



Labour Force Survey: Design and Implementation

Nur Layali Mohd Ali Khan
Department of Statistics, Malaysia

Dubai, United Arab Emirates



Outline

*Specification of
study
population*

*Sampling
frame*

*LFS design and
implementation
in Malaysia*

Specification of the study population

- population elements of interest are **generally individual persons** with some specified characteristics, and the households and other social groupings in which they live.
- To define the population to be covered, it is necessary therefore to specify

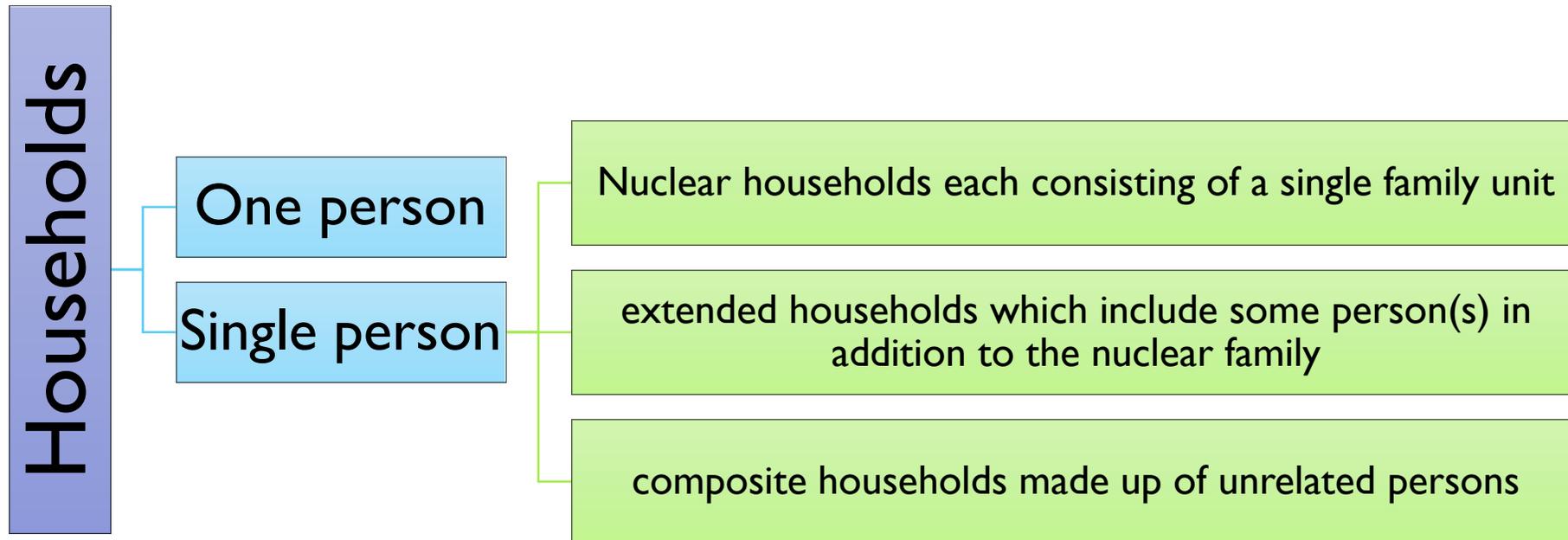
the type of households and social groupings to be included;

the rules for associating individual persons with those units (e.g. defining what constitutes a “household”); and

the characteristics determining inclusion or exclusion of individuals in the target population for the survey.

Groups of interest associated with population

- persons living in *private households*
 - a person or persons who have made arrangements, individually or in groups, for providing themselves with food or other essentials of living.



Classification may be modified to national circumstances

some countries in Africa there are rural areas in which **people characteristically live in compounds in large groups of 30 or 40 persons**, and in such a situation a practical solution has been to define a household as a group of persons who “live and eat together”

In certain Arab countries the household concept may need modification to take into account polygamous situations where **wives of the same husband may be living in separate quarters** or **multiple family units including extended family living together**.

In many other situations, the association of certain categories of individuals with particular households may not be clear-cut and may require special attention.

such as lodgers, boarders, domestic workers living together with the employer

Important considerations and distinction if

Household is a unit for data collection, tabulation and analysis

- *the choice of the particular definition to be used can have important substantive implications.*

Household is a statistical unit used for identifying and selecting persons to be enumerated in the survey

- *the primary requirement is merely that operationally the **definition covers all individuals of interest exhaustively** without duplication, and that it is possible to apply the definition consistently, in the same way, in different related operations such as different rounds of the survey, and during listing, interviewing and reinterviewing within each round.*

Treatment of persons living in various special situations

- a. Consider carefully the justification for excluding any special group in each case.
- b. Specify clearly the groups excluded along with their size and relevant characteristics.
- c. Try and assess the impact of these exclusions on the relevance and accuracy of the survey results.
- d. To the maximum extent possible, ensure consistency in coverage over time and over different surveys, especially when the labour force survey forms part of an integrated programme of surveys.
 - Where possible, information on the groups excluded, such as the armed forces, may be obtained from other sources to supplement the household survey results.

Rules of association

The de jure approach

- association is defined according to the person's usual place of residence.
 - *Usual residents are included even if they were temporarily away at the time of enumeration;*
 - *visitors are excluded.*
- provides a clearer and more stable association between household and individual characteristics.
- more convenient for a continuing survey, especially when repeated enumeration spread over a considerable period of time is involved.
- more commonly used approach in labour force surveys.
- difficulty lies in the complexities which can arise in defining and identifying “usual residents”.

The de facto approach

- includes persons according to the place they were staying at the time of the survey, irrespective of their usual place of residence.
- tends to give lower non-response and non-contact, and is most suitable when the survey period is short, or when highly mobile populations (such as nomads, or the homeless) are to be surveyed.

Rules of inclusion

Population extend

Geographic coverage

- LFS of countries are usually designed to be of national scope, i.e. to cover all geographic regions, and urban as well as rural areas of the country.
- Considerations of cost and practicality may also require exclusion of some areas or subpopulations.
 - *It is important to reassess periodically whether the assumptions on the basis of which certain areas or groups were excluded remain valid, and to seek clear justification for exclusion in each case*

The time period

- the units and their characteristics change with time in any population.
- LFS also involves selection of a particular segment of time from the entire interval to which the results of the sample are to be applied.

Sampling frame

- Once the population to be surveyed has been defined, it has to be **represented in a physical form** from which samples of the required type can be selected. A **sampling frame** is such a representation.
- A sampling frame should permit the selection of a “probability” sample of elementary units comprising the population, i.e. a selection which, with the application of suitable randomised procedures, would ensure that every unit had a known, non-zero, probability of being selected.

Stages of sample selection for household surveys

The first stage

- selection of primary sampling units
 - typically, area units of relatively large size.
 - with a clear, non-overlapping boundaries, and between them should cover the study population exhaustively.
 - A frame of such units would:
 - consist of their *explicit listing* along with *maps, descriptions* and *other information pertinent to their identification and selection*; and
 - will also *include information on size and other characteristics of the units*, which will improve *efficiency of sample selection and estimation*.
 - A frame of primary sampling units covering the entire survey population is called the primary sampling frame.

Stages of sample selection for household surveys (cont'd)

- With a multi-stage design, sampling at any one stage is confined to the higher-stage units selected at previous stages.
- This means that once a sample of primary sampling units has been selected from the primary sampling frame, frames for the next stage of selection are required only for the selected primary sampling units.
- The same applies to sampling within units selected at the second stage, and so on. *The hierarchy of frames below the primary sampling frame are called secondary sampling frames.*

Stages of sample selection for household surveys (cont'd)

Ultimate area units

- refer to *area units at the lowest stage of sampling*.
- often relatively small and compact units, beyond which the sampling process moves from area sampling to sampling from lists of persons, households, housing units or small clusters of these.
- with decreasing area size, boundaries become increasingly less stable and more difficult to define and identify.
- beyond a certain point, further segmentation into smaller areas becomes more costly and less efficient than directly listing and sampling the ultimate unit.

Stages of sample selection for household surveys (cont'd)

Ultimate sampling units

- final units selected at the end of the sampling process,
- either identical to or directly associated with the population elements which serve as the units of observation and analysis.
- Examples
 - (a) individual persons,
 - (b) households,
 - (c) addresses or housing units,
 - (d) small groups of neighbouring housing units defined from lists and sketch maps, or
 - (e) the ultimate area units themselves, within which every element is enumerated.

Physical representation of the frame units

- has to be chosen with the general objective of ensuring easy access, use and manipulation.
- an added objective is the production of summaries and control totals which can help in sample design and estimation and also provide a means to check representativeness and completeness of the frame.
- primary sampling frame should be an ordered listing of units according to:
 - administrative divisions, main reporting domains, primary strata and other meaningful groupings, and within these the units may be ordered by location, size or other relevant criteria.
 - a *unique identifier and information* which can be used for its classification and ordering.
- Other information included in the frame may be a record of the use of each unit in earlier samples, summaries of unit characteristics, and maps and descriptions for definition and identification of units.

LFS sample design and implementation: Malaysia's case

Sampling frame

State, administrative districts, urban and rural areas, living quarters

Sample design

Multi-stage clustered sample design

Primary sample unit

Administrative districts

Secondary sampling units

Living quarters within each units

LFS sample design and implementation: Malaysia's case (cont'd)

Frequency
of data
collection

Monthly

Approach

Face-to-Face interview

Computer Assisted telephone Interviewing (CATI)

LFS sample design and implementation: Malaysia's case (cont'd)

Frequency
of data
collection

Monthly

Approach

Face-to-Face interview

Computer Assisted telephone Interviewing (CATI)

Sample Design of LFS in Malaysia

- A stratified two-staged sample design
 - Two-stage sample selections are implemented and samples are drawn randomly.

The first stage units of sample selection are enumeration block

The second stage units are the LQs within the EBs.

- All households and persons within the selected LQs are canvassed.

At every stage of selection, the units are selected systematically with equal probability within each level of the secondary strata.

References

Department of Statistics Malaysia. (2017). Labour Force Survey Report 2016. (2017). Putrajaya, Malaysia: Department of Statistics, Malaysia.

Hussmanns, Ralf, Farhad Mehran and Vijay Verma. *Surveys of economically active population, employment, unemployment and underemployment: An ILO manual on concepts and methods*. Geneva: International Labour Office. 1990



End of Session 6