

Statistical estimation of poverty in Albania

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Abstract— Poverty is a now days case in the developing country, especially in Albania. It is important to define which is the criteria that distinguish poor from non poor and usually is necessary a description of the poverty phenomenon with the help of some indexes. This study analyses incidence, poverty gap index, square poverty gap in base of the urban stratum in the Republic of Albania, in 2008. The data are from Living Standards Measurement Study (LSMS) 2008 and the methods used in this study includes analytical methods and poverty indexes. From the results we observe that all the poverty indexes calculated are major in the mountain urban stratum. Also, the poverty indexes calculated are minor in Tirana urban stratum.

Keywords— poverty line; poverty indices; study of poverty; stratum

I. INTRODUCTION

Poverty is a complex phenomenon that involves different dimensions of deprivation, for example the insufficiency of goods and services [1]. It is hard to make a final definition for poverty because it changes from a period to another and from a place to another. Besides this, poverty can be measured and estimated in different ways. Because the Albanian economy is, in the major part, rural and informal and the incomes are not measured in the right way, the measurements based on the incomes will offer distorted poverty estimation. For this reason, the poverty is estimated in base of the measurements of consumption. A random measurement of poverty incidence is headcount ratio [2], the part of population of which the consumption fall below the poverty line. An individual is considered poor if the level of expenditure consumption falls below the minimal level that is needed to fulfill the basic needs for food and non-foods items of this individual [3]. This minimal consumption level is also called 'poverty line' and represents the borderline between the poor and the non poor [4]. Poverty lines can be established in different ways and includes absolute and relative poverty lines. The absolute poverty lines are established in order to a default threshold or relative to a basic food basket or according to certain levels of well being. The absolute poverty lines have the advantages that gives the chance to make some easy comparisons in different time and between different groups. According to UNDP (United Nations Global Development Network), poverty is the inability to spend 5722 lek per month per capita in 2008 and this is assumed as the absolute poverty line [5]. The relative poverty lines reflect the scale of absents of which a household

or an individual suffers in relation with the incomes of the other part of the population. The aim of this study is to calculate the poverty line and to make a statistical estimation of poverty in Albania according to the poverty indexes of different urban stratum (Coast, Central, Mountain, Tirana) in 2008.

II. MATERIALS AND METHODS

There has been collected some data from INSTAT related to food consumption, non-food consumption, education expenditure, durable consumption, utilities consumption per month in the Republic of Albania, in the 2008. The data collected are according to Living Standards Measurement Study (LSMS) 2008 and are grouped according to different urban stratum (Coast, Central, Mountain, Tirana).

The analytics methods used are: poverty indexes which are the measurement of headcount ratio (P_0) Poverty Gap Index (P_1), Squared Poverty Gap (Poverty Severity) Index (P_2).

By far, the most widely used measure is the headcount index, which simply measures the proportion of the population that is counted as poor [6], often denoted by P_0 . Formally,

$$P_0 = \frac{N_p}{N} \quad (1)$$

where N_p is the number of poor and N is the total population. For reasons that will be clearer below, it is often helpful to rewrite (1) as

$$P_0 = \frac{1}{N} \sum_{i=1}^N I(y_i < z) \quad (2)$$

Here, $I(\cdot)$ is an indicator function that takes on a value of 1 if the bracketed expression is true, and 0 otherwise. So if the expenditure consumption (y_i) is less than the poverty line (z), then $I(\cdot)$ equals 1 and the household would be counted as poor. The greatest virtues of the headcount index are that it is simple to construct and easy to understand.

A moderately popular measure of poverty is the poverty gap index, which adds up the extent to which individuals on average fall below the poverty line, and expresses it as a percentage of the poverty line. More specifically, define the

poverty gap (G_i) as the poverty line (z) less actual expenditure consumption. Of (y_i) for poor individuals; the gap is considered to be zero for everyone else. Using the index function, we have:

$$G_i = (z - y_i) I(y_i < z) \quad (3)$$

Then the poverty gap index (P_1) may be written as:

$$P_1 = \frac{1}{N} \sum_{i=1}^N \frac{G_i}{z} \quad (4)$$

To construct a measure of poverty that takes into account inequality among the poor, some researchers use the squared poverty gap index.

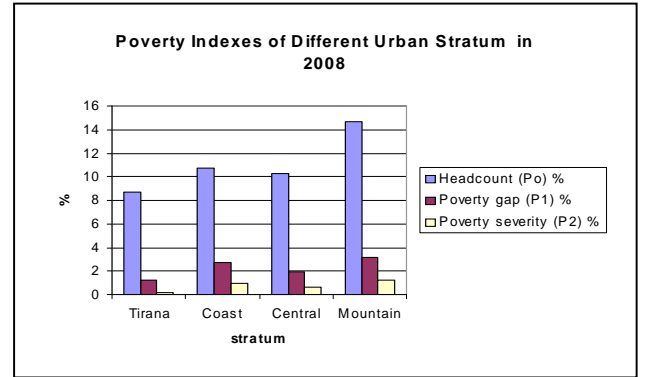
$$P_2 = \frac{1}{N} \sum_{i=1}^N \left(\frac{G_i}{z} \right)^2 \quad (5)$$

III. RESULTS

The poverty indexes (headcount (P_0) %, poverty gap (P_1) % and poverty severity (P_2) %) have been calculated for different urban stratum (Coast, Central, Mountain, Tirana) in 2008. From the results we observe that all the poverty indexes calculated are major in the mountain urban stratum. Also, the poverty indexes calculated are minor in Tirana urban stratum.

TABLE 1. POVERTY INDEXES OF DIFFERENT URBAN STRATUM IN 2008

Stratum	Headcount (P_0) %	Poverty gap (P_1) %	Poverty severity (P_2) %
Tirana	8.7	1.2	0.2
Coast	10.7	2.7	1
Central	10.3	1.9	0.6
Mountain	14.7	3.2	1.2



GRAFIC 1. POVERTY INDEXES OF DIFFERENT URBAN STRATUM IN 2008

IV. CONCLUSIONS

The methodology used, according to absolute poverty, it gives us a general picture of the distribution of poverty in different urban stratum in the Republic of Albania in 2008. The calculated results shows an increased poverty corresponding the mountain urban stratum. The poor are still concentrated in the rural areas of the Mountain region. A possible hypothesis of this outcome is the creation of a poverty trap in the Mountain areas because of the specific obstacles that populations in Mountain areas face. We note low poverty indexes in Tirana, probably because Tirana is the capital of Albania. This may be a reference study for knowing the poverty indices in order to apply and implement new social and political strategies in different regions in Albania.

V. REFERENCES

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