

TECHNICAL NOTES

2022 Occupational Wages Survey

I. Introduction

I.1. Background of the Survey

The Occupational Wages Survey (OWS) is a designated statistics under Executive Order No. 352 dated 01 July, 1996, and is recognized as one of the important statistical activities in the country that generates critical data as inputs to decision-making of the government sector and the private sector.

The OWS measures the wage disparities across occupations and industries within the country. It also identifies inequalities between workers in low-wage and high-wage occupations.

Objectives

The OWS aims to generate wage statistics that serve as critical inputs for policies related to wage and salary administration. These wage statistics are particularly crucial in matters concerning wage-fixing, price policies, and collective bargaining negotiations.

Statistics on wage rates are useful economic indicators and inputs to wage, income, productivity, and price policies, and in wage fixing in collective bargaining. Occupational wage rates are used to measure wage differences across occupations and industries, specifically wage differentials and wage inequality in typically low wage and high wage occupations. Industry data on basic pay and allowances can be used to measure wage differentials across industries, for investment decisions, and as reference in periodic adjustments of minimum wages. The wage data collected from the OWS can be used for international comparability as the industry codes and occupation codes used in the survey are the current standard codes used internationally.

Specifically, the OWS data on the Average Monthly Occupational Wage Rates of Selected Occupations is included as one of the variables listed and committed by the Philippine government to be regularly generated and disseminated under the Special Data

Dissemination Standard (SDDS) of the International Monetary Fund. The SDDS serves as reference to member countries in the dissemination of economic and financial data.

I.2. Historical Information on the Survey

The initial objective of the OWS was to generate wage estimates in aid to minimum wage determination. Starting from its first conduct in 1989, the OWS underwent multiple reviews and changes redesign in order to improve the survey.

- Original survey generates the data of average monthly wage rates of 22 low-paying/prevalent occupations in 21 non-agricultural industries (establishments employing at least 5 workers) and monthly median wage rates in all major non-agricultural industries.
- In 1994, total employment of covered establishments were raised to 10 workers or more.
- In 1996, the OWS was re-designed to focus on the wage rates of relatively skilled occupations in industries likely to be affected by the changing global and economic structure.
- Starting from 1997, OWS covered complete enumeration of non-agricultural establishments employing 50 persons or more.
- In 2001, the OWS was reviewed relative to the covered industries and occupations and reference period. At most 10 occupations were covered in each of the selected industries with basis on the 2001-2002 Key Indicators of the Labour Market of the ILO, the Occupational Employment Survey of the US Bureau of Labor Statistics, and the list of emerging occupations from PSA surveys.
- In 2002, OWS coverage was limited Metro Manila due to budget cuts. This was also when the wage rates of two benchmark occupations (Accounting and Bookkeeping Clerks; and Unskilled Workers) were monitored in all of the covered industries.
- In 2006, employment size cut-off of sample establishments was lowered to 20 persons.
- In 2012, pre-determined industries totaled to 50 due to the inclusion of agriculture, forestry and fishery; and the splitting

and merging of original industry domains with the adoption of the 2009 PSIC.

- The number of industries and occupations being included to be covered for wage monitoring continually grew as emerging industry trends changes. In 2014, there were a total number of 188 occupations in the 69 covered industries.
- In 2018, the OWS reference period was changed from July to August in order to capture the implementation of Regional Wage Orders.
- In 2020, the domain J62/J63 computer programming, consultancy and related activities; information service activities were separated into two separate industry domains.

With the latest 2022 OWS, which is the fourteenth survey in the series, it now covered a total of 72 industries with an aggregate of 193 occupations in pre-determined industries.

Periodicity and Reference Period: The OWS is conducted every two years with 31 August 2022 as the reference period.

I.3. Scope and Coverage

Geographical: The whole country.

Establishments: The OWS is confined to the formal establishments employing 20 persons or more that is comprised of the following:

- a. corporation and partnerships
- b. cooperatives and foundations
- c. single proprietorship with and without branches

Persons: Time-rated workers on full-time basis.

Industrial: Agricultural and non-agricultural industries except central banking, public administration and defense and compulsory social security; retail sale via stalls and markets, jeepney and AUV operation; tricycle, calesas, pedicabs operations; public education services; public medical, dental and other health services; cockpits operation activities, musical band or band in operation during fiestas; activities of membership organizations; activities of households as employers of domestic personnel; undifferentiated goods-and-

services-producing activities of households for own use; and activities of extra-territorial organizations and bodies.

For purposes of monitoring occupational wage rates, 56 industries were pre-determined out of the 72 industries covered by the survey.

The 56 industries from which industry-specific occupations shall be monitored were identified based on the following:

- Philippine Development Plan 2017-2022 Priority Sectors;
- Strategic Investment Priority Plan (SIPP) by the Department of Trade and Industry (DTI);
- Manufacturing Resurgence Program by the Department of Trade and Industry (DTI);
- Philippine Inclusive Innovation Industrial Strategy (i3s) by DTI;
- Trabaho, Negosyo, at Kabuhayan Key Employment Generating Sectors (KEGS) by the DTI and the Department of Labor and Employment (DOLE);
- National Technical Education and Skills Development Plan (NTSEDP) 2018-2022 by Technical Education and Skills Development Authority (TESDA);
- Brunei, Indonesia, Malaysia, Philippines – East ASEAN Growth Area (BIMP-EAGA) Vision 2025;
- Industries likely to be affected by General Agreement on Tariffs and Trade (GATT);
- Industries monitored by the ILO industrial committees and similar bodies; and
- Emerging industries as in the case of Digital Economy: Transport Services; Animated Films and Cartoons Production; Computer Programming, Consultancy and Related Activities; Information Service Activities; Real Estate Activities; Call Center Activities (Voice); Back-Office Operations Activities (Non-Voice); and Medical Transcription Activities.

Occupations: The 2022 OWS Part C gathers data on basic pay and allowances of time-rated workers in Benchmark Occupations, which refer to occupations that are widespread or common to all

establishments and are usually at or near the bottom of the wage scale or mostly low-paid occupations. The 2022 OWS specifically collects and monitors data on the employment and wage rates of two (2) benchmark occupations namely: (1) Accounting and Bookkeeping Clerks; and (2) Elementary Occupations (Unskilled Workers) in all industries covered by the survey.

In addition to the two benchmark occupations, the OWS also monitors 193 industry-specific occupations. These pre-determined occupations were inquired in the 72 industries covered in this survey.

The specific occupations for monitoring wage rates were selected based on the following:

- Relative importance of the occupations in the industry;
- Consultations with employers and workers groups, government agencies and the academe;
- Catalogue of the Occupational Skills Standards for National Certification Program of the Technical Education and Skills Development Authority;
- Occupations covered by the ILO October Inquiry on Occupational Wages and Hours of Work;
- Occupational Employment Survey (OES) of the US Bureau of Labor Statistics;
- JobsFit 2022 Labor Market Information Report;
- Results from the previous Occupational Shortages and Surpluses module of the Integrated Survey on Labor and Employment (ISLE); and
- Results from the previous OWS.

II. Data Collection

II.1. Data Collection Procedure

The field operations of the 2022 OWS was conducted nationwide with the delivery of questionnaires that started on 03 October 2022. Statistical Researchers (SRs) were hired to personally deliver/distribute the questionnaires from the sample establishments.

Retrieval/collection of the questionnaires commenced within ten (10) working days from delivery to establishment or on a date agreed upon by the contact person and the SR. Some respondents also submitted the accomplished questionnaire through the Computer-Assisted Web Interviewing (CAWI) system.

OWS Occupational Sheet, containing the list of monitored occupations, was inserted in the questionnaire of an establishment whose industry belongs to the 56 pre-determined industries that are being monitored on occupational wage rates. If the industry of such establishment has been misclassified in the sampling frame or have changed their main economic activity, the appropriate OWS Occupational Sheet was provided by the SR.

II.2. The Instrument and Data Items Collected

The 2022 OWS utilized the following to capture data of sample establishments:

1. Self-administered questionnaire through printed questionnaire;
2. Online questionnaire which can be accessed at <https://ows-isle.psa.gov.ph/dps>; and
3. Electronic copy of the questionnaire in fillable portable document format (.pdf) or Excel (.xlsx) file format.

The following data items were inquired in the 2022 OWS:

- a) Number of time-rated workers on full-time basis by time-unit and basic pay/allowance intervals;
- b) Number of time-rated workers on full-time basis by actual basic pay and allowance in selected industries and occupations; and
- c) Number of time-rated workers on full-time basis by actual basic pay and allowance in monitored occupations for all industries; and
- d) List of other occupations on full-time basis within the establishments.

III. Methodology

III.1. Sampling Unit

The statistical unit was the establishment. Each unit was classified to an industry that reflects its main economic activity. The main economic activity was the activity that contributes the biggest or major portion of the gross income or revenue of the establishment.

III.2. Sampling Frame

The sampling frame used for the 2022 OWS was extracted from the 2021 updated List of Establishments (LE) as of 24 January 2022. This frame was used to draw the sample establishments for the surveys.

The final frame for the 2022 OWS consists of about 42,962 in operation and formal sector establishments nationwide.

III.3. Sampling design

The survey used stratified systematic sampling design. The first stratification variable is a 2-digit to 5-digit industry classification based on the 2019 Updates to the 2009 PSIC. The second stratification variable is total employment (TE) with three strata as follows:

Employment Stratum	Total Employment	Probability of Being Sampled
1	20-99	Non-Certainty
2	100-199	Certainty
3	200 and over	Certainty

Geographic and industry grouping are also considered in the stratification for detailed sample size determination for each region and industry within the non-certainty unit based on employment size.

III.4. Domains

Industry Domains - The industry domains, which is also referred as industry stratum for the 2022 OWS, are the 2-digit level (division), 3-digit (group), 4-digit (class) and 5-digit level (sub-class) of the 2009

PSIC. A total of seventy-two (72) industries were considered as domains.

Employment Domains – The employment domain of the survey covers the small, medium and large establishments. With the exclusion of total employment of one to nine as they were not covered in the 2022 OWS, the employment domains that were based on NSO and Small and Medium Enterprise Development Council Resolution No. 1, Series of 2003, adopting the definition of Micro Small Medium Enterprise (MSME) according to employment size, was reclassified into:

Total Employment	Size
10-99	Small - 1
100-199	Medium - 2
200 or more	Large - 3

III.5. Sample Size and Selection Procedure

III.5.1. Sample size determination and Allocation

For the 2022 OWS, the total number of samples was 16,057 establishments, which was computed to generate reliable estimates for the domains or a target coefficient of variation of 6 percent for each domain. The total sample size included an additional sample of 10.0 percent to account for possible non-response.

A **certainty stratum** is defined as the stratum whose sampling ratio is 100 percent. In this stratum, all establishments are taken as samples. The selection probabilities and sampling weights of establishments under this stratum is 1. For **non-certainty stratum**, only sample establishments are taken .

Certainty stratum

Establishments employing 100 or more workers were taken with certainty as they are expected to be the main drivers of economy but

comprise only around 20 percent of the total formal establishments. For this survey round, all establishments with 100 or more workers were automatically included in the survey.

Moreover, some industry strata were treated as certainty strata, regardless of employment size, due to limited number of establishments existing in the whole population. This measure is taken to guarantee that all these industry strata will still yield reliable estimates, in anticipation of unit non-response.

Accordingly, a total of 8,790 sample establishments were considered as certainty units.

Non-certainty Stratum

Establishments with employment size of 20-99 were considered in non-certainty stratum.

Sample size allocation for the non-certainty stratum

The initial sample size determined at the national level for the 20-99 employment size stratum was distributed to the industry strata by region using the KISH allocation with the following formula:

$$n_{jk} = n_m \left[\frac{\sqrt{\frac{1}{L^2} + IW_h^2}}{\sum_{jk=1}^L \sqrt{\frac{1}{L^2} + IW_a^2}} \right]$$

where:

- n_{jk} - sample size in the j^{th} region and k^{th} industry stratum
- n_m - initial sample size for the m^{th} employment size domain/stratum where m refers to the 20-99 employment size domain/stratum
- L - Total number of strata (region and industry)

I - set at 1.5 to allow approximately proportional allocation for each stratum

W_a - survey weight which is equal to $\left(\frac{N_a}{N}\right)$,

where:

N_a = population size for h^{th} stratum

N = total population size

The allocated sample size for each stratum was further adjusted to account for availability of population units and pre-determined certainty units for some industry strata. This adjustment is necessary because some industry strata have a limited number of establishments existing in the population. The final sample size computed for employment size 20-99 domain/stratum was **7,355 establishments**.

Final Sample Size

The adjusted sample size for 20-99 after KISH allocation procedure was then added to the certainty strata, i.e., 100-199 and 200 and over employment size group (8,702 establishments).

Thus, the total number of samples for the 2022 OWS is **16,057**.

III.5.2. Sample selection

Specifically, for employment size 1 stratum, sample establishments are selected for each industry strata using systematic sampling.

III.6. Estimation Procedure

III.6.1. Survey Weights

$$W_{hi} = \frac{N_{hi}}{n_{hi}}$$

where:

- W_{hi} - base weight for the i^{th} sample establishment of the h^{th} stratum (industry-employment stratum)
- N_{hi} - total number of establishments in the h^{th} stratum (industry-employment stratum)
- n_{hi} - number of sample establishments in the in the h^{th} stratum (industry-employment stratum)

The base weight was adjusted to take into account non-responding and non-eligible samples. The final weight is denoted by W'_{hi} .

$$W'_{hi} = \frac{N_{hi}}{n_{hi}} \times \frac{n''_{hij}}{n'_{hij}}$$

III.6.2. Estimation of Totals and Means

Estimation of Industry Total

$$\hat{Y}_{ind} = \sum_{h=1}^a \sum_{i=1}^{n_h} w'_{hi} y_{hi}$$

where:

- \hat{Y}_{ind} - estimated total per industry
- w'_{hi} - survey weight
- y_{hi} - survey data (full time workers and wage rate)

Estimation of Average Wage Rate

$$\hat{Y}_{w ind} = \frac{1}{n} \sum_{k=1}^m \sum_{i=1}^{o_k} w' y_{ik}$$

where:

- $\hat{Y}_{w ind}$ - estimated average wage rate per selected occupation
- w' - survey weight
- y_{ik} - survey data (wage rate)

- n - number of workers per selected industry
- o_k - selected occupation
- m - selected industry

These estimates are then aggregated to the desired totals.

For the 2022 OWS, sample values of basic pay and allowances for the monitored occupations whose basis of payment is by hour or a by day are converted into a standard monthly equivalent, assuming 309 working days and 8 hours per day. Daily rate is multiplied by 25.75 (days per month) while hourly rate is multiplied by 206 (hours per month).

The median monthly basic pay is computed from the estimated distribution of workers by monthly basic pay. On the other hand, the median monthly allowance is computed only for those workers that have allowances.

III.6.3. Estimation of Measures of Precision

$$\text{Coefficient of Variation} = \left(\frac{\text{Standard Error}}{\text{Estimate}} \right) * 100$$

where:

Estimate can be Total Employment or Average Wage

- **Coverage of the sampling frame:** Partially updated.
- **Sampling error/Sampling variance:** Starting with the 2006 survey round, coefficients of variation on occupational wage rates were published.
- **Non-response rate:** For 2022 OWS, the non-response rate in terms of eligible units is 8.1 percent.
- **Non-sampling errors:** These may occur due to inaccuracies in reporting by establishments and enumerators, mistakes in

coding, editing and data entry. However, efforts are made to reduce non-sampling errors by careful design of the questionnaire, intensive training of survey personnel, linkages with key informants (employers' and workers' groups, government agencies and the academe) and through adoption and documentation of efficient operating procedures.

- **Conformity with other sources:** In relation to the reference period of the OWS or a period close to it, the survey results are compared with the employment of the ISLE and the minimum wage rates.
- **Estimates for non-survey years:** Not relevant.

IV. Concepts and Definitions of Terms

Establishment - an economic unit, which engages under a single ownership or control, i.e., under a single legal entity, in one or predominantly one kind of economic activity at a single fixed physical location.

Time-rated workers on full-time basis - workers paid on the basis of a time unit of work and who work at jobs with hours of work equal to or more than those considered as normal or regular to the establishment.

Time unit - basis of computing, determining, or fixing the basic pay or allowance, i.e., hourly, daily, or monthly. This is different from frequency of payment such as twice a month.

Wage Rate - refers to the sum of basic pay and regular/guaranteed cash allowances.

Basic pay - includes pay for normal/regular working time before deductions for employees' social security contributions (e.g., SSS/GSIS, PhilHealth, PAG-IBIG) and withholding taxes, etc. However, basic pay excludes overtime, night shift differential and

other premium pays; commissions, tips, and shares of employees in service charges; payments in kind; allowances; and bonuses and gratuities.

Allowances - include cost of living allowances (COLA) and other guaranteed cash payments given regularly. It excludes, however, reimbursements for travel, entertainment, meals, and other expenses, etc. incurred in conducting the business of the employer; cost of uniform/working clothes; bonuses and gratuities; family allowances; and payments in kind.

Median - refers to the value that divides the wage distribution into two equal parts. It is the value where half of the distribution receive more while the other half receive less.

Benchmark occupations: refer to occupations monitored in all industries covered by the survey. It serves as a standard or point of reference against which other occupations may be compared or assessed. The OWS specifically collects data on these two benchmark occupations: (1) Accounting and Bookkeeping Clerks and (2) Elementary Occupations (Unskilled Workers).

V. Dissemination of Results and Revisions

V.1. Schedule of Release

For 2022 OWS, the schedule of release is as follows:

- Reference Period - 31 August 2022
- Field Operations - 03 October 2022 to 31 January 2023
- Release of Final Results - 31 August 2023

V.2. Forms of Dissemination

Final results of the 2022 OWS are disseminated through the posting of Press Release, Statistical/Publication Tables, and Infographics on the PSA website, and PX files in OpenSTAT. Likewise, publications

through Statistical Report and LabStat Updates will also be available in the OWS page in the PSA website. Further, a dissemination forum together with the results of the 2021/2022 ISLE will be conducted.

VI. Citation

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Link: <https://psa.gov.ph/statistics/occupational-wages-survey/technical-notes>

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