



مركز الإحصاء
STATISTICS CENTRE

Methodology

Annual National Accounts

2025

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1. Introduction

Statistics Centre – Abu Dhabi (SCAD) has prepared this methodology for issuing the Gross Domestic Product (GDP) indicator for Abu Dhabi Emirate at current and constant (real) prices, by economic activity and institutional sectors, in addition to other economic indicators and variables (such as production, gross fixed capital formation at current and constant prices, compensation of employees, and intermediate consumption).

Annual national accounts statistics provide a comprehensive and updated picture of macroeconomic performance, based on a set of concepts, definitions, classifications, and accounting rules consistent with the United Nations System of National Accounts (SNA).

These rules represent an internationally agreed standard for measuring economic development and changes at:

- The macroeconomic level
- Economic activity level
- The five institutional sectors (non-financial corporations, financial corporations, government units including social security funds, households, and non-profit institutions serving households)

SCAD provides annual economic indicators to measure economic performance in Abu Dhabi through annual economic surveys, administrative data, and the enterprise register. This includes GDP at current and constant (real) prices, in addition to other economic variables at current prices (such as production, intermediate consumption, capital formation, compensation of employees), according to adopted international methodologies and standards.

For the application of fundamental measures, SCAD has adopted the production approach as the primary method to calculate annual GDP.

SCAD also calculates GDP using the income and expenditure approaches; however, these indicators are not currently published, as the accounts are not yet sufficiently finalized. In addition, for the expenditure approach, data collection on inter-emirate trade in goods and services is still ongoing.

It should be noted that the annual national accounts methodology differs from the quarterly national accounts methodology due to differences in sample design, data sources, and resources used. However, both methodologies follow the production approach, which is one of the key methods for measuring GDP according to the United Nations SNA.

2. Statistical information

2.1. Importance and Objectives

GDP is one of the most important statistical economic indicators contributing to economic development planning, diversification, and economic sector growth supporting sustainable development requirements in Abu Dhabi. This aligns with its strategy to reach the ranks of the world's leading economies and provide indicators supporting decision-making and economic policy formulation.

The objectives of the national accounts include:

- Provide economic indicators to measure Abu Dhabi's economic performance
- Provide estimates to support decision-makers, policymakers, researchers, and statistical users
- Provide accurate and updated data on economic activities for GDP (current and constant prices) and other variables for the previous reference year
- Measure economic developments and growth trends to guide government policies
- Measure the direct impact of economic activities, diversification, and development in non-oil sectors
- Contribute to the UAE national statistical system by providing these indicators

The components of expenditure statistics are major economic indicators that support economic development planning. They help monitor consumption trends in key sectors in Abu Dhabi, supporting sustainable development and policymaking, and comparing economic performance locally and internationally.

2.2. Key Outputs

The annual national accounts outputs in Abu Dhabi include macroeconomic indicators published annually, such as:

- GDP at current and constant prices by economic activity according to ISIC Rev.4 up to the second level
- GDP by the five institutional sectors (the five institutional sectors: non-financial corporations, the financial corporations sector, government units including social security funds, households, and non-profit institutions serving households).
- GDP by oil and non-oil activities
- Main economic variables: production, intermediate consumption, gross fixed capital formation at current and constant prices, compensation of employees
- Selected indicators for the income and expenditure approaches when data is available

These outputs are used for annual economic analysis, long-term policies, and national and international reporting.

2.3. Concepts and definitions

- Gross Domestic Product (GDP): It is the sum of gross value added of all resident producer units plus that part (possibly the total) of taxes on products, less subsidies on products, that is not included in the valuation of output.
- GDP production approach: Is the sum of the gross values added of all resident producers at basic prices, plus all taxes less subsidies on products.
- GDP income approach: Is compensation of employees, plus taxes less subsidies on production and imports, plus gross mixed income, plus gross operating surplus.
- Final Consumption Expenditure (FCE): It is expenditure by resident institutional units - including households and enterprises whose main economic center of interest is in that economic territory - on goods or services that are used for the direct satisfaction of individual needs or wants or the collective needs of members of the community.
- Government Final Consumption Expenditure (GFCE): It consists of expenditure, including expenditure whose value must be estimated indirectly, incurred by general government on both individual consumption goods and services and collective consumption services
- Final consumption: Final consumption consists of goods and services used by individual households or the community to satisfy their individual or collective needs or wants.
- Intermediate Consumption: It consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital.
- Residence: The residence of each institutional unit is the economic territory with which it has the strongest connection, in other words, its centre of predominant economic interest.
- Economic production: Production is an activity, carried out under the responsibility, control and management of an institutional unit, that uses inputs of Labour, capital, and goods and services to produce outputs of goods and services.
- Revenue: It is defined as all increases in net worth resulting from transactions. Revenue consists mainly of taxation revenue, sales of goods and services, property income, other current revenue, and capital revenue.
- Constant prices (Real prices): Refer to the monetary value of goods and services produced locally during a specific period, valued at reference year prices. It is calculated as the sum of the quantities of

goods and services produced at the local economy level, multiplied by their respective prices in the reference year.

- Assets: Entities owned by organizational units (governmental/private/public...etc.), and its owner is expected to obtain future benefits through its possession or use for a period of time.
- Fixed assets: Fixed assets are produced assets that are used repeatedly or continuously in production processes for more than one year.
- Capital stock, gross: Gross capital stock is the value of all fixed assets still in use, at the actual or estimated current purchasers' prices for new assets of the same type, irrespective of the age of the assets.
- Capital stock, net: Is the value of all fixed assets still in use at the actual or estimated current purchasers' prices for new assets of the same type, irrespective of the age of the assets.
- Principal activity: The principal activity of a producer unit is the activity whose value added exceeds that of any other activity carried out within the same unit.
- Secondary activities: A secondary activity is an activity carried out within a single producer unit in addition to the principal activity and whose output, like that of the principal activity, must be suitable for delivery outside the producer unit.
- General government: General government consists of institutional units that, in addition to fulfilling their political responsibilities and their role of economic regulation, produce services (and possibly goods) for individual or collective consumption mainly on a non-market basis and redistribute income and wealth.
- Federal Government: The Federal Government consists of ministries and federal authorities. The UAE's constitution defines the scope and missions for the federal government.
- Classification of the functions of government (COFOG): The classification of the functions of government (COFOG) is a classification used to identify the socio-economic objectives of current transactions, capital outlays and acquisition of financial assets by general government and its sub-sectors.
- Services: They are outputs produced to order and which cannot be traded separately from their production; ownership rights cannot be established over services and by the time their production is completed they must have been provided to the consumers.
- Basic price: The basic price is the amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any tax payable, and plus any subsidy receivable, on that unit as a consequence of its production or sale. It excludes any transport charges invoiced separately by the producer.

- Goods: They are physical 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; they are in demand because they may be used to satisfy the needs or wants of households or the community or used to produce other goods or services.
- Consumption good or service: It is defined as a good or service that is used (without further transformation in production) by households, non-profit institutions serving households (NPISHs) or government units for the direct satisfaction of individual needs (or wants) or for the collective needs of members of the community.
- Financial corporations: Financial corporations consist of all resident corporations or quasi-corporations principally engaged in financial intermediation or in auxiliary financial activities which are closely related to financial intermediation.
- Non-financial corporations: Non-financial corporations are institutional units that are principally engaged in the production of market goods and/or non-financial services.
- Foreign Sector (Economic Sector): includes establishments that engage in any economic activity and are wholly owned by foreign entities.
- Accrual accounting: Accrual accounting records flows at the time economic value is created, transformed, exchanged, transferred or extinguished. This means that flows that imply a change of ownership are entered when the change occurs, services are recorded when provided, output at the time products are created and intermediate consumption when materials and supplies are being used.
- Expense: An expense transaction is one that decreases net worth. Expense equals Production expenses (compensation of employees, intermediate consumption and consumption of fixed capital), Interest payable, Grants, Social benefits, Other current expenses, and Capital transfers payable.
- Liabilities: Liability is a debt, an amount owed to creditors, a financial obligation or a claim against assets.
- Enterprise: A legal unit (or the smallest set of legal units) producing goods and services with autonomy in respect of financial and investment decision-making, as well as authority and responsibility for allocating resources for the production of goods and services. It may be engaged in one or more economic activities. An enterprise may be a corporation, a non-profit institution or an individual enterprise. It may be geographically located in one or more establishment (local unit). It have one main establishment (main branch).
- Establishment: An enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added.

- Non-profit institutions are legal or social entities established with the purpose of producing goods and services, but whose legal status does not allow them to be a source of income or profit. They do not distribute profits to their managers or officials. These institutions are classified as non-profit organizations that receive most of their support from individuals or institutions and provide it to groups in need within the community.
- Non-profit Institutions Serving Households: Non-governmental non-profit organizations and authorities which provide the community with goods or services for free or at a nominal price, such as charities and vocational authorities.
- Public-Benefit Institutions (Non-Profit): Legal entities (private) licensed in accordance with the valid laws of the state, established for the purpose of performing one or more public-benefit activities, taking one of the forms prescribed in this Decree-Law and its Executive Regulations, without the primary aim of generating profit.
- Gross Fixed Capital Formation (GFCF): It is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain additions to the value of non-produced assets realized by the productive activity of institutional units.
- Total operating surplus: Operating surplus or mixed income is a measure of the surplus accruing from processes of production before deducting any explicit or implicit interest charges, rent or other property incomes payable on the financial assets, land or other natural resources required to carry on the production.
- Individual consumption expenditure by households: The actual and imputed final consumption expenditure incurred by households on individual goods and services. It also includes expenditure on individual goods and services sold at prices that are not economically significant. By definition, all final consumption expenditures of households are for the benefit of individual households and are individual.
- Compensation of Employees: Total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done by the latter during the accounting period.
- Production account: The production account is the starting point for the sequence of accounts for institutional units and sectors displaying how income is generated, distributed and used throughout the economy.
- Other Emirate Government: The Local Government of other emirate consist of non-profit institutions affiliated to other local government.
- Local Government: The Local Government consists of non-profit institutions affiliated to Government of Abu Dhabi such as departments, public authorities, institutions, centers, councils, and funds, which carry out the emirate's plans and policies.

- Producer price: The amount receivable by the producer from the purchaser for a unit of a good or service produced as output minus any VAT, or similar deductible tax, invoiced to the purchaser. It excludes any transport charges invoiced separately by the producer.
- Durable consumption good: A consumption good that can be used repeatedly or continuously for purposes of consumption over a long period of time, typically several years.
- Semi-Government Companies (controlled by the government but not fully owned) (Economic Sector): A company that is controlled by the government—whether a local or federal government—and is partially owned by it.
- Semi-Private Companies (controlled by the private sector but not fully owned) (Economic Sector): Includes establishments and companies engaged in any economic activity where ownership is shared between the government (local or federal) and individuals or private companies, and control is exercised by individuals or private companies.
- Foreign Company (Economic Sector): A company or establishment that is under foreign control through the ability to influence the company's general policy by owning more than 50% of its capital, whether the owner is a foreign government, individuals, or companies residing outside the country. The most prominent example of this is branches of foreign companies.
- Government Company (Fully Owned by the Government) (Economic Sector): A company that is wholly owned by the government, whether by a local or a federal government.
- Private Company (Fully Owned by the Private Sector) (Economic Sector): Includes all establishments and enterprises engaged in any kind of economic activity that are wholly owned by one or more individuals or a group of shareholders, with no ownership share held by any local or federal government entity.
- Household Sector: The households sector consists of individuals or groups of individuals as producers (market producers) of goods or services in return for a salary or profit (in cash or in kind). It also includes individuals or groups of individuals as producers of goods and nonfinancial services for exclusively own final use.
- Institutional Sectors: Institutional units are grouped together into institutional sectors based on their principal functions, behavior, and objectives. These sectors include: non-financial corporations, financial corporations, general government, households, and non-profit institutions serving households.
- Center of economic interest: An institutional unit has a centre of predominant economic interest in an economic territory when there exists, within the economic territory, some location, dwelling, place of production, or other premises on which or from which the unit engages and intends to continue engaging, either indefinitely or over a finite but long period of time, in economic activities and transactions on a significant scale.

- Individual Projects without Business Premises (Economic Sector): Individuals who are working or have previously worked in self-employed projects, whether alone or in partnership with others, without a separate or distinct business location. The work is usually conducted from the dwelling or, in some cases, from the street. Such activities may be simple, like street vending or home-based services for others (childcare, cooking for other families), or larger and licensed activities such as trade, design, maintenance, consulting, software development, or information technology. This type of work typically utilizes the resources available within the household, such as electricity, kitchen, and internet connection.
- Balance of Payments: The balance of payments is a statistical statement that systematically summarizes, for a specific time period, the economic transactions of an economy with the rest of the world.
- Foreign Authority (Economic Sector): These are regional and international bodies or their branches, such as embassies and international organizations affiliated with the United Nations.

2.4. Classifications and Standards applied

Annual national accounts statistics are subject to international standards in both data collection and classification processes, and the main classifications relied upon in national accounts statistics include the following:

- **System of National Accounts (SNA 1993):** The System of National Accounts is a statistical framework that provides a comprehensive, consistent, and flexible set of macroeconomic accounts for policymaking, analysis, and research purposes. This manual focuses on defining production and other macroeconomic indicators, and while some of them are applicable, others face implementation challenges.

Work is underway at Statistics Centre – Abu Dhabi to upgrade the existing methods based on the 1993 system to the 2008 system. The main current differences include the following:

- Revising the method of calculating financial intermediation services indirectly measured (FISIM).
- Expanding the scope of the definition of financial services.
- Distinguishing between economic ownership and legal ownership.
- Valuing output based on final use by households and institutions to include the return on capital.
- Using products with intellectual property rights.

- International Standard Industrial Classification of All Economic Activities – Revision 4

(ISIC 4): It is a statistical classification developed by the United Nations based on the International Standard Industrial Classification of All Economic Activities. Economic activity is defined as a set of operations that produce a set of products (goods and services). These activities are defined as activities that use inputs (such as capital, labor, energy, and materials) to produce outputs. The outputs of economic activities may be transferred or sold to other units (market or non-market transactions), placed in inventories, or used by the producing units themselves for final own use. In addition, non-market services that contribute to the Gross Domestic Product, as well as the direct and indirect ownership of active legal units, are treated as economic activities for the purposes of statistical business register statistics.

- Abu Dhabi Reference Data (ADRD) is used at Statistics Centre – Abu Dhabi to ensure the accuracy and quality of data. These classifications include:

- Institutional classifications (e.g., Classification of the Functions of Government – COFOG)
- Establishment classifications
- Investment classifications
- Product classifications (Central Product Classification – CPC, Classification of Individual Consumption According to Purpose – COICOP, Harmonized System for External Trade – HS, Standard International Trade Classification – SITC)

These classifications are used to link the results of the annual economic surveys with the conceptual framework of the national accounts, in order to provide high-quality data that support economic analysis and long-term policymaking.

2.5. Available Breakdown

Statistics Centre – Abu Dhabi publishes detailed annual Gross Domestic Product (GDP) data using the production approach according to the Centre’s approved publication policy, which includes the following:

- 1.** Annual GDP by oil and non-oil activities
- 2.** Annual GDP by institutional sectors
- 3.** Annual GDP by economic activity, according to the International Standard Industrial Classification at the second level
- 4.** Use of the production approach to publish GDP by institutional sectors, in accordance with the classification adopted in the System of National Accounts (SNA).

2.6. Statistical population

The annual GDP estimates produced using the income and expenditure approaches encompass all economic activities that fall within the production boundaries defined in the 2008 System of National Accounts. The statistical population in Abu Dhabi covers all five institutional sectors: non-financial corporations, the financial corporations sector, government units including social security funds, households, and non-profit institutions serving households that operate within the economic territory of Abu Dhabi Emirate. The statistical population also includes transactions with the rest of the world, such as imports and exports and the distribution and receipt of income from outside of the emirate.

The annual national accounts used to compile GDP rely on data from the annual economic survey, in addition to financial and administrative data received from the relevant government entities. There is currently a direction toward using administrative data, such as data issued by the Department of Finance, Ministry of Finance, Department of Municipalities and Transport, ADNOC, electricity companies, the Agriculture Authority, the Department of Culture and Tourism, and other related government entities.

Statistics Centre – Abu Dhabi (SCAD) also relies on the Statistical Business Register, which is updated quarterly using administrative data and economic survey inputs. The register covers both public and private enterprises, including those operating in free zones, and includes all enterprises classified as statistically active within Abu Dhabi Emirate.

In principle, the national accounts encompass all economic activities undertaken by resident units in Abu Dhabi, in accordance with the production boundary set out in the System of National Accounts. Accordingly, these accounts cover the entire geographical territory of Abu Dhabi Emirate.

2.7. Statistical unit

The annual national accounts are based on the institutional producing unit as the primary statistical unit. This unit represents an economic entity with legal and financial autonomy in making production decisions. It is used to compile annual data on economic activity, production, income, and expenditure.

These units include private enterprises, government entities, financial institutions, non-profit institutions, and producing households. Each institutional unit is linked to one or more enterprises, which represent the operational level from which data is collected through the annual economic survey.

Units are classified based on their main economic activity, size, institutional sector, and geographic location, consistent with internationally recognized classifications such as ISIC Rev. 4. The Statistical

Business Register serves as the reference framework for sample selection and the expansion of survey results to cover the full statistical population.

2.8. Geographical coverage

The geographic coverage includes the three regions of Abu Dhabi Emirate: Abu Dhabi, Al Ain, and Al Dhafra.

2.9. Unit of measure

Annual GDP is measured in UAE dirhams, and values are presented in millions. These figures are used to derive additional indicators, such as annual growth rates.

2.10. Reference period

The reference period for data collection in the annual national accounts is a full calendar year, running from January to December. The base year 2014 is used to deflate current values to constant prices, due to the availability of comprehensive reference data for that year, particularly the Consumer Price Index (CPI), which serves as a key tool for price adjustment and for analyzing real changes in the results.

2.11. Timeliness

Preliminary annual GDP estimates (production approach) are released three months after the end of the reference year. Final annual results are issued within a maximum of 12 months following the end of the reference year. For the income and expenditure approaches:

- Annual data are collected approximately four months after the end of the reference year.
- Estimates are not currently published and are used internally for analytical and verification purposes.

Internal dissemination to government stakeholders follows the international dissemination standards of the IMF's Enhanced General Data Dissemination System (e-GDDS).

2.12. Frequency of dissemination

Annual national accounts compiled using the production approach are disseminated once per year, including both preliminary and final GDP estimates for Abu Dhabi Emirate. Regional accounts (by geographic regions within the emirate) are also produced annually.

National accounts based on the income and expenditure approaches are compiled annually; however, they are not currently disseminated due to the incomplete availability of source data required for release in accordance with established standards.

2.13. Data Time Series

The annual national accounts comprise a long time series covering key indicators at current and constant prices, by economic activity classified according to the International Standard Industrial Classification (ISIC Rev. 4) at the first level, as follows:

At current prices:

- Gross Domestic Product (production approach): from 2001
- Production: from 2001
- Gross Fixed Capital Formation: from 2001
- Compensation of Employees: from 2001

At constant prices:

- Gross Domestic Product (production approach): second-level detail from 2005
- Gross Fixed Capital Formation: from 2001

In addition, Statistics Centre – Abu Dhabi maintains internal historical time series dating back to 1971. These datasets are not publicly available and are used for internal analysis and for developing long-term economic models.

2.14. Abu Dhabi Special Considerations

It should be noted that Abu Dhabi is one of seven emirates in the United Arab Emirates, and therefore certain challenges arise in collecting and obtaining data.

As in other countries, Statistics Centre – Abu Dhabi relies on internationally recognized methodologies, standards, and definitions issued by the United Nations Statistics Division, the International Monetary Fund, and other international bodies when compiling Gross Domestic Product. Accordingly, the adopted methodology is consistent with international recommendations.

In compiling GDP, aggregated financial data are collected from institutions operating in Abu Dhabi, in addition to public finance data (government budget) and administrative data, for example, agricultural production data.

However, as Abu Dhabi is part of the United Arab Emirates, there are cases where institutions have headquarters in Abu Dhabi but branches in other emirates, and vice versa. To ensure that GDP reflects only the economic activity occurring within Abu Dhabi, institutional financial data are adjusted to isolate production undertaken in the emirate and exclude production outside its borders. Since corporate accounts reflect overall activity, Statistics Centre – Abu Dhabi extracts data pertaining only to activities performed in the emirate. This is achieved through direct cooperation with institutions to estimate the share of Abu Dhabi in their total activity.

Another approach adopted by Statistics Centre – Abu Dhabi is addressing overlaps within and across activities. For instance, Abu Dhabi's economy includes a limited number of holding companies, some of which are family-owned businesses, where an individual investor may own several companies engaged in different economic activities.

In many cases, such entities are managed centrally, and certain functions—such as administrative and financial departments—may be shared across activities. If data collection were based solely on consolidated company accounts, it would create challenges in allocating value added across economic activities. Accordingly, Statistics Centre – Abu Dhabi collects additional indicators directly from institutions on a per-activity basis, enabling the estimation of output, value added, and investment attributable to each activity.

International statistical recommendations are designed to be applicable across countries with differing economic structures. Since data sources for oil and gas activities in Abu Dhabi come from a single provider—and given the close cooperation between Statistics Centre – Abu Dhabi and ADNOC—data related to oil and gas production and associated variables are characterized by a high degree of accuracy and reliability.

3. Statistical processing

3.1. Data sources

The annual national accounts rely on a combination of statistical and administrative sources that cover all economic activities during the full calendar year. These sources include:

- The annual economic survey, which is the primary source for value-added estimates by economic activity
- Government financial accounts for estimating government expenditure and output
- Foreign trade and balance-of-payments data to track exports and imports
- Payroll and employment records for estimating compensation of employees

- Banking and credit sector data related to financial sector activities
- Enterprises records
- Administrative data from entities such as the Department of Finance, Ministry of Finance, ADNOC, electricity companies, and other regulatory and government bodies

Price indices are also used to estimate deflators and convert GDP from current to constant prices, using 2014 as the base year.

Recently, the methodology has been strengthened by incorporating establishment registers as a fundamental input for survey sample design and improving annual statistical coverage, thereby enhancing the accuracy of estimates across economic activities. All data undergo methodological adjustments to ensure alignment with the concepts and definitions of the 2008 System of National Accounts, and are integrated within the broader national accounting framework.

Compiling data from multiple sources is an essential component of producing comprehensive and coherent statistics, such as national accounts.

A summary of data sources by economic activity is provided in Table 1 (attached tables).

3.1.1. Survey data

The annual economic survey serves as the primary source for compiling annual national accounts data. It is conducted on a comprehensive scale, covering all economic activities within the emirate. Since 2021, the survey design has been enhanced and integrated with the quarterly economic survey to ensure consistency between results, while maintaining the distinct scope and depth of each. Field researchers collect data from all large establishments employing 50 workers or more, in addition to selecting samples from other categories (medium, small, and micro establishments) to ensure complete annual statistical coverage. The Statistical Business Register is used to identify survey units.

3.1.2. Administrative data

The annual national accounts also rely on a range of administrative data from various official sources. These data are used to supplement statistical estimates and to ensure coverage of sectors that are difficult to capture through field surveys. Price and quantity data are systematically applied to estimate GDP at constant prices by deflating output and intermediate consumption from current to constant values, taking into account the structural characteristics of each economic activity.

Quantity data are used to estimate real value added in activities such as oil and gas and agriculture, while government financial data are used to estimate value added for public administration, defense, and community services, in line with the principles of the System of National Accounts (SNA).

Key indicators and sources used include:

- Consumer Price Index (CPI)
- Agricultural producer prices
- Construction material prices
- Prices of crude oil, natural gas, and petroleum products
- Volumes of crude oil and natural gas
- Government financial data
- Administrative data from other departments within the Centre and from government and non-government entities

All these data sources undergo thorough validation and consistency checks, both over time and across methodologies, to ensure full alignment with the requirements of the System of National Accounts and to provide accurate and reliable indicators that support decision-makers.

3.2. Data validation and editing

3.2.1. Data validation

Data verification and validation are of critical importance, as they constitute the foundation for subsequent statistical analysis. Statistics Centre – Abu Dhabi (SCAD) applies a range of measures to ensure data accuracy and adherence to high-quality standards. These include verifying that all required data are complete and meet the Centre's specifications, comparing reported data with historical time series, ensuring consistency with statistical definitions and classifications, reviewing outliers, and validating data for logical coherence.

These measures ensure the continued availability of required data, regular updating of the Statistical Business Register, and the application of a defined mechanism for measuring data quality on a periodic basis to identify deficiencies or gaps in coverage.

SCAD adopts the IMF Data Quality Assessment Framework (DQAF, 2003) for national accounts statistics to address the five key dimensions of data quality:

1. Assurances of Integrity:

This dimension focuses on professional competence and transparency. In this regard, SCAD ensures the engagement of highly qualified experts in national accounts, provides continuous training programs for staff, and promotes participation in international forums to benefit from global best practices.

2. Methodological Soundness:

This dimension emphasizes adherence to internationally accepted methodologies and sound statistical practices. SCAD continuously updates its methodologies to remain consistent with international recommendations and global standards in the field.

3. Accuracy and Reliability:

This dimension highlights the importance of ensuring that results accurately reflect the actual state of the economy. SCAD integrates supporting indicators from all available data sources to validate final outputs. Particular attention is given to collecting detailed data from major public and private institutions to achieve the highest level of accuracy.

4. Serviceability:

This dimension concerns the timeliness and consistency of data. SCAD releases annual and quarterly GDP statistics on a regular schedule and implements methodological improvements between the reference year and data release. For consistency, SCAD reviews internal data coherence and compares GDP by economic activity with secondary data sources.

5. Accessibility:

Once GDP and other economic aggregates are compiled and undergo consistency and quality checks, SCAD ensures that the data are made available to decision-makers and users in accordance with the Centre's official data dissemination policy (see Section 1.5 of this report, Data Dissemination and Accessibility).

3.2.2. Missing data adjustments

In compiling the annual national accounts, addressing missing data is a key component of ensuring the quality and accuracy of statistical estimates. A set of methodological procedures is applied to handle data gaps, whether arising from non-response in economic surveys or incomplete administrative data.

The treatment procedures include the following:

- **Statistical Imputation:** Missing data are estimated using imputation techniques based on comparable enterprises within the same activity and geographic area, taking into account the entity's historical performance when available.
- **Use of Time-Series Trends:** When data for the reference year are missing, historical trends for the same economic activity are applied, using calculated growth rates derived from previous years.
- **Use of Alternative Administrative Data:** When data from a primary source are unavailable, complementary administrative sources—such as licensing data or government financial reports—are used to fill the gaps.
- **Manual Review:** Imputed estimates are reviewed by the technical team and compared with sectoral aggregates and performance ratios to ensure plausibility and internal consistency.

All assumptions and procedures applied in the treatment process are documented to ensure transparency, traceability, and reproducibility in accordance with international standards established in the System of National Accounts (SNA).

3.3. Statistical Calculation Method

Annual national accounts data, including Gross Domestic Product (GDP), are compiled primarily using the production approach, which serves as the main methodological framework. Under this approach, GDP includes only the market value of final goods and services, excluding the value of intermediate goods that are used in the production of final output.

Including the value of intermediate goods in GDP would lead to double counting, since their value is already incorporated in the price of final goods. To avoid such duplication, GDP is calculated as the sum of value added across all economic activities, where value added represents the difference between the total value of output and the value of intermediate consumption.

This method is applied to all economic activities in Abu Dhabi, except for public administration and defense, compulsory social security, and real estate activities.

Owner-Occupied Dwellings

- Data for this activity are obtained from the population census and real estate activity statistics.
- Rental data are derived from the Consumer Price Index (CPI) for housing rents.

General Government

- The output of the general government sector is measured as the sum of its production costs.
- Value added for the government sector is calculated using the income approach.

Using data collected from establishments on total output and total intermediate consumption, Statistics Centre – Abu Dhabi (SCAD) applies the following formula to calculate GDP under the production approach:

$$\text{GDP} = \text{Gross Output} - \text{Intermediate Consumption} + \text{Net Taxes}$$

There are three approaches to calculating GDP, which are viewed as complementary rather than alternative methods. While the production approach is the main method used to compile GDP and related aggregates, the income and expenditure approaches are also estimated as follows:

GDP by Expenditure Approach

$$\text{GDP} = \text{Final Household Consumption Expenditure} + \text{Investment Expenditure (Gross Fixed Capital Formation} + \text{Change in Inventories)} + \text{Final Government Consumption Expenditure} + \text{Net Exports (Exports} - \text{Imports)}$$

Main data sources for these components include:

- Final household consumption expenditure: from the Household Expenditure Survey
- Final government consumption expenditure: from government financial accounts
- Gross Fixed Capital Formation (GFCF): from the Annual Economic Survey
- Change in inventories: from the Annual Economic Survey

Estimation of Gross Fixed Capital Formation at Constant Prices

Gross Fixed Capital Formation at constant prices is calculated as follows:

$$\text{GFCF} = \text{Total Purchases of Fixed Assets (excluding land)} + \text{Additions and Improvements} - \text{Sales of Fixed Assets (at constant prices)}$$

This is estimated using appropriate deflators for each asset type—such as construction material and machinery price indices—based on the 2014 base year.

GDP by Income Approach:

The income approach measures GDP as the sum of the factors of production contributing to output, together with taxes on production and imports and the value of fixed assets used in the production process (consumption of fixed capital) during a given period, typically one year.

GDP = Compensation of Employees (wages, salaries, and benefits) + Consumption of Fixed Capital + Net Taxes on Production and Imports + Operating Surplus and Mixed Income

Main data sources for these components include:

- Compensation of employees: from the Annual Economic Survey and administrative records
- Net taxes on production and imports: from the Department of Finance, Ministry of Finance, and the Annual Economic Survey
- Consumption of fixed capital: from the Annual Economic Survey
- Operating surplus and mixed income: from national accounts data following reconciliation

Methodology for GDP at Constant Prices

GDP at constant prices is calculated using the Double Deflation Method, which removes the effect of price changes by applying separate price indices for both output and intermediate consumption. This means both output and intermediate consumption are deflated, hence the term “double deflation.”

Compiling GDP at constant prices requires collecting or estimating volume indices (quantity indicators expressed in base-year prices). The rate of change in these volume indicators is then applied to extrapolate GDP values in the base year.

In practice, the double-deflation technique is used when indicators are collected at current prices and must be deflated (divided by price indices) to obtain constant-price measures. Extrapolation involves projecting previous volume indices by applying growth rates derived from current-period data.

Base Year:

The year 2014 is used as the base year for estimating GDP at constant prices, meaning that fixed prices correspond to those of 2014. In other words, value added for all economic activities is re-evaluated at 2014 prices, thereby removing the impact of price changes.

In most cases, the indices used in constant-price estimation are based on base-year data. The year 2014 was selected as the base year due to the comprehensive availability of price data, particularly the Consumer Price Index (CPI), which serves as a key deflator for price adjustments.

Calculation for Sectors Not Covered by the Annual or Quarterly Economic Surveys

- Agriculture, Forestry, and Fishing:

Production quantities and costs are collected from the Environment Agency – Abu Dhabi and the Abu Dhabi Agriculture and Food Safety Authority.

- Mining and Quarrying (including Crude Oil and Natural Gas):

Financial data are obtained from companies under Abu Dhabi National Oil Company (ADNOC). These data are derived directly from survey and administrative sources.

- Electricity, Gas, Water Supply, and Waste Management:

Financial data are collected from utilities regulated by the Department of Energy. These are obtained directly from survey data.

- Public Administration and Defense, Compulsory Social Security:

Financial data are collected from government entities such as the Department of Finance and the Ministry of Finance. These are obtained directly from administrative sources.

- Education:

In addition to data from the Annual Economic Survey, financial data are collected from the Department of Finance and the Ministry of Finance through survey and administrative sources.

- Human Health and Social Work Activities:

In addition to survey data, financial information is collected from government entities such as the Department of Finance and the Ministry of Finance.

- Household Employment Activities:

Data are estimated using records on domestic workers, obtained directly from administrative sources.

Additionally, GDP is also compiled at the constant prices of 2010 and 2017 to meet the needs of strategic partners and data users across government entities.

3.4. Seasonal Adjustment

Seasonal adjustment is not applied to annual national accounts.

4. Methodology changes

The methodology for compiling the annual national accounts has been developed over previous years based on the 1993 System of National Accounts (SNA), with gradual updates to align with the 2008 SNA. Some processes and concepts remain under refinement to ensure full compliance with international best practices. The annual surveys and administrative data serve as the main sources, with the production approach adopted as the primary basis for GDP compilation.

4.1. Recommendations for Enhancing the Annual Methodology

A number of areas have been identified to further develop the current methodology, including the following:

1. Full Transition to the 2008 System of National Accounts (SNA 2008):

Adoption of updated concepts such as intangible assets, expansion of the conceptual coverage of financial intermediation services, and refinement of the distinction between economic and legal ownership.

2. Enhanced Use of Administrative Data and the Establishment Register as Primary Sources:

Strengthening integration between survey data, the establishment register, and administrative data such as government financial accounts.

3. Improved Integration among the Three Compilation Approaches (Production, Income, and Expenditure):
4. Developing and refining estimates under the income and expenditure approaches to make them suitable for publication, particularly through addressing data gaps in collaboration with government entities.
5. Enhanced International Comparability:

Utilizing international datasets and methodologies from organizations such as the OECD and IMF to support benchmarking and improve the reliability of annual accounts.

5. Revision policy

The annual national accounts follow internationally recognized practices for producing and continuously improving high-quality official statistics. Revisions are carried out over time when new and significant information becomes available to official statistical agencies. Changes may also result from the introduction of new methods, guidelines, or technologies, or the implementation of new classification systems, which may lead to revisions in previously published time series.

Preliminary annual GDP estimates are released near the end of March of the year following the reference period. These are based on partial or preliminary data obtained from surveys and administrative sources.

Final estimates for the reference year are released within 12 months—by October—after all survey and administrative data have been fully compiled and integrated.

Once these preliminary data are incorporated into the final accounts, they are not subject to further revision unless new primary data sources become available or new international classifications or guidelines are adopted.

Comprehensive revisions are undertaken when improved methodologies or international classification systems are introduced. All such revisions are clearly documented to ensure transparency.

6. Statistical quality

The quality of statistical data focuses on the concept of (data relevance for use) by preparing statistical data characterized by a set of traits and properties that meet and align with the data requirements of users and decision-makers. Thus, statistical quality exists within an institutional environment that is characterized by professionalism, integrity, and neutrality, closely related to the set objectives for the data and the needs of users. This is achieved through the use of a clear, standardized framework that ensures the data's reliability, realism, comparability, efficiency, accessibility, and flexibility, and that it is available to all within an appropriate timeframe and in an easily accessible and usable manner.

Statistical product quality reports are prepared by the Quality Team in SCAD.

7. Appendix table

Table 1: Summary of Data Sources by Economic Activity

Activity	Source of Current Price Data
Agriculture, Forestry, and Fishing	Various sources on agriculture and fisheries published by the Centre, primarily data provided by the Abu Dhabi Agriculture and Food Safety Authority on agricultural production (both crop and livestock) and production costs, in addition to fishery data obtained from the Environment Agency – Abu Dhabi.
Mining and Quarrying (including Crude Oil and Natural Gas)	Annual Economic Survey and cooperation with ADNOC; financial data collected from all large enterprises (251 employees or more) and a sample of establishments from other size categories.
Manufacturing	Annual Economic Survey: financial data collected from all large enterprises (251 employees or more) and a sample of establishments from other size categories.
Electricity, Gas, Water Supply, and Waste Management	Annual Economic Survey.
Construction	Annual Economic Survey; financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.
Transportation and Storage	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.

Accommodation and Food Service Activities	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.
Information and Communication	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.
Financial and Insurance Activities	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.
Real Estate Activities	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories; population data are also used.
Professional, Scientific, and Technical Activities	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.
Administrative and Support Service Activities	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.
Public Administration and Defense; Compulsory Social Security	Data from government financial accounts obtained through the Department of Finance, Ministry of Finance, and independent government entities.
Education	Annual Economic Survey; data from government financial accounts.
Human Health and Social Work Activities	Annual Economic Survey; data from government financial accounts.
Arts, Entertainment, Recreation, and Other Service Activities	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories.

Household Activities Employing Domestic Personnel	Labor Force Survey and price data.
Imputed Banking Services (FISIM)	Annual Economic Survey: financial data collected from all large enterprises (201 employees or more) and a sample of establishments from other size categories, in addition to data from the Central Bank.

List of Tables

Table 1: Summary of Data Sources by Economic Activity

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