REPUBLIC OF THE PHILIPPINES

PHILIPPINE STATISTICS AUTHORITY BOARD

PSA Board Resolution No. 14
Series of 2021

ADOPTING THE GENERAL METHOD FOR ANNUALIZED ESTIMATES FOR THE LABOR FORCE SURVEY 2021 AND BEYOND

WHEREAS, labor and employment statistics are vital information in formulating and monitoring local development policies and plans on human capital development and promotion of employment hence, there is an urgent need for more disaggregated data for interventions that are suited to the need at the grassroots level;

WHEREAS, in the April 2016 round of the Labor Force Survey (LFS), the Philippine Statistics Authority (PSA) adopted the 2013 Master Sample (MS) designed to provide reliable quarterly estimates on levels and trends of the key labor and employment indicators of the country in each of the 17 regions;

WHEREAS, the estimates for the provincial and highly urbanized cities (HUCs) levels are, by design, reliable only for the annual estimates using the pooled samples from the four independent LFS rounds;

WHEREAS, the use of average estimates of the four LFS rounds as the official methodology for generating annual labor and employment estimates was approved through the PSA Board Resolution No. 01, Series of 2017-151 *-Approving and Adopting the Official Methodology for Generating Annual Labor and Employment Estimates*;

WHEREAS, in 2020, the conduct of the monthly LFS and the generation of monthly labor and employment statistics for 2021 was approved through the PSA Board Resolution No. 08 Series of 2020;

WHEREAS, in 2021, the Labor Force Survey presents a new challenge in estimating the quarterly and annual labor statistics as monthly surveys are added in between the regular quarterly surveys using one replicate selected from the replicates of the preceding regular surveys as sample;

WHEREAS, the PSA-SMU presented the general estimation methodology for annualized estimates using averaging and the results of the computational exercises for LFS 2021 during the special meeting of the IACLPS on 28 October 2021;

WHEREAS, the proposed method is recommended to be used for the 2021 annualized labor statisticsand beyond,as it is more general and can handle both designs with zero and non-zero month-to-month covariance.

WHEREAS, the formula are general so that they can be used even if the monthly replicates are independent from the regular replicates or when LFS was reverted back to quarterly conductand can also be used at different domains such as national, regional, and province/highly urbanized cities.

WHEREAS, after thorough discussions and deliberations, the IACLPS recognized the urgent need to adopt an official estimation methodology for the generation of annual provincial and HUC-level labor and employment statistics and the general method for annualized estimates from the monthly LFS in support of local development planning and policymaking;

NOW, THEREFORE, BE IT RESOLVED, AS IT IS HEREBY RESOLVED, that the PSA Board approves the adoption ofthe general method for annualized estimates from the monthly LFS;

BE IT RESOLVED FURTHER, that the PSA be given the mandate to generate annual labor and employment estimates in accordance with the approved methodology (Annex BR 14-20211109-01) adoption of annualized estimates from the monthly LFS starting 2021 as the official methodology.

Approved this 9th day of November 2021, in Metro Manila.

KARL KENDRICK T. CHUA
Secretary of Socioeconomic Planning
National Economic and Development Authority
Chairperson, PSA Board

OSEC-08181

Attested by:

CLAIRE DENNIS S. MAPA, Ph.D.
Undersecretary
National Statistician and Civil Registrar General
Philippine Statistics Authority
Chairperson, PSA Board Secretariat

Annex BR 14-20211109-01

METHODOLOGY FOR GENERATING ANNUAL LABOR AND EMPLOYMENT STATISTICS FOR 2021 AND BEYOND

Data Compiling Agency	Frequency and Schedule of release	Disaggregation	Key Indicators	Formula
Philippine Statistics Authority	Annual Schedule of release: **Preliminary Estimates:** 3rd week of March of the succeeding year **Final Estimates:** six (6) months after the reference period	National Regional Provincial Highly Urbanized Cities	1) Population 15 years and over 2) Labor Force totals 3) Employment totals 4) Unemployment totals 5) Underemployment totals 6) Labor Force Participation Rate 7) Employment Rate 8) Unemployment Rate 9) Underemployment rate	Average totals in a year (e.g., let Y be the total employment) • $\hat{\bar{Y}}_A = (1/12)\sum_1^{12}(\hat{Y}_m)$, in a year, where: *m* is month; *A* is annual/year Variance of totals in a year* • $\hat{V}\left(\hat{\bar{Y}}_A\right) = (1/12)^2\left(\hat{V}(\hat{Y}_1) + \hat{V}(\hat{Y}_2) + \hat{V}(\hat{Y}_3) + 2cov(\hat{Y}_1, \hat{Y}_2) + 2cov(\hat{Y}_1, \hat{Y}_3) + \hat{V}(\hat{Y}_4) + \hat{V}(\hat{Y}_5) + \hat{V}(\hat{Y}_6) + 2cov(\hat{Y}_4, \hat{Y}_5) + 2cov(\hat{Y}_4, \hat{Y}_6) + \hat{V}(\hat{Y}_7) + \hat{V}(\hat{Y}_8) + \hat{V}(\hat{Y}_9) + 2cov(\hat{Y}_7, \hat{Y}_8) + 2cov(\hat{Y}_7, \hat{Y}_9) + \hat{V}(\hat{Y}_{10}) + \hat{V}(\hat{Y}_{11}) + \hat{V}(\hat{Y}_{12}) + 2cov(\hat{Y}_{10}, \hat{Y}_{11}) + 2cov(\hat{Y}_{10}, \hat{Y}_{12})\right)$ * The covariances included are specific to 2021 LFS and may vary in future surveys depending on the month-to-month dependence. Ratio estimate in a year (e.g., let *Y* be the total employment, *X* be the total labor force, and R be the employment rate)

				• $\hat{R}_A = \hat{\bar{Y}}_A / \hat{\bar{X}}_A$ in a year The variance of ratio in a year: Taylor series approximation $\hat{V}(\hat{R}_A) \approx \left(1/\hat{\bar{X}}_A^2\right)\left[\hat{V}\left(\hat{\bar{Y}}_A\right) + \hat{R}_A^2 \hat{V}\left(\hat{\bar{X}}_A\right) - 2\hat{R}_A cov\left(\hat{\bar{Y}}_A, \hat{\bar{X}}_A\right)\right]$
Philippine Statistics Authority	Quarterly Schedule of release: **Preliminary Estimates:** 45 days after the reference quarter **Final Estimates:** six (6) months after the reference period	National Regional	1) Population 15 years and over 2) Labor Force totals 3) Employment totals 4) Unemployment totals 5) Underemployment totals 6) Labor Force Participation Rate 7) Employment Rate 8) Unemployment Rate 9) Underemployment rate 10) NEET 11) Not in the Labor Force	Average totals in a quarter (e.g., let Y be the total employment) • $\hat{\bar{Y}}_{q_i} = \left(\hat{Y}_m + \hat{Y}_{m+1} + \hat{Y}_{m+2}\right)/3$, in a quarter, where: m is month; Variance of totals in a quarter* $\hat{V}\left(\hat{\bar{Y}}_{q_i}\right) = (1/3)^2 \left(\hat{V}\left(\hat{Y}_m\right) + \hat{V}\left(\hat{Y}_{m+1}\right) + \hat{V}\left(\hat{Y}_{m+2}\right) + 2cov\left(\hat{Y}_m, \hat{Y}_{m+1}\right) + 2cov\left(\hat{Y}_m, \hat{Y}_{m+2}\right)\right)$ * The covariances included are specific to 2021 LFS and may vary in future surveys depending on the month-to-month dependence. Ratio estimate in a quarter (e.g., let Y be the total employment, X be the total labor force, and R be the employment rate) • $\hat{R}_{q_i} = \hat{\bar{Y}}_{q_i} / \hat{\bar{X}}_{q_i}$ in a quarter The variance of ratio in a quarter: Taylor series approximation $\hat{V}(\hat{R}_{q_i}) \approx \left(1/\hat{\bar{X}}_{q_i}^2\right)\left[\hat{V}\left(\hat{\bar{Y}}_{q_i}\right) + \hat{R}_{q_i}^2 \hat{V}\left(\hat{\bar{X}}_{q_i}\right) - 2\hat{R}_{q_i} cov\left(\hat{\bar{Y}}_{q_i}, \hat{\bar{X}}_{q_i}\right)\right]$