

NATIONAL OUTPUT, EXPENDITURE AND INCOME

2.1 Overview

In 2016, Sri Lankan economy grew by 4.4 per cent in real terms compared to 4.8 per cent in 2015, in the midst of headwinds from both domestic and external fronts. On the domestic front, recommencement of a few large scale government infrastructure projects and private sector investment activities supported economic growth. However, continuation of fiscal consolidation measures specifically related to revenue enhancement, increase in inflationary pressure towards the latter part of 2016 driven by supply side impediments and tax policy measures, tightening of the monetary policy stance of the Central Bank and adverse weather conditions that prevailed throughout the year dampened the growth momentum. Moreover, uncertainty that arose from frequent policy changes during the beginning of 2016 also impacted the overall economic activity and was highlighted as a major impediment to sustain a higher pace of growth by the respondents to Business Surveys conducted by the Central Bank. Further, structural constraints, such as the shortage of skilled labour and low female labour force participation rate, are beginning to weigh on continuous expansion in economic activities as highlighted by the survey participants. On the

external front, slow global economic recovery, sluggish global trade, tightening interest rates in the US and heightened policy uncertainty from unanticipated outcomes of global economic and political developments that took place throughout 2016 hindered the expected recovery in external demand.

On the basis of production side estimates, growth was mainly driven by expansion in Industry and Services related activities amidst the contraction recorded in Agriculture activities due to unfavourable weather conditions that prevailed throughout 2016. Growth in Services, the major contributor to the GDP, was buoyed by a significant increase in financial services activities and transportation services. Industry activities recorded a noteworthy growth in 2016 largely boosted by the recovery in construction activities and mining and quarrying activities. Destructive weather conditions, fragile demand and low prices for Sri Lanka's major agricultural commodity exports from destinations such as Russia and some of the Middle Eastern countries, also explained the contraction in Agriculture activities.

As per the expenditure approach estimates, growth was bolstered by the investment drive, both in nominal and real terms. Investment growth was spurred by government infrastructure activities and the consequent expansion in private sector involvement in construction activities. Meanwhile, private consumption registered a slowdown due to the increase in interest rates and taxes, gradual increase in import prices of consumer goods and depreciation of the Sri Lankan rupee. Government consumption also witnessed a slowdown with the fiscal consolidation measures. Further, net external demand worsened during 2016 in nominal terms. This was mainly attributable to the impact of increase

in imports compared to exports. Demand for imports was fuelled by an increase in expenditure on intermediate and investment goods in line with the increase in investment activities in the country. Although exports of goods and services recorded an expansion in nominal terms, this was not sufficient to compensate for the growth in imports, which resulted in a worsening of net external demand.

Domestic savings increased significantly as a result of improved private savings in the backdrop of a gradual tightening of monetary policy and a decline in government dis-savings. Further, net current transfers from the rest of the world continued to grow

Table 2.1
Gross Domestic Product by Industrial Origin at Constant (2010) Prices (a) (c)

Economic Activity	Rate of Change (%)		Contribution to Change (%)		As a Percentage of GDP (%)	
	2015 (b)	2016	2015 (b)	2016	2015 (b)	2016
Agriculture, Forestry and Fishing	4.8	- 4.2	7.6	- 7.4	7.8	7.1
Growing of cereals (except rice)	7.3	- 10.5	0.3	- 0.4	0.2	0.1
Growing of rice	25.0	- 31.0	3.8	- 6.2	0.9	0.6
Growing of vegetables	2.7	- 2.1	0.4	- 0.3	0.7	0.6
Growing of sugar cane, tobacco and other non-perennial crops	- 15.0	13.4	- 0.1	0.1	0.0	0.0
Growing of fruits	17.5	- 3.7	1.8	- 0.5	0.6	0.5
Growing of oleaginous fruits (coconut, king coconut, oil palm)	5.2	- 0.6	0.8	- 0.1	0.8	0.7
Growing of tea (green leaves)	- 2.6	- 11.2	- 0.5	- 2.1	0.8	0.7
Growing of other beverage crops (coffee, cocoa, etc.)	- 18.1	7.5	- 0.1	0.0	0.0	0.0
Growing of spices, aromatic, drug and pharmaceutical crops	6.9	6.4	1.0	1.0	0.7	0.7
Growing of rubber	- 10.1	- 10.7	- 0.7	- 0.7	0.3	0.3
Growing of other perennial crops	9.3	- 2.2	0.4	- 0.1	0.2	0.2
Animal production	8.1	6.3	1.0	0.9	0.6	0.6
Plant propagation and support activities to agriculture	6.7	- 4.7	0.2	- 0.1	0.1	0.1
Forestry and logging	1.9	5.5	0.2	0.7	0.6	0.6
Fishing	- 2.6	1.6	- 0.8	0.5	1.4	1.3
Industries	2.1	6.7	11.5	40.1	26.2	26.8
Mining and quarrying	- 5.2	14.4	- 2.6	7.3	2.2	2.4
Manufacturing	4.9	1.7	16.0	6.3	15.7	15.4
Electricity, gas, steam and air conditioning supply	5.9	8.4	1.2	1.9	1.0	1.0
Water collection, treatment and supply	4.4	7.9	0.1	0.3	0.1	0.1
Sewerage, waste treatment and disposal activities	24.9	17.8	1.1	1.0	0.3	0.3
Construction	- 2.7	14.9	- 4.2	23.4	6.9	7.6
Services	5.7	4.2	66.5	54.0	56.6	56.5
Wholesale and retail trade, transportation and storage, and accommodation and food service activities	4.8	3.4	23.1	17.9	23.1	22.9
Information and communication	10.9	8.0	1.2	1.0	0.6	0.6
Financial, insurance and real estate activities including ownership of dwellings	13.3	8.4	31.3	23.5	12.3	12.8
Professional services and other personal service activities	1.8	0.7	4.5	1.8	11.9	11.4
Public administration, defence, education, human health and social work activities	3.6	4.9	6.5	9.7	8.7	8.7
Equals Gross Value Added (GVA) at Basic Price	4.6	4.2	85.7	86.6	90.6	90.4
Taxes less subsidies on products	7.5	6.2	14.3	13.4	9.4	9.6
Equals Gross Domestic Product (GDP) at Market Price	4.8	4.4	100.0	100.0	100.0	100.0
Net primary income from rest of the world	- 18.1	- 14.0				
Gross National Income at Market Price	4.5	4.1				

(a) The data is based on the base year 2010 GDP estimates of the Department of Census and Statistics.

(b) Revised

(c) Provisional

Source: Department of Census and Statistics

significantly supported by improved remittances contributing positively to national savings. Meanwhile, net primary income from the rest of the world contracted in 2016 albeit at a slower pace compared to the previous year. As a result, national savings grew substantially during the year and it increased as a percentage of GDP compared to 2015. However, the significant increase in investment resulted in a marginal broadening of the savings-investment gap compared to the previous year. Under the income approach, the gross operating surplus continued to be the main component of income generation of the economy while the household sector contributed to the majority of the income as an institutional sector in 2016.

2.2 GDP, GDP Per Capita and Gross National Income (GNI)

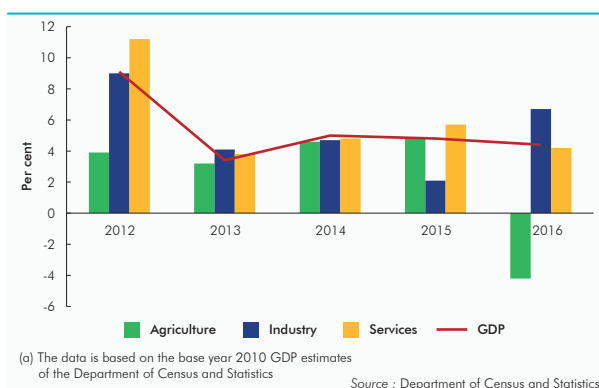
GDP at current market prices was estimated at Rs. 11,839.0 billion (US dollars 81.3 billion) in 2016, while it stood at Rs. 10,951.7 billion (US dollars 80.6 billion) in 2015. Accordingly, GDP in nominal terms grew by 8.1 per cent in 2016 compared to 5.7 per cent growth recorded in 2015. This increase was largely attributable to the upturn in GDP implicit deflator which increased to 3.6 per cent in 2016

from its 0.8 per cent growth in 2015. Meanwhile, the GDP increased at constant market prices to Rs. 9,012.0 billion in 2016 in comparison to Rs. 8,633.9 billion in 2015 recording a 4.4 per cent growth in real terms in 2016 compared to 4.8 per cent growth in 2015.

GDP per capita was estimated at Rs. 558,363 in 2016 compared to Rs. 522,355 recorded in 2015. Accordingly, GDP per capita grew by 6.9 per cent in 2016 in comparison to 4.7 per cent growth posted in 2015 supported by the increase in nominal GDP. However, the per capita GDP in US dollar terms marginally decreased to US dollars 3,835 in 2016 compared to US dollars 3,843 in 2015, mainly attributable to the weakening of the domestic currency against the US dollar.

GNI, which is derived by adjusting GDP for the net primary income from the rest of the world, increased to Rs. 11,506.2 billion in nominal terms in 2016 resulting in a growth of 7.8 per cent compared to 5.4 per cent growth recorded in 2015. This growth in GNI was largely due to the increase in nominal GDP growth and the slowdown in negative growth of net primary income in 2016, which recorded a contraction of 18.3 per cent during the year compared to 19.2 per cent contraction recorded in 2015.

Chart 2.1
Annual Growth Rate (a)



2.3 Contribution from Institutional Sectors

According to the institutional sector classification of economic activities, the Households and Non-Profit Institutions Serving Households (HH and NPISH) sector continued to be the major sector that contributed to the value added of the economy. Accordingly, the HH and NPISH sector accounted for 50.7 per cent of the total gross value added

Table 2.2
Gross Value Added by Institutional Sector at Current Prices (a) (c)

Item	As Percentage of GVA (%)							
	2015 (b)				2016			
	Non-Financial Corporations	Financial Corporations	General Government	Households and Non-Profit Institutions Serving Households	Non-Financial Corporations	Financial Corporations	General Government	Households and Non-Profit Institutions Serving Households
Agriculture	16.9	-	-	83.1	18.6	-	-	81.4
Industries	60.4	-	4.3	35.3	61.1	-	2.2	36.6
Services	23.8	7.0	15.3	53.9	23.9	7.6	15.1	53.4
Gross Value Added at Basic Price	34.0	4.3	10.7	51.0	34.5	4.7	10.1	50.7

(a) The data is based on the base year 2010 GDP estimates of the Department of Census and Statistics.

Source: Department of Census and Statistics

(b) Revised

(c) Provisional

of the economy at current market prices in 2016. Further, the gross value added of HH and NPISH sector grew by 6.2 per cent in nominal terms in 2016 compared to 5.4 per cent growth recorded in 2015. Meanwhile, the Non-Financial Corporations (NFC) sector remained the second largest sector of the economy accounting for a 34.5 per cent share of the total gross value added in 2016. NFC sector value added recorded a substantial growth of 8.3 per cent in 2016 compared to 1.4 per cent growth recorded in 2015. In the meantime, the General Government (GG) sector which represents the contribution from the economic activities of the government grew marginally by 0.2 per cent in 2016 representing 10.1 per cent of the total gross value added of the economy. Moreover, the gross value added of the Financial Corporations (FC) sector represented 4.7 per cent of the economy growing by 17.3 per cent in 2016 compared to 3.5 per cent growth recorded in 2015.

The HH and NPISH sector primarily contributed to the gross value added of Agriculture and Services activities of the economy while Industry activities were mainly driven by the NFC sector. Accordingly, the HH and NPISH sector accounted for 81.4 per cent of the gross value added of Agricultural activities, while NFC sector contributed to the balance 18.6 per cent in 2016. Within

Agriculture activities, the contribution from HH and NPISH sector was significant in fishing, vegetables, spices and rice. Meanwhile, NFC sector contributed mostly to animal production and tea. With respect to Industry activities, the NFC sector accounted for 61.1 per cent of the total gross value added in 2016, while HH and NPISH, and GG sectors represented 36.6 per cent and 2.2 per cent shares, respectively. NFC sector accounted for the highest contribution to the manufacturing activities, followed by HH and NPISH sector, while the contribution of the GG sector was limited to construction activities. Meanwhile, all the four institutional sectors contributed to the gross value added of the Services activities. The HH and NPISH sector being the major contributor, accounted for a 53.4 per cent share, while NFC, GG and FC sectors represented 23.9 per cent, 15.1 per cent and 7.6 per cent of the gross value added of Services activities, respectively. Further, the HH and NPISH sector mainly contributed to transportation and other personal services activities, while the contribution from NFC sector was mainly visible in wholesale and retail trade, and transportation activities. Meanwhile, the FC sector had its major presence in financial and insurance services, whereas the GG sector primarily contributed to the public administration, defence and compulsory social security activities.

2.4 Output, Policies, Institutional Support and Issues

Agriculture

The value added of Agriculture activities contracted by 4.2 per cent in 2016 as opposed to 4.8 per cent growth recorded in 2015.

The adverse weather conditions that prevailed throughout the year, particularly the floods due to heavy rainfalls in the second quarter and the prolonged drought conditions negatively affected Agriculture performance. Accordingly, the value added of rice, tea, rubber and fruits contracted mainly dampening the growth in Agriculture activities while cereals, vegetables, oleaginous fruits, and plant propagation and support activities to agriculture also contracted in value added terms during the year. However, animal production, forestry and logging, fishing, sugar cane and other beverage crops contributed positively to the growth, offsetting the overall contraction in Agriculture activities to a certain extent. The moderation in the agricultural activities was also witnessed in the sub-indices of the Agriculture segment of the Business Outlook Survey (BOS) conducted by the Central Bank on quarterly basis. Accordingly, Business Condition, Demand, Production and Sales sub-indices on average remained below the neutral level.

Agriculture Production Index

The Agriculture Production Index (API), which measures the movement of agriculture and fisheries sector output, recorded an overall decline of 2.4 per cent in 2016 in comparison to an overall growth of 4.4 in 2015. Within API, the sub-indices of paddy, tea, rubber, coconut and other crops (fruits and other field crops sub sectors) decreased, while the vegetables sub sector in the other crop sub index increased in comparison to

Table 2.3
Agriculture Production Index (2007-2010 =100)

Item	2015 (a)	2016 (b)	Growth Rate (%)	
			2014/15 (a)	2015/16 (b)
Agriculture and Fisheries	127.3	124.2	4.4	-2.4
1 Agriculture	121.2	116.9	5.3	-3.5
1.1 Agriculture Crops	117.8	111.9	4.3	-5.0
Paddy	128.9	118.2	4.3	-8.3
Tea	105.5	93.9	-3.3	-11.0
Rubber	66.0	59.0	-32.1	-10.6
Coconut	107.9	106.3	21.6	-1.5
Other Crops	140.7	140.8	12.3	0.1
Vegetables	136.1	141.2	0.7	3.7
Fruits	152.8	145.8	33.4	-4.6
OFC	144.6	138.5	11.6	-4.2
1.2 Livestock	147.2	154.6	11.4	5.0
2 Fisheries	155.9	159.1	1.4	2.1

(a) Revised
(b) Provisional

Source: Central Bank of Sri Lanka

the previous year. Although, the livestock activities increased considerably during the year, the growth decelerated from 2015 as reflected by the API. The growth in fisheries activities remained marginal during 2016, as in the previous year.

Paddy

Paddy production for the year 2016 declined by 8.3 per cent to 4.4 million metric tons following the record bumper harvest in 2015. The net extent of land harvested during the year decreased by 7.1 per cent to 1,010,989 hectares, while the paddy yield decreased to 4,372 kilogramme per hectare in 2016 from 4,428 kilogrammes per hectare in 2015. This is a combined outcome of the increase in 2015/16 Maha production and the decline in 2016 Yala production. Paddy production in the 2015/16 Maha season at 2.9 million metric tons was 0.9 per cent higher than the production in the previous Maha season. The marginal increase in the Maha production can be attributed to the favourable rainfall experienced during the latter part of 2015 along with the increased extent harvested in major producing areas. The extent harvested during the 2015/16 Maha season increased marginally by

1.2 per cent to 667,483 hectares. However, paddy yield per hectare during the 2015/16 Maha season declined slightly by 0.3 per cent to 4,349 kilogrammes, from 4,364 kilogrammes in the corresponding season in the previous year, partly owing to the effect of blights and leaf-roll diseases in certain paddy producing areas. Meanwhile, paddy production during the 2016 Yala season declined considerably by 21.9 per cent to 1.5 million metric tons compared to that of 2015, largely due to the severe tropical storm that caused widespread flooding and landslides during the second quarter of 2016, which delayed paddy cultivation of the Yala season and necessitated re-cultivation in major producing areas. As a result, the extent harvested during the 2016 Yala season decreased significantly by 20.0 per cent to 343,506 hectares. The paddy yield per hectare during the season too declined by 2.4 per cent to 4,417 kilogrammes, from 4,527 kilogrammes in the corresponding Yala season in 2015. The annual paddy production of both the Maha and Yala seasons, which was equivalent to 2.8 million metric tons of rice, was estimated to be adequate to meet the domestic demand for rice for approximately 14 months.

Paddy prices in the open market remained low during the first half of the year, supported by the increased paddy supply and the reduction in the guaranteed paddy purchasing price.

As proposed in the Budget 2016, the guaranteed purchasing price of paddy was reduced with a view to stabilising rice prices in the domestic market. The guaranteed purchasing prices of paddy for Keeri Samba remained unchanged at Rs. 50.00 per kilogramme, while that of Samba varieties were reduced to Rs. 41.00 per kilogramme from Rs. 50.00 per kilogramme and Nadu from Rs. 45.00 per kilogramme to Rs. 38.00 per kilogramme. However, prices of all paddy varieties escalated in most of the paddy producing areas during the latter part of 2016, largely due to the limited supply of paddy to the market, caused by the low production in the 2016 Yala season. In line with the increase in paddy prices, the average retail prices of Samba and Nadu, the most used varieties, increased in 2016 by 1.7 per cent and 2.0 per cent, respectively.

The importation of rice in 2016 witnessed a significant decline in response to the upward revision of taxes on rice imports imposed during 2015 and 2016, and the buildup of rice stocks in 2015 as a result of the bumper harvest. The quantum of rice imports commenced

Table 2.4
Paddy Sector Statistics

Item	Unit	2015 (a)			2016 (b)		
		Maha	Yala	Total	Maha	Yala	Total
Gross Extent Sown	hectares '000	773	481	1,254	756	358	1,114
Gross Extent Harvested	hectares '000	735	476	1,211	743	380	1,123
Net Extent Harvested	hectares '000	659	429	1,088	667	344	1,011
Production	mt '000	2,877	1,942	4,819	2,903	1,517	4,420
	bushels '000	137,882	93,091	230,973	139,114	72,722	211,836
Average Yield (c)	kg/ hectare	4,364	4,527	4,429	4,349	4,417	4,372
Credit Granted	Rs.mn	3,261	2,321	5,582	3,401	2,450	5,851
Rice Imports	mt '000	-	-	286	-	-	30
Paddy Equivalent of Imported Rice	mt '000	-	-	409	-	-	43

(a) Revised

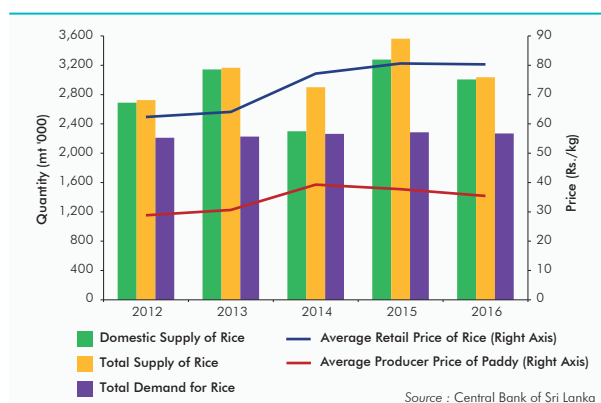
(b) Provisional

(c) Yield per hectare for Maha and Yala are calculated using data from the Department of Census and Statistics, which are based on crop cutting surveys while average yield is calculated by dividing total production by the net extent harvested.

Sources: Department of Census and Statistics
Sri Lanka Customs
Central Bank of Sri Lanka

declining in the second quarter of 2015 in response to an upward adjustment of the Special Commodity Levy (SCL) on rice imports, and this trend continued in the first 10 months of 2016. To curtail rice imports further, a new tax structure was implemented with effect from 01 November 2016, consisting of a customs duty of Rs. 50, Value Added Tax (VAT) of 15.0 per cent, Port and Airport Levy of 7.5 per cent and Nation Building Tax of 2.0 per cent per kilogramme of imported rice. As a result of the increase in the tax imposed over a period, rice imports during 2016 recorded a significant decline of 89.7 per cent to 29,524 metric tons from 285,604 metric tons imported during the previous year. Towards the end of the year however, the shortage in the supply of paddy caused an increase in retail rice prices and the government took measures to stabilise rice prices by augmenting the supply with imported rice. The government reduced taxes on imported rice varieties such as Samba, Nadu and brown raw rice with effect from 09 January 2017 by removing the taxes imposed in November 2016 while introducing a SCL of Rs. 15.00 per kilogramme for imported rice. The government further reduced SCL on imported rice to Rs. 5.00, from Rs. 15.00, with effect from 27 January 2017. These measures were introduced with a view to discouraging traders from creating an artificial shortage in the market.

Chart 2.2
Rice : Supply and Demand



Tea

Tea production in 2016 witnessed a substantial decline due to both supply and demand factors. Total tea production in 2016 declined by 11.0 per cent to 292.6 million kilogrammes from 328.8 million kilogrammes in 2015. Low grown tea production, which accounted for around 63.0 per cent of the total tea production, declined by 9.3 per cent to 183.6 million kilogrammes, whilst high grown and medium grown tea recorded declines of 14.6 per cent and 12.7 per cent, respectively, to 64.4 million kilogrammes and 44.5 million kilogrammes, respectively. Both supply side and demand side factors contributed to this decline. On the supply side, the prolonged drought in tea growing areas during early 2016, the changes in weather patterns with overcast conditions in mid-2016 and the severe drought condition experienced during the third quarter of 2016 had an adverse impact on the production of tea. On the demand side, low global commodity prices and the decline in oil and gas revenues of key tea importing countries adversely affected the demand for tea in 2016. Meanwhile, the tea smallholder sector continued to play a major role, contributing 74.5 per cent to the total tea production of the country in 2016.

The prices of high, medium and low grown teas at the Colombo Tea Auction (CTA) throughout the year were above the corresponding prices recorded in 2015. Accordingly, the average price of tea at the CTA increased by 17.8 per cent to Rs. 473.15 per kilogramme in 2016, from Rs. 401.46 per kilogramme recorded in the previous year. The highest year-on-year increase in average tea prices at CTA was recorded for medium grown tea (17.6 per cent), followed by low grown tea (17.4 per cent) and high grown tea

(16.5 per cent). The average export price (FOB) increased marginally by 0.6 per cent to US dollars 4.39 per kilogramme in 2016 from US dollars 4.37 per kilogramme in 2015. However, local tea exporters benefitted from the depreciation of the Sri Lankan Rupee against the US Dollar by 3.8 per cent during 2016, whereby the export price in rupees registered an increase of 7.9 per cent, from Rs. 593.08 per kilogramme in 2015 to Rs. 639.88 per kilogramme in 2016. The average price received by smallholders for a green leaf increased to Rs. 68.53 per kilogramme in 2016 from Rs. 58.80 per kilogramme in 2015. Even if global market conditions improve, rigidities in the domestic supply and rising costs of production could make it challenging for the domestic tea industry to reap the full benefit of such an improvement in 2017.

Rubber

The decline in production of rubber in 2016 was due to the reduction of both the extent under tapping and the number of tapping days, in response to lower prices mainly in the smallholder sector. Rubber production at 79.1 million kilogrammes in 2016 declined by 10.7 per cent to record the lowest production volume reported in the past 50 years. The production of sheet rubber, which accounts for nearly 50 per cent of the total production, declined by 10.4 per cent to 39.8 million kilogrammes, while the production of crepe increased by 35.1 per cent to 15.0 million kilogrammes and other categories of rubber decreased by 25.6 per cent to 24.6 million kilogrammes in 2016. The extent under tapping has declined over the years as a result of competition for land for more lucrative agricultural crops such as oil palm and for real estate development. The low prices over a considerable period of time has led to the abandonment of tapping in marginal lands, as proceeds could not even cover the cost

of tapping. Although local rubber prices improved during the latter part of the year, production did not respond immediately to improved prices owing to the degraded condition of some rubber lands. However, yield per hectare increased by 3.9 per cent to 851 kilogrammes in 2016, mainly due to the reduction of the extent under tapping in marginal lands. Domestic consumption of rubber in the industrial sector, which has stagnated during the last few years, increased marginally to reach 69 million kilogrammes, accounting for 87.2 per cent of the domestic rubber production. Natural rubber exports declined by 55.8 per cent to 16.2 million kilogrammes and the cost of production of rubber increased by 5.9 per cent to Rs 180.00 per kilogramme in 2016. Prices at the Colombo Rubber Auction decreased during the year, as a result of a slowdown in global demand owing to high inventories in major consuming countries, including China and Japan, and the subdued global prices caused mainly by low international crude oil prices. The average price of Ribbed Smoked Sheet 1 (RSS1) at Rs. 239.28 per kilogramme at the Colombo Rubber Auction in 2016 witnessed a 3.6 per cent decline over the average price recorded in 2015. Meanwhile, the price of latex rubber also decreased by 13.0 per cent to Rs. 262.31 per kilogramme during the year. The average price of natural rubber per kilogramme declined by 30.1 per cent to US dollars 1.6 in 2016 from US dollars 2.2 recorded in 2015. As a result of the decrease in prices, the profit margin available to the producer remained low, making rubber cultivation less attractive.

Coconut

The supply of coconut and coconut products experienced a slowdown during the year. Coconut production in 2016, estimated at 3,011 million nuts, declined by 1.5 per cent over the output recorded last year. The decrease in the coconut production was mainly due to the low rainfall received in main coconut growing areas in

Table 2.5
Trends in Principal Agricultural Crops

Category	Unit	2015 (a)	2016 (b)	Change (%)	
				2014/15 (a)	2015/16 (b)
1. Tea					
1.1 Production (c)	kg mn	328.8	292.6	-2.7	-11.0
1.2 Total Extent	hectares '000	203	203	-	-
1.3 Extent Bearing	hectares '000	195	195	-	-
1.4 Cost of Production (d)	Rs/kg	458.84	469.24	-3.4	2.3
1.5 Average Price					
- Colombo Auction	Rs/kg	401.46	473.15	-12.5	17.9
- Export (FOB)	Rs/kg	593.08	639.88	-8.7	7.9
1.6 Replanting	hectares	1,226	1,044	2.6	-14.8
1.7 New Planting	hectares	495	115	23.4	-76.8
1.8 Value Added as % of GDP (e)		0.8	0.7	-11.1	-12.5
2. Rubber					
2.1 Production	kg mn	88.6	79.1	-10.1	-10.7
2.2 Total Extent	hectares '000	137	136	2.2	-0.7
2.3 Area under Tapping (f)	hectares '000	108	93	-2.7	-13.9
2.4 Cost of Production	Rs/kg	170.00	180.00	6.3	5.9
2.5 Average Price					
- Colombo Auction (RSS 1)	Rs/kg	248.17	239.28	-13.2	-3.6
- Export (FOB)	Rs/kg	342.03	294.33	-5.7	-13.9
2.6 Replanting (f)	hectares	621	591	-70.4	-4.9
2.7 New Planting (f)	hectares	769	592	-46.1	-23.9
2.8 Value Added as % of GDP (e)		0.3	0.3	-	-
3. Coconut					
3.1 Production	nuts mn	3,056	3,011	6.5	-1.5
3.2 Total Extent	hectares '000	455	466	3.2	2.4
3.3 Cost of Production	Rs/nut	16.39	16.70	19.9	1.9
3.4 Average Price					
- Producer Price	Rs/nut	33.88	32.13	7.5	-5.2
- Export (FOB) (g)	Rs/nut	54.54	41.16	39.6	-24.5
3.5 Replanting / Under Planting (h)	hectares	4,919	5,000	-15.1	1.6
3.6 New Planting (i)	hectares	14,408	10,996	-53.2	-23.7
3.7 Value Added as % of GDP (e)		0.8	0.7	-	-12.5

(a) Revised

(b) Provisional

(c) Including green tea

(d) Includes green leaf suppliers' profit margin

(e) In growing and processing only

(f) Extent covered by cultivation assistance schemes of the Rubber Development Department.

(g) Three major coconut kernel products only

(h) Extent covered by cultivation assistance schemes of the Coconut Cultivation Board (CCB).

(i) The extent newly planted is calculated based on the amount of coconut seedlings distributed by CCB at a conversion rate of 158 seedlings for one hectare.

Sources:

Sri Lanka Tea Board

Tea Small Holding Development Authority

Ministry of Plantation Industries

Department of Census and Statistics

Rubber Development Department

Coconut Cultivation Board

Coconut Development Authority

Plantations Companies

Sri Lanka Customs

Central Bank of Sri Lanka

2016. In line with the increased industrial demand, desiccated coconut production, which reported a 17.1 per cent contraction in 2015, rebounded with a growth of 22.3 per cent, recording the highest quantum of desiccated coconut production in the last decade. Meanwhile, coconut oil production decreased by 7.5 per cent, caused mainly by the increased prices of fresh nuts. Desiccated coconut exports of 72,000 metric tons, recorded a significant growth of 56.7 per cent from the previous year.

High domestic prices for coconut, amidst the low production, were partly attributed to the increased demand from coconut based industries and high export prices. In 2016, the average retail price of fresh nuts decreased by 8.3 per cent to Rs. 45.82 per nut. During the year, domestic prices for desiccated coconut decreased by 8.7 per cent, from Rs. 290.65 per kilogramme in 2015 to Rs. 265.27 per kilogramme in 2016. The average FOB price of kernel products declined by 25.4 per cent to Rs. 328.30 per kilogramme, against Rs. 439.94 per kilogramme in the previous year. In the local market, the price of coconut oil increased by 4.3 per cent to Rs. 215.34 per bottle of 750 millilitres. The three kernel product exports, namely, desiccated coconut, copra and coconut oil, increased by 38.5 per cent, with export earnings from these products increasing by 4.5 per cent. Exports of fresh nuts increased by 130.5 per cent, coconut cream increased by 27.1 per cent, coconut milk exports increased by 38.9 per cent while exports of coconut milk powder decreased by 32.5 per cent.

Minor Export Crops

The production of minor export crops recorded a decline due to adverse weather conditions and cyclical seasonal patterns. According to the provisional estimates provided by the Department of Export Agriculture, the production of minor export crops in 2016 contracted by 9.5 per cent, compared to 12.9 per cent growth that was recorded in 2015. The production of cinnamon, cardamom, coffee, cocoa and nutmeg registered a growth in 2016, while the production of pepper, clove and arecanut declined. Production of cinnamon increased considerably by 7.0 per cent to 18,945 metric tons in 2016 from 17,707 metric tons in 2015. Production of cocoa grew by 42.2 per cent to 650 metric tons, nutmeg by

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51.1 per cent to 4,155 metric tons and coffee by 7.0 per cent to 2,824 metric tons. Severely affected by the continuous drought during the flowering and fruiting seasons, the pepper harvest declined by 34.4 per cent in comparison to the previous year. Farm gate prices of pepper increased by 14.3 per cent, reflecting the high demand in 2016. Meanwhile, the significant decline of 65.3 per cent in clove production was mainly due to the cyclical harvesting patterns, which produces a bumper harvest every other year. The export volumes of cloves and pepper declined significantly by 71.2 per cent and 52.7 per cent, respectively, in 2016. Cashew kernel production increased by 4.9 per cent to 3,192 metric tons and the extent cultivated increased by 7.6 per cent to 20,102 hectares in 2016. The increase in production was achieved amidst the unexpected heavy rainfall experienced during the flowering and fruiting season in cashew growing areas. Despite the increase in production, the farm gate prices of cashew increased by 5.3 per cent during the year.

Other Field Crops

The production of other field crops (OFCs) observed a decline due to the impact of adverse weather conditions during the year. The production of OFC declined by 6.4 per cent to 339,253 metric tons in 2016 from 362,452 metric tons in 2015. The production of finger millet (kurakkan), maize, green gram, soya beans, black gram, chilli, potatoes, big onion and ground nuts declined in 2016 mainly due to the drop in the extent under cultivation. Meanwhile, the production of sorghum, cowpea, gingelly and red onions increased in 2016, in comparison to 2015, largely due to the higher production in Jaffna and Puttalam districts. Notably, the output of big onions declined by 26.7 per cent to 65,223 metric tons during the year, and consequently, imports of big onions

increased by 2.5 per cent to 215,593 metric tons supported by low international prices. Although the production of potatoes decreased by 1.6 per cent to 95,805 metric tons in 2016, the importation of potatoes increased by 4.2 per cent. The production of raw ginger and turmeric also rose due to an increase in the extent cultivated with the support extended by the Ministry of Agriculture. According to provisional estimates of the Department of Census and Statistics, the total extent of land used for the cultivation of OFCs in 2016 declined by 4.6 per cent to 144,892 hectares, owing to adverse weather conditions.

Vegetables

Supply of vegetables continued to increase in 2016. Total vegetable production increased marginally by 1.3 per cent to 1,648,501 metric tons in 2016, compared to 1,627,592 metric tons in 2015. Although this was mainly due to the impact of the increase in vegetable production in 2016 Yala season by 10.4 per cent over the corresponding period in 2015, the 4.9 per cent decline in the 2015/16 Maha production, as a result of the prolonged dry weather conditions in the first four months of the year, reflected the marginal increase observed during the year. The increased production during 2016 Yala season is mainly due to the increase in the extent of land used for vegetable cultivation, following the failing of paddy cultivation in the Yala season, due to the drought that prevailed during the end of 2016. Responding to the reduced vegetable supply in the Maha season, both up-country and low-country vegetable prices increased in May 2016. In addition, crop damages and interruptions of supplies caused by the heavy rain and flood in May 2016 further aggravated the level of vegetable prices. Meanwhile, vegetable cultivation in the intermediate season also declined due to weather related setbacks. Nevertheless,

the supply of vegetables increased considerably in the Yala harvesting period, resulting in prices decreasing from August onwards. Further, the significant improvement of vegetable supply from the Northern Province, as a result of increased extent under cultivation, helped reduce price pressures in the vegetable market throughout the year. Towards the end of the year, however, following the seasonal pattern, vegetable prices increased again. During 2016, 21.1 million kilogrammes of vegetables with a value of Rs. 3.9 billion were exported. To protect farmers and consumers, strong policy measures are necessary to educate farmers on Good Agricultural Practices (GAP) at the nurseries, and popularise improved technologies on crop cultivation and processing, which can help increase the productivity of the sector.

Fruits

Fruit production continued to decline in 2016 although it was in high demand by exporters. Fruit production declined further by 6.0 per cent in 2016 following the 15.6 per cent decline observed in the previous year. Variety wise, orange, lime, mango, avocado and passion fruit production increased during the year, while banana, papaw, pineapple, rambutan, guava and melon registered a decline. Sri Lanka imported 54,107 metric tons of fresh fruits, incurring a cost of Rs. 7.3 billion during 2016. This was an increase of 19.8 per cent over the quantity imported in 2015. As in the preceding year, apples, oranges, mandarins and grapes were the main varieties of fresh fruit imported. Meanwhile, Sri Lanka exported 33,300 metric tons of fresh fruits worth Rs. 5.0 billion during 2016, resulting in a trade deficit of Rs. 2.3 billion in 2016. Even though there is a good export demand for local fruits and vegetables, the inability to supply large quantities on a continuous basis is a major constraint. Establishing direct links

between producers and exporters, and further development of the contract farming system are important to improve the fruit and vegetable export market.

Sugar

Sugar production recorded a considerable increase in production during 2016. Sugar production that rose remarkably to 55,972 metric tons in 2015, recorded a further increase of 10.9 per cent to 62,048 metric tons in 2016. Cultivation of high yielding sugar cane varieties, access to proper irrigation systems and field maintenance, and the expansion in planting activities of out-growers were the main contributory factors to the increased production in 2016. The Pelwatte and the Sevanagala factories contributed to this improvement in production, amidst the negative performance of the Gal Oya factory. The Pelwatte factory reported a 23.8 per cent increase in production, to 34,188 metric tons in 2016. The Pelwatte factory, which accounted for 49.3 per cent of the total sugar production in 2015, consolidated its position further during the year by increasing its share to 55.1 per cent. The Sevanagala factory recorded a 19.9 per cent increase in production to 17,234 metric tons in 2016. Meanwhile, for the second consecutive year, the production of the Gal Oya factory declined by 24.0 per cent to 10,626 metric tons in 2016. Reduced availability and the poor quality of sugar cane, resulting mainly from adverse weather conditions, appeared to have contributed to the poor production performance at the Gal Oya. Given these developments, the Sugar Recovery Rate,¹ which is an indicator of productivity, marginally increased to 7.6 per cent in 2016, from 7.5 per cent in the previous year. It is estimated that the overall domestic sugar production in 2016 was sufficient to meet around

¹ Sugar Recovery Rate = $\frac{\text{Sugar Produced}}{\text{Quantity of Cane Crushed}} \times 100$

9.5 per cent of the total sugar requirement of the country. The increased demand, along with the low SCL on sugar imports, led to an increase in sugar imports by 4.4 per cent to 651,181 metric tons. Recognising the vast potential as well as the need for the promotion of sugar cultivation of out-growers, the Pelwatte and the Sevanagala factories accorded high priority to the expansion of the existing out-grower schemes.

Fisheries

The fisheries sector expanded moderately in 2016. Fish production in 2016 increased by 2.1 per cent over 2015 to 530,920 metric tons. The marine sector production, consisting of coastal and off shore sub sectors, which accounted for 86.0 per cent of total fish production, increased by 0.9 per cent to 456,990 metric tons. The production of coastal fish marginally increased by 1.9 per cent to 274,160 metric tons, while the off shore fish production recorded a 0.6 per cent decline to 182,830 metric tons. Fish production of the inland fishery and aquaculture sector, which accounts for the balance 14.0 per cent of the total production, increased significantly by 9.9 per cent compared to 2015. Growth in the inland fishery and aquaculture sectors was due to the increase in the release of fingerlings to inland reservoirs as well as improvements in the aquaculture sector. Total fish imports decreased by 3.6 per cent to 115,693 metric tons, while dried or salted fish imports increased by 5.8 per cent to 34,978 metric tons during the year. Meanwhile, canned fish imports decreased considerably by 24.3 per cent to 37,089 metric tons. With the lifting of the European Union (EU) ban on Sri Lankan sea food exports, with effect from 21 June 2016, the demand from the EU for Sri Lankan fish varieties expanded. Accordingly, fish exports to the EU increased significantly by 23.1 per cent to 2,540 metric tons in 2016. Going forward, addressing the large scale post-

Table 2.6
Fish Production

Sub-Sector	2015	2016 (a)	Change (%)	
			2014/15	2015/16(a)
Marine	453	457	-1.4	0.9
Coastal and Lagoon	269	274	-3.5	1.9
Off-shore	184	183	1.9	-0.6
Inland Fisheries	67	74	-11.2	9.9
Capture	57	58	-17.1	2.4
Aquaculture	3	9	77.0	201.3
Shrimp Farms	7	6	37.7	-15.0
Total	520	531	-2.8	2.1
(a) Provisional			Source: Ministry of Fisheries and Aquatic Resources Development	

harvest losses in the fisheries sector due to poor handling, estimated at around 25 per cent of the catch, is vital in harnessing the full potential of the industry.

Livestock

The total national milk production continued to expand, with a growth of 2.6 per cent to 384 million litres in 2016, mainly due to government efforts to achieve self-sufficiency in milk. The increase in production can be attributed to a range of factors, from the commencement of milking from imported heifers at the Ridiyagama farm, farmers receiving attractive prices for raw milk and growing demand for raw milk from large milk collectors with increased capacity at milk factories. Cattle milk production, which accounted for 82.8 per cent of total milk production, increased by 4.1 per cent, year-on-year, to 317.9 million litres, whilst buffalo milk production decreased by 4.2 per cent to 66.1 million litres. The domestic milk production is sufficient to meet 42.0 per cent of the total demand at present. Meanwhile, milking cows decreased by 5.6 per cent to 284,400 and the number of buffalo milking cows decreased by 9.2 per cent to 83,150. Until 2015, the cattle population had been given as an estimate. In 2016, a headcount was conducted with the participation of Livestock Development Instructors attached to the Department of Animal Production and Health, which listed the cattle population by collecting data from the smallest service delivery units across the country. As a result of this headcount, the cattle

population figures for 2016 reflect the actual number of cattle in Sri Lanka and the percentage change in the herd number reflects the reconciliation of the earlier estimated figure with the current headcount. Milk production at the National Livestock Development Board (NLDB) increased to 17.9 million litres in 2016 from 11.0 million litres, while MILCO (Pvt) Ltd. increased its milk collection by 9.4 per cent to 70.0 million litres. The modernisation of factories managed by MILCO (Pvt) Ltd. located in Polonnaruwa and Digana, with a view to increasing the processing capacity, was completed and the Ambewela factory will be completed by the end of the first quarter of 2017. The national average cost of the production of milk reduced by Rs. 2.67 per litre to Rs. 31.99 per litre due to the price reduction of coconut poonac compared to 2015, while the average farm gate price increased by Rs. 5.00 per litre to Rs. 64.00 per litre, leading to higher earnings for farmers. Despite increased production, milk powder imports valued at Rs. 33.6 billion in 2016 increased by 15.0 per cent to 94,011 metric tons. The government continued to pay attention towards upgrading the quality of cattle in the country by implementing numerous programmes such as the heifer calf rearing project, which registered 16,577 calves in 2016. These measures can lower the amount of milk powder imported and enhance the quality of milk produced in local dairy farms to meet international standards.

Table 2.7
Livestock Sector Statistics

Sub-Sector	2015 (a)	2016 (b)	Change (%)	
			2014/15(a)	2015/16(b)
1. National Herd (No.) (million)	1.4	1.2	-8.9	-14.1
Neat Cattle	1.1	0.9	-6.9	-13.1
Buffalo	0.3	0.3	-15.1	-17.4
2. National Milk Production (million litres)	374.4	384.0	13.7	2.6
Cow Milk	305.4	317.9	15.2	4.1
Buffalo Milk	69.1	66.1	7.9	-4.2
3. Milk Products (million litres) (c)	33.5	36.9	14.0	10.1
4. Producer Price - Cow Milk (Rs./litre)	58.91	64.03	-1.7	8.7
5. National Egg Production (No.) (million)	1,898.9	2,059.7	16.0	8.5
6. National Poultry Meat Production (mt '000)	164.5	173.8	13.8	5.7

(a) Revised
(b) Provisional
(c) Includes Products of National Livestock Development Board and MILCO (Pvt) Ltd only.

Sources: Ministry of Rural Economic Affairs
Department of Census and Statistics
National Livestock Development Board
MILCO (Pvt) Ltd.

The poultry sector continued its growth momentum in 2016. According to provisional estimates of the Department of Animal Production and Health, chicken production recorded a growth of 5.7 per cent to 173,830 metric tons. Increased chicken production was mainly driven by the increase in imports of broiler parents and layer parents by 88.7 per cent and 107.7 per cent, respectively. However, the cost of production of chicken increased to Rs. 306.74 per kilogramme of dressed weight in 2016, from Rs. 291.16 per kilogramme in 2015. In spite of the increased production, prices of chicken increased in 2016, with the average price of fresh chicken at Rs. 538.56 per kilogramme in comparison to Rs. 507.90 per kilogramme in the previous year. The ceiling price imposed for broiler chicken which was Rs. 420.00 per kilogramme was removed with effect from 14 March 2017. Meanwhile, egg production increased by 8.5 per cent to 2.0 billion, whereas the average cost of production of eggs increased from Rs. 10.07 to Rs. 12.41. The average price of an egg increased to Rs. 16.10 in 2016 from Rs. 14.80 in 2015. The production of pork and mutton increased by 1.4 per cent and 3.7 per cent to 7,280 metric tons and 1,400 metric tons, respectively, while beef production declined by 2.0 per cent to 31,540 metric tons. The cost of production of pork was Rs. 264.58 per kilogramme, while that of mutton and beef was Rs. 281.15 per kilogramme and Rs. 357.37 per kilogramme, respectively. The average prices of pork increased by 8.2 per cent, mutton by 12.2 per cent and beef by 18.5 per cent.

Forestry

The forest cover of Sri Lanka is 1,951,472 hectares according to the Forest Cover Estimation Survey conducted by the Forest Department. This survey however, is conducted once in every ten years and as a result the latest information available is from the last survey conducted in 2010. Due to illegal logging,

settlements and chena cultivation, the extent of natural forest cover has deteriorated over time. Hence, a methodical survey needs to be conducted at higher frequencies, making use of the latest technologies available to assess the changes in the forest cover of the country in a timely manner. During the year, the extent deforested for timber extraction was 781 hectares, compared to 423 hectares in 2015, and the extent reforested under hilltop planting, enrichment planting and buffer zone planting was 100 hectares. The United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD) continued to function in Sri Lanka during 2016 and supported the development of a national strategy for REDD++² implementation, the designing of National Forest Inventory for Sri Lanka, the development of a National Forest Monitoring System and submission of a National Forest Reference Level (FRL) to the United Nations Framework Convention on Climate Change (UNFCCC). The Sri Lanka Community Forestry programme, which is being implemented since 2012, continued in 2016 by providing training on skill development and providing material support to establish micro enterprises. Under the forest enhancement programme that commenced in 2014 with a view to increase the forest cover of the country up to 32.0 per cent of the land area by 2019, from 29.7 in 2016, the Forest Department carried out activities aimed at the rehabilitation of degraded forests and protection of existing forests during 2016. Meanwhile, under the private sector reforestation programme, the extent of commercial scale private forest plantations was 413 hectares in 2016.

² REDD++ is the programme on Reducing Emissions from Deforestation and Forest Degradation (REDD) and all transitions in land cover that affect carbon storage, whether peatland or mineral soil, trees outside forest, agro forest, plantations or natural forest.

Agriculture Policies and Institutional Support

The government Food Production National Programme (FPNP) for the period 2016 – 2018 focuses on several targets. These include targets to make the country self sufficient in maize, soya beans, chilies, onions, and potatoes by 2018 through crop diversification and productivity improvements, while facilitating the movement of subsistence farming into agri-business by 2020. Further, the FPNP focuses on achieving food security, ensuring higher and more sustainable income and remunerative prices for farmers, uninterrupted access to competitive markets, both in Sri Lanka and abroad. In addition, the FPNP also aims at introducing farm mechanisation, expanding the extent under cultivation, reducing wastage in transit and ensuring environmental conservation, introducing efficient farm management techniques and using high yielding seeds and improved water management. Accordingly, since 2016, the Ministry of Agriculture instigated the home gardening promotion programme under FPNP, aimed at developing 500,000 home gardens. This programme will be helpful not only to fulfil the food and nutrition requirement of a household, but also to augment the overall food production of the country. While the government has taken steps to improve food security and ensure environment sustainability in relation to the agricultural sector, the country needs to adopt a comprehensive approach towards increasing productivity of all food categories instead of merely concentrating on achieving food security.

The government introduced several measures to enhance paddy production and stabilise paddy prices. To mitigate health and environmental issues such as water pollution due to the excessive use of fertilizer, the government initiated a National Programme named "A Wholesome Agriculture - A Healthy Populace - A Toxin Free Nation", with

Table 2.8
Food Balance Sheet with Regards to Major Food Commodities

Item	Unit	2010			2015			2016 (a)		
		Production	Imports	Per Capita Availability (kg per Year)	Production	Imports	Per Capita Availability (kg per Year)	Production	Imports	Per Capita Availability (kg per Year)
Rice (b)	mt'000	3,011	126	152	3,373	286	175	3,094	30	147
Maize	mt'000	162	16	9	261	79	16	244	51	14
Wheat	mt'000	-	1,051	51	-	1,208	58	-	948	46
Big Onion	mt'000	59	158	10	89	210	14	65	216	13
Sugar	mt'000	31	548	28	56	624	32	62	651	34
Potatoes	mt'000	52	130	9	97	142	11	96	148	12
Fresh Fish	mt'000	385	14	19	520	34	26	531	39	27
Cow Milk	mn litres	192	-	9	305	-	15	318	-	15
Coconut Oil	mt'000	65	3	3	53	6	3	49	3	2

(a) Provisional

(b) 1 mt of paddy = 0.7 mt of rice

Sources: Department of Census and Statistics
Sri Lanka Customs

the intention of preventing the use of highly toxic agrochemicals in the farming sector. The three year programme will focus on increasing the use of traditional varieties of rice (30.0 per cent over 3 years through 2016 - 2019), phase out chemical fertiliser and pesticide usage, and promote organic agriculture. The Paddy Marketing Board (PMB) purchased a stock of 131,981 metric tons of paddy from the 2015/16 Maha harvest, in comparison to 160,000 metric tons in the 2014/15 Maha season and was able to purchase only 25,447 metric tons of paddy from the market in the 2016 Yala season, compared to 175,270 metric tons purchased in the 2015 Yala season. The purchased amount in the 2016 Yala season was equivalent to 21.2 per cent of the targeted volume. This was in addition to the reduced harvest and the result of the private sector paddy millers speculatively purchasing paddy from farmers at higher prices. It is necessary to rationalise the paddy purchasing programme by purchasing and releasing paddy stocks at the correct time. This will benefit all the stakeholders; farmers, consumers as well as the PMB. Meanwhile, the Rice Research and Development Institute (RRDI) developed several new hybrid short-duration rice varieties with drought resistant and flood proof modifications, which produce 20.0 per cent more potential yield levels. The RRDI also introduced an

improved method (parachute method) for sowing paddy, which significantly reduces the requirement of seed paddy as well as labour costs.

The Sri Lanka Tea Board (SLTB), Tea Research Institute (TRI) and Tea Small Holdings Development Authority (TSHDA) continued their development activities with a focus on improving productivity, competitiveness and technological enhancement, while promoting the adoption of best practices for the development of the tea sector in 2016. The SLTB took strategic marketing action to promote generic tea under the brand of "Pure Ceylon Tea packed in Sri Lanka" across the tea markets and attended international trade fairs and exhibitions. The SLTB also undertook the task of evaluating and implementing Good Manufacturing Practices (GMP) standards at tea factories and warehouses and a GMP assessment was carried out for upgrading tea factories. The "B Leaf 60" programme carried out by SLTB with the aim of upgrading the average best leaf standard from 33.0 per cent to 60.0 per cent, to minimise post-harvest losses, continued to be implemented through awareness programmes, regulatory activities and monitoring quality. In order to reduce the risk of safety hazards in food, factories continued to obtain the Hazard Analysis and Critical Control Point (HACCP)

Certification and during the year 2016, 40 factories obtained the HACCP Certification. The subsidy scheme under the tea factory modernisation granted a total of Rs. 26.1 million to 21 factories. The TRI, as the national institute for generating and disseminating new technologies related to tea cultivation and processing, undertook research and development strategies, and extension activities as per the TRI Strategic Plan 2013 – 2017, to address the present needs of the tea industry. New tea cultivars such as TRI 5000 series with higher tolerance to stresses such as climate change, blister blight and more adaptive to all major tea growing regions were developed under crop improvement. An integrated approach was adopted towards soil fertility management by validating the soil quality index, which will facilitate the decision making process of soil rehabilitation practice in replanting lands. Integrated crop management and protection approaches were introduced to minimise damage and address health, safety and environmental issues. Mechanical harvesters and devices were introduced among tea small holders to increase labour productivity and ensure industry sustainability. Sustainable farming systems with organically cultivated experimental blocks continued. The TSHDA implemented the Tea New Planting and Crop Rehabilitation Subsidy Programme and the Tea Replanting Subsidy Programme in collaboration with SLTB. Throughout the year 2016, 108 hectares were newly planted at a cost of Rs. 48.3 million, while around 741 hectares were replanted at a cost of Rs. 484 million under the above subsidy schemes. The TSHDA implemented the National Fertiliser Subsidy Scheme where Rs. 15,000.00 per hectare was given for tea smallholders who owned between less than one hectare and over 20 perches of land cultivated for tea. In 2016, 204,554 beneficiaries received the subsidy, amounting to Rs. 1.3 billion for 83,864 hectares of tea cultivated land.

The Rubber Development Department (RDD) and the Rubber Research Institute (RRI) steered the development strategy for the rubber sector to improve productivity and explore new ventures to increase the local production of rubber and mitigate the effect of volatile prices for rubber in the global market. The main strategic plan of RDD was focused on increasing the national rubber production up to 200,000 metric tons by year 2020, from 79,100 metric tons as of now. Productivity improvements and the expansion of rubber cultivation to non-traditional areas are the main strategies implemented in 2016 to move towards the target. The subsidy scheme for rubber replanting and new planting for smallholders continued in 2016 as well, disbursing around Rs. 193.0 million for the replanting of 538.0 hectares and Rs. 179.9 million for new planting of 592.5 hectares, during the year. Ampara, Mullaitivu and Vavuniya districts have been identified with the intention of expanding rubber cultivation into non-traditional areas. During the year, 212.6 hectares in the Ampara district were newly planted. The RDD implemented the Rubber Fertiliser Subsidy Programme since May 2016 and disbursed Rs. 91.1 million over 38,472 beneficiaries. An expert group has been set up by the Association of Natural Rubber Producing Countries (ANRPC) to develop recommendations on stabilising global rubber prices. The RRI expanded its research and development efforts for the benefit of the rubber industry in 2016. Major decisions taken by RRI to support the rubber sector in the midst of declining rubber prices included, promoting value addition in raw rubber, promoting methodologies to reduce the cost of production in raw rubber such as low intensity harvesting, promoting intercropping systems for increased income and improved growth of rubber, and promoting rubber cultivation in participatory forestry programmes.

Major research highlights of the year included, identifying a suitable slow release fertiliser for rubber nursery plants, to reduce overall fertiliser application, promoting soil fertility management in rubber cultivations with the combined use of bio fertiliser with inorganic fertiliser for long term sustainable yields, popularising new high yielding clones in the smallholder sector, identifying disease resistant rubber clones to avoid sudden disease outbreaks and promoting environmental friendly agro management practices. Rubber smallholders, united through “Thurusaviya” societies, were trained on improving their knowledge on producing high quality rubber sheets, and machines and equipment were distributed among them as per the standards specified by the RRI, with the expectation of obtaining high quality rubber sheets.

The Coconut Cultivation Board (CCB), the Coconut Research Institute (CRI) and the Coconut Development Authority (CDA) focused on improving the productivity of coconut palm and coconut land, expanding coconut cultivation and engaging in research and development activities to produce disease resistant seedlings and promote coconut exports in various forms. During 2016, CCB implemented strategies to increase coconut production, coconut land area and coconut land productivity. Subsidy schemes were initiated to increase the productivity of coconut palm through providing fertiliser for coconut plantations, establish husk pits and soil conservation, implement low cost hose irrigation, moisture conservation and inter-cropping. The CRI monitored the developments in the sector together with CDA and CCB, and provided policy recommendations, including the promotion of fresh nut exports, the regularisation of CDA Auction and the increasing of tariffs on imported edible oils. The CRI continued to

maintain the buffer zone of the Weligama Coconut Leaf Wilt Disease (WCLWD) and acquired land from CCB to commence a seed garden in the Weligama area, to produce seedlings resistant to WCLWD. The “Kapruka” programme was strengthened to organise coconut smallholders as community based organisations to engage them in extension programmes, pest and disease control programmes and establish coconut cultivation models to demonstrate inter cropping and promote animal husbandry in coconut cultivations to increase land productivity. Approval has also been granted to establish two new factories engaged in desiccated coconut production. Coconut fibre millers and processors were encouraged to obtain GMP Certifications and new market opportunities were explored in 2016 to make the coconut industry more profitable and attractive.

Although commercial sugar production in Sri Lanka commenced several decades ago, the industry is still plagued with several structural problems. Given that Sri Lanka has not been able to create an enabling environment for the sugar industry, it is essential to create a favourable legal, institutional and regulatory framework for the development of the industry. Low sugarcane availability and yields, high cost of production, weather related disturbances, poor recovery rates and labour problems have adversely impacted the industry. Considering these issues, the government initiated a programme for Scientific Cooperation between the Sugarcane Research Institute, Sri Lanka and Vasantdada Sugar Institute, India, to develop sugarcane cultivation and processing. Meanwhile, in 2016, the Sugarcane Research Institute identified five new varieties of sugarcane for commercial testing. Arrangements have been made by the government to re-establish the Kantale Sugar Factory as a public-private partnership (PPP). As proposed in the Budget 2017, on 01 January 2017, a minimum purchasing price

of Rs. 5,000.00 per metric ton of sugarcane was imposed to encourage local farmers to cultivate sugarcane, and to establish a Sugar Stabilisation Fund to protect the sugarcane farmers from the adverse impact that may arise from fluctuations in price and loss of crop, due to attacks of pests and wild elephants.

During the year, institutions under the Department of Agriculture (DOA) continued to conduct programmes in line with the government policy to improve the domestic agricultural sector in the country. The Rice Research Institute introduced three new high yielding rice varieties namely, BG 252, LD 253, and BG 374, with realisable yield potential of 4.5 – 5.0 metric tons per hectare, which are more resistant to pests and diseases. Since chemical control is costly and pollutes the environment, developing resistant varieties for pests and diseases is the best option as it is environmentally friendly and cost efficient. In the OFC sector, the releases of a new maize variety, MI Maize Hybrid 02 with an average yield around 5.5 - 6.5 metric tons per hectare and a new green gram (mung) variety, MI 7, of which over 80.0 per cent of the yield can be obtained from the first harvest, were the significant improvements reported in the year. Further, seed paddy production programmes under DOA also showed a significant improvement in 2016. Accordingly, 3,863 metric tons of registered and certified seed paddy, 855.6 metric tons of registered, certified and commercial seeds of other field crops and 9.8 metric tons of standard vegetable seeds were produced in government seed farms, under DOA and under contract growing.

The government invested heavily on expanding irrigation facilities in recent times. In 2016, the Moragahakanda reservoir, which is the largest multi-functional irrigation project and the last

project of the five great reservoirs in the Mahaweli Master Plan, was completed. The Moragahakanda reservoir, which spreads over 460,000 acres, is the fourth largest reservoir in Sri Lanka. The sluice gates of the Moragahakanda reservoir closed in January 2017, enabling the filling up of the reservoir for the first time. Meanwhile, the Kalu Ganga reservoir was constructed as a twin project with the Moragahakanda reservoir and water was brought to Moragahakanda through a canal that spans nine kilometres. The objective of the overall project is to collect water at the basin of the Amban River and to distribute that water to Matale, Anuradhapura, Polonnaruwa and Trincomalee districts for agricultural needs. In addition, the project will add 25 megawatts of electricity to the national grid. Meanwhile, Budget 2017 proposed to develop several irrigation schemes. Accordingly, Rs. 600 million was allocated to merge two existing tanks “Kithul” and “Rugam”, and create a bigger reservoir for irrigation and flood mitigation in the Batticaloa district for the Kumbukkan Oya Reservoir Project, which is a multi-purpose project in the district of Monaragala, and to rehabilitate the Tharapuram Tank in the Mannar district. Further, Rs. 1 billion for the Yan Oya Project and Rs. 300 million for the Lower Malwathu Oya Irrigation Project were allocated during the year. Rs. 200 million was allocated to expand the Dam Safety and Water Resource Planning Project (DSWRP) to establish an automated monitoring system to collect real-time data from farming fields, to facilitate the monitoring of the impact of agrochemicals on water quality and quantity, with external pressures, in an area covering eight districts.

The Department of Animal Production and Health (DAPH) implemented several programmes in line with the government policy framework for the development of the

dairy sector based on the Livestock Sector Master Plan. Although the local milk production is still unable to meet the domestic demand in full, several measures have been taken to increase the domestic milk production through upgrading the cattle, buffalo and goat population by improving the artificial insemination centres, progeny testing of bull calves for natural breeding programmes and pasture development. The Heifer Calf Rearing Project, wherein support is given to farmers to feed and manage artificially born female heifer calves continued in 2016 as well. Institutional support for livestock development was strengthened by the Field Veterinary Service Improvement Programme, establishing four new veterinary offices in Arachchikattuwa in the Puttalam district, Welioya in the Mullaitivu district, Nachchaduwa in the Anuradhapura district and Soranatota in the Badulla district. The government encouraged the establishment of Dairy Development Zones to support backward integration in selected districts through PPPs, especially on idle or underutilised land of the National Livestock Development Board (NLDB). Assistance is to be provided to self-employed farmers through a gap financing scheme, by giving ten cattle each, from imported milk producing cattle breeds to increase the supply of liquid milk within the country. The decision to regulate the price of a packet of 400g of milk powder at Rs. 295, in spite of the increase in international prices, continued to help both the local milk producers and the consumers. The government also proposed to allow millers to import maize, which is a key ingredient in producing poultry feed, whenever there is a shortage of domestic production of maize, subject to a payment of Cess which is to be reimbursed as a rebate on the export of chicken. Also the private sector investors were encouraged to invest in out-grower systems and provide extension services to improve productivity.

As a result of the measures taken by the government on restricting illegal, unreported and unregulated fishing activities, the ban imposed against Sri Lanka by the EU prohibiting fish exports to the EU countries, over a period of one and half years commencing from January 2015, was lifted with effect from 17 June 2016.

The ban on fisheries product exports came into effect due to Sri Lanka's failure to address the shortcomings in the implementation of control measures, a lack of deterrent sanctions on the high seas fleet, as well as the failure to comply with international and regional fisheries rules. Although, the fishing industry is highly capital intensive, the inflow of capital is not at a desired level, and considering this deficiency, the Ministry of Fisheries and Aquatic Resources Development continued to provide various subsidies to the fishing industry to support the modernisation of the fishing fleet and fishing gear. Under the producer subsidy schemes, 13,150 fishing gear units and 664 traditional craft were issued in 2016 when compared to 990 fishing gear units and 253 traditional craft in 2015. Recognising the issue of the lack of large fishing vessels, the government decided to provide a 50.0 per cent grant for manufacturers of boats longer than 55 feet, enabling fishermen to catch better quality fish, which attract high prices in the international market. The Budget 2017 also proposed several measures to uplift the fisheries sector. Accordingly, to encourage the introduction of new technology to multi day boats, with the aim of improving operational efficiency and reducing post-harvest losses, Rs. 100 million was allocated to develop the Gandara fishery harbour and anchorage. Further, it was proposed to allocate Rs. 1,200 million to improve the fishery villages focusing on housing and livelihood development in 10 coastal districts, including Hambantota, Batticaloa and Jaffna and also lagoon and coastal

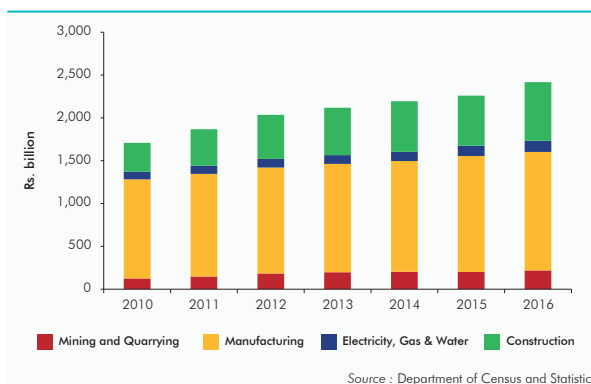
areas of the country. Identifying the potential to increase export proceeds through the export of value added products, Rs. 500 million had been allocated to establish an Aquaculture Industry Zone in the Mannar district. Rs. 300 million had been allocated to establish 100 Integrated Inland Fishery Villages under the “Wewak Sahitha Gamak” programme with the view of developing the inland fishery industry, addressing the nutritional deficiencies, and promoting of industries and creation of employment. Under the “Diyawara Diriya” loan scheme Stage II, which is operated by Ministry of Fisheries and Aquatic Resources Development together with the Bank of Ceylon, Rs. 42.2 million were released to 62 applicants in 2016. Having identified the potential for developing the inland fisheries and aquaculture sector, 39.6 million post larvae of fresh water prawn were produced at Natation Aquaculture Development Authority (NAQDA) hatcheries and the private hatcheries in 2016. Meanwhile, 38.0 million fresh water prawn post larvae and 64.3 million fingerlings were stocked in water bodies. The NAQDA implemented several programmes under the Food Production National Programme (2016-2018), with the objective of increasing local fish products both in quality and quantity. Various activities were implemented during the last few years to rehabilitate the shrimp farming industry, which was devastated by the White Spot disease. Accordingly, regulating shrimp hatcheries and screening of post larvae of shrimp and brood stock were continued. In addition, services are being provided at the Shrimp Farm Monitoring and Extension Unit at Battuluoya for shrimp farmers to detect shrimp diseases. A shrimp hatchery has been established at Batticaloa in order to support shrimp farming in the Eastern Province and this shrimp farm is managed as a public private partnership (PPP). The NAQDA facilitated sea weed farming in Jaffna, Kilinochchi and Mannar and Sea cucumber fattening in Thewanpitti, Mannar South

Bay, Ambupuram, Valaipadu and Nachchikuda by the private sector. A leading private sector company commenced commercial scale sea weed farming, with the participation of around 1,000 farmers in the Northern Province. Under a MOU signed between the NAQDA and Vietnam, expertise was provided to breed sea cucumber in a private hatchery, and in 2016, 435,000 sea cucumber juveniles were produced and 61.4 metric tons were harvested.

Industries

The value added of Industry activities recorded a significant growth of 6.7 per cent in 2016 in comparison to 2.1 per cent growth recorded in 2015. The Industry activities which comprise construction, mining and quarrying, manufacturing, electricity, water and waste treatment activities positively contributed to the overall growth. Construction, and mining and quarrying activities grew significantly during the year recovering from the contractions recorded in 2015. Moreover, manufacturing activities also grew positively in 2016. Further, electricity, water and waste treatment activities continued to register a positive growth. Meanwhile, the BOS sub-indices related to the Industry segment largely remained in the positive territory during the year.

Chart 2.3
Gross Value Addition in Industries (2010 Constant Prices)



Mining and Quarrying

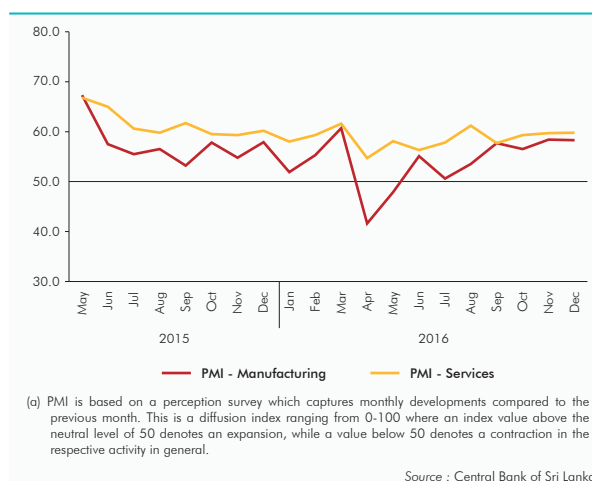
Mining and quarrying activities grew by 14.4 per cent in 2016 in value added terms recovering from 5.2 per cent contraction recorded in 2015.

The significant recovery in construction activities stimulated the expansion in mining and quarrying activities. Further, this recovery was reflected in the mineral exports volume index which increased by 7.9 per cent in 2016 recovering from 48.1 per cent contraction in 2015. Moreover, gem exports increased by 8.4 per cent in quantity during the year against 17.1 per cent decline in 2015. The production of rutile and zircon expanded during the year, while that of ilmenite contracted. On the other hand, phosphate production contracted during the year mainly driven by the low demand for fertiliser manufacturing.

Manufacturing

The value added of manufacturing activities grew at a slower pace by 1.7 per cent in 2016 compared to 4.9 per cent growth in 2015. This slowdown was mainly attributable to the contraction in the manufacture of food, beverages and tobacco products, the major manufacturing category, which contracted by 2.5 per cent in 2016 as opposed to 3.7 per cent growth recorded in 2015, in value added terms. Further, value added of manufacture of other non-metallic mineral products, and manufacture of textiles, wearing apparel and leather related products also contracted by 13.1 per cent and 0.2 per cent, respectively, during the year. However, value added of all the other manufacturing categories remained positive with main contributions from the manufacture of rubber and plastic products with 17.9 per cent growth, manufacture of basic metals and fabricated metal products with 28.7 per cent growth, and manufacture of machinery and equipment with 14.1 per cent

Chart 2.4
Purchasing Managers' Index (a)



growth, buoying the overall growth in manufacturing activities. Considering the behavior of the Purchasing Managers' Index (PMI) for manufacturing activities compiled by the Central Bank on a monthly basis, the index witnessed an expansion during the year except for the months of April and May. On average, all sub-indices, namely, Production, New Orders, Stock of Purchases, Employment and Suppliers' Delivery Time expanded during the year. Meanwhile, the Index of Industrial Production (IIP, 2015=100) compiled monthly by the Department of Census and Statistics (DCS) increased by 3.3 per cent in 2016.

Factory Industry Production Index³

The factory industry output, the largest contributor to the manufacturing subsector, recorded a decline of 2.7 per cent in 2016 due to weak global demand and subdued international commodity prices, coupled with supply side disruptions caused by adverse weather conditions. The Factory Industry Production Index

³ The weights in the FIPI are assigned for each industry using 2010 as the base year and is computed using the International Standard Industrial Classification (ISIC), Revision 4. At the same time, the Department of Census and Statistics has compiled the Index of Industrial Production (IIP) as a composite indicator that measures short-term changes in the volume of industrial production during a given period, on the basis of a representative basket of industrial products, compared to the chosen base year of 2015. IIP is expected to be used for National Accounts compilation purposes from 2017 onwards. Accordingly, the analysis of the manufacturing sector in the Annual Report 2017 will be carried out using IIP.

(FIPI), which reflects the trends in the manufacturing sector in terms of production, indicated a mixed performance in 2016. The production of key subsectors such as food products, wearing apparel, beverages, tobacco products, chemicals and chemical products, fabricated metal products and electrical equipment were adversely affected. Notwithstanding, the output of textiles, other non-metallic mineral products, rubber and plastic products, refined petroleum products, leather and related products and basic metal products have improved during 2016.

The food products subsector, the largest subsector in FIPI, indicated a contraction of 3.2 per cent during 2016, reversing the positive performance observed in 2015. The manufacturing of dairy products, processed and preserved meat products, vegetable and animal oil products and value added tea decreased during the period. However, the manufacturing of bakery products, sugar, macaroni and noodles, prepared meals and dishes reported an increase during the year. The global turnover of healthy foods is estimated to reach US dollars 1 trillion in 2017 and expected to grow further given the global trend of consumers increasingly seeking healthy food options. With the abundance of marine resources, fruits and vegetables, Sri Lanka should explore the opportunities in the packaged foods industry to take advantage of the growing demand for packaged foods in the global market.

The beverages subsector declined by 13.4 per cent mainly due to the lower production of liquor, the largest category of this subsector. The disruption to the operations of the largest beer manufacturer due to floods was the primary cause of this decline in liquor production. Manufacturing of malted milk products also experienced a setback during the year. However, the production of soft

Table 2.9
Factory Industry Production Index (FIPI)
2010 = 100

Division	Change (%)			
	2015 (a)	2016 (b)	2014/15 (a)	2015/16 (b)
1 Food Products (23.7%)	107.3	103.9	4.9	-3.2
2 Beverages (8.1%)	123.1	106.6	10.1	-13.4
3 Tobacco Products (8.4%)	95.4	92.4	8.9	-3.2
4 Textiles (1.6%)	131.0	134.4	-1.4	2.6
5 Wearing Apparel (23.1%)	173.4	169.2	16.0	-2.4
6 Leather and Related Products (0.8%)	86.4	107.0	-10.9	23.8
7 Wood and Products of Wood, except Furniture (0.1%)	121.7	129.0	11.7	6.0
8 Paper and Paper Products (0.1%)	126.6	126.6	0.0	0.0
9 Printing and Reproduction of Recorded Media (0.7%)	112.4	112.4	0.0	0.0
10 Refined Petroleum Products (2.2%)	82.6	84.3	-3.9	2.1
11 Chemicals and Chemical Products (6.3%)	88.3	77.4	7.5	-12.4
12 Pharmaceuticals, Medicinal Chemical and Botanical Products (0.1%)	142.2	145.4	-0.4	2.3
13 Rubber and Plastic Products (10.5%)	131.3	138.5	-2.2	5.4
14 Other Non-metallic Mineral Products (7.2%)	118.8	132.0	15.4	11.1
15 Basic Metals (1.0%)	115.0	148.0	1.8	28.7
16 Fabricated Metal Products, except Machinery and Equipment (3.8%)	109.8	72.9	13.0	-33.6
17 Electrical Equipment (2.3%)	130.6	118.4	31.3	-9.3
Factory Industry Production Index	125.4	122.0	9.2	-2.7

(a) Revised

(b) Provisional

Source: Central Bank of Sri Lanka

Notes: 1) Weight in the FIPI (2010=100) is given within parentheses.

2) Industrial Production Index (IPI) has been renamed as Factory Industry Production Index (FIPI) in 2013.

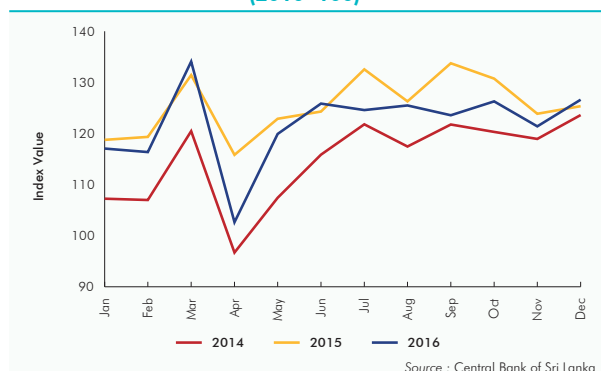
drinks, mineral and bottled water improved during the year, as a result of high demand due to drought conditions during the latter part of 2016.

The tobacco products subsector recorded a decline of 3.2 per cent during 2016. This was primarily due to the lower consumer demand arising from higher cigarette prices caused by the increase in excise duties during the latter part of 2015 and further price increases during 2016. The price of cigarettes rose between 45.0 to 100.0 per cent, depending on the brand, in 2016. The last increase in November 2016 was as a result of the application of a 15.0 per cent VAT on tobacco products. It should be noted that higher cigarette prices may lead to an increased demand for smuggled cigarettes or cheaper substitutes such

as beedi that cause severe health hazards. In fact, during the first two months of 2017, Sri Lanka Customs has seized over ten million illicit cigarettes entering Sri Lanka, in comparison to around four million illicit cigarettes seized by Sri Lanka Customs in 2016. Although import duty was increased on the importation of Tendu leaves as a measure to curb the production of beedi, the beedi producers in Sri Lanka rely on local substitutes for Tendu leaves. This indicates that stringent measures should be adopted to curtail the spread of unauthorised and illicit tobacco products in the country.

The output of the textile subsector grew by around 2.6 per cent during 2016. The growth of this subsector was mainly fuelled by the increase in domestic market demand for textiles. In 2016, around US dollars 2.7 billion was spent on textiles and textile articles imports into Sri Lanka. This highlights the need for exploring the possibility of improving capacity in both the manufacture of domestic handlooms and factories producing textiles. Given the fact that some garment exporters require specific materials, the industry may focus on producing high value-added textiles helping the garment industry to benefit from backward linkages in the industrial sector. Such initiatives, while enhancing domestic industrial activities, would contribute to save the country's foreign exchange as well.

Chart 2.5
Factory Industry Production Index (FIPI)
(2010=100)



The wearing apparel subsector, which is the second largest subsector in FIPI, also witnessed a slight contraction, reporting a decline of 2.4 per cent during 2016. Decline in export demand from traditional markets in the USA and EU was the key reason for the poor performance in this subsector. However, a growth in garment exports to non-traditional markets, such as Canada, China, Australia and the United Arab Emirates (UAE) was observed during 2016. It is expected that the potential restoration of the GSP+ facility would make a significant contribution towards the development of the apparel industry of the country with increased exports to EU. However, once a country attains and remains in the upper middle income country category for three years, the GSP+ facility is terminated. Given the current projected growth rates, Sri Lanka may reach this status in the medium term. Therefore, it is imperative that industry should gear to exploit the full potential of GSP+ benefits within this short period. Simultaneously, it is necessary to consider an expansion of trade agreements with potential partner countries to help local apparel exporters diversify export destinations for existing products. Further, it is necessary to promote industrial relocation into more remote areas, in particular the North and East provinces, to address the labour shortages faced by the industry. Moreover, given Sri Lanka's niche positioning as a high-quality supplier, Sri Lanka should consider to position itself as a regional apparel trade hub, taking advantage of logistics infrastructure, geographical location and the highly skilled labour force.

The production of leather and related products exhibited a favourable growth of 23.8 per cent in 2016. This subsector was positively impacted by the renewed demand for footwear and finished leather products in the domestic market, thus reversing the negative performance reported since 2014.

BOX 03

Towards a Manufacturing Sector Development Strategy

Manufacturing to Drive Growth

Sri Lanka has achieved substantial economic and social progress since the economic liberalisation in 1978, in terms of national wealth and improved living standards. However, economic growth in the last few years has been constrained at around 3.0 to 5.0 per cent levels, while exports relative to GDP have declined. The contribution of the manufacturing sector to economic growth has remained low during the last two decades, due to the inability to remain competitive in both domestic and foreign markets, and evolve towards producing high value added products while increasing productivity. The accelerated development achieved by many other nations, through the implementation of strong industrialisation policies during the mid 20th century, demonstrates that the manufacturing sector of a country can play a major catalytic role in a country's economic and social transformation process. The development of the manufacturing sector can contribute to the eradication of poverty and regional disparity, create quality employment opportunities, increase export income, as well as develop technological capabilities and productive capacities of the economy to support growth. Therefore, at this juncture of Sri Lanka's growth path, where reliance on foreign aid and government welfare transfers cannot be sustained any longer, there is a crucial need to revitalise the manufacturing sector, for the economy to attain accelerated sustainable growth.

Table B 3.1
Sectoral Composition of GDP

Year	Agriculture	Industry	Services	Manufacturing (which is a part of industry)
1978	26	24	50	19
1980	24	24	52	18
1985	26	26	49	18
1990	23	27	50	17
1995	20	30	50	14
2000	19	28	53	16
2005	17	27	56	16
2010	12	29	59	17
2015 ¹	8	26	57	16
2016 ¹	7	27	56	15

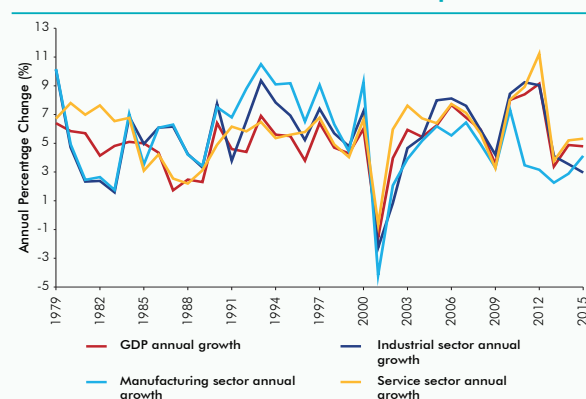
Sources: Department of Census and Statistics
Central Bank of Sri Lanka

In contrast to nations, which developed through industrialisation, Sri Lanka has leap-frogged from an agrarian society to a service-based economy. The sectoral composition of Sri Lanka's GDP evolved with the share of the agricultural sector declining, and the services

1. These percentages were calculated based on gross value added at basic price according to the System of National Accounts 2008 Standard. The sum of gross value added at basic price for agriculture, industries, services and taxes less subsidies on products equals gross domestic product at market price.

sector and the non-manufacturing industrial sectors (i.e. construction, mining and quarrying, electricity, water and waste management) increasing substantially (Table B 3.1). The share of the manufacturing sector in GDP remained low and stagnated since 1978 (Table B 3.1), while growth rates of the manufacturing sector remained below GDP growth rates throughout most of the last 15 years (Chart B 3.1). Consequently, the GDP growth rates that Sri Lanka recorded during the last few years emanated mainly from non-tradable services and construction, constraining growth to 3.0 to 5.0 per cent levels, which is inevitable given the limited size of the domestic economy.

Chart B 3.1
Growth Rates of GDP and Its Components



Sources: Department of Census and Statistics
Central Bank of Sri Lanka

Sri Lanka undertook numerous attempts, since economic liberalisation in 1978, to improve the manufacturing sector, through policy measures, such as the establishment of the Export Development Board in 1978 and export processing zones, privatisation of state industrial undertakings, setting up of the Industrialisation Commission in 1991 under the Industrial Promotion Act No. 46 of 1990, carrying out a "200 Garment Factories Programme" in the 1990s, announcement of an industrial policy statement in 1995, launching of the "Productivity Decade 1997-2006", and formulation of a National Framework for Small and Medium Enterprise Development in 2015. However, the impact of all such measures on Sri Lanka's factory industries in maintaining competitiveness in local and global markets has been low during recent years. Manufacturing activities have remained highly concentrated among apparel, food products and rubber products and other labour intensive industries producing goods of low technological intensity. GDP growth was less supported by growth in the manufacturing sector, especially after 2000 when Sri Lanka lost comparative advantage from cheap labour in apparel manufacturing to countries with even cheaper labour. The challenges

were compounded by the end of the Multifibre Agreement (MFA) and the loss of the GSP+. During the boom of the apparel manufacturing era, Sri Lanka failed to effectively strategise on diversification into other product categories or for shifting manufacturing to more technologically intensive, high value-added and complex products. Sri Lanka's development pattern corresponds to a concept referred to as "premature deindustrialisation" in academic literature. This is shown to be caused by globalisation forces, which force growth in countries with open economies and a lack of a "head-start" in industrialisation, to be based on capital inflows, foreign aid, remittances and commodity price booms, making only moderate growth possible through a services-based economy.² This further highlights that Sri Lanka needs to undertake an urgent commitment to develop the manufacturing sector and integrate into global value chains even as a late-entrant, in order to accelerate growth.

International Experience

Many countries that shared a similar economic background to Sri Lanka during the 1950s, undertook government led policy measures to enhance the productive capacities of their manufacturing sectors aimed at increasing exports during the mid 20th century. It is widely stated that, countries in Asia followed a "flying geese pattern" (a tilted V-shape) in adopting government led industrialisation policies, with Japan in the lead, followed initially by South Korea, Hong Kong, Taiwan and Singapore ("the four tigers") and subsequently by many other nations including China, Indonesia, Malaysia and Thailand. The services sectors of these countries deepened later in the development process. Their Latin American counterparts were Brazil, Chile, Peru and Mexico. All these countries have now surpassed Sri Lanka in GDP and social development.

The above countries adopted clearly stated "industrial policies" at the beginning of their development process. Most countries with subsistence farming simultaneously adopted policies to improve productivity in agriculture through land reforms and other farming techniques. Thus, larger-scale agricultural production evolved, releasing underemployed labour in agriculture to the manufacturing sector until the "Lewisian turning point"³ of full absorption of surplus labour in the traditional sectors to the modernised manufacturing sector was reached. Most of these countries manufactured low value-added consumer goods, such as apparel, in the first phase of their development, but progressed on to complex products with technological skills gained from the previous phase. With the exception of Japan, the other countries adopted the strategy of obtaining direct investment from advanced nations to set up manufacturing plants within special economic

zones in their countries. Meanwhile, domestic small scale enterprises were fostered as they grew into large enterprises and protected from dumping (competition through cheap imports). The technological development that took place in the manufacturing sector triggered transformation in other sectors, such as services and agribusiness. The contribution of the manufacturing sector to GDP in these countries increased substantially and is much higher than Sri Lanka (Table B 3.2), while a greater percentage of merchandise exports are manufactured goods. At present, lower-middle income nations such as Vietnam and the Philippines are striving to follow a similar growth path through industrialisation. India, which has leap-frogged to services from agriculture has made a commitment to develop the manufacturing sector via a campaign named "Make in India" which commenced in 2014.

Table B 3.2
Percentage Contribution of the Manufacturing Sector to GDP of Selected Countries

											%
	1975	1980	1985	1990	1995	2000	2005	2010	2013	2015	
Sri Lanka	13.1	18.3	18.2	17.4	20.4	15.8	16.3	17.3	15.7 ¹	15.4 ¹	
Japan	n/a	27.2	27.5	25.9	21.5	20.4	19.1	18.9	17.7	n/a	
Rep. of Korea	20.3	22.8	25.2	25.0	25.3	29.0	28.3	30.7	31.0	29.5	
Rep. of China (Taiwan)	n/a	n/a	35.1	31.2	25.6	25.7	27.9	29.0	28.6	29.9	
People's Rep. of China	37.6	39.9	34.4	32.3	33.4	31.8	32.1	31.5	29.7	n/a	
Thailand	18.7	21.5	21.9	27.2	26.5	28.6	29.8	31.1	27.7	26.9	
Indonesia	10.3	14.0	16.4	22.3	24.1	27.7	27.4	22.0	21.0	20.8	
Malaysia	18.7	21.9	19.7	24.2	26.6	30.9	27.5	23.4	22.8	22.8	
Vietnam	n/a	n/a	20.5	12.3	15.0	17.1	18.8	12.9	13.3	13.7	
The Philippines	25.7	25.7	25.2	24.8	23.0	24.5	24.1	21.4	20.4	20.1	
India	15.2	16.2	16.0	16.2	17.3	15.3	15.4	17.5	16.5	16.2	

Sources: World Development Indicators, World Bank
National Statistics, Rep. of China (Taiwan)
Department of Census and Statistics
Central Bank of Sri Lanka

Some of the above nations experienced difficulties at times in maintaining their industrial policies due to the failure of selected industries, inflation in consumer goods markets, macroeconomic volatility caused by reduction in global demand etc. but were successful in achieving rapid economic and social development in the long run because of their continuously evolving manufacturing bases. It is evident that focused and committed policy support from the government for the overall sector, including targeted infrastructure development, research and development, capacity building of human resources and broad fiscal incentives helped to increase the overall manufacturing output. This provides a development lesson for Sri Lanka regarding the importance of the manufacturing sector to development as well as the need for the state to support industrialisation through policy action.

2. Rodrik, Dani. "Premature deindustrialization." *Journal of Economic Growth* 21.1 (2016): 1-33.

3. Lewis, W. Arthur. "Economic development with unlimited supplies of labour." *The Manchester School of Economics and Social Studies* 22.2 (1954): 139-191.

Implementation of the Necessary Strategies

Successive Sri Lankan governments implemented various measures to increase industrial production. Recently, plans have been made to set up industrial zones in regional areas, along the new expressways, and around the Hambantota and Trincomalee Ports. These initiatives, together with all other plans to develop infrastructure, promote research and development, upgrade skills of the human resources, and establish new small and medium enterprises (SMEs), which are to be implemented by various government agencies, will help attract Foreign Direct Investment (FDI) and increase manufacturing. Meanwhile, having recognised the importance of policy support for development, the Government has also put in place an overall development strategy and is formulating trade and export related policies. However, there still remains a need for a comprehensive manufacturing sector development strategy, which aligns various government efforts to increase manufacturing activities with the government's overall development agenda, and provides due prominence to the whole manufacturing sector while addressing its structural issues.

Therefore, in order for Sri Lanka to effectively provide broad-based support to the manufacturing sector and address structural issues, the establishment of one practical manufacturing sector development strategy is necessary. Such a clearly stated policy, which is developed through a collaborative process with all stakeholders, will be a tool for the government to provide long term direction for local and foreign investors as well. This manufacturing sector strategy needs to be a part of Sri Lanka's overall development strategy. The trade policy and export strategies should be a part of the attempts to industrialise through a manufacturing sector development strategy such that the development process will spur international trade. This is essential for the country to achieve a higher trajectory of growth and development. Furthermore, this strategy must encompass the interplay between the manufacturing sector with the agriculture and service sectors as well. Importantly, productivity enhancement in the agriculture sector will not only transfer under-utilised labour to the manufacturing sector, but also reduce the share of income spent on food. The resultant increase in real income spendable on other goods will increase the demand within the economy for manufactured products.

The manufacturing sector development strategy should categorically address the needs of local investors as well as foreign investors. Similarly, the needs of large scale firms as well as micro, small and medium enterprises be addressed. FDI is crucial as domestic savings are low and fiscal space is constrained. FDI is also an avenue to address low technological know-how in Sri Lanka. FDI relating to technologically intensive and high value adding products, which Sri Lanka seeks to gain competence in, are generally manufactured via global value chains in which manufacturers base different stages of the production process in various locations, to

harness advantages provided by each location for each production stage. Despite this global development, most of the FDI to Sri Lanka in the last ten years comprised investment into the tourism and real estate sectors and investors seeking the Sri Lankan market. Therefore, the future manufacturing sector development strategy must include measures to attract manufacturing based export focused FDI to Sri Lanka.

In order to attract FDI, the manufacturing sector development strategy should identify factors driving such flows and create an environment conducive for them. The FDI flows occur due to push and pull factors relating to the source country and the recipient country, respectively. In general, pull factors include low cost labour, raw material, access to markets, competitive exchange rates, low tax regimes, availability of land for setting up factories etc. Factors that create a conducive environment for FDI include political stability, consistent support by public institutions, sound macroeconomic and legal frameworks, efficient logistics, minimum trade barriers, agglomeration economies and low-cost and highly efficient human resources. Since global value chain producers need to transport product components from one location to another expeditiously and with low transaction costs, efficiency of road and sea transport, access to ports, speed of customs clearance, warehousing and the existence of minimum tariff and non-tariff barriers are critical. In the past, firms in advanced nations invested in developing nations seeking cheap labour and natural resources (North-South FDI). However, during the last decade, South-South FDI, which involve emerging market economies (EMEs) such as China, Malaysia, India and Russia, investing in similar economies has increased. Such countries are more focused on market access and raw materials and have different perceptions about the quality of institutions than firms of advanced nations. Therefore, Sri Lanka needs to cater to the requirements of different FDI sources.

The FDI alone cannot uplift the manufacturing base of the economy in the long-term, and development of the capabilities of local manufacturers is critical. Local firms need to provide support services required by the foreign investors and develop the capacity to absorb technology transfer from the foreign investors. Some Sri Lankan companies, particularly in the tea and apparel sectors, have been able to achieve global excellence standards, but most firms are stricken by low productivity and restrained growth. Data on capacity utilisation in factory industries compiled by the Central Bank of Sri Lanka indicate that not more than 83.0 per cent of installed capacity were utilised from 2011 to 2016. Meanwhile, economic value added in the industrial sector as well as the agricultural sector, in terms of the proportion of the labour force employed gradually declined from 1981 to 2016. This suggests that an increasing proportion of the workforce was used to generate a declining proportion of the total value added of the country. This indicates that labour productivity gradually declined in both the industrial and agricultural sectors. Meanwhile, total factor productivity of Sri Lankan manufacturing firms has also declined, as

identified through academic research that studied firm performance between 1990 and 2010.⁴ Therefore, the country's development strategy needs to identify means of allocating under-employed labour in less productive agriculture as well as service sector segments (such as petty trade, personal services and public service) to the manufacturing sector. Policies aimed at transforming small scale farming to larger scale agri-business is important (to transfer labour from the agricultural sector). Policies should also aim to improve total factor productivity in the manufacturing sector through worker skill enhancement, management practices, and removal of impediments to restructuring.

Meanwhile, there is a prevalence of a large number of small firms, which neither grow nor exit for a long period of time in Sri Lanka. This results in labour and other resources being locked in less productive activities, as suggested by a World Bank study.⁵ Small enterprises that do not grow, do not contribute to long term productivity enhancement of the country, as they do not engage in product or process innovation or provide quality employment opportunities. This study estimates that firms with less than 19 workers make up 76.0 per cent of enterprises in Sri Lanka which is a much higher percentage compared to India, China, Bangladesh, Pakistan, Philippines and Vietnam. Further, firms aged 25 years or more are only 50.0 to 90.0 per cent larger than firms aged 5 years or less. Larger firms tend to be more productive due to economies of scale, access to finance, ability to attract better quality managers, maintenance of better networks of market access and better record-keeping etc. Therefore, it is important to remove barriers for small and medium scale enterprises to grow by improving access to finance, increasing project-feasibility based lending rather than physical collateral-based lending, modernising labour regulations that hinder termination of employment, upgrade poor accounting and record-keeping, rationalising taxes that deter firms from expanding operations etc. Strong collaboration needs to be built between research and development (R&D) institutions and SMEs such that product development needs of SMEs are identified by the R&D institutions, while their findings are used by the SMEs. R&D institutions need to explore avenues to utilise minerals, herbs and other natural resources in Sri Lanka to increase manufactured exports of domestic industrialists. At present, a lot of such resources are exported in raw or low value-added forms at present. Fostering small enterprises until they grow into large enterprises and protecting them from dumping (by cheap imports) are necessary to uplift domestic manufacturing and gear the sector towards exports. In this connection,

the Anti-dumping Bill should be enacted into Law expeditiously. However, a healthy level of competition needs to be encouraged within industries, and bankruptcy and employment termination regulations need to allow efficient reallocation of resources from firms that restructure or exit to more productive uses. In addition, the proposed trade adjustment package is an important complement to the economic partnership agreements which are being negotiated. It should be well-designed to increase the competitiveness of domestic firms and provide retraining for workers affected by trade liberalisation.

The manufacturing sector development policy should promote cluster based industrial policies and enhance opportunities for agglomeration economies. This is achieved by encouraging similar manufacturers to locate geographically close to each other and their support service providers to cluster around them. In such a context, the government can provide the necessary infrastructure, fiscal incentives and facilities for employees in a more focused manner, while firms can gain through economies of scale in inputs, interaction with each-other, larger pools of employees and access to capital goods. The provision of large tracts of land enabling factories and their support service providers to cluster together is a main pull factor for FDI as well. By locating industrial zones in less urbanised areas, the government can spread the benefits of industrialisation to many regions of the country. The effective implementation of the new industrial zones that have been planned at present will contribute significantly in this regard.

Although the literacy rate and education level of the average factory worker is higher in Sri Lanka than competitor nations, their technical competencies and innovative capacities needed for the production of complex products are lower. Therefore, technical and vocational training, as well as qualifications in science and engineering, should be offered to more students at the secondary and tertiary education levels together with industry exposure. Further, the social stigma against factory employees and the undesirable incentives in society for youth to seek public sector employment and turn away from the manufacturing sector need to be corrected.

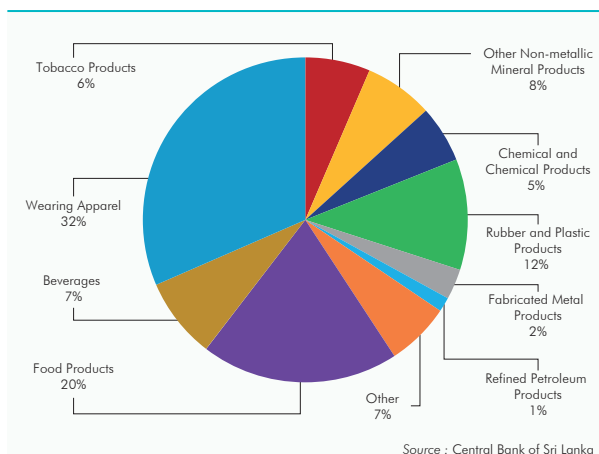
The manufacturing sector development strategy should not be confused with a strategy to pick a few industries to promote for producing export goods. Though countries like South Korea succeeded in "picking winners", most of the countries which did so had to continue with protection for a long period of time. Such an approach should be avoided, as governments lack the capacity to predict high performing industries in the medium to long-term in the global markets, as well as to avoid rent seeking behaviour by firms. Therefore, government attention should be focused on providing wide-ranging support to the whole sector and for all present and future stakeholders through providing clear, consistent and broad based policies while ensuring an enabling private-sector-friendly environment. The manufacturing sector development strategy needs to be holistic and encompass all impacting aspects. The success of this strategy will be determined by the timely execution of the actions proposed. ■

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5. Varela, Gonzalo, Antonio Martuscelli, and Apoorva Gupta. "Improving competitiveness is about raising productivity rather than keeping costs low". *South Asia's Turn: Policies to Boost Competitiveness and Create the Next Export Powerhouse*. Gladys Lopez-Acedevio, Denis Medvedev and Vincent Palmade. The World Bank, 2017. 17-35. Web. 28 Mar. 2017.

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Chart 2.6
Composition of FIPI - 2016



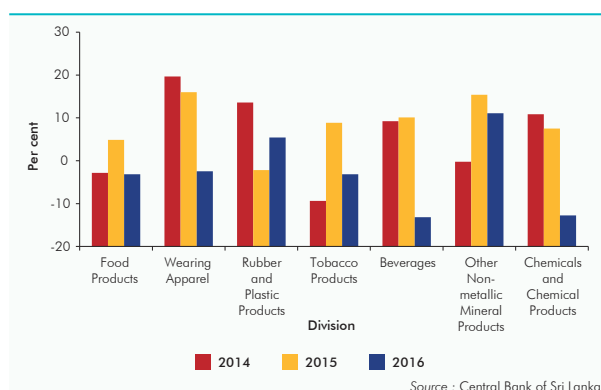
The refined petroleum products subsector, which solely reflects production in the refinery of the Ceylon Petroleum Corporation (CPC), grew by 2.1 per cent during the year 2016. The continued refinery process without any disruptions during 2016 attributed to this growth as the refining process was halted for several weeks in 2015 for repairs and maintenance purposes. With the lifting of the trade sanctions imposed by the USA on Iran in January 2016, it is expected that the efficiency of CPC's refining process to increase in 2017, since the CPC refinery is more suited for refining Iranian light crude oil.

The output of the chemicals and chemical products subsector declined by 12.4 per cent in 2016 largely due to lower fertiliser production. The drought conditions that affected agricultural activities during the second half of the year combined with lower demand due to the revision of the fertiliser subsidy scheme in early 2016 were the main reasons for lower fertiliser production. However, the increased output of paints and varnishes subsector, driven by higher demand from construction activities, contributed positively to the growth in the chemicals and chemical products subsector during the year.

The rubber and plastic products subsector, which is the third largest subsector in FIPI, indicated a healthy performance throughout 2016 in comparison to the previous year. The subsector reported a growth of 5.4 per cent, improving significantly from a contraction of 2.2 per cent observed in 2015. Increased export demand mainly from the USA, Germany, Brazil etc, for solid tyres and air tyres contributed to this growth. The countervailing duty that was imposed in 2016 on Sri Lanka's rubber exports to the USA is not expected to cause a significant impact on export volumes, as the current profit margins are adequate for the industry to compete amidst countervailing duty being imposed. The global demand for tyres is expected to be driven by rising focus on fuel efficiency leading to increased demand for ultra-fuel-efficient tyres. As a result, an increase in investments in Research and Development and innovation in tyre technology is warranted. Nevertheless, the countervailing duty may discourage new investors who are willing to setup new tyre factories in Sri Lanka. Thus, there remains a potential for local tyre manufactures to capture these emerging market opportunities. Manufacturing of rubber gloves also expanded considerably with higher exports to markets in the USA and Europe, thereby supporting the growth in the rubber and plastic subsector.

The other non-metallic mineral products subsector continued its growth momentum during 2016 as well, reporting a growth rate of 11.1 per cent. The growth in production of cement, driven by the higher demand in the construction sector, was the key contributory factor towards this performance. Further, manufacturing of roofing sheets and clay tiles also expanded considerably in 2016. Manufacturing of porcelain and other ceramic products marginally increased during the period under review with improved local as well as

Chart 2.7
Year-on-Year Change in Major Divisions of FIPI



overseas demand. However, the manufacturing of glass products declined due to a temporary reduction in capacity at the single factory producing glass in Sri Lanka during a machinery upgrade. Although the glass packaging industry, especially in relation to food, beverages and pharmaceutical is expected to continue the strong growth momentum witnessed in recent years, the high energy costs associated with production in this industry may inhibit Sri Lanka's ability to take advantage of a growing demand in the domestic and global markets.

The basic metals products subsector exhibited a favourable growth during 2016 recording 28.7 per cent growth over 2015. Higher demand from the construction sector led to increased output in this subsector. The construction industry is expected to continue its growth momentum and thus, the basic metal subsector is expected to grow in the future.

The fabricated metal products subsector, which mainly comprises ship building and repair activities, reported a contraction of 33.6 per cent. Decline in the offshore oil drilling activities due to the drop in crude oil prices led to a lower demand for oil drilling vessels. This may have impacted the ship building operations during the year. However, Sri Lanka has immense potential to

become the hub for ship manufacturing in the Asian region due to its strategic location, highly trained skilled workforce, and quality of workmanship.

The electrical equipment subsector declined by about 9.3 per cent during 2016. The subdued performance of this subsector was mainly due to the drop in demand for transformers in key export destinations such as Ethiopia, Uganda and Nepal. The industry is highly diverse and manufactures a wide range of high and low technology products. However, given the high energy costs associated with production, Sri Lanka's exports face stiff competition from China the global cost leader, and, Taiwan and Vietnam. However, measures taken by the industry to access new international markets and diversify product segments are expected to boost the industry in the future.

Industrial Policies and Institutional Support

The government, in line with its export-oriented industrialisation strategy, continued to support the growth and development of the industrial sector through the implementation of numerous policy initiatives with a view to make Sri Lanka an export driven economic hub of the region by enhancing its global competitiveness to further integrate into the global value chain. The Ministry of Industry and Commerce continued to facilitate regional industrialisation by promoting investments and provisioning of infrastructure facilities, and technical assistance at regional level. Accordingly, the Ministry of Industry and Commerce continued the infrastructure development activities in 32 industrial parks throughout the country in 18 districts. Majority of infrastructure development activities relating to Trincomalee (Stage II) and Batticaloa Industrial Estates was completed in

2016. Development activities relating to the Mannar Industrial Estate were completed and that of Welioya Industrial Estates, further progressed with the provision of necessary infrastructure facilities.

The National Enterprise Development Authority (NEDA) continued to facilitate and support the development, growth and competitiveness of Sri Lankan enterprises, especially small and medium enterprises.

Activities of District and Regional Enterprise Forums were further continued to create a proper mechanism for providing business development services to the entrepreneurs at District and Divisional Secretariat level. NEDA continued to provide technical training for selected SMEs with the market linkage programme in order to integrate small and medium enterprises with super market chains as suppliers. NEDA continued to facilitate capacity building among entrepreneurs by conducting training programmes through the Regional Enterprise Development Programme, Women Entrepreneurship Development Programme and “Upadhidari Vyavasayake Udanaya” Programme. Further, an Incubator and Technology Transfer Centre (ITTC) is expected to be established as a joint project of the Wayamba University of Sri Lanka (WUSL) and NEDA, at Makandura. The ITTC is expected to facilitate the start-ups with required machineries and equipment together with novel business ideas derived from the research and development activities of WUSL, research institutions and SMEs in the area.

The Export Development Board (EDB) continued to organise trade exhibitions, exporter forums, technical and financial assistance programmes and trade delegations with a view to enhancing the competitiveness of domestic industrial products in the international market, especially for apparel, jewellery, rubber

based products, footwear and leather products etc. The EDB is currently working with a number of international partners to identify new products and new markets to promote Sri Lankan products in the future.

A number of policy proposals introduced in the Budget 2016 were implemented during the year. The Ministry of Industry and Commerce commenced initial work relating to establishing a new industrial estate in Raigama to promote regional industrialisation. Furthermore, to promote the construction industry, the Construction Industry Guarantee Fund Levy was removed during 2016 specifically with a view to encouraging small and medium scale contractors. In addition, certain initial steps were taken to set up an Innovation Accelerator during 2017, a platform that will combine the National Innovation Programmes of the Coordinating Secretariat for Science Technology and Innovation and the National Thematic Research Programme and the technology support schemes of the National Science Foundation.

The Budget 2017 included several policy proposals to promote the industrial sector contribution to the economy and the local value addition. Skills and productivity development in the Small and Medium Enterprises (SME) were the key focuses of the budget proposals. To address the skills shortages in several industries, a scholarship programme is proposed with a view to provide the necessary vocational training through the state operated vocational training institutions. In addition, a 3-month living stipend is proposed for 10,000 youth, while they are trained by the private sector in apparel, healthcare, hospitality and construction industries. SMEs in several identified industries are to be provided with a credit guarantee scheme and subsidised interest rates for business expansion. To further enhance productivity of businesses,

a 75.0 per cent waiver on Ports and Airports Development Levy (PAL) on high-tech automated machinery and equipment imports is proposed. It is also proposed to form a textile cluster that includes sizing, dyeing and finishing units and the Government is expected to support by providing investment relief to businesses that will invest in this venture and will also provide adequate space. The removal of 25.0 per cent CESS applicable on pre-fabricated structures is also proposed to further boost the construction industry.

A number of proposals were included in the Budget for 2017 to enhance the contribution from the science, technology and innovations towards enhancing productivity in the industrial sector. The infusion of technology into the industry sector leads to the manufacture of high value added products resulting in higher income levels. To this end, the Innovation Accelerator Fund, which is aimed at supporting commercialisation and last stage financing, was further strengthened through allocation of funds to continue its work. A Biotechnology Innovation Park, which will provide facilities mainly for companies engaged in the pharmaceutical industry and genomics was proposed to be established on a public-private partnership basis. The Centre for Advanced Electronic Design, which supports start-up companies in electronics, The Sri Lanka Institute of Nanotechnology (SLINTEC), the Centre of Excellence in Robotics Applications (CERA) were further strengthened through allocation of funds. It was further proposed to support robotics, cybernetics, electronics industries through tax incentives. In March 2017, the approval of the Cabinet of Ministers was given for the establishment of a National Science Centre according to international standards and a land of seven acres has already been allocated at Pitipana, Homagama. To this

end, a Cabinet Appointed Negotiating Committee for obtaining necessary consultation services, and technological and financial assistance from suitable agencies were also approved.

Whilst recognising the contribution of the SME sector in the economy and one need to enhance access of SMEs to finance, the Budget 2017 included a proposal requesting banks to allocate at least 10.0 per cent of their loan portfolio to the SME sector. Accordingly, in February 2017, the Central Bank requested all licenced commercial banks to take appropriate measures to implement the national policy approved in the Budget 2017 to distribute credit to various identified sectors. A concessionary loan scheme was also proposed to support the SMEs engage especially in agriculture, fisheries, livestock, floriculture, horticulture, light engineering, printing, tourism, handicrafts and apparel sectors. Furthermore, a special loan scheme called 'Swashakthi National Loan Scheme' was launched by the Central Bank of Sri Lanka to help the SMEs to start self-employments and industries.

Trade chambers and associations continued to facilitate industrial sector development through capacity building training programmes, trade exhibitions and trade delegations. The Joint Apparel Association Forum (JAAF) in partnership with Worldex Exhibition & Promotion Pvt Ltd of Mumbai organised the 'Intex South Asia 2016', the only South Asian International Show that focused on yarns, fabric, clothing accessories and related services. This benefitted the industry by offering new sourcing channels for fabric and accessories. The JAAF also participated in a Social and Labour Convergence Project initiated by the Sustainable Apparel Coalition, to introduce an internationally accepted tool of measurement for social and labour compliance. In collaboration

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with the Sri Lanka Export Development Board, JAAF offered assistance to SME apparel sector companies for the improvement of their compliance standards. Further, in order to improve the competitiveness of the industry, JAAF, in association with the Sri Lanka Institute of Apparel and Textile, facilitated the introduction of new technologies to the Sri Lankan apparel industry. In addition, trade associations such as the Ceylon National Chamber of Industries, Federation of Chambers of Commerce & Industry of Sri Lanka, National Chamber of Commerce continued to facilitate numerous trade delegations, training programmes and trade forums to promote trade and investment in the country.

Electricity, Water and Waste Treatment

The value added of electricity, water and waste treatment activities grew by 10.0 per cent in 2016 compared to 8.8 per cent growth in 2015. Electricity, gas, steam and air conditioning supply activities, being the major contributor to this category, grew by 8.4 per cent in 2016 in comparison to 5.9 per cent growth recorded in 2015, in value added terms. This growth was reflected in the increase in total electricity generation which grew by 8.1 per cent during the year compared to 5.9 per cent growth in 2015. Due to the prolonged drought conditions that prevailed for most part of the year, hydropower generation contracted by 29.0 per cent in 2016 compared to 35.0 per cent growth in 2015. Meanwhile, fuel oil based power generation increased substantially by 96.1 per cent in 2016 against 47.1 per cent decline recorded in 2015 and coal based power generation grew by 13.6 per cent in 2016 compared to 38.8 per cent growth recorded in 2015. Further, the value added of water collection, treatment and supply activities increased by 7.9 per cent in 2016

in comparison to 4.4 per cent growth recorded in 2015. The units of water distributed by the National Water Supply and Drainage Board (NWS&DB) recorded an increase of 12.0 per cent in 2016 compared to 5.7 per cent growth in 2015. The total number of consumer accounts of NWS&DB also increased by 7.1 per cent in 2016 compared to 6.6 per cent growth recorded in 2015, reflecting the continuous expansion in demand for water. In the meantime, value added of sewerage, waste treatment and disposal activities grew by 17.8 per cent in value added terms in 2016 on top of the substantial growth of 24.9 per cent recorded in 2015.

Construction

The value added of construction activities rebounded during the year recording a substantial growth of 14.9 per cent in 2016 recovering from 2.7 per cent contraction recorded in 2015. Large scale construction projects such as Colombo International Financial City, extension of Southern Expressway, Phase III of Colombo Outer Circular Highway project and emerging condominium apartments largely contributed to the expansion in construction activities. This growth was reflected in the significant increase in cement production and its imports which collectively grew by 25.3 per cent in 2016 compared to 5.8 per cent growth recorded in 2015. Accordingly, both local production of cement as well as imports of cement increased substantially by 17.8 per cent and 29.5 per cent, respectively, in 2016. Meanwhile, investment goods and building materials imports volume indices increased by 20.0 per cent and 22.9 per cent, respectively, in 2016 indicating the positive developments in construction activities. Furthermore, credit granted by Licensed Commercial Banks (LCBs) to the private sector for construction activities significantly increased by 26.9 per cent in 2016

on top of 36.1 per cent growth recorded in 2015. Moreover, reflecting the development in housing construction activities, the credit granted by LCBs for personal housing construction activities also increased by 27.1 per cent in 2016. Further, the number of completed condominium units certified by the Condominium Development Authority increased by 24.5 per cent in 2016 recovering from 29.5 per cent contraction in 2015. The Central Bank observed this emerging trend in the condominium market and commenced compiling a monthly Condominium Property Price Index for Colombo District to closely monitor the sustainability of the latest developments in construction activities.

Services

Services related economic activities which collectively account for the major share of GDP, expanded by 4.2 per cent in 2016 compared to 5.7 per cent growth in 2015, in value added terms. Most of the services activities contributed positively to the growth during 2016, but at a slower pace compared to the previous year. The recorded growth was largely supported by the significant expansion in financial services activities together with developments in the transportation of goods and passengers including warehousing activities. Further, the growth in wholesale and retail trade, public administration, real estate activities, education, other personal services, insurance, accommodation services, telecommunication, human health services, and IT related activities contributed positively towards expansion in Services activities. However, professional services recorded a contraction during the year. Reflecting the growth in Services activities, the PMI for services activities compiled by the Central Bank on monthly basis denoted an expansion throughout the year. The sub-indices of New Businesses, Business Activity, Employment

and Expectations for Activity expanded during the year, while the Backlogs of Work sub-index decreased. Further, the development in Services activities was also portrayed in the behavior of BOS sub-indices of the Services segment. Accordingly, Business Condition, Demand and Sales sub-indices, on average, remained above the neutral level during the year.

Wholesale and Retail Trade

The wholesale and retail trade activities, in value added terms grew by 2.5 per cent in 2016 compared to 5.1 per cent growth recorded in 2015. This slowdown was reflected in the movements of import and export trade volume indices. Further, the decline in agricultural output and the slowdown in manufacturing output hindered trade activities. The import volume index increased by 7.9 per cent in 2016 compared to 10.6 per cent growth recorded in 2015. The intermediate goods and investment goods imports increased during the year, while the importation of consumer goods contracted. Accordingly, intermediate goods imports volume index recorded a 10.8 per cent growth in 2016, mainly owing to the increase in fuel, and textile and textile articles imports. Further, investment goods imports volume index continued to expand recording a 20.0 per cent growth in 2016 compared to 13.6 per cent growth in 2015. This growth was mainly buoyed by the substantial increase in machinery and equipment, and building materials imports, amidst the contraction in import of transport equipment. However, consumer goods imports volume index contracted substantially by 12.0 per cent in 2016 against 24.1 per cent growth recorded in 2015, due to the decline in importation of food and drinks, as well as other consumer goods. Meanwhile, the exports volume index declined by 0.7 per cent in 2016 compared to 4.6 per cent growth recorded in 2015 mainly driven by the contraction in agricultural exports as well as the slowdown in industrial exports.

Transportation and Storage

The value added of transportation of goods and passengers including warehousing activities grew by 4.1 per cent in 2016 compared to 5.0 per cent growth in 2015. In this regard, a slowdown was observed in the passenger kilometers operated by transport services. The passenger kilometers operated by the Sri Lanka Transport Board and the private sector bus operators increased at a slower pace by 6.1 per cent and 2.0 per cent, respectively, in 2016 when compared to the respective growth rates of 19.6 per cent and 6.1 per cent recorded in 2015. The growth in passenger kilometers operated by the Sri Lanka Railways (SLR) also slowed down to 0.1 per cent in 2016 compared to 8.3 per cent growth posted in 2015. However, the total passenger kilometers flown by SriLankan Airlines increased by 0.8 per cent in 2016 compared to 0.2 per cent growth recorded in 2015. In the meantime, container traffic (Twenty Foot Equivalent Units - TEUs) and cargo handled by Sri Lankan Ports increased by 10.6 per cent and 11.5 per cent, respectively, in 2016 in comparison to respective growth rates of 5.7 per cent and 4.3 per cent recorded in 2015. Further, the freight ton kilometers transported by SLR increased by 7.6 per cent in 2016 recovering from 0.3 per cent contraction recorded in 2015. Moreover, the freight ton kilometers flown by SriLankan Airlines increased by 5.0 per cent in 2016 compared to 7.5 per cent growth recorded in 2015. Meanwhile, the value added of postal and courier activities recovered during the year growing by 5.1 per cent in 2016 from the contraction of 0.1 per cent recorded in 2015. This recovery was reflected in the increase in inland and foreign mails handled by the Department of Posts during the year.

Accommodation and Food Service Activities

The value added of accommodation, food and beverage service activities expanded by 4.0 per cent in 2016 compared to 1.9 per cent growth in 2015. Considering tourism related activities, the number of tourist arrivals increased by 14.0 per cent in 2016, although at a slower pace compared to 17.8 per cent growth in 2015. Western Europe accounted for the highest number of tourist arrivals as a region followed by South Asia. When considering the country of residence, India remained the prime tourist sourcing country, while China was ranked second continuing their contributions to the growth momentum in tourist arrivals. Meanwhile, the room occupancy rate in graded hotel establishments approved by the Sri Lanka Tourism Development Authority (SLTDA) increased to 74.8 per cent in 2016 in comparison to 74.5 per cent in 2015. Further, the earnings from tourism activities increased to US dollars 3.5 billion, recording a growth of 18.0 per cent continuing its expansion during the year. Increasing demand for restaurants and hotels facilities which was reflected by the increase in private consumption expenditure also contributed to the growth in accommodation and food services.

Information and Communication

The value added of information and communication activities grew by 8.0 per cent in 2016 compared to 10.9 per cent growth recorded in 2015. The telecommunication activities which grew by 8.3 per cent in 2016 on top of 10.1 per cent growth recorded in 2015, in value added terms, largely supported this growth within the segment. Cellular subscribers and fixed access wireline connections increased further in contrast to continued contraction in fixed access

wireless connections during the period. Moreover, internet and mobile broadband services increased at a higher pace during the year. The value added of IT programming consultancy and related activities expanded by 7.1 per cent in 2016 compared to 14.8 per cent growth in 2015. Further, programming and broadcasting and audio/video production activities grew by 7.7 per cent in 2016 compared to 4.4 per cent growth recorded in 2015, in value added terms.

Financial, Insurance and Real Estate Activities including Ownership of Dwellings

The value added of financial, insurance and real estate activities including ownership of dwellings expanded by 8.4 per cent in 2016 compared to 13.3 per cent growth recorded in 2015. All the economic activities within the segment continued to grow during the year, yet at a slower pace compared to 2015. The value added in financial service activities and auxiliary financial services grew at a healthy rate of 12.4 per cent in 2016 compared to 17.2 per cent growth recorded in 2015, largely supporting this performance. The gross loans and advances in banks and non-bank financial institutions grew by 17.5 per cent and 20.1 per cent, respectively, in 2016 in comparison to 21.1 per cent and 30.6 per cent, respectively, in 2015. In the meantime, the deposit base of banking industry and non-bank financial institutions grew by 16.5 per cent and 10.5 per cent, respectively, in 2016 compared to the growth of 15.3 per cent and 16.1 per cent, respectively, in 2015. As a result, the total loans and deposit base of the banking industry and non-bank financial institutions grew by 17.0 per cent and 16.6 per cent, respectively, in 2016 compared to the respective growth of 17.9 per cent and 24.9 per cent in 2015. The value added of insurance, reinsurance and pension funding activities

expanded by 8.5 per cent in 2016 in comparison to 9.3 per cent growth recorded in 2015. This growth was reflected in the premium earned plus claims incurred by the insurance industry, which increased by 15.1 per cent during 2016 compared to 16.6 per cent growth recorded in 2015. Further, the value added of real estate activities including ownership of dwellings grew by 4.2 per cent in 2016 compared to 10.2 per cent growth recorded in 2015.

Professional Services and Other Personal Service Activities

The value added of professional services and other personal service activities expanded by 0.7 per cent in 2016 in comparison to 1.8 per cent growth in 2015. Other personal service activities, the major contributor to the segment, which includes personal services such as washing and cleaning textiles, arts, entertainment and recreation, hair dressing and other beauty treatment, and funeral and related activities continued to expand during the year by 1.3 per cent, albeit at a slower pace compared to 3.6 per cent growth recorded in 2015, in value added terms. However, professional, scientific, technical, administration and support service activities which include services that require expert know-how, such as architectural and engineering activities, scientific research and development, advertising and market research, legal services, and accounting services contracted further in value added terms by 3.1 per cent in 2016 from 7.4 per cent contraction recorded in the previous year.

Public Administration, Defence, Education, Human Health and Social Work Activities

The value added of public administration, defence, education, human health and social work activities grew by 4.9 per cent in 2016 in comparison to 3.6 per cent growth in 2015.

BOX 04

Business Intelligence and Big Data: A New Dimension of Central Bank Statistics

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Business Intelligence (BI) refers to the processes in which techniques and tools are employed to acquire and transform raw data consisting of statistical and non-statistical information for decision making purposes. Such BI is now in common possession of central banks around the world and is useful in the process of policy making for achieving broader objectives of central banking. In recent years, BI has also been used by central banks to guide the policy path in a more informed manner facilitating a forward looking data-driven decision making process. Besides such progress, advancements in information and communication technologies and innovations that were facilitated by the regulatory environment have propelled many changes in the global economic and financial landscape. The present-day world places an increasing premium on information of increasing depth and breadth, especially, as a consequence of the global financial crisis, whereby financial and economic analysts seek more qualitative data related to macroprudential aspects. In this backdrop, a new data paradigm called “Big Data” is emerging, associated with the combination of digital data from business transactions, social media, networked computers and the ‘Internet of Things’¹. While Big Data denotes large volumes of data, BI specifies the tools and processes to engage with data to derive meaningful information leading to better decisions, greater efficiencies and goal accomplishments. In other words, BI helps find answers to questions, while Big Data is the library that allows to look for answers.

In view of the rapid pace of these developments, the quantity and quality of information currently available from the official sources alone may not be sufficient for more informed forward looking policy making and also lack time priority to focus on trends in the economy. Therefore, central banks globally are in search of Big Data and BI to fill this information gap. However, many challenges still exist in terms of depth and intensity of data and the information central banks acquire for the process of guiding their policy priorities.

New Data Paradigm: Big Data

Big Data is a description of large volumes of data, both structured and unstructured, that inundates policy making processes on a continuous basis. Information technology is turning out to be an integral part of everyday aspects of business and personal life, reflecting the proliferation of digital transformation. The digital economy is becoming increasingly intertwined with sectors such as media, banking (Fin-Tech²), retail

transactions (e-commerce), energy, transportation and health (electronic records, digital health solutions) as well as entertainment and social interactions (social networks, online gaming, streaming services, etc.).

The data gathered from such sources, namely, Big Data has four main defining attributes: volume, variety, velocity and veracity.

- Volume – Big Data is considered to be large in volume, containing granular and micro-level information compared to traditional data.
- Variety – Apart from large volume, they are also highly complex and multidimensional from different data sources created by men and machines.
- Velocity – With the support of technological developments, they are supposed to be generated extremely fast in high frequencies and processed rapidly.
- Veracity – One of the important characteristics is the varying quality of data or data inconsistency due to many sources. Therefore, the test of veracity/quality of the data is required. Further, accuracy and quality standards must be on par with or better than the conventional statistics. Transparency in coverage and methodology will help improve veracity.

Big Data for Economic and Price Stability

There are many advantages in exploiting “Big Data” in the form of vast quantities of digital information to gain fresh insights for the monitoring of economic activity and price levels. Moreover, the timeliness of Big Data could improve real-time decision making for monetary policy by providing early warning indicators and an instantaneous snap-shot of the economy whereas data from traditional or conservative data sources come with a lag.

An application of Big Data for monetary policy could be in the form of the construction of metrics that adapt quickly over time to calculate the daily inflation index from a continuously evolving basket. In addition, text mining techniques can be deployed to assess human instincts and emotions, referred by John Maynard Keynes as “animal spirits” that cannot be determined using economic equations and models. While many developments have taken place, the implementation of these methodologies is still a challenge and is evolving to appropriately suit central bank policy making. The application of Big Data does come with limitations and challenges, such as lack of easy access to the data, privacy concerns and methodological constraints in analysing data.

1. It is defined as the interconnection of computing devices embedded in everyday objects via the internet, enabling them to send and receive data.
2. Financial technology, also known as FinTech, is a line of business based on software to provide financial services. The term has expanded to include any technological innovation in the financial sector, including innovations in financial literacy and education, retail banking, investment and even crypto-currencies like Bitcoin.

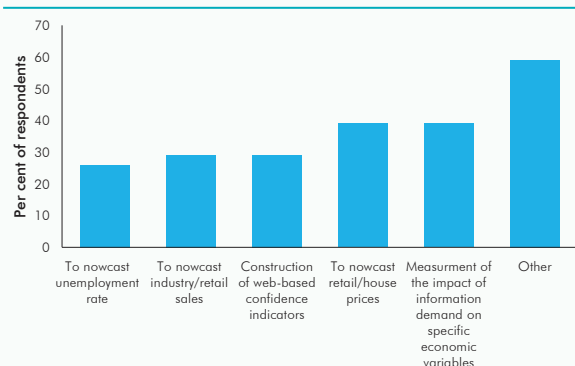
Big Data for Financial System Stability

The importance of the timely financial sector information, which is necessary for financial system stability, has come under the spotlight since the global financial crisis and consequently, financial stability is now seen as a precondition for economic and price stability in many economies.

Central banks are well positioned to collect information on financial markets. Such information on newly emerging market practices and innovations can signal early warnings of any risks that may develop, which is another kind of BI gathering in financial markets. Additionally, innovations introduced by Fin-Tech products impact the payment and settlement systems of the economy. Therefore, the collection of high frequency financial sector information that covers a broad area helps the central bank to foresee the risks developing and identify inter-linkages among financial institutions, both domestically and abroad.

Based on a survey,³ conducted by the Bank for International Settlements in 2015, Big Data is perceived as a potentially effective tool in supporting macroeconomic and financial stability analyses. Most central banks surveyed expect a growing use of Big Data sources for macroeconomic and financial stability purposes, especially in the areas of economic forecasting, business cycle analysis and financial stability analysis (Chart B 4.1).

Chart B 4.1
Outcomes expected by the central banks
as a result of Big Data exploration



Source: 2015 Survey, Irving Fisher Committee on Central Bank Statistics

International Best Practices and Initiatives by the Central Bank of Sri Lanka

In a move towards aligning with the changing paradigm of Big Data and high frequency indicators, the number of central banks that employ business surveys has

increased rapidly over the last decade. With an aim of gathering intelligence on the economy, these surveys go by many names, such as the Beige Book (Federal Reserve Bank), the Business Outlook Survey (Bank of Canada), the Bank of England's Agents' Summary of Business Conditions, the Tankan Survey (Bank of Japan) and the Business Liaison Programme (Reserve Bank of Australia). These qualitative surveys try to capture the respondents' views of various phenomena and their actions, given the prevailing conditions. Since the survey results are unique and context-specific, they are not revised in the future when new data becomes available as they measure the opinion of respondents at a specific point in time, giving more helpful guidance than early vintages of official data. Apart from that, these surveys also bring out people's intentions, confidence and expectations that can validate the macro variables.

Central banks or the monetary authorities of these economies pay much attention to the information gathered through these surveys as they provide insights into the monetary policy decision making on current and expected developments which exert pressure on inflation and their monetary policy priorities. The information also provides alternative indicators that allow policy makers to monitor the gradual pass-through of policies to the economy. Overall, the information signals the turning points of business cycles and underlying reasons, and provides early warnings which are not easily captured through models. It also provides a deeper understanding of longer-term structural changes that are occurring within industries, and changes in the economic landscape.

In line with the international best practices, the Central Bank of Sri Lanka (CBSL) also established the following Business Surveys in recent years with an aim to connect with businesses and associations across industries of the economy. The Business Sentiment Indices developed through Business Outlook Survey and Purchasing Managers' Index Survey are published in the CBSL website for the information of the general public and the results of Credit Conditions Survey are used for internal analysis.

Purchasing Managers' Index Survey

Monthly survey to assess the movement of important variables of manufacturing and services activities.

Business Outlook Survey

Quarterly survey to capture the business sentiment from the leading industry players.

Credit Conditions Survey

Semi-annual survey to assess credit conditions of the economy.

New Dimensions of Central Bank Statistics

BI and Big Data have become a topic of increasing interest to the central banks in the current policy circle. It is probable that the informational inputs brought in by BI and Big Data can shape the central bank policy making in

3. In January 2015 the Irving Fisher Committee on Central Bank Statistics (IFC) launched an online survey on central banks' use of and interest in big data, with the collaboration of the Bank for International Settlements (BIS), the Central Bank of the Republic of Turkey (CBRT) and the European Central Bank (ECB). The survey was answered by 69 IFC member central banks and monetary authorities worldwide, representing a response rate of 83 per cent.

2

the future. Therefore, the policymakers should be aware, take advantage of these developments and stay ahead of the curve for forward looking policy making. As such, BI gatherers at central banks should broaden the range of contacts in order to improve their understanding of the economy. The CBSL has initiated various projects in analysing such high frequency information in addition to the business surveys, which provide a rich collection of qualitative data, significantly in line with the central banks of developed countries.

These new information evolutions will need to be continuously assessed and BI must be broadly utilised for forecasting turning points in business cycles. Therefore, understanding the potential value and the limitations of the developments will ensure that the central bank is on the right path in facing the challenging

decision making landscape of the future. In the age of unprecedented volume, availability and access to data, the role of statisticians in central banks is changing; no longer representing a simple compiler of past and straightforward statistics, the role in the future will evolve to become an intelligence agent, a data analytic specialist or a data scientist with the ability to foresee any changes that may affect the economy in the future.

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The public administration, defence and compulsory social security activities which account for the largest share within the segment expanded in value added terms by 5.2 per cent in 2016 compared to 6.9 per cent growth in 2015, mainly contributing to this growth. Meanwhile, the value added of education services also increased by 7.5 per cent in 2016 recovering from 8.1 per cent contraction recorded in 2015. Further, human health activities, residential care and social work activities expanded by 1.5 per cent in 2016 in comparison to 8.1 per cent growth in 2015, in value added terms.

2.5 Expenditure

Gross Domestic Expenditure (GDE) which is generated through domestic consumption and investment expenditure amounted to Rs. 12,742.8 billion in nominal terms in 2016 recording an 8.2 per cent growth compared to 5.2 per cent growth in 2015. This was mainly driven by 19.6 per cent growth in investment expenditure supported by 4.1 per cent growth in consumption expenditure. In constant terms, the growth in GDE was 6.2 per cent in 2016 compared to 6.3 per cent in 2015. Expenditure on investment activities

recorded a substantial growth of 18.1 per cent during the year in constant prices when compared to 1.2 per cent growth in 2015, while consumption expenditure recorded a lower real growth rate of 0.9 per cent in 2016 indicating a higher price impact on consumption, compared to 8.8 per cent growth in the previous year. Meanwhile, the net external demand contracted by 9.6 per cent in nominal terms during the year against 1.4 per cent growth in 2015. The rupee value of the export of goods and services and import of goods and services grew by 10.3 per cent and 10.1 per cent, respectively, in 2016 compared to 5.3 per cent and 3.5 per cent growth recorded in 2015. With respect to constant prices, exports contracted by 0.7 per cent during the year against 7.9 per cent growth in imports, resulting in a deterioration of net external demand in real terms, as well. The terms of trade also increased by 3.7 per cent in 2016 compared to 2.7 per cent in 2015 indicating that the export prices remained relatively higher than import prices. This trend was reflected by the import and export indices. With regard to imports, both value and volume indices increased. However, export volume index contracted, while value index increased. The growth in values and volumes of imports was mainly driven by investment

and intermediate goods imports on par with the increase in investment, while consumption goods imports contracted during the year. All major export categories namely agricultural, industrial and mineral export indices, grew in value terms during 2016. However, when considering volume terms, agricultural exports recorded a contraction, while industrial and mineral exports reported positive performances. Accordingly, GDP at current market prices, which is GDE adjusted to the net external demand, registered a value of Rs. 11,839.0 billion growing by 8.1 per cent with a real growth of 4.4 per cent and a GDP implicit deflator of 3.6 per cent in 2016.

Consumption

Consumption expenditure increased in nominal terms to Rs. 9,018.9 billion contributing to around 76.2 per cent of the aggregate expenditure and recording a 4.1 per cent growth in 2016 compared to that of 10.3 per cent in 2015. This slowdown in consumption expenditure was attributable to the decline in both private and government consumption in 2016 compared to 2015. Accordingly, private consumption

expenditure (PCE), which accounts for 88.7 per cent of the total consumption expenditure, grew by 4.3 per cent in 2016 compared to 10.0 per cent growth in 2015. The slowdown in PCE was also reflected by the decline in consumer goods import indices in both value and volume terms. However, the volume decline in consumer goods was significant compared to the decline in value terms which reflects the impact of increase in import prices related to consumer goods. Further, on the domestic front, the increase in government duties and levies partially contributed to this slowdown in PCE. Meanwhile, government consumption expenditure (GCE) grew by 3.1 per cent in 2016 compared to 13.4 per cent growth in 2015. Accordingly, individual final consumption expenditure of the government on education and health, and collective final consumption expenditure of the government grew by 2.7 per cent and 3.3 per cent, respectively, in 2016 compared to the respective growth rates of 22.6 per cent and 9.5 per cent in 2015. This slowdown was mainly attributable to the fiscal consolidation measures implemented by the government during the year. Accordingly, the recurrent expenditure of the government on

Table 2.10
Aggregate Demand (a)

Item	Current Market Prices (Rs.mn)			Constant (2010) Prices (Rs.mn)		
	2014 (b)	2015 (b)(c)	2016 (c)	2014 (b)	2015 (b)(c)	2016 (c)
A. Domestic Demand						
Consumption	7,850,006	8,661,886	9,018,895	6,109,435	6,645,230	6,704,462
(% Change)	8.6	10.3	4.1	3.9	8.8	0.9
Gross Domestic Capital Formation	3,347,638	3,114,674	3,723,875	2,896,597	2,931,967	3,463,352
(% Change)	5.0	-7.0	19.6	11.5	1.2	18.1
Total Domestic Demand	11,197,644	11,776,561	12,742,771	9,006,032	9,577,198	10,167,814
(% Change)	7.5	5.2	8.2	6.2	6.3	6.2
B. External Demand						
Export of Goods and Services	2,185,039	2,301,065	2,538,695	1,533,668	1,605,147	1,593,861
(% Change)	12.1	5.3	10.3	4.3	4.7	-0.7
Import of Goods and Services	3,021,531	3,125,931	3,442,490	2,304,271	2,548,455	2,749,649
(% Change)	8.9	3.5	10.1	9.6	10.6	7.9
Net External Demand	-836,493	-824,865	-903,795	-770,603	-943,307	-1,155,787
(% Change)	-1.2	1.4	-9.6	-21.9	-22.4	-22.5
C. Total Demand	10,361,151	10,951,695	11,838,975	8,235,429	8,633,890	9,012,026
(% Change)	8.0	5.7	8.1	5.0	4.8	4.4

(a) The data is based on the base year 2010 GDP estimates of the Department of Census and Statistics.

(b) Revised

(c) Provisional

Sources: Department of Census and Statistics
Central Bank of Sri Lanka

salaries and wages grew only by 2.6 per cent in 2016 compared to 27.4 per cent growth in 2015, while the other purchases of goods and services contracted by 19.5 per cent during the year compared to 64.9 per cent growth in 2015, reflecting the decline in GCE.

PCE on food and non-alcoholic beverages which makes the highest contribution to PCE, grew by 5.1 per cent in 2016 compared to 18.4 per cent growth recorded in 2015. In rupee terms, the food and beverages import index grew by 7.3 per cent in 2016 compared to 3.5 per cent growth in 2015. However, the import volume index related to this category contracted reflecting that the nominal increase was driven by the higher prices. Meanwhile, the food inflation of the National Consumer Price Index (NCPI, 2013 = 100) increased at a slower pace of 3.1 per cent during the year compared to 5.2 per cent in 2015. The share of the food and non-alcoholic beverages category in PCE was 27.9 per cent in 2016 compared to 27.7 per cent in 2015.

PCE on alcoholic beverages, tobacco and narcotics grew by 16.7 per cent in 2016 compared to 10.3 per cent growth in 2015. This increase

was partially attributable to the upward revisions in government duties on alcoholic beverages, and tobacco and narcotic products during the year. The inflation of alcoholic beverages and tobacco (NCPI, 2013=100) increased to 22.1 per cent in 2016 from 17.5 per cent in 2015, reflecting the increase in respective price levels. Accordingly, the PCE share of this category increased to 2.1 per cent in 2016 from 1.9 per cent in 2015.

PCE on clothing and footwear contracted by 17.7 per cent in 2016 compared to 7.7 per cent growth in 2015. This moderation was reflected by the slower growth of 0.4 per cent in the rupee value import index of clothing and accessories in 2016 compared to 43.7 per cent growth recorded in 2015. Further, the clothing and accessories import volume index contracted by 13.7 per cent in 2016 compared to 26.3 per cent growth in 2015. As a result, the PCE share of this category declined to 3.0 per cent in 2016 from 3.9 per cent in 2015.

PCE on housing, water, electricity, gas and other fuels category grew by 9.5 per cent in 2016 compared to 11.5 per cent growth in 2015.

Table 2.11
Composition of Private Consumption Expenditure at Current Market Prices (a)

Category	Share of Total PCE (%)			Rate of Change (%)	
	2014 (b)	2015 (b)(c)	2016 (c)	15/14 (b)(c)	16/15 (c)
1. Food and Non-alcoholic Beverages	25.7	27.7	27.9	18.4	5.1
2. Alcoholic Beverages, Tobacco and Narcotics	1.9	1.9	2.1	10.3	16.7
3. Clothing and Footwear	3.9	3.9	3.0	7.7	-17.7
4. Housing, Water, Electricity, Gas and Other Fuels	10.7	10.9	11.4	11.5	9.5
5. Furnishings, Household Equipment and Routine Household Maintenance	1.3	1.2	1.4	1.0	18.1
6. Health	2.6	2.9	3.1	22.1	10.4
7. Transport	22.2	21.7	21.5	7.6	3.2
8. Communication	0.9	1.0	1.0	17.9	8.5
9. Recreation and Culture	1.3	1.7	1.5	44.5	-9.8
10. Education	1.8	1.6	1.5	-0.3	-1.8
11. Restaurants and Hotels	4.4	4.1	4.2	1.7	8.0
12. Miscellaneous Goods and Services	25.3	24.2	24.9	5.0	7.2
13. Direct Purchases Abroad by Residents	2.5	2.7	2.9	16.5	15.0
14. Less: Direct Purchases in Domestic Market by Non-residents	4.6	5.3	6.5	27.4	26.3
Total Private Consumption Expenditure	100.0	100.0	100.0	10.0	4.3

(a) The data is based on the base year 2010 GDP estimates of the Department of Census and Statistics.

(b) Revised

(c) Provisional

Source: Department of Census and Statistics

Electricity sales to the domestic sector grew by 8.3 per cent in 2016 compared to 10.1 per cent growth in 2015, reflecting the continuous expansion in electricity consumption of the household sector in the country. Further, distribution of water units to the domestic sector increased by 12.9 per cent during the year compared to 7.1 per cent growth in 2015. Meanwhile, the tariffs of electricity and water, and prices of diesel and petrol remained stable during the year, while the price of liquid petroleum gas was revised downwards in November 2016. The benign price pressure on the items in this category was reflected by 0.1 per cent increase in inflation in the category of housing, water, electricity, gas and other fuels (NCPI, 2013=100) in 2016 compared to 4.2 per cent increase recorded in 2015.

PCE on transport activities grew by 3.2 per cent in 2016 compared to 7.6 per cent growth in 2015. Registration of motor cars and motor cycles which reflects PCE on transport related goods recorded a significant contraction during the year. However, passenger bus fares were increased from August 2016, increasing the PCE on transport.

The growth in PCE on health services decelerated to 10.4 per cent in 2016 compared to 22.1 per cent growth in 2015, while PCE on education continued to contract by recording an 1.8 per cent contraction in 2016 compared to 0.3 per cent contraction recorded in previous year. The setback in PCE observed in health and education categories was partially owed to the impact of the indirect taxes imposed during the year curtailing demand. On the other hand, the downward revision of prices related to selected pharmaceutical products might have contributed to curtail health expenditure. Health and education expenditure represented 3.1 per cent and 1.5 per cent of the PCE, respectively,

which are still at low levels, since the government substantially involves in providing basic health and education services for free of charge, reducing the PCE on those categories. This was reflected by the production approach estimates where the value added of education and human health activities was mainly generated by the government sector.

PCE on communication grew by 8.5 per cent in 2016 when compared with 17.9 per cent growth in 2015. The imposition of Value Added Tax (VAT) on telecommunication services increased the unit cost of this category dampening demand. Further, the common floor rates of telecommunication services were also revised upwards during the year. This was reflected by 6.8 per cent increase in inflation of the communication category (NCPI, 2013=100) in 2016 compared to 0.1 per cent increase in 2015. Moreover, telephone and total internet connections slowed down during the year growing by 6.6 per cent and 20.3 per cent, respectively, compared to 8.8 per cent and 20.9 per cent growth, respectively, recorded in 2015. Further, import of telecommunication devices also slowed down during the year as per rupee value import index.

PCE on restaurants and hotels continuously expanded by 8.0 per cent in 2016 compared to 1.7 per cent growth in 2015. This growth was largely attributable to the changes in lifestyles with conducive atmosphere and rapid growth in hotels, cafes and restaurant facilities, proliferation of global restaurant chains, as well as the increase in tourist activities facilitating the continuous demand for such activities.

GCE which includes the collective final consumption expenditure and the individual final consumption of the government slowed down during the year in line with fiscal consolidation measures implemented by the government. Collective final consumption expenditure, the major

GCE category, accounted for 67.7 per cent of the GCE in 2016. This represents the expenditure incurred by the government for the benefit of the community as a whole, which includes expenditure on general public services, defence, public order and safety, economic affairs, environmental protection, housing and community amenities, recreation, culture and religion, and social protection. Accordingly, the government collective final consumption expenditure grew by 3.3 per cent in nominal terms in 2016 compared to 9.5 per cent growth recorded in 2015. This slowdown was mainly due to 9.0 per cent contraction in the expenditure on defence during the year against 4.2 per cent growth in 2015. Meanwhile, individual final consumption expenditure of the government which is the expenditure incurred for the benefit of individual households on education and health also slowed down to 2.7 per cent in 2016 compared to 22.6 per cent growth in 2015. Considering the disaggregated data, expenditure on education and health grew by 1.2 per cent and 4.5 per cent, respectively, in 2016 compared to 28.4 per cent and 16.1 per cent growth, respectively, recorded in 2015.

Investment

Investment expenditure recovered during 2016 recording a healthy growth rate of 19.6 per cent in nominal terms against the contraction of 7.0 per cent recorded during 2015. The expenditure on construction activities rebounded during 2016 recording a significant growth rate of 18.0 per cent, recovering from the marginal contraction of 0.2 per cent recorded in 2015 contributing substantially to the growth in investment. Large scale investment projects of the government as well as private sector involvement in investments, reflected by the significant growth in credit granted by Licensed Commercial Banks (LCBs) to the private sector for construction

activities, largely contributed to this growth. This was further indicated by the significant growth in imports of building materials which were used for construction activities. Further, the expenditure on machinery and equipment, and weapons systems, grew by 7.3 per cent in 2016 compared to 2.0 per cent growth in 2015. This was also reflected by the significant growth recorded in the imports of machinery and equipment, both in value and volume terms during the year. Further, investment on transport equipment, information and communication technology equipment, and intellectual property products positively contributed to the observed growth in investment activities, while investment on cultivated biological resources contracted during 2016. Moreover, change in inventories and acquisition less disposals of valuables significantly grew by 121.8 per cent in 2016 recovering from 56.1 per cent contraction recorded in 2015, supporting the investment growth.

Inflows of Foreign Direct Investment (FDI) to companies registered under the Board of Investment (BOI), including loans, amounted to US dollars 801 million in 2016 as compared to US dollars 969.7 million in 2015, reflecting a year-on-year decline of around 17.4 per cent. The main reason for the contraction in FDI inflows during the period

Chart 2.8
Foreign Direct Investment of BOI Enterprises (a)
(US\$ million)

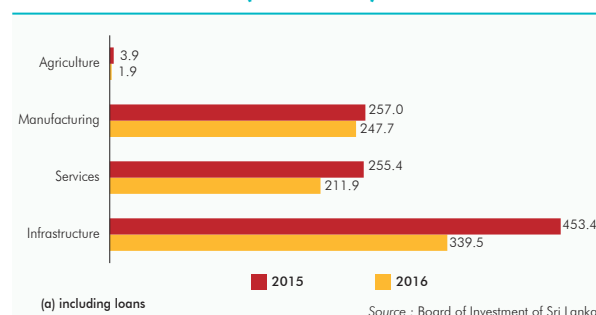


Table 2.12
Investment and Employment in Enterprises Registered under Board of Investment of Sri Lanka (BOI)
and Ministry of Industry and Commerce (MIC)

	No. of Projects		Estimated Investment (Rs.million)						Employment (No.)	
	2015 (a)	2016 (b)	2015 (a)			2016 (b)			2015 (a)	2016 (b)
			Foreign	Local	Total	Foreign	Local	Total		
BOI (Under Act No. 4 of 1978)										
Projects Approved	241	205	337,716	257,907	595,623	1,009,516	347,838	1,357,354	38,408	27,153
Under Section 17 (c)	224	191	335,840	256,535	592,375	1,008,467	347,766	1,356,233	37,616	26,850
Under Section 16	17	14	1,876	1,373	3,248	1,049	72	1,121	792	303
Projects Contracted Under Section 17 (c)	155	180	147,631	141,675	289,307	528,215	226,566	754,781	23,426	27,300
Realised Investment Under Section 17 (d)(e)	1,989	1,929	1,236,251	755,557	1,991,808	1,345,715	834,098	2,179,813	n.a.	n.a.
Projects in Commercial Operations (d)	2,758	2,831	446,553	4,166,703	4,613,256	477,167	4,210,416	4,687,583	414,744	424,320
Under Section 17 (c)	2,032	2,097	411,962	4,155,929	4,567,892	441,744	4,199,306	4,641,050	377,586	387,112
Under Section 16	726	734	34,591	10,774	45,365	35,423	11,110	46,534	37,158	37,208
MIC										
Companies Registered (d)	2,276	2,436	-	-	204,522	-	-	204,975	311,698	315,681

(a) Revised

(b) Provisional

(c) Includes expanded projects

(d) Cumulative as at end of year

(e) Cumulative actual investment values are given

Note: Projects approved and contracted under Sec. 17 of the BOI Act are exempted from customs and exchange control regulations subject to the fulfilment of the investment threshold or any other specified requirements.

Sources: Board of Investment of Sri Lanka
Ministry of Industry and Commerce

was the decrease in inflows to infrastructure projects, services and manufacturing by 25.1 per cent, 17.0 per cent and 3.6 per cent, respectively. Majority of FDI during the period was on account of infrastructure sector representing 42.4 per cent of FDI (US dollars 339.5 million). FDI in the manufacturing sector represented 30.9 per cent of total FDI inflows (US dollars 247.7 million), whereas FDI in the services sector amounted to US dollars 211.9 million representing around 26.5 per cent of total FDI inflows during 2016.

Total estimated investments of projects approved in 2016 under Sections 16 and 17 of the BOI Act are estimated at Rs. 1,357.4 billion. Investment value of project approvals in the services, chemicals, petroleum, coal, rubber and plastics, non-metallic and mineral products sectors increased compared to 2015. However, estimated investment inflows into projects approved in food, beverages and tobacco, textile, wearing apparel and leather, fabricated metal, machinery and transport equipment sectors recorded a lower investment value compared to the last year. The

estimated investment value of projects contracted under section 17 was Rs. 754.8 billion, which was an increase of 160.9 per cent compared with 2015. Estimated investments of projects which commenced commercial operations under sections 17 and 16 of the BOI Act were Rs. 4,687.6 billion as at end 2016. The cumulative realised investment of the BOI by end 2016 was Rs. 2,179.8 billion.

Availability and Utilisation of Resources

The amount of resources available in the economy grew by 8.6 per cent in 2016 compared to 5.2 per cent growth recorded during 2015 registering a value of Rs. 15,281.5 billion in nominal terms. Considering the disaggregated data, both GDP and external resources increased in nominal terms during the year in comparison to 2015. Increase in prices as reflected by the increase in GDP deflator contributed to the nominal growth in domestic resources. Growth in domestic resources was driven by Industry and Services activities, while Agricultural resources declined during the year. In terms of external resources, the

Table 2.13
Total Resources and Their Uses at Current
Market Prices (a) (c)

Item	Percentage Share %		Percentage Growth %	
	2015 (b)	2016	2015 (b)	2016
A. Resources				
Gross Domestic Product	77.8	77.5	5.7	8.1
Import of Goods and Services	22.2	22.5	3.5	10.1
Total	100.0	100.0	5.2	8.6
B. Utilisation				
Consumption	61.5	59.0	10.3	4.1
Gross Fixed Capital Formation	20.6	21.4	1.1	12.3
Changes in Inventories and Acquisition less Disposals of Valuables	1.5	3.0	-56.1	121.8
Export of Goods and Services	16.3	16.6	5.3	10.3
Total	100.0	100.0	5.2	8.6

(a) The data is based on the base year 2010 GDP estimates of the Department of Census and Statistics.

(b) Revised

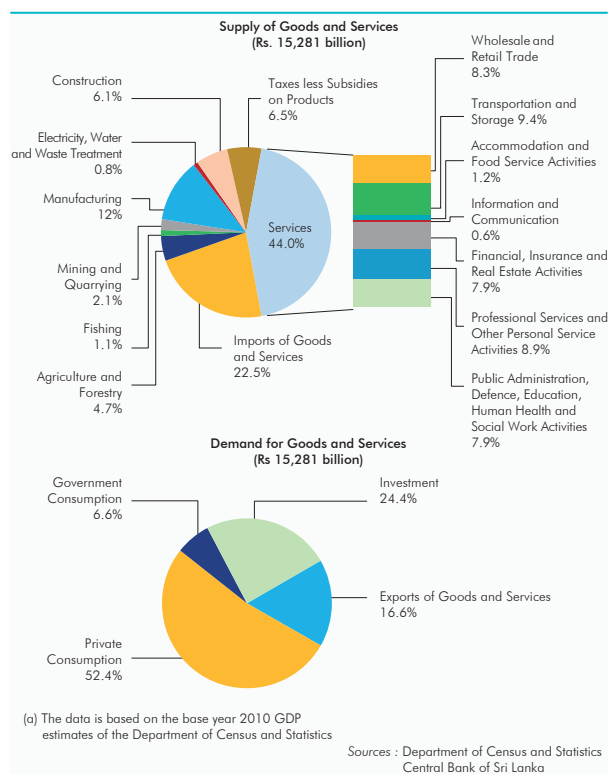
(c) Provisional

Sources: Department of Census and Statistics
Central Bank of Sri Lanka

increase in imports in nominal terms was partially attributable to the increase in import prices due to the depreciation of the local currency. However, in real terms, the growth in total resource availability slowed down to 5.2 per cent in 2016 compared to 6.1 per cent growth in 2015 mainly due to the slow growth in GDP as well as in external resources in real terms.

Majority of the available resources were used for consumption purposes accounting for 59.0 per cent of the total resources in 2016, which was a decline compared to 61.5 per cent in 2015 owing to the slowdown in consumption growth. The share of resources utilised for investment purposes improved to 24.4 per cent in 2016 as compared to 22.1 per cent in 2015. This was mainly attributable to the 12.3 per cent growth in gross domestic fixed capital formation in 2016 compared to 1.1 per cent growth in 2015, increasing the share to 21.4 per cent of the total resources utilised during the year. Meanwhile, exports share as a percentage of total resource utilisation improved slightly to 16.6 per cent in 2016 compared to 16.3 per cent share recorded in 2015, with an increase in exports in nominal terms due to the

Chart 2.9
The Economy in 2016 (at current market prices) (a)



relatively higher export prices. In real terms, resource utilisation declined due to the slowdown in consumption and the contraction in exports.

Savings

Domestic savings of the economy recorded a significant growth of 23.2 per cent in 2016 and reached Rs. 2,820.1 billion against 8.8 per cent contraction recorded in 2015. This improvement in domestic savings recorded during 2016 was driven by the healthy growth observed in private savings together with the significant decline in government dis-savings as a combined outcome of increase in government revenue and slowdown in government recurrent expenditure compared to 2015 following concerted efforts towards fiscal consolidation. As a result, domestic savings as a percentage of GDP increased to 23.8 per cent in 2016 compared to 20.9 per cent in 2015.

Table 2.14
Consumption, Investment and Savings at Current Market Prices (a) (c)

Item	Rs. million		% Change		As a per cent of GDP	
	2015 (b)	2016	2015 (b)	2016	2015 (b)	2016
1. Gross Domestic Product at Market Price	10,951,695	11,838,975	5.7	8.1	100.0	100.0
2. Consumption Expenditure	8,661,886	9,018,895	10.3	4.1	79.1	76.2
Private	7,677,131	8,003,789	10.0	4.3	70.1	67.6
Government	984,755	1,015,107	13.4	3.1	9.0	8.6
3. Investment	3,114,674	3,723,875	-7.0	19.6	28.4	31.5
4. Domestic Savings	2,289,809	2,820,080	-8.8	23.2	20.9	23.8
Private	2,536,588	2,891,799	-3.9	14.0	23.2	24.4
Government	-246,779	-71,719	-93.3	70.9	-2.3	-0.6
5. Domestic Savings - Investment Gap	-824,865	-903,795	1.4	-9.6	-7.5	-7.6
6. Net Primary Income from Rest of the World (d)	-281,337	-332,758	-19.2	-18.3	-2.6	-2.8
7. Net Current Transfers from Rest of the World	842,082	939,782	3.6	11.6	7.7	7.9
8. National Savings	2,850,554	3,427,104	-7.7	20.2	26.0	28.9

(a) The data is based on the base year 2010 GDP estimates of the Department of Census and Statistics

(b) Revised

(c) Provisional

(d) The difference with the BOP estimates is due to the time lag in compilation.

Sources: Department of Census and Statistics
Central Bank of Sri Lanka

National savings of the economy grew by 20.2 per cent in 2016 registering Rs. 3,427.1 billion against 7.7 per cent contraction observed in 2015. This recovery was mainly attributable to the significant growth in domestic savings. Further, net current transfers from the rest of the world grew by 11.6 per cent during the year, contributing positively to national savings. Meanwhile, net primary income from the rest of the world further contracted during the year albeit at a slower pace compared to the previous year. Accordingly, national savings as a percentage of GDP improved to 28.9 per cent in 2016 compared to 26.0 per cent recorded in 2015. However, as a result of the higher growth in investment expenditure, national savings-investment gap increased marginally to 2.5 per cent of GDP in 2016 compared to 2.4 per cent of GDP in 2015.

2.6 Income

The disaggregated components that generated income within the economy during the year are illustrated through the income approach. The Gross Operating Surplus (GOS), the major income source accounted for 69.0 per cent, followed by the Compensation of the

Employees (CE), and the taxes less subsidies on production which accounted for 30.6 per cent and 0.4 per cent, respectively, of the total gross value added of the economy in 2016. The GOS grew by 6.5 per cent in nominal terms in 2016 compared to 2.8 per cent growth observed during 2015. This increase was mainly attributable to the increase in Net Operating Surplus (NOS), the main income category in the GOS which grew by 7.3 per cent in 2016 as compared to 2.0 per cent growth in 2015. Further, the other two sub categories of the GOS, which are Consumption of Fixed Capital and Mixed Income, grew by 1.9 per cent and 5.8 per cent in 2016, respectively, compared to 5.9 per cent and 5.5 per cent growth recorded in 2015, respectively. Meanwhile, taxes less subsidies on production grew by 10.8 per cent in 2016 compared to 5.3 per cent growth recorded in 2015.

With respect to institutional sector classification, the highest contribution to the income was generated by the HH and NPISH sector which accounted for 50.7 per cent of gross value added recording a growth of 6.2 per cent. This was followed by the NFC which grew by 8.3 per cent accounting for a share of

Table 2.15
Income Components by Institutional Sector at Current Market Prices (a) (c)

Item	Percentage Share (%)									
	2015 (b)					2016				
	Non-Financial Corporations	Financial Corporations	General Government	Households and Non-Profit Institutions Serving Households	Total Economy	Non-Financial Corporations	Financial Corporations	General Government	Households and Non-Profit Institutions Serving Households	Total Economy
Compensation of Employees	31.3	5.2	28.9	34.6	100.0	30.9	5.3	28.9	34.9	100.0
Gross Operating Surplus	34.8	3.9	2.8	58.5	100.0	35.7	4.4	1.8	58.1	100.0
Net Operating Surplus	38.2	4.6	1.8	55.4	100.0	39.3	5.3	0.9	54.5	100.0
Mixed Income	-	-	-	100.0	100.0	-	-	-	100.0	100.0
Consumption of Fixed Capital	42.9	2.4	12.1	42.6	100.0	43.3	2.4	9.7	44.6	100.0
Other Taxes less Subsidies on Production	91.4	8.3	-	0.3	100.0	91.0	8.7	-	0.3	100.0
Gross Value Added at Basic Price	34.0	4.3	10.7	51.0	100.0	34.5	4.7	10.1	50.7	100.0

(a) The data is based on the base year 2010 preliminary GDP estimates of the Department of Census and Statistics.

Source: Department of Census and Statistics

(b) Revised
(c) Provisional

34.5 per cent. From the total GOS of the economy, the HH and NPISH sector represented 58.1 per cent that grew by 5.7 per cent, while NFC accounted for 35.7 per cent and grew by 9.3 per cent in nominal terms in 2016. Meanwhile, with regard to CE, the HH and NPISH, and NFC sectors accounted for 34.9 per cent and 30.9 per cent, respectively, and recorded nominal growth rates of 8.2 per cent and 5.9 per cent, respectively, during the year. At

the same time, the GG sector also accounted for 28.9 per cent of CE growing by 7.0 per cent in 2016. NFC contributed to the majority of the taxes less subsidies on production with a share of 91.0 per cent and grew by 10.4 per cent in 2016. It was notable that even though HH and NPISH accounted for 50.7 per cent of the gross value added in 2016, its contribution to taxes less subsidies on production of the year was only 0.3 per cent.