Palestinian Central Bureau of Statistics

Labor Force Survey 1996

Data Users Guide

Concepts and Definitions

This chapter presents main concepts and definitions used in the survey. These concepts are based on international standards.

Household:
One person or a group of persons living together who make common provision for food and other essentials necessary for living. Household members may be related to each other or not.

Working Age of Population:
All persons in the West Bank and Gaza Strip aged 15 years and above.

Reference Week:
The week ending on Friday preceding the interviewer's visit to the household.

Work:
Includes any activity conducted for wage or salary, for profit or family gain, in cash or in kind. One hour or more of such activity constitutes work. Work also includes unpaid activity on a family farm or business.

Employed:
All persons aged 15 years and older who work at least one hour during the reference week, or who are not at work during the reference week, but hold a job or owned business from which they arre temporarily absent (because of illness, vacation, or any other reason). Employed persons are classified according to employment status as follows:

1. **Employer:**
   A person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires one or more waged employees.

2. **Own-account Worker (self-employed):**
   A person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires no wage employees.

3. **Employee:**
   A person who works for a public or private employer and receives remuneration in wage, salary, commission, tips, piece-rates or pay in kind.

4. **Unpaid Family Member:**
   A person who works without pay in an economic enterprise operated by a related person living in the same household.

Unemployed:
Unemployed persons are individuals 15 years and older who do not work at all during the reference week, who are not absent from a job and available for work and actively seeking a job during the reference week. Persons who work in Israel or are absent from work due to closure are considered unemployed.

Labour Force:
The economically active population (Labour Force) consists of all persons aged 15 years and above who are either employed or unemployed at the time of the survey.

Underemployment:
Underemployment exists when a person's employment is inadequate in relation to alternative employment, account being taken of his/her occupational skills. The underemployed persons are classified into two groups:

1. **Visible Underemployment:**
   Visible underemployment refers to insufficient volume of employment:
   persons working less than 35 hours during the reference week or working less than the normal hours of work in their occupation are considered visibly underemployed.

2. **Invisible Underemployment:**
   Invisible underemployment refers to a misapplication of labour resources or fundamental imbalance between labour and other factors of production, such as insufficient income, underutilization, or current poor working conditions, or other economic reasons. In this survey, employed persons are classified as invisibly underemployed when they are not already classified as visibly underemployed and want to change their jobs because of insufficiency income, or because they are working in an occupation which they are over qualified for.

Main Job:
The main job is the one for which one works the most hours. If a person usually works the same number of hours at two jobs, the "main" job is the one held the longest.

Full Time Job:
Any job that is usually 35 hours or more per week. In some occupations, usual weekly schedules of less than 35 hours are considered to be full-time. In this case, the option "normal hours are full time" is used.

Part Time Job:
A job for which a person works less than 35 hours. In addition, a job is a part time job if the hours worked are less than used for that particular job.

Occupation:
Occupation refers to the classification of work done during the reference period by the person employed, or the type of work done previously, if unemployed, irrespective of the industry or employment status of the person. Occupations are grouped together mainly on the basis of the similarity of skills required to fulfill the tasks and duties of the job. Occupations are classified according to the International Standard Classification of Occupation (ISCO 1988).

Industry:
Industry refers to the activity of the establishment for which an employed person worked during the reference period, or last worked for unemployed. This activity is defined in terms of the type of goods produced or services supplied. Industry activities are classified according to the unified commodity classification in the West Bank and Gaza Strip which is based on the International Standard Classification of All Economic Activities (ISIC Rev3).

Hours Worked:
Total number of hours worked during the reference period as well as overtime and time spent at the place of work on activities such as preparation of the workplace. Leaves of absence, meal breaks and time spent on transportation from home to work and vice versa are excluded from hours worked.

Absent from Usual Work:
All those who were absent from their usual work during the reference week, due to illness, holiday, strike, curfew, lock-out, temporary work stoppage, or other reasons are considered absent from work.

Those Seeking Work:
Those seeking work have taken specific steps during the reference week to find paid employment or self-employment. Job seekers are classified into:

- Those available for work: A person ready to work if he/she is offered any job, and there is no reason preventing him/her from accepting such a job although he/she did nothing to get a job.
- Those actively seeking work: persons who is willing to work and is actively seeking work by reading newspaper advertisements, asking friends, registrating at the labour exchange offices, or asking employers.

Persons Outside Labour Force:
These are all persons aged 15 years and over, who are neither employed nor unemployed according to the above definitions.

Years of Schooling:
The number of regular years of study completed successfully. Repetition years and irregular study or courses are not taken into account.

Work Days:
Number of days at work during the month, excluding week-ends, holidays, sick and other paid or unpaid leaves. A single hour of work in a given day makes that day a work day; thus the half-day of work on Thursdays, customary to Palestinian civil service, is counted as a workday.

Average Monthly Work Days per Employee:
The total monthly work days divided by the number of employees .

Daily Wage per Employee:
Total net wages paid to all employees divided by the total number of work-days. Wages received in different currencies are converted into New Israeli Shekels according to current exchange rate.

Sampling Frame

The methodology was designed according to the context of the survey, international standards, data processing requirements and comparability of outputs with other related surveys.

Questionnaire Design:

The questionnaire included four parts: one for recording necessary elements for survey management and controls, part for identifying the sample household, one for recording the household roster and the demographic characteristics of household members, and one for recording labour force characteristics of working age household members.

Sampling Frame and Target Population:

In the absence of a population census after 1967, the major task regarding constructing a master sample was to develop a sampling frame of suitable units for whole country. The units are used as the PSUs (Primary Sampling Units) for the first stage of selection. For the second stage of selection, all PSUs are listed in the field, at the household level. This provided a sampling frame for selecting the households.

The target population includes all Palestinians aged 15 years and older living in the Palestinian Territories, excluding nomads and persons living in institutions such as prisons or shelters.

The Methodology:

In accordance with survey rotation methodology, the labor force survey is conducted quarterly. In 1996, the survey was conducted three times (rounds), as seen in figure (1). In the second round, 480 cells were covered (visited) distributed into 6 sub-samples $(r_1, r_2, ... r_6)$, every sub-sample consisting of 80 cells. The households of the second round were visited for third round excluding 1/6 of the sample. The same method applies to rounds 3 and 4.

Figure (1): Survey Rotation

Second Round	*Third Round*	*Fourth Round*
r_1		
r_2	r_2	
r_3	r_3	r_3
r_4	r_4	r_4
r_5	r_5	r_5
r_6	r_6	r_6
	$\bar{r}_1$	$\bar{r}_1$
		$\bar{r}_2$

r_i : Sub-Sample $_i$, consisting of 80 cells (about 1270 households)

$\bar{r}_i$: Replaced Sub-Sample i, consisting of the same r_i cells but different households with the same number of households (about 1270 households).

Figure (1) shows that the sub-samples households (r_3, r_4, r_5, r_6) were visited in the three rounds. The households in the sub-samples $(\bar{r}_1, r_2)$ were visited two times, where the households of the sub-sample r_2 were visited in the second and third round, and the households of the sub-sample $\bar{r}_1$ were visited in the third and fourth round. The households of sub-samples $\left(r_1, \bar{r}_2\right)$ were visited once, households of r_1 were visited in the second round and households of were r_2 visited in the fourth round.

4-2-1 Sample Design:
The sample is a two-stage stratified cluster random sample.

Stratification:

Four levels of stratification were used:
1. Stratification by District.
2. Stratification by place of residence, comprising:
(a) Municipalities; (b) Villages; (c) Refugee Camps
3. Stratification by size of locality.
4. Stratification by cell identification according to locality.

Sampling Unit:
The first stage-sampling units are area units (Cells) in the master sample. The second stage sampling units are households.

Sample Size:
The sample size in the second round consisted of 7210 households (about 25563 persons of working age); in the third round consisted of 7318 households (about 25348 persons in working age); in the fourth round consisted of 7120 households (about 25167 persons in working age). This size allowed for non-response and related losses. In addition, the average number of households selected in each cell was 16.

Self-weighting Design:
It is recommended to use a design that gives equal weights per household in each round at the selection stage; this is done in order to avoid difference in weights. The following is a description for level one round:

At the first stage, "clusters" or "cells" have been selected with (PPES) probability proportional to the estimated measure of size (Mi) for unit (i):

$$f1_i = \frac{aM_i}{\sum M_i}$$

Where the summation is over all clusters in the population; a is the total number of selected clusters which is 480. It is highly desirable for the LFS to have a constant overall sampling rate (f), i.e. to have a self- weighting sample. This requires the second stage probability for the selection of households and persons within any sampled cluster i to be as follows:

$$f2_i = \frac{f}{f1_i} = f\,\frac{(\sum M_i)}{a}\,\frac{1}{M_i} = \frac{(b)}{M_i}$$

Where b is a constant (independent of i) to be determined so as to obtain the required sample size n = 7500 households. Since the measures of size M_i are likely to differ from the actual number L_i of households listed in any cluster i, the actual number of households which shall be selected with the above $f2_i$ shall vary from one cluster to another and are given by:

$$b_i = f2_i * L_i = \frac{(L_i)}{M_i} * b$$

Summing over all clusters in the sample gives the required constant b to achieve the target sample size n as:

$$b = \frac{n}{\sum_a (L_i / M_i)}$$

Hence to control the overall sample size, b is determined after completing the listing in all sample areas.

The value of *a* in the above procedure allows for variation in sample sizes, *bi*, at the level of individual clusters, so as to provide a self-weighting sample. Households within each sample cluster shall be selected systematically from the lists prepared for that purpose, using the sampling interval,

$$I_i = \frac{1}{f2_i} = \frac{(L_i)}{b_i} = \frac{(M_i)}{b}$$

Where:

1.	A	Number of cells in the sample (equals 480)
2.	M_i	Number of housing units in cell i
3.	L_i	Number of listed households in cell i
4.	N	Proposed sample size (*n*=7500 HHs)
5.	B	Average sample take
6.	b_i	Sample take in cell i
7.	F	Sampling rate
8.	$f1_i$	First-stage sampling rate
9.	$f2_i$	Second-stage sampling rate

I_i is fixed for each cluster but varies between clusters depending on the measure of size (M_i) with which the area was selected at the first stage.

The sample-take b_i must be allowed to vary depending on the actual number of households L_i found after listing. However, provision has been made to avoid extreme variation in cluster sample size. This has been done using the above procedure to compute the ratio (b_i / b) for each cluster in the sample. If this ratio lies outside the range, say 0.5 - 4.0, then *bi* has been adjusted, and so the interval I_i, to be applied for the selection of households in the cluster has also been adjusted, so as to keep the ratio within the above range.

Sample Rotation:

The survey is conducting as consecutive rounds in every year. Each round covers all the 480 master sample areas. Basically, the areas remain fixed over time, a proportion of the households was replaced each round. See figures (1) "survey rotation".

This rotation scheme is proposed for several reasons:

- It is considered more important to maximize the overlap between successive quarters, as short-term changes over time are likely to be of greater policy concern given the particular situation of the country.
- The amount of listing to be done for each round is 1 / 6 of the total sample area and is feasible. It is important to limit the amount of listing so that more resources and attention can be devoted to its quality.
- It was designed to provide a smooth start-up and a smooth transition from biannual surveys to quarterly surveys.

Estimations Procedure:
The sample is self-weighting by design. To estimate a given total *Y* for a given sub-population *A*, we introduce the following formula:

(2) $$\hat{R}_A = \frac{\hat{Y}_A}{\hat{X}_A} = \frac{\sum_s W_{hij} Y'_{Ahij}}{\sum_s W_{hij} X'_{Ahij}}$$

Where:

$\hat{R}_A$ = Estimate for the ratio of two variables, Y, X in sub-population *A*.

$\hat{X}_A$ = Estimated total for variable *X* in sub-population *A.*

$\hat{Y}_A$ = Estimated total for variable *Y* in sub-population *A.*

Means and proportions are special types of ratios. In the case of the mean, the variable *X*, in the denominator of the ratio, is defined to equal for each element so that denominator is the sum of the weights in the sub-population.

In the case of proportions, the variable *X* in the denominator is also defined to equal 1 for all elements. But, in addition, the variable *Y* in the numerator is binomial and is defined to equal either 0 or 1, depending on the absence or presence, respectively, of a specified attribute in the element observed.

Calculation of Variances:
It is very important to calculate standard errors for the main survey estimates so that the user can have an idea of their reliability or precision.

The variance calculation uses the method of ultimate clusters. Within any domain of estimation, for a sub-population *A*, and for a characteristic *Y*, the formulas are:
The variance of an estimator of a ratio is estimated by:

$$v\left(\hat{R}_A\right) = \frac{1}{\hat{X}_A^{\,2}}\left[v\left(\hat{Y}_A\right) + \hat{R}_A^{\,2}\, v\left(\hat{X}_A\right) - 2\hat{R}_A\ \operatorname{cov}\left(\hat{X}_A, \hat{Y}_A\right)\right]$$

Where:

$$\operatorname{cov}\left(\hat{X}_A, \hat{Y}_A\right) = \sum_{h=1}^{H} \frac{n_h}{n_h - 1} \sum_{i=1}^{n_h}\left(\hat{X}_{Ahi} - \frac{\hat{X}_{Ah}}{n_h}\right)\left(\hat{Y}_{Ahi} - \frac{\hat{Y}_{Ah}}{n_h}\right)$$

$$\hat{Y}_{Ahi} = \sum_{j \in A} \bar{W}_{hij}\, y_{hij}$$

$$\bar{\hat{Y}}_{Ah} = \sum_{i} \sum_{j \in A} \bar{W}_{hij}\, y_{hij}$$

$$\hat{X}_{Ah} = \sum_{J \in A} \bar{W}_{hij}\, x_{hij}$$

$$\hat{X}_{Ah} = \sum_{i} \sum_{j \in A} \bar{W}_{hij}\, x_{hij}$$

Data Collections

Pilot Survey:

A pilot survey for the first round was conducted in May 1995 on the basis of about 90 households in the West Bank. While the sample did not need to be completely representative of the area, it covered main types of households encountered in the full-fledged survey. Thus, it included households from urban areas, from villages, and from refugee camps, households engaged in self-employment activities, as well as in paid employment, households in the informal sector as well as the formal sector and educated respondents as well as illiterates.

On the basis of the results from the first round in September-October, 1995, the survey questionnaire and the field work forms and procedures were reviewed and modified in order to assure the collection of accurate data.

Training and Recruitment:

The purpose of the training courses was to teach participants the main skills needed to conduct interviews. Two training courses were held, one in Ramallah for West Bank trainees, and one in Gaza City for Gaza Strip trainees. Each course consisted of two parts: one on survey methodology including survey design, questionnaire design, interviewing techniques, and field operations; and one part on specifications of the labour force survey, including concepts and definitions, field work procedures, data collection, editing, coding, tips for asking questions and recording answers, as well as field team organization and field supervision.

The training courses included lectures and field exercises. Each course lasted 3 days, training 14 interviewers and 4 supervisors.

Field Work:

The preparation phase for the LFS included recruiting and training of interviewers and supervisors. The staff on this project participated in previous survey projects at PCBS, and are highly qualified.

The West Bank was divided into three regions (North, Middle, South), each of which was supervised by one field supervisor. Each region consists of a number of districts, and the field work was carried out by one field work team, with two interviewers for each team.

The Gaza Strip was also divided into three regions (North, Middle and South). Field work activities were carried out by one field work team, each consisting of a supervisor, an editor and 4 interviewers.

Special procedures were followed in order to ensure quality control and efficient organization of field work. Such procedures are important for supervising work, as well as for receiving and delivering questionnaires, maps, sample lists in addition to other forms used for management and quality control.

Field work teams were distributed to each district on the basis of sample size. The number of LFS' field work members was 23, including the field work coordinator, 4 supervisors, 4 editors, and 14 interviewers including coders.

Data Quality

Since the data reported here are based on a sample survey and not on a complete enumeration, they are subject to sampling errors as well as non-sampling errors.

Sampling errors are random outcomes of the sample design, and are, therefore, measurable according to the statistical concept of standard error. A description of estimated standard errors and the effects of the sample design on sampling errors is provided in the previous chapter and in Table A.

Non-sampling errors can occur at various stages of survey implementation whether in data collection or in data processing. Non-sampling errors generally difficult to evaluate statistically. They cover a wide range of errors, including errors resulting due from non-response, sampling frame coverage, coding and classification, data processing, and survey response (both respondent and interviewer-related). The use of effective training and supervision, and the careful design of questions have direct bearing on limiting the number of non-sampling errors, and hence on enhancing the quality of resulting data. The following are possible sources of non-sampling errors:

- Errors due to non-response because household members were away from home or refused to participate. The overall non-response rate amounted to almost 10.4%, relatively low by international standards. The refusal rate was only 0.6%. However it is difficult to assess

the bias resulting from non-response. The PCBS has not yet undertaken any non-response study. Such a study may indicate that non-response is more common in some population groups than in others.

- Households interviewed during a week different than reference week. All households were interviewed during reference week for this survey, with the exception for one cell.
- Errors in data processing, such as coding and punching. The data underwent checking and completion of missing information in the office; logical checks were made by computer as well by hand, including callbacks if needed.
- Response errors resulting from misunderstanding of the questions, interviewer bias in asking the questions, and in probing. Thorough training, supervision, and various quality control, checks were used to minimize bias.

The demographic data, including sex ratios by age were computed and found generally to be reasonable and consistent with those from other sources. It can be concluded that the data is of high quality.

Response Rate (Absolute Value)

Conclusion	Round 2	Round 3	Round 4
Complete	7,210	7,138	7,120
Unit not found	9	11	1
Nobody at home	141	194	12
Refused	26	27	205
Not inhabited unit	115	164	36
No information	11	7	131
Others	8	23	29
Sample Size	**7,520**	**7,564**	**7,534**

Derived Variables

In compliance with the International Labor Organization Recommendation, the persons aged 15 years and over classified into two groups:

1. In Labor Force
2. Outside Labor Force

The persons in Labor Force are classified into three groups:

1. Full employment
2. Underemployment (Visible, Invisible)
3. Unemployment

The derived variables as Follows

Variable name	Value Label	Description
EMPCH	1. Full Employment 2. Unemployment 3. Out Labor Force	Labor Force Status (1)
INOUTLF	1. In labor Force 2. Out Labor Force	Labor Force Status (2)
EMPCHU	1. Full Employment 2. Unemployment 3. Out Labor Force 4. Visible Underemployment 5. Invisible Underemployment	Labor Force Status (3)
EMPCHFIN	1. Full Employment 2. Underemployment 3. Unemployment 4. Out Labor Force	Labor Force Status (4)
EMPSTATS	1. Employer (employs others) 2. On own account 3. Employee 4. Unpaid family member	
WBGS	1. West Bank 2. Gaza Strip	Region
REASON	1. Old/ ill 2. Home duties 3. Studying 4. Other	Reason
MARITALS	1. Never Married 2. Married 3. Other	Marital Status
PWORK	1. West Bank 2. Gaza Strip 3. Israel and Settlements 4. Other	Place of Work

Variable name	Value Label	Description
EMPSTATS	1. Employer (Employs other) 2. On own account 3. Employee 4. Unpaid Family member	Employment Status
INDUSTRY	1. Agriculture 2. Manufacturing 3. Construction 4. Commerce, Hotels and Restaurants 5. Transport, Storage and Communication 6. Services	Industry
OCCUPATI	1. Legislators, Senior Officials and Managers 2. Professionals, Technical, Associate and Clerks 3. Service, Shop and Market Workers 4. Skilled Agricultural &Fishery Workers 5. Craft and Related Trade Workers 6. Plant and Machine Operators and Assemblers 7. Elementary Occupations	Occupation
SECTOR	1. Public Sector 2. Private Sector 3. Other	Sector