

Reweighting and Recent Trends in Employment Statistics Based on Sri Lanka Labour Force Survey

Department of Census and Statistics

1. Recent Trends of the Labour Force Statistics

Weights that had been used in the Sri Lanka Labour Force Survey was rebased in 2015 taking the data from Census of Population and Housing 2012 into consideration by following international practices. In 2015, using the rebased weights labour force statistics were recomputed from 2011 onward.

1.1 Re-weighting of Labour Force Survey Statistics: 2011 – 2015

Sri Lanka Labour Force Survey (LFS) is an annual survey which has been conducted by the Department of Census and Statistics (DCS) since 1990. The main objectives of the survey is to estimate labour force, employment, unemployment and other relevant labour force statistics of the country and to study their variations over the period of time. The goal of a sample survey is to use sample data to estimate indicators for population and therefore the data collected at any survey need to be weighted (extrapolated) in order to provide estimated population.

Usually the survey weights are constructed based on a combination of probability calculations and non-response adjustments. Also to make a national survey results consistent with the current Mid-Year Population Estimates (MYPE) a population adjustment is done for any countrywide survey, which is referred to as applying ‘population controls’. However, if any revision is done for the already published official MYPE then the survey data must also be re-weighted to be consistent with revised MYPE. This is a general practice in all countries.

The major source of data for ‘population control’ is the Census of Population and Housing (CPH) which is conducted once in ten years. The Census of Population and Housing - 2012 (CPH 2012) was the most recent census conducted countrywide after three decades (after CPH 1981) due to prevailed situation of the country. The CPH was not conducted in 1991 and also the CPH 2001 did not cover the whole country due to the same reason. With the preliminary results of the CPH 2012 the mid-year population estimates of 2012 (MYPE 2012) published by the Register General’s Office (RGO) were rebased. These rebased provisional MYPE 2012 was again revised in 2014 with finalization of population statistics of CPH 2012. Also the prevailed population growth rates were changed (reduced) with the results of the Census 2012.

With the MYPE rebasing in 2012 it was found that published MYPE 2011 was higher than the rebased MYPE 2012 (based on CPH 2012). The difference or the intercensal error was about 0.44 million and this could be mainly attributed to the inability to conduct the CPH for 30 years.

Also working age population that is population above 15 years of age estimated from LFS 2012 was found to be higher than the 15 years and above population in rebased MYPE 2012 due to the reasons explained above and LFS being a sample survey and estimates are subjected sampling errors.

By observing all above factors DCS decided to reweight labour force statistics, as practiced in many other countries. Also it is identified that the MYPE of 2012 based on CPH 2012 is the most suitable base to make this re-weighting to the LFS data. This process of re-weighting enables the national statistics office to keep LFS estimates in line with the data available from latest population data. This study was completed in 2015. Accordingly, DCS arranged to re-weight published Labour force statistics from 2011 to 2015 and published the revised statistics in the 2015 LFS Annual report. Special bulletin on the

reweighting with revised statistics was released by the Department (<http://www.statistics.gov.lk/samplesurvey/Re-weightingLFS.pdf>).

After completing the reweighting DCS provided the new data series from 2011 onward and data users were informed by providing special report on re-weighting including revised statistics. The reweighted statistics should be treated as officially correct estimates. Therefore, when comparing labour force statistics data users are advised to use reweighted series from 2011 onward.

1.2 The Labour Force Statistics published in Central Bank 2015 Annual Report

In 2015 above reweighting study was in progress when the Central Bank was finalizing the Annual Report 2015 therefore, that report contained with **provisional** labour force statistics based on the published quarterly estimates (before reweighting). However, Central Bank clearly mentioned these data as provisional in the 2015 report (Table 4.9, Page 125). In 2016 Annual Central Bank Report they published the reweighted statistics for 2015 and 2016 and mentioned the change in the series (Table 4.8, Page 136).

1.3 Does the reweighting affect the pattern of the labour force statistics?

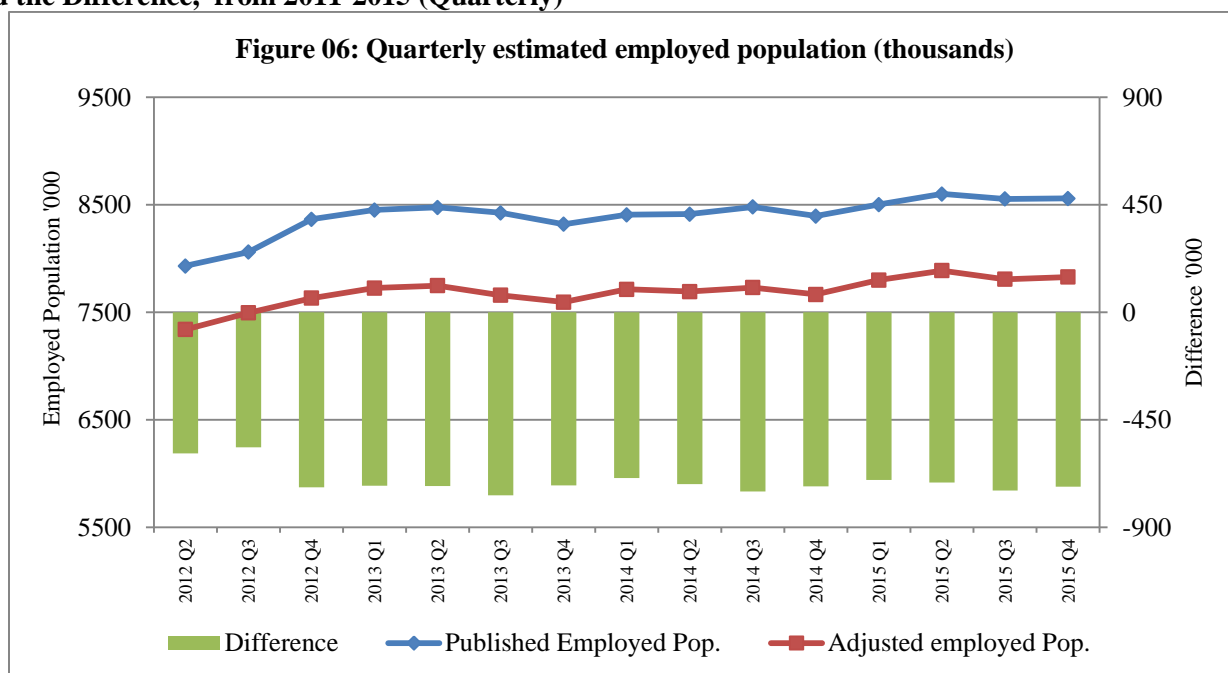
The reweighting usually do not affect the pattern, it only changes the absolute values. Following Table: 01 and Figure: 01 show this clearly.

Table 01: Labour Force Status of the household population aged 15 years and above; Published, Reweighted and the Difference, 2011-2015

Year	Status	Household Population (Age 15 years & over)	Labour Force		Employed		Unemployed		Not in Labour Force Number
			Number	Labour Force Participation Rate (%)	Number	Employment Rate (% to total Labour Force)	Number	Unemployment Rate (% to total Labour Force)	
2011*	Published	16,121,616	8,543,776	53.0	8,186,305	95.8	357,471	4.2	7,577,840
	Reweighted	14,975,989	7,926,445	52.9	7,591,591	95.8	334,854	4.2	7,049,544
	Difference	-1,145,626	-617,331	-0.1	-594,715	0.0	-22,616	0.0	-528,295
2012	Published	16,081,285	8,454,364	52.6	8,118,362	96	336,002	4.0	7,626,921
	Reweighted	14,857,578	7,798,407	52.5	7,488,704	96	309,703	4.0	7,059,171
	Difference	-1,223,707	-655,957	-0.1	-629,658	0.0	-26,299	0.0	-567,750
2013	Published	16,359,761	8,802,113	53.8	8,417,674	95.6	384,439	4.4	7,557,648
	Reweighted	14,959,065	8,033,804	53.7	7,681,279	95.6	352,526	4.4	6,925,260
	Difference	-1,400,696	-768,309	-0.1	-736,395	0.0	-31,913	0.0	-632,388
2014	Published	16,531,768	8,804,548	53.3	8,423,994	95.7	380,554	4.3	7,727,220
	Reweighted	15,134,484	8,048,884	53.2	7,700,489	95.7	348,395	4.3	7,085,600
	Difference	-1,397,284	-755,664	-0.1	-723,504	0.0	-32,160	0.0	-641,621
2015	Published #	16,670,508	8,972,578	53.8	8,553,877	95.3	418,701	4.7	7,697,930
	Reweighted	15,281,945	8,214,473	53.8	7,830,976	95.3	383,496	4.7	7,067,473
	Difference	-1,388,563	-758,106	0.0	-722,901	0.0	-35,205	0.0	-630,457
2016	Published	15,448,679	8,310,682	53.8	7,947,683	95.6	362,999	4.4	7,137,997

* Received sample size from Northern Province was not enough to provide quarterly estimates; therefore for 2011 annual estimates are provided including all provinces.

Figure 01: Distribution of Employed Population by Published (before reweighting), Reweighted and the Difference, from 2011-2015 (Quarterly)



Therefore, if a user wants to analyze the changes over the time points same series should be considered but should not compare points from two different series (before and after reweighting). The Following Table: 02 shows the annual employment change over the period from 2013-2016

Table 02: Annual changes in employed population for before and after reweighting

Year	Employment before reweight	Annual Change	Employment after reweight (Corrected)	Annual Change
2012	8,118,362		7,488,704	
2013	8,417,674	299,312	7,681,279	192,575
2014	8,423,994	6,320	7,700,489	19,210
2015	8,553,877	129,883	7,830,976	130,487
2016			7,947,683	116,707

Table 03: Quarterly changes in employed population for before and after reweighting

Year	Employment before reweight	Q1-Q1 Change	Employment after reweight (Corrected)	Q1-Q1 Change
2013 Q1	8,451,187		7,724,607	
2014 Q1	8,407,212	-43,975	7,712,703	-11,904
2015 Q1	8,502,270	95,058	7,800,070	87,367
2016 Q1			7,968,931	168,861
2017 Q1			8,230,207	261,276

Concepts and Definitions Used in Sri Lanka Labour Force Survey

1. ***Labour force:*** The labour force is composed of the currently economically active population 15 years of age and over.
2. ***Currently Economically Active Population:*** is defined as those persons who are/were employed or unemployed during the reference period (one week) of the survey.
3. ***Employed:*** Persons, who during the reference period, worked at least one hour as paid employees, employers, own account workers, or unpaid family workers are said to be employed. This includes persons with a job but not at work during the reference period.
4. ***Unemployed:*** Persons who are seeking and available for work, but had no employment during the reference period.
5. ***Not in the Labour Force (not economically active):*** Persons who were neither working nor available/looking for work are classified as "not in the labour force". Persons are not in the labour force for such reasons as: full time care of the household, full - time students, retired or old age, infirmed or disabled, or are not interested in working for one reason or another.