342,446	1,210,916	105,612	1,753,600
9 - Community, social and personal services	22,005	43,028	112,076	9,179	186,288

Annex IX: Jobs by Industry, 2015-2019

Industries	2015	2016	2017	2018	2019*
A 01–03 Agriculture, forestry and fishing	10,400	10,100	9,900	9,800	9,900
B 05–09 Mining and quarrying	9,400	8,100	7,600	8,800	7,900
C 10–33 Manufacturing	10,100	9,700	9,900	9,900	10,900
D 35 Electricity, gas, steam and air conditioning supply	2,000	2,300	2,100	2,100	2,000
E 36–39 Water supply; sewerage, waste management and remediation activities	800	900	900	900	800
F 41–43 Construction	19,600	17,600	21,100	18,100	16,600
G 45–47 Wholesale and retail trade; repair of motor vehicles and motorcycles	29,100	27,000	27,100	28,700	29,000
H 49–53 Transportation and storage	11,700	10,900	11,800	12,000	12,300
I 55–56 Accommodation and food service activities	7,500	7,500	7,800	8,600	7,900
J 58–63 Information and communication	3,500	3,300	3,600	3,600	3,700
K 64–66 Financial and insurance activities	5,300	6,100	6,200	6,300	6,200
L 68 Real estate activities	300	300	300	300	300
M 69–75 Professional, scientific and technical activities	2,200	2,200	2,200	2,200	2,200
N 77–82 Administrative and support service activities	6,000	6,100	6,100	6,100	6,200
O 84 Public administration and defense; compulsory social security	28,700	27,900	27,900	28,100	32,300
P 85 Education	18,400	19,100	18,800	18,700	18,800
Q 86–88 Human health and social work activities	16,900	15,200	16,500	15,600	17,000
R 90–93 Arts, entertainment and recreation	3,100	2,900	3,100	2,900	3,300
S 94–96 Other service activities	3,000	2,700	3,000	2,800	3,100
T 97–98 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	11,000	10,200	11,100	10,300	11,700
U 99 Activities of extraterritorial organizations and bodies	100	100	100	100	100
Totaal	199,100	190,200	197,100	195,900	202,200

Note: Jobs rounded to the nearest hundred.

Annex X: Compensation of employees, 2015-2019

	2015	2016	2017	2018	2019
A 01-03 Agriculture, forestry and fishing	273,722	260,504	251,454	244,879	248,294
B 05-09 Mining and quarrying	477,517	552,516	643,562	816,419	741,732
C 10-33 Manufacturing	682,126	906,907	1,111,184	1,361,087	1,491,614
D 35 Electricity, gas, steam and air conditioning supply	252,496	271,828	257,898	309,458	299,850
E 36- 39 Water supply; sewerage, waste management and remediation activities	80,859	112,030	95,531	94,912	91,903
F 41-43 Construction	667,917	705,053	939,985	969,354	892,450
G 45-47 Wholesale and retail trade, repair of motor vehicles and motorcycles	979,715	983,496	1,151,121	1,247,920	1,258,870
H 49- 53 Transportation & storage	771,763	756,044	881,828	1,060,810	1,089,559
I 55-56 Accommodation and food service activities (Hotels and restaurants)	132,183	155,223	163,435	219,453	200,477
J 58-63 Information and communication	267,915	262,674	251,880	300,112	308,248
K 64-66 Financial and insurance activities	761,471	1,037,332	1,105,905	1,104,112	1,083,369
L 68 Real estate activities	7,493	8,474	9,385	9,666	9,946
M 69-75 Professional, scientific and technical activities	77,078	89,112	99,462	111,364	123,266
N 77-82 Administrative and support service activities	228,783	217,695	282,334	276,661	270,988
O 84 Public administration and defense; compulsory social security	1,058,096	1,027,911	1,061,353	1,252,700	1,839,026
P 85 Education	695,106	731,882	964,743	1,035,967	1,258,635
Q 86-88 Human health and social work activities	744,230	768,141	855,013	1,077,883	1,228,971
R 90-93 Arts, entertainment and recreation	110,499	45,246	45,248	47,194	57,256
S 94-96 Other service activities	104,919	97,629	115,343	125,659	145,378
T 97-98 Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	390,410	409,805	429,200	467,587	537,753
U 99 Activities of extraterritorial organizations and bodies	4,899	4,558	5,385	5,867	6,301
Totaal	8,769,197	9,404,060	10,721,248	12,139,065	13,183,885