Palestinian Central Bureau of Statistics

Labor Force Survey 1995

Data Users Guide

Concepts and Definitions

This Chapter presents the main concepts and definitions used in the survey. These concepts are based on the international standards taking into account the Palestinian Labor Market's circumstances.

Household:
One person or a group of persons living together who make common provision for food or other essentials for living. Household members may be related, unrelated, or combination of both.

Manpower:
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 for wage or salary, for profit or fees, or for payment in kind. One hour or more of such activity constitutes work. Work also includes unpaid activity on a family farm or business.

Employed:
Employed persons are those who are working at a paid job or business for at least one hour during the reference week, or who did not work, but held a job or owned business from which they were temporarily absent during the reference week. 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 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 those individuals who did not work at all during the reference week, who were not absent from a job and were available for work and actively sought a job during the reference week. Persons who work in Israel and were absent from work due to closure were considered unemployed.

Labor force:
The economically active population (Labor Force) consists of all persons 15 years and above who are either employed or unemployed.

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 per week or work less than regular hours of the occupation)..

2. **Invisible underemployment:**
   Invisible underemployment refers to a misapplication of Labor resources or fundamental imbalance as between Labor and other factors of production, such as low income, under utilization, or bad conditions of the current work, or other economic reasons.

Main job:
The job at which the person usually works the most hours in his/her main job. If a person usually works the same number of hours at two jobs, the "main" job is the job at which the person has been employed the longest.

Full time:
Any job that is usually 35 hours or more per week is considered full-time. In some occupations, usual weekly schedules of less than 35 hours per week are considered to be full-time. For these cases, the option "regular hours are full time" is provided.

Part time job:
A job in which a person works less than 35 hours, unless the number of usual work hours is less than 35. In addition, a job is a part time job if the hours worked by a person were less than usual work hours in such occupation.

Occupation:
Occupation refers to the kind of work done during the reference period by the person employed (or the kind of work done previously if unemployed), irrespective of the industry or the status in employment 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 in which an employed person worked during the reference period, or last worked if unemployed. This activity is defined in terms of the kind of goods produced or services supplied by the unit in which the person works. 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).

Work hours:
Total number of hours actually 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, meal breaks and time spent on travel from home to work and vice versa is excluded from work hours.

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

Temporary stopped working:
An employed person stopped working for some reason and he is expected to return or be called for work.

Seeking work:
Seeking work is defined as having taken specific steps in the reference week to seek paid employment or self-employment. Job seekers are classified into:

1. Available for work: A person ready to work if he is offered any job, and there is no reason preventing him from accepting such a job although he did nothing to get a job.

2. Actively seeking work: A person who is willing to work and is actively seeking work through reading newspapers, asking friends, registration at the Labor exchange offices, or asking employers.

Unemployment duration:
The span between the beginning of one's unemployment and his being ready to work to the beginning of the reference week.

Persons outside Labor force:
The population not economically active comprises all persons, who were neither employed nor unemployed accordingly to the definitions above.

Room:
The room is identified in that its area equals 4 square meters or more. This definition includes bedrooms, guestrooms, closed balconies, sitting rooms, and living rooms. Rooms less than 4 square meters, open balconies, bathrooms, kitchens, corridors in addition to rooms used for work, are excluded from the definition.

Years of schooling:
The number of regular years of study completed successfully. Repetition years and irregular study or courses are not considered as such.

Average monthly workdays per employee:
Total monthly workdays of employees whose wages are known divided by their number.

Daily wage per employee:
Total net wages paid to all employees divided by total workdays according to the rate of exchange price in the survey month.

Questionnaire Design

The survey tool was designed taking into account the Palestinian conditions, international standards, data processing requirements and the comparability of outputs with other related surveys conducted in the West Bank and Gaza Strip.

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

Sampling Frame

In the absence of a population census since 1967, the major task, with regard to constructing a master sample, was developing a frame of suitable units covering the whole country. Such units have been used as the PSUs (Primary Sampling Units) in the first stage of selection. For the second stage of selection, all PSUs have been listed in the field at the household level. This provided a sampling frame for selecting the households.

Sample Design
The target population: consist of all Palestinian individuals aged 15 years and above living in West Bank and Gaza Strip, excluding nomads and persons living in institutions such as prisons, shelters.

Stratification
 Four levels of stratification have been made:
1. Stratification by District.
2. Stratification by type of (Locality) which comprises:
      (a) Municipalities   (b) Villages   (c) Refugee Camps

3. Stratification by locality size.
4. Stratification by cell identification in that order.

Sampling Unit

First stage sampling units are the area units in the master sample. The second stage sampling units are households.

Sample Size

The sample size is about 7,625 households allowing for non-response and related losses. This amounts to a sample of around 26,000 persons of working age for the survey round. The sample size is large enough to provide estimates of the main characteristics of Labor force at the national level and for major domains or sub-populations, and also to monitor significant changes in those characteristics (especially after the survey frequency is increased to quarterly rounds).

Target cluster size

The next important issue in sample design is the target cluster size or "sample-take," the number of households to be selected per PSU on the average. In this survey about 26,000 persons of working age had been selected from 320 master sample areas. Therefore, the sample take is around 23 households.

Self-weighting design

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

$$f1i = \frac{aMi}{\sum Mi}$$

Where the summation is over all clusters in the population; a-320 is the total number of selected clusters. 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 sample cluster i to be

$$f2i = \frac{f}{f1i} = f\frac{(\sum Mi)}{a}\frac{1}{Mi} = \frac{(b)}{Mi}$$

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 Mi are likely to differ from the actual number *Li* of households listed in any cluster *i*, the actual number of households which shall be selected with the above *f2i* shall vary from one cluster to another and are given by:

$$bi = f2i * Li = \frac{(Li)}{Mi} * b$$

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

$$b = \frac{n}{\sum_a (Li / Mi)}$$

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

The a 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,

$$li = \frac{1}{f2i} = \frac{(Li)}{bi} = \frac{(Mi)}{b}$$

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

The sample-take *bi* must be allowed to vary depending on the actual number of households Li found after listing. However, provision must be made to avoid extreme variation in cluster sample size. This could be done by using the above procedure to compute the ratio (*bi/b*) for each cluster in the sample. If this ratio lies outside the range say 0.5 - 4.0, adjust bi i.e. the interval *Ii* to be applied for the selection of households in the cluster, so as to keep the ratio within the above range.

Sample Rotation
Each round shall cover all the 480 master sample areas (except for the first round which covers 2⁄3 of these, i.e. 320 areas with proportionately increased sample-take per cluster so as to keep the same sample size). Basically, the areas remain fixed over time, but within each area a proportion of the households is replaced each round. During the first phase when the survey is conducted at 6- monthly interval, once an area is listed, a fixed sample of households is selected which is enumerated over 2 consecutive rounds.

In the second phase, when quarterly surveys are introduced, the same households shall remain in the sample over 6 consecutive rounds. A high overlap of 5⁄6 shall be achieved between consecutive rounds (making the sample efficient for monitoring trends), reducing linearity to zero overlap after 6 rounds.

In earlier application of the LFS under Israeli control, the rotation pattern used was more complex: requiring a household to remain in the sample for two consecutive rounds, then be dropped for the next 2 rounds, and then reintroduced again for two rounds. The objective of such a pattern is to increase overlap between surveys one year apart. In the above case, the overlap is 1/2 between successive quarters, and also between successive years.

The new rotation scheme was proposed for several reasons.
   (a) 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 new situation in the country.
   (b) The amount of listing to be done each round is reduced from 1 /4 to 1 /6 of the total sample areas each round. (A further and equally substantial reduction is being achieved by increasing the sample-take per cluster by over 50%). It is important to limit the amount of listing so that more resources and attention can be devoted to its quality.
   (c) It is designed to provide a smooth start-up and a smooth transition from biannual to quarterly surveys at a later stage.
   (d) The new pattern is more simple to implement. The table below illustrates the rotation pattern for the LFS.

Rotation for the LFS

Replication

Round	A	B	C	D	E	F	A′	B′	C′	D′	E′	F′	A	B	C
1	X	X	X	X	(With proportionate increase in cluster size)										
2	X	X	X	X	X	X									
3		X	X	X	X	X	X								
1			X	X	X	X	X	X							
2				X	X	X	X	X	X						
3					X	X	X	X	X	X					
4						X	X	X	X	X	X				
5							X	X	X	X	X	X			
6								X	X	X	X	X	X		
7									X	X	X	X	X	X	

Notes: A = replications 1-4, B = replications 5-8,..., F = replications 21 - 24. ′ ...F′ = areas linked to A...F in the reserve sample or same as areas A-F

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:

$$(1)_A \qquad\qquad Y_A = \sum\sum\sum W_{hij} Y_{hij}$$

But since W is constant for all j within I, then: the estimating formula becomes:

$$(1)_B \qquad\qquad \hat{Y}_A = \sum\sum W_{hi} Y_{hi}$$

where,

$\hat{Y}_A$ = Estimated total for variable Y in sub-population A.
Dom = The domain of estimation desired.
h   = The sub-stratum within the estimation domain.
i   = The sample PSU (cell).
j   = The unit of analysis or element.
A = Subset of elements possessing a given attribute, that is, belonging to a given sub-population A.
Y_{hij} = Observed value of the variable "y" for the j-the element of the i-the sample PSU in stratum h.
W_{hij} = Final (adjusted) sampling weight for the element.

y_{Ahi} is the unweighted PSU total within h for sub-population A.

The estimator for a given ratio for sub-population A is the following:

(2)
$$\hat{R}_A = \frac{\hat{Y}_A}{\hat{X}_A}$$

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, given by formula (1)$_B$.

$\hat{Y}_A$ = Estimated total for variable Y in sub-population A, also given by formula (1)$_B$.

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 1 for each element so that denominator is the sum of the weights in the sub-population.

In the case of the proportion, 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 will use the method of ultimate clusters. Within any domain of estimation, for a sub-population A, and for a characteristic Y, the formulas are:

(a) The variance of an estimator of a total is estimated by:

(3)
$$V\left(\hat{Y}_A\right) = \sum_h \left[\frac{n_h}{n_h} \sum_{i=1}^{n_h} \left(\hat{Y}_{Ahi} - \frac{\hat{Y}_{Ah}}{n_h} \right)^2 \right]$$

Where:

(4)
$$\hat{Y}_{Ahi} = \sum_{j \in A} W_{hij} Y_{hij}$$

and:

(5)
$$\hat{Y}_{Ah} = \sum_i \sum_{j \in A} W_{hij} Y_{hij}$$

The expression in (3) is an unbiased estimator of the Variance.

(b) The variance of an estimator of a ratio is estimated by:

$$(6) \qquad V\left(\hat{R}_A\right) = \frac{1}{\hat{X}_A^2}\left[V\left(\hat{Y}_A\right) + \hat{R}_A^2 V\left(\hat{X}_A\right) - 2\hat{R}_A COV\left(\hat{X}_A, \hat{Y}_A\right)\right]$$

Where:

$$COV\left(\hat{X}_A, \hat{Y}_A\right) = \sum_{h}^{Dom} \frac{n_h}{n_{h-1}} \sum_{i=1}^{n_h}\left(\hat{X}_{Ahj} - \frac{\hat{X}_{Ah}}{n_h}\right)\left(\hat{Y}_{Ahi} - \frac{\hat{Y}_{Ah}}{n_h}\right)$$

$\hat{V}$ (Y_A) and $\hat{V}(X_A)$ are calculated according to formula (3);

$\hat{X}_A$ is calculated according to formula (1); and

$\hat{R}_A$ according to formula (2).

Data Collection

Pilot Survey

The pilot survey was conducted in May 1995 about 90 households in the West Bank. While the sample need not be exactly representative of the area, it covered the main types of households that can be 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, educated respondents as well as illiterates.

On the basis of the results of the pilot survey, the final questionnaire and instructions were revised.

Training and Recruitment

The purpose of training courses is to provide participants with 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 research methodology including survey design, questionnaire design interviewing techniques, and field operations and one part on the specifications of the Labor force survey, including concepts and definitions, field work procedures, data collection, editing, coding, asking questions and recording answers, as well as field team organization and field supervision.

Training courses included lectures, exercises, as well as field training. Each course consisted of 36 training hours.

Field work

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

The West Bank was divided into three regions (North, Middle, South), each of which was supervised by a regional coordinator. Each region consists of a number of districts and

fieldwork was carried out by 1-2 field work teams. Each team was made up of one supervisor, one editor and 4-6 interviewers.

Gaza Strip was also divided into three regions (North, Middle and South). Fieldwork activities were initiated in Gaza Strip by four field work teams, each of which consisted of a supervisor, editor and 4-5 interviewers.

Certain procedures were followed for quality control and efficient organization of fieldwork. Such procedures pertain for supervising work as well as receiving and delivering questionnaires, maps, sample lists in addition to other forms used for management and quality control.

Field operations started on Saturday 23/9/1995 and lasted until 23/10/95. Field work teams were distributed in all districts on the basis of sample size in each district. The number of LFS' field work members amounted to 86 including a field work coordinator, an assistant, 4 regional coordinators, 13 supervisors, 12 editors, and 55 interviewers.

Data Quality

Since the data reported here are based on a sample survey and not on complete enumeration, they are subject to two main types of errors: sampling errors and non sampling errors.

Sampling errors are random outcomes of the sample design, and are, therefore, easily measurable. A description of the estimated variances and the effects of the sample design on sampling errors are provided in the report and Table A. In general, the assessment is that the sample size and sample design provide reliable estimates of the main labor force indicators.

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

- Errors due to non-response because households were away from home or refused to participate. The overall non response rate amounted to almost 3.6 %, which is relatively low; a much higher rate is rather common in an international perspective. The refusal rate is only 0.3%. It is difficult however to assess the amount of bias resulting from non response. The PCBS has not yet undertook any non-response study. Such a study may have indicated that non-response is more frequent in some population groups than in other. This is rather normal and such information is necessary to be able to compensate for bias resulting from non-response errors.
- Households interviewed in a week different than the reference week. All households were interviewed in the reference week in this survey, except for one call, which was interviewed in another week.

- Errors in data processing, such as coding and punching. The data underwent checking and completion of missing information in the office and that logical checks are done by the computer as well as manually, including call-backs if needed.

- Response errors which result from misunderstanding of the questions, interviewers' bias in asking the questions and in probing. Thorough training, supervision, and various quality control checks were used to minimize bias resulting from these kinds of errors.

The demographic data, including the sex ratios by age are generally reasonable, and are consistent with those found in other sources. These results and the various checks for external validity indicate that the survey data are of very good quality.

Response Rates (Absolute Value)

The result financial visiting for field work to 7,520 household:

Variable	First Round
Completed	7,350
Unit no found	19
Not at home	82
Refused	25
Result not identified.	132
No useful information	11
Other\ specify	9
Total (Sample Size)	**7,628**

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