GROSS DOMESTIC PRODUCT OF MALDIVES

THE EXPENDITURE APPROACH

NATIONAL BEREAU OF STATISTICS
MINISTRY OF NATIONAL PLANNING, HOUSING & INFRASTRUCTURE

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Abbreviations

- BOP- Balance of Payments
- CPC- Central Product Classification
- CPI- Consumer Price Index
- ES- Economic Survey
- FISIM- Financial Intermediation Services Indirectly Measured
- GDP-E - Gross Domestic Product by Expenditure
- GDP-P - Gross Domestic Product by Production
- GFCE – Government Final Consumption Expenditure
- GFCF – Gross Fixed Capita Formation
- GVA- Gross Value Added
- GVAR- Gross Value Added Ratio
- IPD- Implicit Price Deflator
- ISWGNA – Inter secretariat Working Group on National Accounts
- ISIC- International Standard for Industrial Classification of All Economic Activities
- HFCE – Household Final Consumption Expenditure
- HIES- Household Income and Expenditure Survey
- PPI – Producer Price Index
- SNA- System of National Accounts
- SUT- Supply and Use Tables
- NAESD – National Accounts Economic Statistics Division
- NPISH – Non-Profit Institutions Serving Households
- PPI- Producer Price Index
- QNA- Quarterly National Accounts
- UVI – Unit Value Index

1. Foreword

Computation and publication of Gross Domestic Product by expenditure (GDP-E) is one of key economic statistics included in the Milestones and Minimum Data Requirements as outlined by the Inter secretariat Working Group on National Accounts (ISWGNA). It is considered high priority national and statistical agencies should consider its development before other advanced tables within the System of National Accounts (SNA).

Although GDP has been published in Maldives since 1984, the estimates have been primarily compiled using production approach (GDP-P), and GDP-E was published intermittently GDP-E at current prices was compiled and disseminated from 2001 to 2005. There was a significant discrepancy between GDP-E and GDP-P estimates. As a result, compilation of GDP-E was discontinued until further analysis and development could be performed.

This continued analysis has now enabled the National Bureau of Statistics (NBS) to publish GDP-E as a complementary product to GDP-P. Dissemination of GDP-E will follow the same revision cycle of GDP-P. That is, the 1st estimate will be released in September of the following year, or, nine months after the reference period. The 2nd (revised) release and 3rd (final) release will occur in the following two Septembers respectively.

Broadly speaking, the data sources are of higher quality for compilation of GDP-P relative to GDP-E. Some components of GDP-E are therefore derived as a function of GDP-P or determined residually. It should therefore be noted that GDP-E cannot be considered an independent estimate. This is a common feature of GDP-E programs.

This paper provides a description of how GDP-E at current and constant prices were compiled, and the data sources and methodologies used.

This document first outlines the general procedures used in GDP-E compilation and then provides a comprehensive explanation of the data sources and methods used for detailed components of final expenditures which include final consumption, gross fixed capital formation (GFCF) and exports and imports of goods and services.

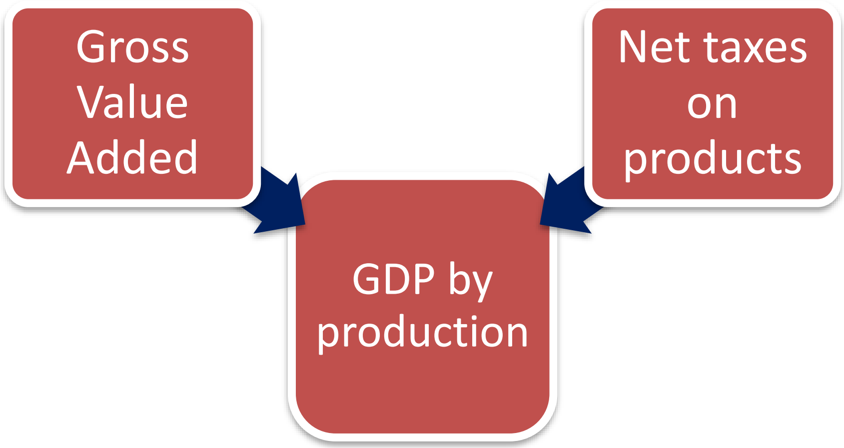
2. Introduction

Gross domestic product (GDP) is a monetary measure of the market value of all the final goods and services produced in a specific time period. The OECD defines GDP as an aggregate measure of production equal to the sum of the gross values added of all resident and institutional units engaged in production and services. An IMF publication states that, GDP measures the monetary value of final goods and services—that are bought by the final user—produced in a country in a given period of time. Regardless of the definition used, GDP is often used as a metric for international comparisons as well as a broad measure of economic progress. It is often considered to be the world's most powerful statistical indicator of national development and economic progress.

GDP can be measured using three approaches; income, expenditure and production approach. According to SNA 2008, an identity exists between the above mentioned three measures of GDP, which is explained below.

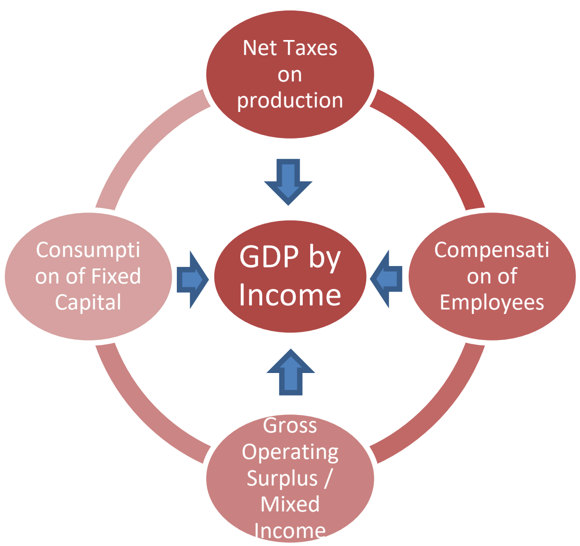
2.1 GDP by production

Gross value added (GVA) is defined as the difference between the value of goods and services produced less the value of materials and services used as inputs (intermediate consumption) in the production process. Adding taxes less subsidies on products (net taxes on products) to GVA gives GDP-P.



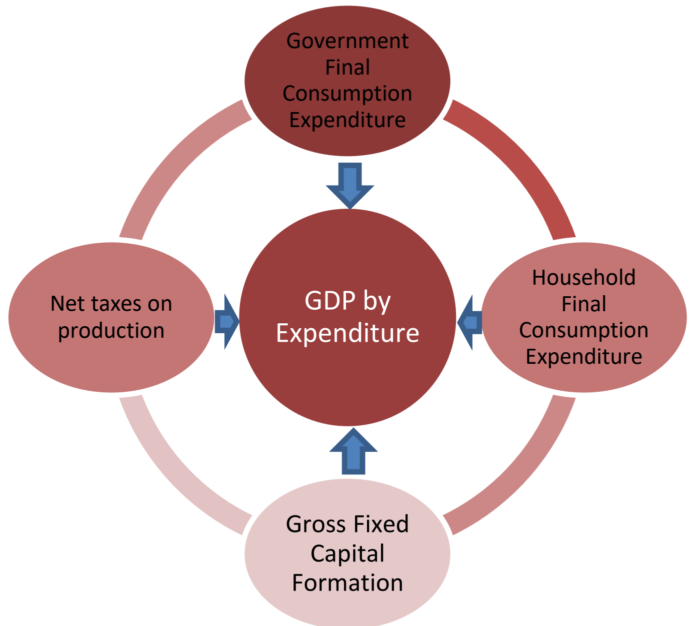
2.2 GDP by Income

GDP by income measure is the sum of compensation of employees, gross operating surplus/mixed income, consumption of fixed capital and other taxes less subsidies on production. Compensation of employees is defined as the 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 (2008 SNA, paragraph 7.5). Compensation of employees has two main components: wages and salaries payable in cash or in kind; and social insurance contributions payable by employers (actual and imputed) (2008 SNA, paragraph 7.42)



2.3 GDP by expenditure

GDP-E is the sum of final consumption expenditure, GFCF, exports less imports of goods and services, and changes in inventories.



3. Final consumption expenditure

This chapter will discuss the measurement of various components of final expenditures which include final consumption expenditure.

Final consumption includes goods and services, which are consumed by households or the community to satisfy their individual wants and social needs. Thus final consumption is broken down into:

a) Household Final Consumption Expenditure (HFCE);

b) Government Final Consumption Expenditure (GFCE);

c) Final Consumption Expenditure of Non-Profit Institutions Serving Households (NPISH).

3.1 Households Final consumption expenditure (HFCE) and NPISH

HFCE includes consumption of all consumer goods, durable goods and non-durable goods used for final consumption. Purchase of all household consumer durables such as cars, refrigerators, air-conditioners, etc. and non-durable such as food, clothes - are part of HFCE. An important exception is own-construction or improvements of residential housing, which are treated as part of GFCF.

The primary indicators used to estimate HFCE are the general goods and services tax (GGST), population growth, the supply and disposition of education and health services, and the Consumer Price Index (CPI). The goods and services tax (GST) is a tax charged on the value of goods and services supplied in the Maldives from 2 October 2011 onwards. GST is charged under the Goods and Services Tax Act (Law Number 10/2011). The Act brings within its scope the current Tourism Goods and Services Tax (TGST) regime. It makes a clear distinction between suppliers of tourism goods and services and suppliers of other (general) goods and services. The GGST is used to extrapolate HFCE of products which are considered taxable. The Consumer Price Index (CPI) is used to convert current price to constant price estimates.

As some components of HFCE are not taxable (food and beverage, and health and education), product flow methods and population growth are used to extrapolate current price estimates. Constant price figures utilize specific CPIs.

A significant portion of HFCE is rental payments and imputed rental payments of owner-occupied housing. Population growth and the CPI for rent are the primary indicators used.

There is no separate estimation process for NPISH. Rather, HFCE and NPISH are compiled in aggregate.

3.2 Government Final consumption expenditure

GFCE makes use of government budget information. Government is treated as a non-market producer in SNA. As a non-market producer, GFCE is computed as the sum of compensation of employees, purchases of goods and services and estimated Consumption of Fixed Capital (CFC).

Practically, the compilation of GFCE is based on the classification of data from actual annual government budgets to appropriate national accounts concepts. Although actual government budget is on cash basis, no further adjustment is made on to convert them into accruals basis.

4. Export of goods and services

According to SNA 2008, exports are between the domestic economy and the rest of the world and are transactions between residents and non-residents of an economic territory. A transaction of goods and services (sales, barter, and gifts) from residents to non-residents is an export and from non-residents to residents is an import. Exports exclude all transactions in land, buildings and non-movable non-produced assets, and in financial assets (stocks, bonds, money, monetary gold, etc.) The SNA takes an exception rule on land, buildings and non-movable non-produced assets since they are still used for production purposes in the domestic economy. Financial assets are neither a good nor service.

Exports occur when there are changes of ownership between residents and non-residents regardless of whether there are corresponding physical movements of goods across borders. However, there are three exceptions that require imputation of changes of ownership:

(i) Financial leasing;

(ii) Deliveries between affiliated enterprises; and

(iii) Goods sent for significant processing to order or repairs.

Exports are valued f.o.b. (free on board), i.e. at the prices at the domestic customs frontier before being shipped out. They should be, by definition, equivalent to purchasers' prices since they include domestic transport, and trade costs to bring the good to the ports, and also include taxes less subsidies on products paid by the purchasers or received by the producers.

The exports of goods are available from the Maldives Customs Services in electronic format classified by Harmonized System Codes (HS2012). For each product, CPC codes are given by using the CPC to HS 2012 Bridge. Initially exports of services were taken solely from the BOP statistics published by the Maldives Monetary Authority (MMA). Particularly significant is the export of travel services, a broad category that included the export of accommodation and food services (resorts) as the main item.

5. Import of goods and services

Imports are transaction of goods and services (sales, barter, and gifts) from non-residents to residents. Imports exclude all transactions in land, buildings and non-movable non-produced assets, and in financial assets (stocks, bonds, money, monetary gold, etc.) Imports are normally valued c.i.f. (i.e. including insurance and freight costs) at the domestic custom frontier by customs. Imports must also be valued f.o.b. (free on board), but in this case they are valued at the prices at the foreign custom frontier. To derive imports f.o.b., cost of freight and insurance services between the two borders must be estimated and deducted from imports c.i.f. Freight and insurance services on imports may be provided by either residents or non-residents. Those provided by non-residents are imports but those provided by residents are domestic output.

Imports f.o.b. avoid counting domestic output as imports and avoid double counting imported freight and insurance services, as they are already included in data on imports of services.

Imports of goods were taken from external trade data. The monthly customs data is available in electronic format from the

Maldives Customs Services. In the database, products are classified under the harmonized system (HS 2012). Monthly import of goods is available by country of origin, for four categories of users (government, tourism sector, public sector enterprises and private sector enterprises). The products are converted to CPC 2-3-digit code using the HS2012 and CPC 2.0 Bridge.

The import of services was obtained from the Balance of Payments (BOP) prepared by the Maldives Monetary Authority (MMA).

6. Gross Fixed Capital Formation

GFCF is measured by the total value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain specified expenditure on services that adds to the value of non-produced assets (2008 SNA, paragraph 10.32)

Gross fixed capital formation in the SNA is the same as the concept of investment in capital goods used by economists. It includes only produced capital goods (machinery, buildings, roads, artistic originals, etc.) and improvements to non-produced assets.

Since Maldives is highly dependent on imports, it would be a fair assumption that nearly all capital goods, and most construction materials are imported. Therefore, to measure the GFCF, imports data from the national customs database were used. In addition to the construction of residential units, construction of several resorts and guest houses were on-going. In addition to the capital goods and construction, the output of the local ship building industry from the production side data. The GFCF is estimated for two components; structures and machinery and equipment and transportation equipment separately.

Gross Fixed Capital Formation (GFCF) – Structures;

GFCF in structures is derived from the value added (VA) and output of the construction industry, which is estimated using the imports of building materials. The proportion of construction output which is purchased by businesses in the form of repair and maintenance is estimated using supply and use tables (SUT) and subsequently excluded from GFCF in structures. The unit value index (UVI) of building materials is the used for constant price calculations.

GFCF – Machinery and Equipment (M&E) and Transportation Equipment;

As nearly all GFCF in M&E is imported, merchandise imports of capital goods and capital-intensive transportation equipment is used as an indicator. Constant price estimates make use of the Unit Value Index (UVI) for these same imports.

Changes in inventories separately are not compiled in due to a lack of data. The statistical discrepancy is grouped with the change in inventories and is the balancing item between GDP-P and GDP-E.

Table 1: GROSS DOMESTIC PRODUCT (AT CURRENT PRICES), BY KIND OF ACTIVITY, 2014-2019 (million MVR)
(Estimated using Expenditure approach)

	2014	2015	2016	2017	2018	2019
GDP by Expenditure Approach	56,866	63,147	67,300	73,153	81,586	86,788
Household Final Consumption	20,892	25,939	29,632	34,415	38,381	39,929
Gross Fixed Capital formation	15,201	20,866	26,412	29,372	37,929	35,235
Structures	5,845	10,777	12,918	15,579	21,352	20,048
Machinery and Equipment	7,646	8,431	10,915	11,772	13,870	11,991
Transport	1,710	1,658	2,578	2,021	2,706	3,197
Government Final Expenditure	10,686	11,474	11,972	10,772	12,060	13,398
Net Trade	9,445	4,539	-3,429	-5,083	-11,101	-7,764
Exports of Goods	4,655	4,680	3,857	6,623	7,164	7,806
Exports of Services	47,261	44,799	44,585	46,271	50,039	52,098
Imports of Goods (FOB)	30,203	31,452	34,857	38,319	47,676	46,877
Imports of Services	12,268	13,488	17,014	19,659	20,627	20,790
Change in Inventory/Discrepancy	642	328	2,713	3,676	4,317	5,990
Inventory/Discrepancy, relative to GDP-P	0.00	0.01	0.04	0.05	0.05	0.07

Table 2: GROSS DOMESTIC PRODUCT (AT CURRENT PRICES), GROWTH RATES, BY KIND OF ACTIVITY, 2014-2019 (million MVR)
(Estimated using Expenditure approach)

	2015	2016	2017	2018	2019
GDP by Expenditure Approach	11.04	6.58	8.70	11.53	6.38
Household Final Consumption	24.16	14.24	16.14	11.52	4.03
Gross Fixed Capital formation	37.27	26.58	11.21	29.13	-7.10
Structures	84.38	19.87	20.60	37.06	-6.11
Machinery and Equipment	10.27	29.46	7.85	17.83	-13.55
Transport	-3.04	55.50	-21.62	33.92	18.11
Government Final Expenditure	7.37	4.34	-10.02	11.95	11.09
Net Trade	-51.94	-175.53	48.26	118.38	-30.06
Exports of Goods	0.54	-17.58	71.71	8.15	8.97
Exports of Services	-5.21	-0.48	3.78	8.14	4.11
Imports of Goods (FOB)	4.14	10.82	9.93	24.42	-1.68
Imports of Services	9.94	26.14	15.55	4.92	0.79
Change in Inventory/Discrepancy	-48.90	726.90	35.49	17.43	38.76
Inventory/Discrepancy, relative to GDP-P	0.01	0.04	0.01	0.00	0.02

Table 3: GROSS DOMESTIC PRODUCT (AT CONSTANT PRICES), BY KIND OF ACTIVITY, 2014-2019 (million MVR)
(Estimated using Expenditure approach)

	2014	2015	2016	2017	2018	2019
GDP by Expenditure Approach	56,866	58,507	62,215	66,448	72,123	77,162
Household Final Consumption	20,892	25,508	28,806	32,574	36,031	38,020
Gross Fixed Capital formation	15,201	17,907	18,414	19,803	25,557	24,879
Structures	5,845	8,717	9,122	10,615	13,230	12,985
Machinery and Equipment	7,646	7,587	7,860	7,820	9,869	9,030
Transport	1,710	1,603	1,431	1,368	2,458	2,863
Government Final Expenditure	10,686	11,084	11,449	10,278	11,198	10,726
Net Trade	9,445	3,879	3,908	3,824	2,831	6,372
Exports of Goods	4,655	4,442	3,657	5,907	6,618	8,098
Exports of Services	47,261	42,344	47,304	48,840	53,657	55,866
Imports of Goods	30,203	29,620	30,324	31,765	37,512	37,246
Imports of Services	12,268	13,286	16,730	19,158	19,932	20,345
Change in Inventory/Discrepancy	642	130	-362	-32	-3,493	-2,836
Inventory/Discrepancy, relative to GDP-P	0.00	0.00	-0.01	0.00	-0.05	-0.04

Table 4: GROSS DOMESTIC PRODUCT (AT CONSTANT PRICES), GROWTH RATES, BY KIND OF ACTIVITY, 2014-2019 (million MVR)
(Estimated using Expenditure approach)

	2015	2016	2017	2018	2019
GDP by Expenditure Approach	2.89	6.34	6.80	8.54	6.99
Household Final Consumption	22.09	12.93	13.08	10.61	5.52
Gross Fixed Capital formation	17.80	2.83	7.55	29.06	-2.65
Structures	49.13	4.65	16.37	24.63	-1.85
Machinery and Equipment	-0.77	3.60	-0.52	26.21	-8.50
Transport	-6.28	-10.69	-4.43	79.68	16.48
Government Final Expenditure	3.72	3.30	-10.23	8.94	-4.21
Net Trade	-58.93	0.73	-2.13	-25.98	125.11
Exports of Goods	-4.58	-17.66	61.51	12.04	22.36
Exports of Services	-10.40	11.71	3.25	9.86	4.12
Imports of Goods	-1.93	2.38	4.75	18.09	-0.71
Imports of Services	8.30	25.92	14.51	4.04	2.07
Change in Inventory/Discrepancy	-79.77	-378.40	-91.13	10,787.48	-18.83
Inventory/Discrepancy, relative to GDP-P	0.00	-0.01	0.01	-0.05	0.01

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