



Key Findings of Rebased GDP Estimates (Base year 2015)



Department of Census and Statistics

Ministry of Finance, Economic Stabilization and National Policies

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Key Findings

- Nominal GDP level of year 2015, has been shifted by 5.6 percent positively, compared to the level existed in old base year of 2010.
- When compared the contribution of major components to the GDP in the new base year (2015) with old base year (2010), the share of the overall services activities has declined while the share of the overall industrial activities has expanded.
- When compared the institutional sectors (Non-Financial Corporation, Financial Corporation, General Government and Households) contribution to the GDP, the contribution of the General Government sector and the Household sector have reduced while the contribution of the Non-Financial Corporation sector to the GDP has been increased.
- As a result of the inclusion of value addition generated through the 269 hectares of reclaimed land, according to the work done of land reclamation between the period of 2014 to 2019, to the GDP, specially the construction industry growth rates have been changed remarkably and this has been caused to change the overall GDP growth rates as well.
- Sri Lanka became an Upper-middle income country after the year 2015 due to the increase in the Per-capita GDP, along with the new GDP estimates. However, after the year 2018, due to the sharp depreciation in Rupee value, the country has shifted back again to the Lower-middle income category, in 2019, 2020 and 2021 years.
- As a result of the increase in the total value of GDP, many macroeconomic aggregate indicators associated with GDP have been changed.

1.0 Background of Rebasing Gross Domestic Product

The Department of Census and Statistics (DCS) is the National Statistical Office in Sri Lanka and mainly responsible for the collection, compilation, analysis and dissemination of reliable and timely statistical data relating to population and housing, agriculture, industries, trade and services, national accounts, prices, and other social and economic activities of the country. These produced statistics and estimates are important for the purpose of planning, formulation and implementation of development programs which are required for policy making in the economic development of the country. Accordingly, the DCS is bound to make the necessary timely improvements to the National Accounts Estimates (NAE). Compiling of NAEs of a country is crucial, as it should represent the real economic situation of a country.

The selection of the base year is a critical element of the rebasing exercise and the year selected should be characterized by relative economic stability. In addition, international convention recommends that the base year selected should end with zero (0) or five (5) for easier comparative analysis. This type of revision in the base year is essential for better policymaking. Therefore, it is used to track structural changes in an economy and improve or update macroeconomic indicators that reflect the economic performances of a country. During this process price indices and weights used in economic aggregates are replaced with new values and improved methodologies. Previously, the Base Year of National Accounts (NA) was updated in 1958, 1963, 1975, 1990, 2002 and 2010. Due to the structural changes in the economy over time and significant changes in prices, the Department has decided to update the base year from 2010 to 2015 to prepare accurate estimates at constant prices.

The purpose of this newsletter is to presents the major changes that have been taken in the GDP and the associated macroeconomic aggregates as a result of updating the National Accounts base year from 2010 to 2015.

2.0 Major Improvements undertaken in the Rebasing

Following improvements were undertaken in the National Accounting System in this rebasing exercise, other than moving the base year from 2010 to 2015.

- Inclusion of the 269 hectares of reclaimed land for the construction of the Colombo International Financial City into the GDP.
- Incorporation of other new production activities into the production boundary and expanding the production boundary by collecting new data.
- The output of the benchmark year 2015, was upgraded by incorporating the survey results of Information Technology (IT) and Information Technology Enabled Services (ITES) 2016 and 2017 to the 'Information Technology Consultancy and Programming activities' industry.
- Improving the estimation methodology of 'Electricity power generation, transmission and distribution production activity'.
- Introduction of the Double deflation method instead of the previously used Volume extrapolation method for estimating constant price estimates of activities such as 'Growing of Tea' and 'Growing of Rubber'.
- Use of Revaluation method for estimating constant price estimates of 'Growing of Vegetables' instead of the previously used deflation method. Combined fixed weight price index has been computed.
- Constant price estimates for Manufacturing industry has been derived through the deflation method by using the Producer's Price Index (2018=100) instead of the Wholesale Price Index (1974=100)
- The estimation of growing value of coconut tree stock as Work in Progress (WIP) and has included it to the Gross Value of Output (GVO) of the 'Growing of Coconut' activity.

- Estimation of the growing value of stock of cattle as WIP and has included it to the GVO of 'Animal production'.
- In quarterly estimates, benchmark indicators/ variables were changed to the new variable of quarterly revenue of Public Listed Companies (PLCs) registered at Colombo Stock Exchange (CSE) for various activities; such as Accommodation services (Hotel industry), Private health services, Real estate services, etc.,
- Re-classification of Budget codes according to the Government Finance Statistics Manual (GFSM 2014) with the assistance of Department of State Accounts & GFS Coordinating Committee.
- Use of 'Implicit deposit rate' and 'Implicit lending rate' as SNA interest rates instead of SLIBOR (Sri Lanka Inter Bank Offer Rate) in compiling Financial Intermediary Services Indirectly Measured (FISIM) estimates.
- Started to compile Accommodation activities and Food and beverage serving activities as two compilation categories as a result of expansion of available data sources (Economic Census 2013/14 data and financial data of PLCs registered at CSE)

3.0 Changes of Macro-Economic Aggregates

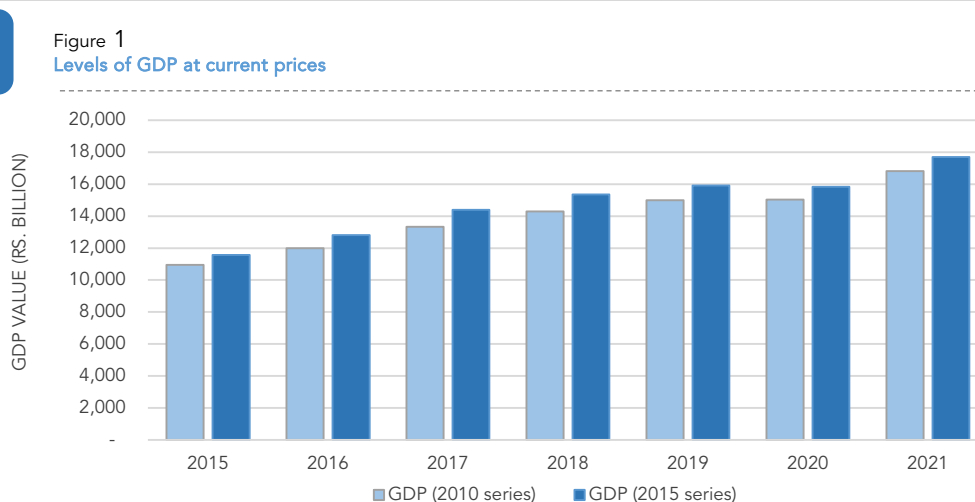
Along with the NA new base year (2015) revision exercise, changes have been taken place in NAEs including GDP, GDP growth rate and in other macro-economic aggregates specially in the period of 2015 to 2021. Hence, it will be extremely important for users of all economic statistics, to be aware about these changes.

3.1 GDP at Current Prices (Nominal Gross Domestic Product)

Generally, the GDP at current prices increases, along with the change of the NA base year and due to the inclusion of new production activities into the GDP in accordance with the updating of the base year of GDP.

Table 1: Comparison of GDP at current prices, 2015 - 2021 (Rs. Mn)

Indicator	2015	2016	2017	2018	2019	2020	2021
GDP (2010 series)	10,950,621	11,996,083	13,328,103	14,290,907	14,997,157	15,027,374	16,809,309
GDP (2015 series)	11,566,987	12,812,975	14,387,319	15,351,933	15,910,976	15,840,164	17,685,854
Level change (%)	5.6	6.8	7.9	7.4	6.1	5.4	5.2



Source:
Department of Census and Statistics, Sri Lanka

The Figure 1 clearly indicates the increase in GDP level in the base year along with the update of the NA base year. This level shift is 5.6 percent of positive shift. That level shift has continued throughout the period of 2015 to 2021. This is mainly due to the inclusion of total value added of 269 hectares of the reclaimed land constructed for the Colombo Financial City. The Value Added of land reclamation has been added to the GDP separately throughout the period of 2014-2018 in the GDP under the 'Construction' activity. The Value Added of the total land reclamation has been added to the GDP according to the work done of the land reclamation in each year. This methodology is internationally recommended one and has been used by countries with this experience.

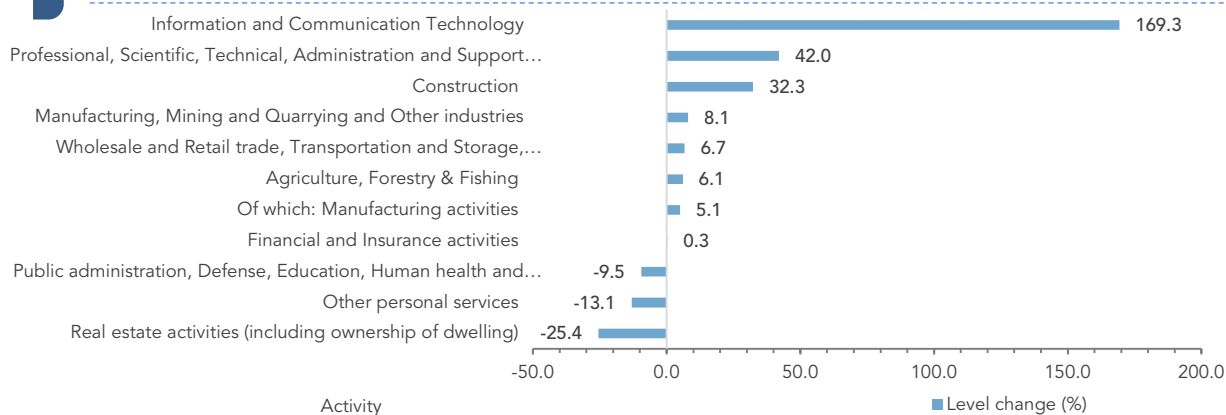
The Gross Value Added of the major economic activities of Agriculture, Industry has been increased positively by 6.1 and 15.1 percent respectively. In the meantime, the GVA of Service activities has been declined by 0.4 percent in the new GDP series when it compared to the old NA base year series. In addition the GVA of Taxes less subsidies component has increased by 16.8 percent in the new series.

The Table 2 summarizes all economic activities operating in Sri Lanka into 10 main economic aggregates and compares the GVAs of each aggregate under the new base year of 2015 with the old base year of 2010.

Table 2: Level comparison of GVA by major economic activities (A10) level

Activity	2015 Value (2010 series) Rs. Mn	2015 value (2015 series) Rs. Mn	Level change (%)
Agriculture, Forestry & Fishing	896,229	950,452	6.1
Manufacturing, Mining and Quarrying and Other Industries	2,144,820	2,317,692	8.1
Of which: Manufacturing activities	1,780,785	1,871,187	5.1
Construction	830,412	1,098,666	32.3
Wholesale and Retail trade, Transportation and Storage, Accommodation and Food service activities	2,667,315	2,847,263	6.7
Information and Communication Technology	80,899	217,842	169.3
Financial and Insurance activities	450,227	451,495	0.3
Real estate activities (including ownership of dwelling)	625,695	466,486	-25.4
Professional, Scientific, Technical, Administration and Support service activities	197,488	280,493	42.0
Public administration, Defense, Education, Human health and Social work activities	1,144,852	1,036,055	-9.5
Other personal services	1,116,902	970,902	-13.1
Taxes less subsidies on products	795,782	929,642	16.8
Gross Domestic Product at current prices	10,950,621	11,566,987	5.6

Figure 2
Level comparison of GVA by major economic activities



Source:
Department of Census and Statistics, Sri Lanka

DCS

According to the Figure 2, among all other economic activities which reflect higher level shifts between the old and new series, the Information and Communication Services indicates a massive change in the GVA when compared to the other economic activities. This 'Information and Communication' service category is consisted by several activities including 'Programming and Broadcasting', 'Telecommunication' and Information Technology' (IT) industry. The main factor behind this massive change in GVA level is the inclusion of IT and IT Enabled Services (ITES) survey results into the GDP compilation process relevant to the IT services. This IT and ITES survey conducted by the DCS recently covering all formal level IT and ITES companies in the country and survey results have been incorporated in the IT industry GVA compilation process under the rebasing exercise. Apart from IT industry other services such as 'Professional, Scientific, Technical and Administrative services' and 'Construction' industry have reported significant changes in their GVA levels when compared in two series.

In the meantime, some activities have recorded a decline in their GVA levels in the new series, when compared to the GVA levels of old series; such as 'Real estate activity', 'Public Administration and Defense', 'Education', 'Healthcare services' and 'Other personnel services' activities.

3.2 GDP at Constant Prices (Real Gross Domestic Product)

Along with the updating of NA base year to the year of 2015, 2010 price level will be replaced by 2015 prices when computing the constant price estimates. 2015 price levels are usually higher than the 2010 price level, unless there is no deflation. Accordingly, when computing the constant price estimates for the year 2015 and onwards, the constant price estimates in the new series become higher than in the old series, usually due to the higher price levels in new series. . Accordingly, the comparisons of constant price GDP series are useless due to the two base years and two price structures.

Table 3: Comparison of GDP at constant prices, 2015 – 2021 (Rs. Mn)

Indicator	2015	2016	2017	2018	2019	2020	2021
GDP at constant price (2010 series)	8,647,833	9,035,830	9,359,147	9,665,379	9,890,468	9,532,909	9,881,397
GDP at constant price (2015 series)	11,566,987	12,151,540	12,936,612	13,235,458	13,206,276	12,747,715	13,171,802

3.3 Gross Domestic Product Growth rates

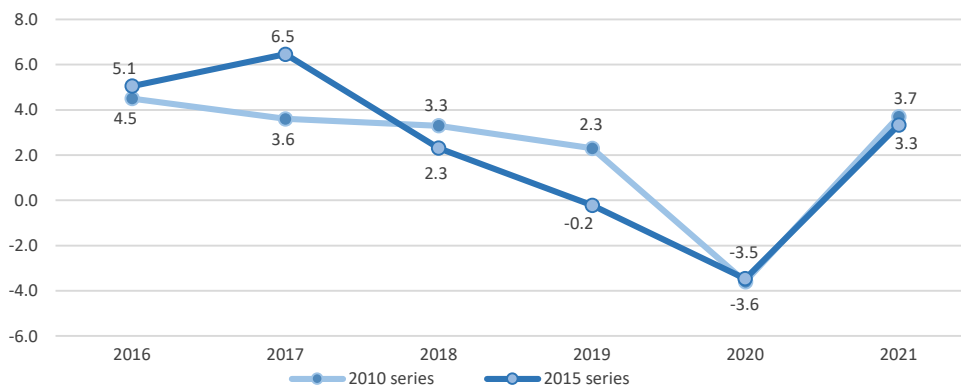
The growth of GDP is considered as the percentage increase in the real GDP. It reflects the expansion rate of the production capacity of the economy. The published growth rates may be changed along with the updating of NA base year, as a result of incorporation of new base year 2015 price structures and weights and as well as the rate of expansion in the production activities which are newly entered to the production boundary of GDP. In this rebasing process, the published growth rates have been changed, in some years significantly, due to the inclusion of the value added of reclaimed land of Colombo Financial City into the GDP. As well, its output was being unbalanced for a long period of 5 years.

The Table 4 presents the annual growth rates from 2015 to 2021 under the old and new base years.

Table 4: Comparison of GDP growth rates

Indicator	2016	2017	2018	2019	2020	2021
GDP growth rate - 2010 series (%)	4.5	3.6	3.3	2.3	-3.6	3.7
GDP growth rate - 2015 series (%)	5.1	6.5	2.3	-0.2	-3.5	3.3

Figure 3
Comparison of GDP growth rates (2016-2021)



Source:
Department of Census and Statistics, Sri Lanka

DCS

As shown in the Table 4 the published growth rate in the year 2017 has been changed significantly. In the year 2017 work done of reclaimed land is much higher than in other years. As a result, this variation is much higher in the year of 2017, when it compared to the other years. Hence, the published growth rate in the year 2017 has been changed significantly under the new base year estimates.

The following Table summarizes the percentage of completion of land reclamation in each year, the Value Added generated through, the share percentage to the industry sector and the growth rates in the construction industry for the period of 2015 to 2020.

Table 5: The effects of inclusion of land reclamation of Colombo Financial City to the construction industry 2016 - 2021

	2014	2015	2016	2017	2018	2019	2020	2021
Work done (%)	7.88	5.91	11.4	42.6	32.21	-	-	-
GVA of reclamation of new land (Rs. Mn)	76,793	57,620	110,383	411,536	310,869	-	-	-
Gross Value Added of Construction industry (Rs. Mn)	1,085,358	1,098,666	1,376,115	1,837,657	1,767,942	1,562,278	1,380,923	1,569,141
Share of GVA of new land to the GVA of construction industry (%)	7.08	5.24	8.02	22.39	17.58	-	-	-
Growth of Construction industry (%)	-	-	13.14	27.30	-8.01	-14.83	-9.39	4.07

As shown in Table 5 , we can observe that higher percentage of land reclamation has been taken place in, in the year 2017. As well by the year of 2019, the reclamation has been completed. Further, the Value Added generated in each year due to the land reclamation as a percentage of construction industry is high. Due to all these factors, a high growth has been reported in construction industry in the year 2017 and a decline in growth rate of construction industry has been reported in the year of 2019. This has been caused to record high fluctuations in published growth rates.

3.4 Contribution to GDP

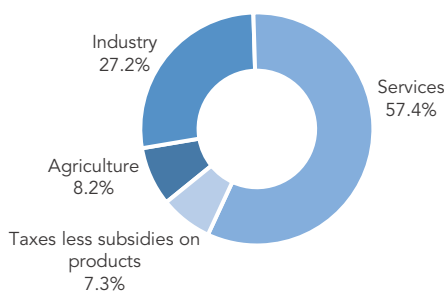
The composition of GDP at market price comprises by four main components named as total GVA generated from agricultural activities, total GVA generated from industrial activities, total GVA generated from Services activities and the Taxes less subsidies on products. The significant feature that we observe is the share percentage of overall service activities to the GDP is very high when compared to the contribution of other major economic activities. However, when compared the share of major economic activities to the GDP in two base years, it is observed that the relative contribution of overall services activities has been declined and the contribution of industrial activities has increased.

Table 6 shows the contribution of each major economic activity to the GDP and its changes between two base years.

Table 6: Comparison of changes in shares to the GDP in two base years

Major economic activities	Share (%) 2010	Share (%) 2015
Agriculture	8.2	8.2
Industry	27.2	29.5
Services	57.4	54.2
Taxes less subsidies on products	7.3	8.0
Gross Domestic Product	100.0	100.0

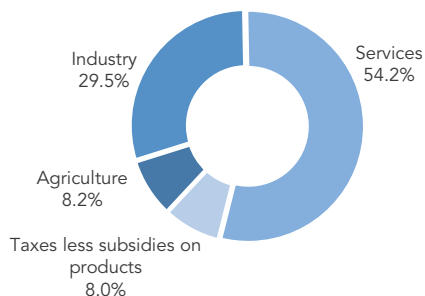
Figure 4
Contribution to GDP, 2010 (2010 series)



Source: Department of Census and Statistics, Sri Lanka



Figure 5
Contribution to GDP, 2015 (2015 series)



Source: Department of Census and Statistics, Sri Lanka



Table 7: Comparison of the contribution of Information Technology Services to the GDP

	2015	2016	2017	2018	2019	2020	2021
Gross Value Added of IT services (Rs Mn) 2010 series	15,532	17,271	19,180	22,216	26,215	30,147	38,890
GDP at current price (Rs. Mn) 2010 series	10,950,621	11,996,083	13,328,103	14,290,907	14,997,157	15,027,374	16,809,309
Share to the GDP 2010 series (%)	0.14	0.14	0.14	0.16	0.17	0.20	0.23
Gross Value Added of IT services (Rs Mn) 2015 series	113,552	130,645	157,321	181,146	212,369	239,218	309,878
GDP at current price (Rs Mn) 2015 series	11,566,987	12,812,975	14,387,319	15,351,933	15,910,976	15,840,164	17,685,854
Share to GDP 2015 series (%)	1.0	1.0	1.1	1.2	1.3	1.5	1.8

In 2015 GDP series, the contribution of the overall services activities to the GDP has reduced. However, the contribution of IT services to the GDP has been increased remarkably in the new base year (2015) estimates, when compared to the old base year (2010) estimates of IT services. In the existing GDP estimates (old base year 2010) IT services industry was an underestimated industry and could not cover properly its contribution to the economy. Hence, in the new rebasing exercise, the IT industry being a prominent sector in the economy, was recognized as a priority industry which needed to have an improvement in compilation methodologies. Accordingly, to capture the real value addition to the economy from this industry, the DCS conducted IT and IT Enabled Services Survey 2017/18, by considering the 2016 and 2017 years as the reference years to collect information. Accordingly, this new survey results were incorporated to the IT industry in the new GDP rebasing exercise to compute GVO, IC and GVA of IT industry and as a result the contribution of IT services to the GDP increased significantly reporting 1.8 percent share to the GDP by year of 2021. The Table 7, shows the increase of the share of the IT services to the GDP in new estimates.

3.5 Production Structure of the Economy

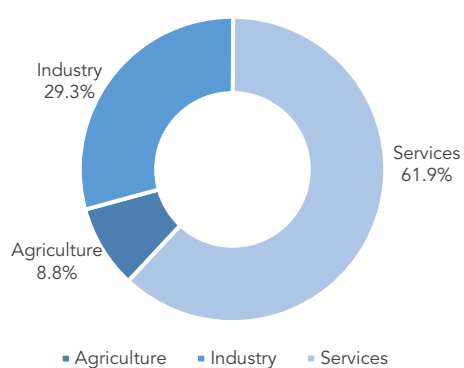
The contribution from each major economic activity to the GDP does not properly reflect the production structure of the economy. To examine production structure of an economy, it is necessary to examine the contribution of major economic activities to the total GVA of agriculture, industry and services.

As shown in Table 8, the structural changes in the production structure of Sri Lanka's economy can be recognized between the two base years of 2010 and 2015.

Table 8: Changes in production structures between two base years

Sector	Contribution (%) - 2010 (Base year 2010)	Contribution (%) - 2015 (Base year 2015)
Agriculture	8.8	8.9
Industry	29.3	32.1
Services	61.9	58.9
Gross Value Added at basic price	100.0	100.0

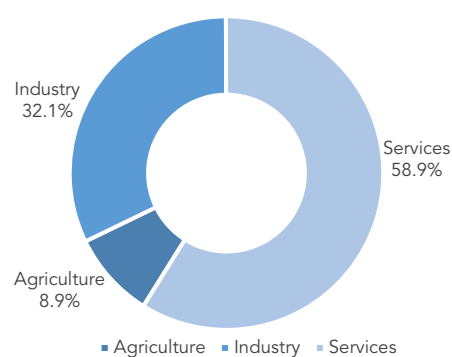
Figure 6
Contribution by major economic activities, 2010 (2010 series)



Source:
Department of Census and Statistics, Sri Lanka



Figure 7
Contribution by major economic activities, 2015 (2015 series)



Source:
Department of Census and Statistics, Sri Lanka



As shown in Figure 6 and 7, the significant feature is the share from the overall services activities to the GDP has been reduced while the share from the industrial activities has been increased. This does not say a shrink in agricultural and services activities. It says the rate of expansion in the overall industrial activities is higher than the rate of expansion in agricultural and services activities, in base years of 2010 and 2015.

3.6 Responsibility of Production

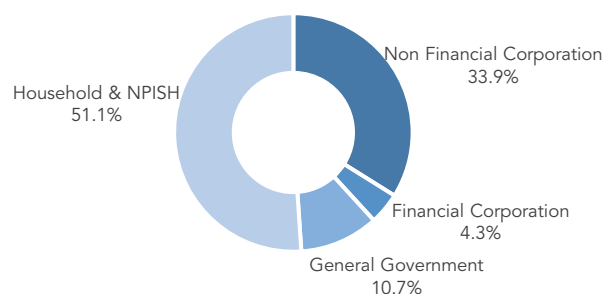
In an economy, identifying institutional sectors (Non-Financial Corporations, Financial Corporations, General Government and Households) contribution to the total GVA is important in policy making process. Responsibility for production refers to the acquisition and operation of other production factors to maintain the production process.

The Table 9 indicates the changes in institutional sectors contribution to the total GVA in two GDP series of 2010 and 2015.

Table 9: Comparison of GVA, contribution to GVA in two GDP series, by institutional sector level

Sector	Gross Value Added (2010) - Rs. Mn	Contribution to GVA 2010 - (%)	Gross Value Added (2015) - Rs. Mn	Contribution to GVA 2015 - (%)
Non-Financial Corporation (NFC)	3,441,134	33.9	4,713,049	44.3
Financial Corporation (FC)	438,031	4.3	433,485	4.1
General Government (GG)	1,090,145	10.7	919,003	8.6
Households (HH) & NPISH	5,185,529	51.1	4,571,809	43.0
Gross Value Added at basic price	10,154,839	100.0	10,637,346	100.0

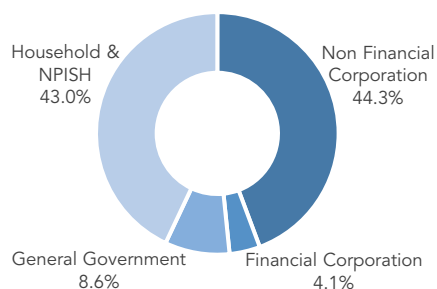
Figure 8
Contribution to total GVA by institutional sectors (2010 series)



Source: Department of Census and Statistics, Sri Lanka



Figure 9
Contribution to total GVA by institutional sectors (2015 series)



Source: Department of Census and Statistics, Sri Lanka



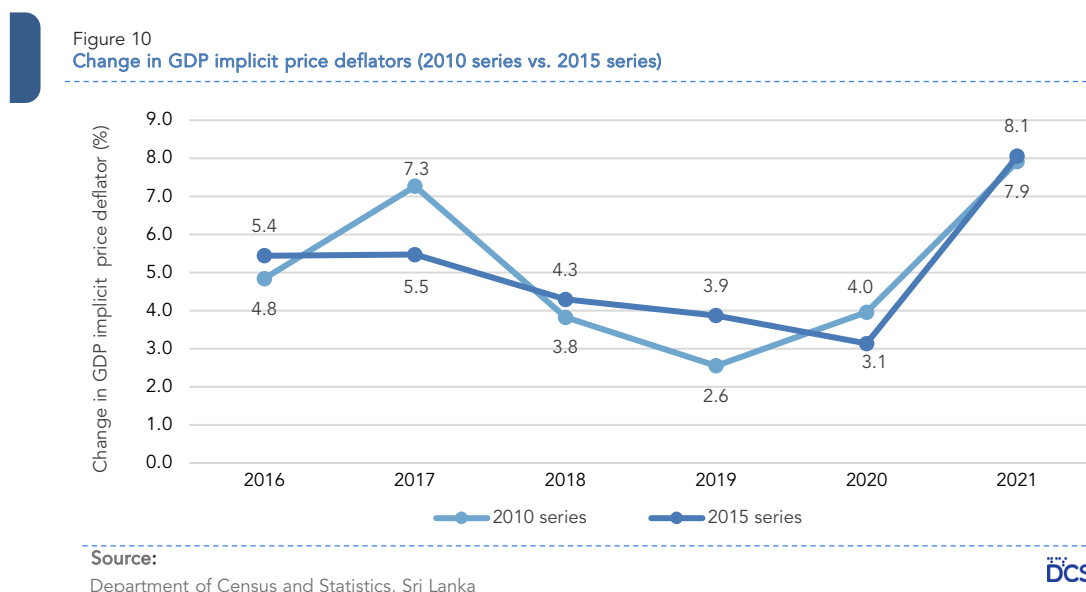
Significant changes have taken place when consider the institutional sectors contribution to the total GVA, in two base years. The contribution from the General Government sector and the Household sector to the overall production have been declined while the contribution from the Non-financial sector to the overall production has been increased. However, there is no significant change in share of Financial corporation sector to the overall production.

3.7 GDP Implicit Price Deflator

GDP implicit Price Deflator is an indicator obtained by dividing the GDP at current price by GDP at constant price and this coefficient is multiplied by 100. The change in the general price level of a country can be measured by using this price deflator or else the inflation can be measured. The main difference between the GDP implicit Price Deflator and the Consumer Price Index is that the Consumer Price Index measures the change in the general price level of all goods and services (including imports) purchased by end consumers, while GDP implicit Price Deflator measures price changes of all goods and services produced by residents.

Table 10: GDP Implicit Price Deflator, and its change in two GDP series, 2016 - 2021

	2016	2017	2018	2019	2020	2021
GDP Implicit Price Deflator (2010 series)	132.8	142.4	147.9	151.6	157.6	170.1
Percentage change (Inflation) %	4.8	7.3	3.8	2.6	4.0	7.9
GDP Implicit Price Deflator (2015 series)	105.4	111.2	116.0	120.5	124.3	134.3
Percentage change (Inflation) %	5.4	5.5	4.3	3.9	3.1	8.1



Though there are changes in the inflation rates according to GDP implicit Price Deflator, the above figure shows that there is no change in the behavior/ pattern of inflation during the period of 2015-2021.

3.8 Per-Capita Gross National Income (GNI)

The Per Capita GNI is the monetary value of a country's final income in a year, divided by its population. It should be reflected the average before tax income of a country's citizens. The Per Capita GNI is obtained by dividing the Gross National Income (GNI) by the mid-year population. When updating the National Accounts base year to the year of 2015 from the year of 2010, the GDP at current price increased as a result of widening the production boundary.

Accordingly, the per capita income values from 2015 to 2021 have also been updated.

Table 11: Changes in Per capita Gross National Income in two GDP series, 2015 - 2021

Indicator	2015	2016	2017	2018	2019	2020	2021
2010 GDP series							
Per-Capita GNI (Rs)	509,200	550,697	605,076	641,500	667,604	666,285	740,328
Per-Capita GNI (US \$)	3,746	3,782	3,969	3,947	3,734	3,591	3,722
2015 GDP Series							
Per-Capita GNI (Rs)	538,598	589,224	654,470	690,463	709,516	703,367	779,890
Per-Capita GNI (US \$)	3,962	4,047	4,293	4,248	3,969	3,791	3,921

Note that per-capita GNI values expressed in US dollars are not Purchasing Power Parity (PPP) values.

World Bank classifies countries by per-Capita GNI values calculated following the atlas method. According to the thresholds for such grouping in 2021, the US\$ 4095 limit must be exceeded to reach the Upper middle income level. However, even by the year 2021, the per-capita GNI value of Sri Lanka was US\$ 3921. Accordingly Sri Lanka falls under the low middle income country by 2021 according to the world bank classification. The main reason behind this was the depreciation of the Sri Lankan rupee against the US Dollar over the past few years.

According to the thresholds of world bank, in 2016, 2017 and 2018 years the Sri Lanka moved to the upper-middle income category level from the lower-middle income category level. However in 2019, 2020 and 2021, the country has fallen back to the lower-middle income category level.

3.9 Budget Deficit as a percentage of GDP

Fiscal aggregates are usually presented as a percentage of GDP. Monetary and other policy targets are also set out in fiscal policy formulation by presenting the total deficit as a percentage of GDP. Along with the base year revision process, the GDP at current price has been increased and as result of that the Budget deficit expressed as a percentage of GDP has been declined 2015 onwards.

The Table 12 shows the budget deficit as a percentage of GDP with the revision of base year to the year of 2015.

Table 12: Budget deficit as a percentage of GDP, 2010 series vs. 2015 series

Indicator	2015	2016	2017	2018	2019	2020	2021
Budget deficit (Rs Mn)	-829,502	-640,325	-733,494	-760,769	-1,439,088	-1,667,688	-2,057,925
Budget Deficit as a % of GDP (2010 series)	-7.6	-5.3	-5.5	-5.3	-9.6	-11.1	-12.2
Budget Deficit as a % of GDP (2015 series)	-7.2	-5.0	-5.1	-5.0	-9.0	-10.5	-11.6

3.10 Tax Income as a percentage of GDP

Tax revenue as a percentage of GDP declines with the increase of the value of GDP at current prices.

Table 13: Tax income as a percentage of GDP, 2010 series vs. 2015 series

Indicator	2015	2016	2017	2018	2019	2020	2021
Tax income (Rs Mn)	1,355,779	1,463,689	1,670,178	1,712,318	1,734,925	1,216,542	1,298,019
Tax income as a percentage of GDP (2010 series)	12.4	12.2	12.5	12.0	11.6	8.1	7.7
Tax income as a percentage of GDP (2015 series)	11.7	11.4	11.6	11.2	10.9	7.7	7.3