

# **Sampling issues for covering small groups; migrants, refugees and asylum seekers in LFS- Jordan Case Study**

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# Introduction

Conventional household survey is generally;

- ✓ Based on multi- stage cluster sampling and
- ✓ Target population of these surveys is the people who live in their usual residence (private dwellings).

Many countries have already included migrants in their household surveys by using the usual residence definition. However including them into the sample by using the usual residence definition is not enough to produce separate estimate.

# Introduction

As known, refugees and asylum seekers have become a very special and worth-considering matter for Middle East countries mainly because of the Syrian civil war. Syrian people have effected the host countries' social and economic structure, especially their labor market dynamics.

# Introduction

From this point of view Jordan Department of Statistics (DOS) has decided to produce individual and regular estimates for those migrant workers together with the national LFS on a quarterly basis.

# Measuring Solution

Since in most of the host countries Syrian refugees are not registered, to produce reliable statistics about them on any subject is not easy.

An appropriate solution would be the special sampling methodology , capturing these elusive population.

# Measuring Solution

Such sampling methods can be listed as;

- ✓ Adaptive sampling (requires an area frame -necessary to identify the neighborhood areas to the selected area)
- ✓ Multiplicity sampling (does not require an area frame but migrants must have the link with the target units selected into the sample),
- ✓ Multiple frame approach,

# Measuring Solution

Another solution might be to over-sample, i.e. to select a larger number of areas with higher concentration of migrants and/or take a larger number of migrants from those selected areas. In Jordan we decided to use a similar sampling methodology.

We applied over-sampling for the selection of EAs which have more migrants. The reason this method was preferred is that,

- ✓ the study was not only for migrants, but also for the citizens and
- ✓ new design should produce comparable estimates with the previous Jordanian LFS series based on rotational panel design

# New Labour Force Design of Jordan

Depending on the availability of data, the sample design was divided into two parts;

- ✓ first part was the main part based on enumeration areas (EAs), covered the usual residence population of Jordanian and non-Jordanian (98.3 % of the target population).
- ✓ second part was the supplementary part selected from a special frame covering the areas in which refugees or asylum seekers live (camps etc.).



# New Labour Force Design of Jordan

## The Main Part

LFS is generally designed with multi-stage rotational panel survey in most countries and EAs are selected by probability proportional to population size at the first stage.

In our case, the size of EAs has two components as Jordanian and non-Jordanian usual residence population.

In order to increase selection probabilities of EAs in which more non-Jordanians live, we multiplied non-Jordanian population with some constants ( $>1$ ) at EA level to control the relative sizes of non-Jordanian and Jordanian samples.

# New Labour Force Design of Jordan

## The Main Part

Sampling design study of new series LFS has started in April 2016.

We had sufficient information from Population Census with reference date as 29 November 2015 on the EA basis to identify Jordanian and non-Jordanian population; so the following formula driven by Prof. Vijay VERMA, was applied to calculate the constants.

I would like to express my special thanks to Prof. Vijay VERMA for his great support on methodology issues on new LFS of Jordan.

# New Labour Force Design of Jordan

## The Main Part

Parameters  $(k_1, k_2)$  are determined by two sample size requirements to be specified: required target total sample size ( $n$  persons), and among them, the number of refugees/asylum seekers ( $m$ ).

$R_i$  = among them, the number of refugees and asylum seekers

$r_i$  = ratio  $R_i/N_i$ , density of refugees and asylum seekers in the total population

$$p_{1i} = k_1(N_i + k_2R_i) = k_1N_i(1 + k_2r_i) \quad p_{2i} = b/N_i$$

$$k_1 = \frac{n}{b(N + k_2R)} \quad k_2 = \frac{[(m/n)N - R]}{[S - (m/n)R]} \quad S = \sum N_i r_i^2$$

EAs are selected by using the equation of  $p_{1,i}$  above

# New Labour Force Design of Jordan

## Supplementary part

- ✓ non jordanian people living in the camps
- ✓ non jordanian people living in their work places.

## Non-Jordanian in camps

In order to integrate the camps into the sampling frame without deforming the current structure of the rotation pattern, the areas for the first stage sampling unit had to be well-defined.

# New Labour Force Design of Jordan

## Non-Jordanian in camps

Some alternatives to do this could be:

- ✓ A camp could be used as a first stage sampling unit if it is small enough, or
- ✓ The segments could be created for rotation.

# New Labour Force Design of Jordan

## Non-Jordanian in camps

However, none of these solutions were preferred since asylum seekers/refugees living in camps were already counted by using the EA system in Census 2015.

Therefore, EAs were used at the first stage sampling unit in camps as in areas of usual residences.

# New Labour Force Design of Jordan

**Non-Jordanian people living in their workplace such as shops, sales stores, and construction etc.**

Covering the third part of the target population was highly problematic due to the reason that the population is mobile and they reside in their workplaces such as sales stores, construction building sites etc. not in conventional dwellings.

# New Labour Force Design of Jordan

**Non-Jordanian people living in their workplace such as shops, sales stores, and construction etc.**

There are some ways of to cover that population such as;

- ✓ Using the half-open interval for selected EAs in the first part or
- ✓ Covering only selected EAs in the first part having 'significant' numbers of non-Jordanian population by using the special listing study to identify them

DOS decided not to cover these population because sampling process is too complex and the figure involved is very low (it is around 0.11% in the total population).



# Conclusion

New Jordan LFS is based on two-stage cluster sampling designed by modifying the measure of size in order to get enough numbers of non-Jordanian people.

The information of the 2015 Population Census on number of Jordanian and non-Jordanian people in each EA including the camps was available and taken into account in the modified design.

Estimation procedure is the same with the conventional sampling because it is still based on two-stage cluster sampling. The only difference is here we use the modified measure of size.

Main output of new design is related with reporting domain. Labour force indicator for refugees and asylum seekers could be obtained on quarterly and annually.

**THANK YOU**