



# **Palestinian Central Bureau of Statistics**

## **Labor Force Survey 1998**

### **Data Users Guide**

## Concepts and Definitions

### **Household:**

One person or a group of persons living together who make common provision for food or other essentials for living and consist one living unit. Household members may be related, unrelated, or combination of both. Servants are considered as family members as long as the household guarantees their living at the same housing unit and providing them food, also absent family members for less than one year are considered as household members.

### **Population of working age:**

All persons in the West Bank and Gaza Strip aged 15 years and over.

### **Work:**

Includes any activity 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 are 10 years and over who were at work at least one hour during the reference week (The week ending on Friday preceding the interviewer's visit to the household), or who were not at work during the reference week, but held a job or owned business from which they were temporarily absent (because of illness, vacation, temporarily stoppage, 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 wage 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.

### **Employment:**

It includes all employed persons who are at working age and working like employer, own-account worker, employee and unpaid family member.

### **Unemployment:**

It includes all unemployed persons 10 years and over who did not work at all during the reference week, who were not absent from a job and were available for work and actively seeking a job during the reference week. Persons who worked in Israel or were absent from work due to closure are considered unemployed, and also those persons never work and not looking for work but waiting to return back to their works in Israel and Settlements.

**Labour force:**

The economically active population (Labour Force) consists of all persons 15 years and over who are either employed or unemployed as defined over at the time of 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 worked less than 35 hours during the reference week or worked less than the normal hours of work in their occupation, and they are looking toward increasing their working hours through additional work or establishing their own business.

**2. Invisible underemployment:**

Invisible underemployment refers to a misapplication of labour resources or fundamental imbalance as between labour and other factors of production, such as insufficient income, underutilization, or bad conditions of the current work, or other economic reasons. In this survey, employed persons are classified as invisibly underemployed if they are not already classified as visibly underemployed; and want to change their jobs because of an insufficiency of income, or because they are working in an occupation which does not correspond to their qualification.

**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 job:**

Any job that is usually performed for 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 "normal 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 job.

**Occupation:**

Occupation refers to the kind of work done during the reference period by the employed person, or the kind of work done previously if unemployed, irrespective of the Economic Activity or the 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).

**Economic Activity:**

Economic Activity 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. Economic Activity 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).

**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 due to some other reasons.

**Seeking work:**

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

1. 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.
2. Actively seeking work: A person who is willing to work and is actively seeking work through reading newspaper advertisement, asking friends, registration at the labour exchange offices, or asking employers.

**Persons outside labour force:**

The population not economically active comprises all persons 15 years and over, who were neither employed nor unemployed accordingly to the definitions over and they are classified according the reason into those classes:

**1. Full-Time Student:**

It refers to the persons who is currently continuing his \ her studies in order to obtain certain qualifications, and was not engaged in any work during the reference period, and homework and hobbies are not classified as work.

**2. Housewife:**

It refers to unemployed woman who can work but does not seek work and is not enrolled in any formal education program. She is undertaking household work to serve her household and this does not include serving in other houses in return for a wage in cash or in kind, for such an activity is classified under work.

**3. Detained:**

It includes those persons liveing in certain institution like prisons, infirmary,...etc.

**4. Unable to work:**

It refers to persons unable to engage in any type of work due to chronic disease or disabilities.

**5. Old age:**

It refers to persons who are not working and unable to work due to their old age.

**Years of schooling:**

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

**Hours worked:**

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 are excluded from work hours.

**Monthly work days:**

Number of days at work during the month, excluding week-ends, holidays, sick and other paid or unpaid leaves. One hour of work in a given day is considered as one work-day, thus the half-day work on Thursdays, customary in Palestinian civil services, is accounted for as one a work-day in this survey.

**Daily wage:**

Cash net wage paid to the wage employee from the employer. Wages received in different currencies are converted into New Israeli Shiekles according to the exchange rate in the survey period

## **Questionnaire Design:**

One of the main survey tools is the questionnaire, the survey questionnaire was designed according to the International Labour Organization (ILO) recommendations. The questionnaire includes four main parts:

### **1. Identification Data:**

The main objective for this part is to record the necessary information to identify the household, such as, cluster code, sector, type of locality, cell, housing number and the cell code.

### **2. Quality Control:**

This [part involves groups of controlling standards to monitor the field and office operation, to keep in order the sequence of questionnaire stages (data collection, field and office coding, data entry, editing after entry and store the data).

### **3. Household Roster:**

This part involves demographic characteristics about the household, like number of persons in the household, date of birth, sex, educational level...etc.

### **4. Employment Part:**

This part involves the major research indicators, where one questionnaire had been answered by every 15 years and over household member, to be able to explore their labour force status and recognize their major characteristics toward employment status, economic activity, occupation, place of work, and other employment indicators.

## **Sampling Frame:**

In the absence of a population census since 1967, the major task, with regard to constructing a master sample, was developing a sampling 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 sample is a two-stage stratified cluster random sample.

### **Target Population:**

All Palestinians aged 15 years and above living in the Palestinian Territories, excluding nomads and persons living in institutions such as prisons or shelters.

## **Stratification:**

Four levels of stratification were made:

1. Stratification by District.
2. Stratification by place of residence which comprises:  
(a) Municipalities;                      (b) Villages;                      (c) Refugee Camps

3. Stratification by size of locality.
4. Stratification by cell identification by locality.

**Sampling Unit:**

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

**Sample Size:**

The sample size in the eighth round (January – March, 1998) consisted of 7,640 households (about 22,872 persons of working age); in the ninth round (April – June, 1998) sample size was about 7,631 households (about 23,435 persons of working age); in the tenth round (July – September, 1998) the sample size was about 7,632 (about 23,305 persons of age work; and in the eleventh round (October – December, 1998) about 7,631 households (23,045 persons of working age).

**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 persons of working age had been selected from 480 master sample areas. Therefore, the sample take was around 16 households.

**Self-weighting design:**

At the first stage, clusters or “cells” have been selected with (PPES) probability proportional to estimated measure of size ( $M_i$ ) 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 sample 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  $n = 7631$  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,  $b_i$ , 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 of households in cell  $i$
4.  $n$  Proposed sample size ( $n=7631$  HHs)
5.  $b$  Average sample take
6.  $b_i$  Sample take in cell  $i$
7.  $f$  Sample 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 must be made to avoid extreme variation in cluster sample size. This could be done by 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  $b_i$  may be adjusted by value of the interval  $L_i$  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 covered all the 480 master sample areas (except for the first round which covers 5/6 of these, i.e. 480 areas with proportionately increased sample-take per cluster so as to keep the same sample size). Basically, the areas remained fixed over time, but within each area a proportion of the households was replaced each round. During the first phase when the survey was conducted at 6- monthly interval or quarterly surveys were introduced, the same households remain in the sample over 6 consecutive rounds. A high overlap of 5/6 is then achieved between consecutive rounds (making the sample efficient for monitoring trends), reducing linearly to zero overlap after 6 rounds. In each round, 1/6 (i.e. 80) clusters are listed - i.e. 320 over the whole year as before.

### **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 was 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 was designed to provide a smooth start-up and a smooth transition from biannual to quarterly surveys.
- d) The new pattern is simpler to implement. The table below illustrates the rotation pattern for the LFS.

<b>Rotation for the LFS</b>																
Round	Replication															
	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	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:

$$(1)_A \quad Y_A = \sum_h \sum_i \sum_j W_{hij} Y_{hij}$$

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

$$(1)_B \quad \hat{Y}_A = \sum_h \sum_i W_{hi} Y_{Ahi}$$

where,

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

$h$  = 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:

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

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)<sub>B</sub>.

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

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 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:

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

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

Where:

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

and:

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

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

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

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

Where:

$$\text{COV}\left(\hat{X}_A, \hat{Y}_A\right) = \sum_h \frac{n_h}{n_h - 1} \sum_{i=1}^{n_h} \left( X_{Ahi} - \frac{\hat{X}_{Ah}}{n_h} \right) \left( Y_{Ahi} - \frac{\hat{Y}_{Ah}}{n_h} \right)$$

$V(\hat{Y}_A)$  and  $V(\hat{X}_A)$  are calculated according to formula (3);

$\hat{X}_A$  is calculated according to formula (1)<sub>B</sub> and  $\hat{R}_A$  according to formula (2).

## Data Collection

### Training and Recruitment:

The purpose of the training courses were 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 survey methodology including survey design, questionnaire design, interviewing techniques, and field operations; and one part on the 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, exercises, as well as field exercises. Each course continued for 3 days, trained in which 14 interviewers, and 4 supervisors.

### Field work:

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 field work was carried out by one field work team, consisted of 2 interviewers.

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

Certain procedures were followed for quality control and efficient organization of field work. 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 in the Palestinian Territories on 10/04/1998 till 10/07/1998. Field work teams were distributed among all districts on the basis of sample size in each district. The number of LFS' field work members amounted to 24 including the field work coordinator, 4 supervisors, 4 editors, and 14 interviewers including coders.

#### **Reference Week:**

The week ending on Friday preceding the interviewer's visit to the household. Four quarters had been carried out at 1998, first quarter covered the period (January – March), and second quarter (April – June), and third quarter covered the period (July – September), and the fourth quarter covered the period (October – December).

#### **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, in principle measurable by the statistical concept of standard error. A description of the estimated standard errors and the effects of the sample design on sampling errors are provided in the previous chapter and in Table A.

Non-sampling errors can occur at the various stages of survey implementation whether in data collection or in data processing. They are generally difficult to evaluate statistically. They cover a wide range of errors, including errors resulting 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 magnitude of non-sampling errors, and hence enhancing 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 12.9% which is relatively low; a much higher rate is rather common in an international perspective. The refusal rate was only 1.1%. It is difficult however to assess the amount of 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 frequent in some population groups than in others. 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 logical checks were made by 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. Through 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 were computed and found generally reasonable and consistent with those found from 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)

Variables	Round 8 (January – March, 1998)	Round 9 (April – June, 1998)	Round 10 (July – September, 1998)	Round 11 (October – December, 1998)	Total
Completed	6,684	6,650	6,684	6,594	26,612
Unit Not found	22	19	23	21	85
Nobody at home	505	460	415	440	1,820
Refused	54	83	80	76	293
Not inhabited unit	308	349	347	396	1,400
No useful information	5	5	4	4	18
Other	62	65	79	100	306
<b>Total (Sample Size)</b>	<b>7,640</b>	<b>7,631</b>	<b>7,632</b>	<b>7,631</b>	<b>30,534</b>

## 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

<b>Variable name</b>	<b>Value Label</b>	<b>Description</b>
EMPSTATS	<ol style="list-style-type: none"> <li>1. Employer (Employs other)</li> <li>2. On own account</li> <li>3. Employee</li> <li>4. Unpaid Family member</li> </ol>	Employment Status
INDUSTRY	<ol style="list-style-type: none"> <li>1. Agriculture</li> <li>2. Manufacturing</li> <li>3. Construction</li> <li>4. Commerce, Hotels and Restaurants</li> <li>5. Transport, Storage and Communication</li> <li>6. Services</li> </ol>	Industry
OCCUPATI	<ol style="list-style-type: none"> <li>1. Legislators, Senior Officials and Managers</li> <li>2. Professionals, Technical, Associate and Clerks</li> <li>3. Service, Shop and Market Workers</li> <li>4. Skilled Agricultural &amp; Fishery Workers</li> <li>5. Craft and Related Trade Workers</li> <li>6. Plant and Machine Operators and Assemblers</li> <li>7. Elementary Occupations</li> </ol>	Occupation