

## Measuring Poverty- Projections and Analyses on the Algerian Reality

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### ARTICLE INFO

Article history:

Received:02/08/2021

Accepted:06/03/2023

Online:07/03/2023

Keywords:

Poverty

measurement

projections

poverty analysis

poverty in Algeria

JEL Code: I32

### ABSTRACT

*This research aims to summarize the methods and indicators for studying poverty in a general manner and then projecting it onto reality in the specific case of Algeria. Due to the unique nature of the problem of poverty in Algerian studies, as well as to concept representations, the application of well-known techniques for measuring poverty and its indicators enables us to at least classify Algeria in the appropriate category. This will allow us to answer the question: Is Algeria a rich or a poor country? And What are the aspects of each possibility: poverty and wealth, given the contradictory figures that describe reality In the appropriate manner ?*

**Keywords:** Poverty, measurement, projections, poverty analysis, poverty in Algeria. rich in Algeria

### 1. Introduction

The problem of poverty receives great global and international attention, and this interest crystallizes through studies, plans and programs adopted by some global and international institutions in order to eliminate or reduce poverty, through knowledge of the areas of poverty, its causes, characteristics and indicators. Some international institutions have singled out many pages on the topic of poverty on the Internet to be accessible to all. And Algeria, like other countries of the world, has developed many plans, programs and studies to know the places and forms of poverty to reduce and eliminate it, and some financial institutions have been established that grant small loans to the poor to help them increase their income and lift them out of the cycle of poverty.

In this regard, the Millennium Declaration was approved during the Millennium Summit (in New York on 6-8 September 2000), which included 147 heads of state and government and representatives of 189 countries. Development at the beginning of this century.

The Director of the National Center for Studies and Analysis of Population and Development (CENEAP) for the year 2006, Taher Hussein, explained in a statement to the Algerian News Agency, that through a study on the living conditions of the population and the measurement of poverty in Algeria, which the center completed at the request of the The Ministry of Employment and National Solidarity, and the study showed that the poverty rate in Algeria “reduced to less than 6 percent after it was estimated in 1995 at 22 percent, and 17 percent in 1999, and the same speaker confirmed that the study showed that the situation of poverty In Algeria, it decreased significantly compared to the poverty rate recorded during the past ten years.

Al-Taher Hussein said that the study showed that the incomes and living conditions of citizens have improved, and that the daily expenses It has become more than two dollars a day, which is equivalent to 144 Algerian dinars per day.

The new ratio, revealed by this study, is the fourth circulating in the arena after three ratios that have been circulating through conflicting statements between government officials and the reports of the National Economic and Social Council, which had painted a bleak picture of the social situation in Algeria, and deepens the conflict Ratios on

poverty in Algeria The lack of clear criteria for social measurement and the absence of serious studies on poverty As well as the difference in defining the concept of poverty.

## **2. The concept and measurement of poverty**

### **2.1. The concept of poverty**

Poverty is one of the most common concepts that have been known from different and multiple aspects, including the linguistic, where: Al-Munajjid defines it in language and media as: “poverty-poverty: against the dispensation of any need, and that is that a person becomes needy or does not have what is sufficient for him”... (معلوف, 1980,P590) idiomatic, and it is also multiple

Poverty means deprivation of food, shelter, education, health care, and enjoyment of life. It is hunger, loss of shelter, inability to visit a doctor when sick, not engaging in studies, unemployment, fear of the future, and some see poverty as two forms. The image of poverty of awareness and the image of resource poverty are intertwined. As for the poverty of awareness, it is a cultural poverty that transforms countries into the optimal use of the available economic resources. As for the poverty of productive resources, it stops the accumulation of people's efforts to live corpses below the line of a dignified human life (Adl 2009).

At the general level: Poverty is often the result of the low level of economic development or widespread unemployment, and individuals who do not have the lower than average ability to obtain income - for whatever reason - are often poor, and thus they become below this poverty threshold that separates the poor And the rich.

The previous definition of poverty carries with it one of the three definitions by which the poor are defined, which were defined in the Third World Forum in 1994, and which we mention as follows:

The first is the objective definition that focuses on the fact that they are unable to achieve the minimum standard of living. Both household income and average per capita expenditure are sufficient measures of a standard of living, and here lies the difference between poverty and inequality, as the World Bank mentioned in the World Development Report (1990) that poverty expresses the absolute standard of living of a part of the population, who are the poor, while inequality expresses About the relative standard of living in society as a whole and without exception.

The other two definitions of the poor are: the subjective definition of the poor and the sociological definition of the poor. Self-definition: defines the poor from the point of view of the individual himself; If he feels that he is not getting what he needs - apart from his basic needs - he is considered poor. As for sociology: it defines them as those who receive social assistance from society, and the poverty line is the official minimum income that an individual receives when he depends for his livelihood on social aid.

Among the definitions that accompany the definition of poverty is the definition of the poverty line, which is the minimum income needed to meet the necessary expenditures for food and non-food items for family members, so that this level of income or expenditure is the boundary between the poor and the non-poor; Those who fall at the threshold or below it are described as poor, and those who fall above the threshold are not poor. The World Bank defined it in its 1992 Development Report as 400 dollars per capita in 1990 and its equivalent in dollars until 2000.

Thus, it can be said that there is no specific and unified definition of poverty, but rather there is a concept that differs from one region to another in terms of geographical location and time, which is determined according to criteria that are closely related to poverty itself.

### **2.2. Measuring Poverty:**

The importance of measuring poverty lies in identifying the poor and knowing their whereabouts and their size in relation to society and their demographic characteristics and their educational and health levels through objective and other non-objective approaches. In addition to the well-known national statistics on population and housing, with the aim of developing plans and policies aimed at lifting these poor people from poverty to poverty.

In order to classify or sort poor families from non-poor families, we must use some tools and indicators that help us judge the poverty or lack of poverty of the family. The second methodology is with the help of specialists and

experts in the field of definition, measurement and analysis of poverty... (Cahier de recherche No 00-02,1999)  
Among the methods that were followed in measuring poverty:

- **Unscientific methods:**

Some of these methods depend on a group of trained researchers who, in turn, visit the families, where the family is judged to be poor or not poor after being informed of the different aspects of the family's life.

- **Scientific methods represented by the poverty line method:**

The idea of this method lies in dividing society into two categories, the poor and the non-poor, depending on the poverty line, from which poverty indicators are estimated, such as the percentage of the poor, the severity of their poverty, and the size of the gap between them and the poverty line. The poverty line in terms of the type of data used in the estimation is divided into two types:

- **First:** direct methods for estimating the poverty line
- **Second:** Indirect methods for estimating the poverty line

What distinguishes the first type from the second is the use of consumer spending data to estimate the poverty line in the first type, while the second type of poverty line estimation methods is distinguished by the use of income data as an alternative variable for consumer spending data. The direct methods are characterized by their accuracy over the indirect methods, because expenditure and consumption data are more reliable than income data. We present some estimation methods for the most important poverty lines:

### 3. Poverty Line

It is the boundary separating the income or consumption of the poor from the non-poor. An individual is considered poor if his consumption or income falls below the level of the minimum basic needs needed for the individual, and the minimum basic needs of the individual are defined as the poverty line. Individuals or families whose spending or income is below the poverty line are classified as poor, and families or individuals whose spending or income is above the poverty line are classified as not poor. There are two main types of poverty lines:

#### 3.1. Absolute poverty line

The extreme poverty line is defined as the level of income or expenditure necessary for the family or individual to secure the basic food needs that provide him with the calories needed to carry out his normal daily activities.

And for the preparation of a food basket, the daily need for the average person in Algeria was estimated at 2,100 calories per day. But at a lower cost, depending on the standard prices, because the categories usually tend to consume the least expensive food commodities, and the element of comprehensiveness and gender is taken into account in the items of the food groups included in the food basket.

#### 3.2. Absolute Poverty Line:

The absolute poverty line is defined as the level of income or expenditure necessary for a family or individual to secure basic food and non-food needs, and basic non-food needs are those related to housing, clothing, education, health, and transportation.

There are two main approaches to estimating the absolute poverty line:

- **The first: the suggested dietary approach**

This method relies on a balanced food basket that is appropriate to the body's needs and is usually suggested by nutritionists, and then the value of the cost of that basket is calculated at the lowest current prices. And to calculate the absolute poverty line, we multiply the cost of the proposed food basket by the reciprocal of the ratio of expenditure on food commodities to total consumer expenditure (Engel coefficient, where Engel coefficient is defined as the reciprocal of the ratio of expenditure on foodstuffs to total public expenditure). As for the percentage of spending on food commodities, it is based on the expenditure data of all households or on the expenditure data of the category whose expenditure on food commodities is closest to the cost of the proposed food basket.

- **Second: The actual dietary pattern method**

This method depends on the average per capita actual calorie intake calculated through the actual per capita consumption data. The absolute poverty line is estimated in this method by calculating the average per capita total calorie quota for previously determined income categories, and then the corresponding income category or closest to the individual needs calories and finally determines the average total expenditure corresponding to the income group as an estimate of the absolute poverty line.

The researcher believes that calculating the average individual's total share of calories for the food consumption categories and then determining the category closest to what the individual needs in calories and considering the average total expenditure for this category as the absolute poverty line, where the researcher believes that estimating the absolute poverty line using the categories of food consumption will be more Accuracy of using income groups, because an increase in the income group may not mean an increase in the average per capita calorie intake.

### **3.3. Relative poverty line:**

It is considered one of the indirect methods. The relative poverty line is estimated through income data and according to the agreed upon definition of relative poverty. It is possible that the relative poverty line is the median, that is, it is the value separating the income of the poor from the income of the non-poor.

### **3.4. Discretionary poverty line:**

It is called the Leyden Poverty Line, and the estimation of this line depends on the answers of the respondents themselves, as they are asked to rate their level of income or consumption if it is higher or lower or matches the level of income or expenditure that they consider appropriate and socially acceptable. The poverty line is estimated through the answers of families or individuals who believe that their income or expenditure is equal to the appropriate and socially acceptable level of income or expenditure. There are other ways to determine the discretionary poverty line, such as relying on the minimum salary and wages, or on the upper limit of the tax-exempt income level.

## **4. Poverty Indicators:**

There are two features that must be available in poverty indicators, and these two features are the axiom of monotony and the axiom of transfers. As for the first feature, it means that any decrease in the income of the poor leads to an increase in his poverty when all other variables (such as commodity prices,...) remain constant. As for the second feature, it means that transferring Any part of the income of a poor individual to another individual with a higher income must lead to an increase in poverty, provided that other variables remain constant. There are several indicators of poverty, the most important of which is the poverty line indicator that was previously discussed. The importance of the poverty line indicator lies in the fact that many poverty indicators depend on it when estimating it. These indicators include:

### **4.1. Poverty Index:**

It is called the head count index and is defined as the ratio resulting from dividing the number of poor people by the total population, and it can be calculated by dividing the number of poor families by the numbers of all families (poor and non-poor in society). It is one of the most common and widely used poverty indicators, although it does not reflect the two features required in poverty indicators (the axiom of monotony and the axiom of remittances). The poverty rate index is calculated as follows:

$$H = \frac{q}{n}$$

- q represents the number of poor population or the number of poor families.
- n is the number of people or the number of households.
- H represents the percentage of poverty in the population.

### **4.2. Poverty Gap Index:**

The so-called depth of poverty index, where this indicator reflects the size of the total cash gap needed for the incomes of the poor to put them on the poverty line, that is, to become non-poor. For comparison purposes, this gap is calculated as a percentage of the total value of consumption of the entire population when their consumption level is equal to the poverty line. We note that the poverty gap index achieves one of the features required in the poverty index, which is the feature of monotony. When the income of any of the poor decreases, the poverty gap increases.

$$PG = \frac{1}{n} \sum_{i=1}^q \left[ \frac{z - y_i}{z} \right]$$

Where  $z$  represents the poverty line

$-y$  represents income or consumption (individual or household)

$n$  represents the population.

#### 4.3. Poverty Indicator:

The so-called family poverty index (FGT), which can be calculated by doubling the previously mentioned depth or intensity of poverty index:

$$P2 = \frac{1}{n} \sum_{i=1}^q \left[ \frac{z - y_i}{z} \right]^2$$

There are other measures that can be used as indicators of poverty concerned with the fair distribution of incomes among individuals or families, and these measures include:

- **Lorenz curve:**

One of the measures concerned with measuring the fairness of distribution among individuals or families by drawing a graph, the x-axis representing the cumulative sum of the percentages of families or individuals, and the y-axis representing the cumulative sum of the income ratios for individuals or families. These percentages are taken after arranging the family data (number of its members, income and average per capita income) in ascending order relative to the family income or the individual's income. The greater the curvature of the Lorenz curve, the less the fairness of the distribution, and the distribution of income is considered equal among all members of society if the Lorenz curve forms a straight line between the point of origin and the point (1,1) in the graph of the curve.

- **Gini coefficient:**

The Gini coefficient is one of the most important and most common measures in measuring the fairness of the income distribution, and its idea depends on the Lorenz curve. (1,1) in the following graph) and divide this area by 0.5, because the area of the triangle between the isoline and the horizontal and vertical coordinates is 0.5, so the Gini coefficient is limited between zero and one, where it is zero when the Lorenz curve applies to the line Equality and the area is equal to zero and then the income distribution is equal for all members of the community (the optimal distribution of income), While the Gini coefficient is equal to one when the Lorenz curve applies to the horizontal line and the vertical line and the area between the iso-line and the Lorenz curve is 0.5 and then the value of the Gini coefficient is equal to the right one, and in this case the income distribution is in its worst case. So, the smaller the value of the Gini coefficient, the better the fairness of the income distribution.

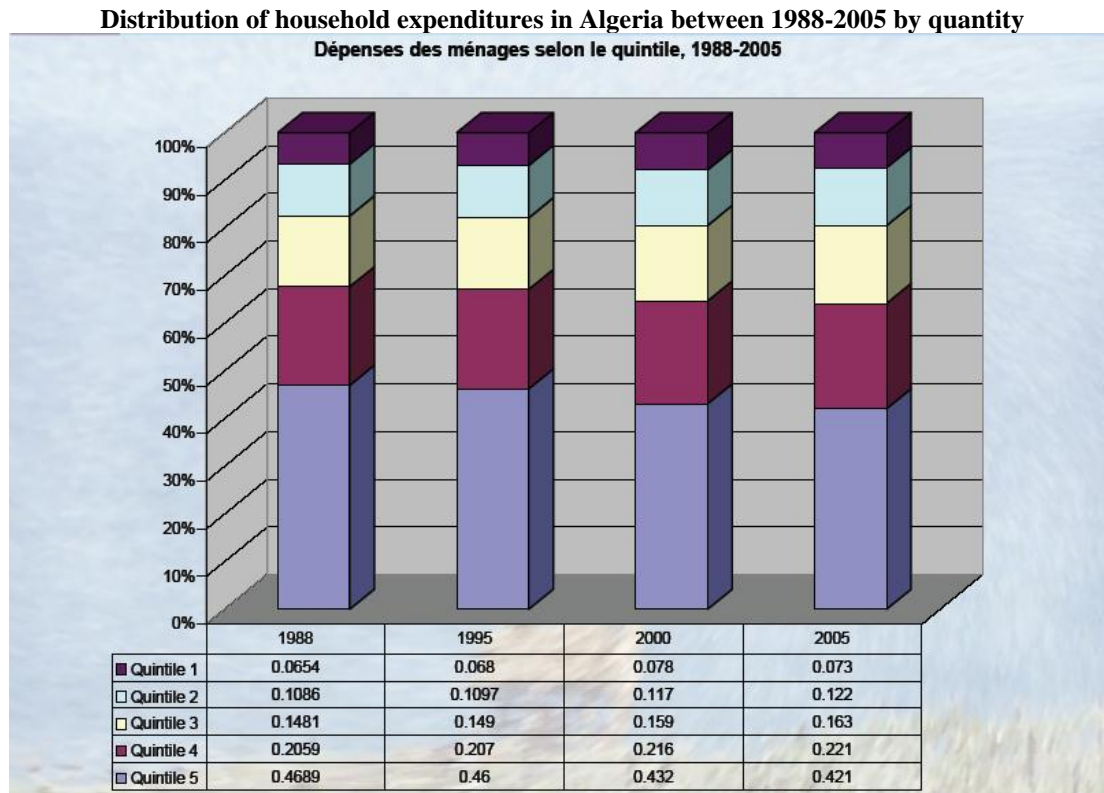
$$Gini = 2 \operatorname{cov}(\bar{Y}, F) / \bar{y}$$

Lorenz curve and Gini coefficient in Algeria between 1988 and 2005:

To use the Gini calculation method on Algeria's data for the years 1988-1995-2000-2005 (according to the World Bank) according to the quantitative distribution...: (Deininger-Squire data set, Worled bank 1997)

**Table No. 01: Household Expenditures by Quantity in Algeria between (1988-2005)**

	1988	1995	2000	2005
first quantity	0.0654	0.068	0.078	0.073
second quantity	0.1086	0.1097	0.117	0.122
third quantity	0.1481	0.1494	0.159	0.163
Fourth Quantity	0.2059	0.2074	0.216	0.221
Fifth Quantity	0.4689	0.4655	0.432	0.421



Source: Professor Ali kouaouçi intervention in a forum on poverty in Msila in 2006.

To calculate the Gini index for the different years 1988-1995-2000-2005 we follow the following steps:

#### 4.4. Gini index for the year 1988:

We have a quantitative distribution of the following household expenditures:

The first quantity: 0.0654.

The second quantity: 0.1086.

Third Quantity: 0.1481.

Fourth Quantity: 0.2059.

The fifth quantity: 0.4689.

The first process we calculate the sum of these quantities in ascending order and we draw the Lorenz curve with 6 points:

The first point: (0,0).

The second point: (0.2, 0.0654).

The third point: (0.4, 0.174) where  $0.174 = 0.0654 + 0.1086$ .

Fourth point: (0.6, 0.3221) where  $0.3221 = 0.174 + 0.1481$ .

The fifth point: (0.8, 0.528), where  $0.528 = 0.3221 + 0.2059$ .

Sixth point: (1,1) where  $1 = 0.528 + 0.4689$ .

When drawing the Lorenz curve, the proportions of the total population take the x-axis, and the proportions of the total distribution of expenditures (income or consumption) represent the sampling axis.

After finding the Lorenz points, we perform the second process, which is based on measuring the maximum area of the Lorenz curve (the position between the deviation representing the achieved equitable distribution)

This area is calculated by adding the area of the rhombus represented by the coordinates (0.2,0.0654)-(0.4, 0.174)-(0.6, 0.3221)-(0.8, 0.528)-(1,1): where the width of each rhombus is equal to the other, i.e. (0.2) We take the points of the Lorenz curve and cut the horizontal lines of the curve (0.2, 0.4, 0.6, 0.8, 1) and draw horizontal lines to get the rectangles.

The maximum area of the Lollins curve in Algeria for the year 1988 is:

$$(0.2*0.0654)+(0.2*0.174)+(0.2*0.3221)+(0.2*0.528)+(0.2*1) = 0.0348+0.06442+0.1056+0.2 = 0.4179$$

The third operation is based on calculating the interior area of the Lorenz curve:

The interior area of the Lorenz curve in Algeria for the year 1988 is:

$$(0.2*0)+(0.2*0.0654)+(0.2*0.174)+(0.2*0.3221)+(0.2*0.528)= 0.2179$$

The fourth process, in which we take half of the sum of the two areas (maximum and interior) and subtract them from the number 0.5 (because the area of the triangle between the line of equality and the horizontal and vertical coordinates is 0.5) and multiply the result by 2 to get in the end a Gini index.

Gini index for the year 1988: equal to  $= (0.5 - ((0.4179 + 0.2179) / 2)) * 2 = 0.364 = 36.42\%$

#### 4.5. 1995 Gini Index:

We have a quantitative distribution of the following household expenditures:

- Quantity 1: 0.068.

The second quantity: 0.1097.

Third Quantity: 0.1494.

Fourth Quantity: 0.2074.

The fifth quantity: 0.4655.

The first process we calculate the sum of these quantities in ascending order and we draw the Lorenz curve with 6 points:

The first point: (0.0).

The second point: (0.2, 0.068).

- The third point: (0.4, 0.1777) where  $0.1777 = 0.068 + 0.11097$ .

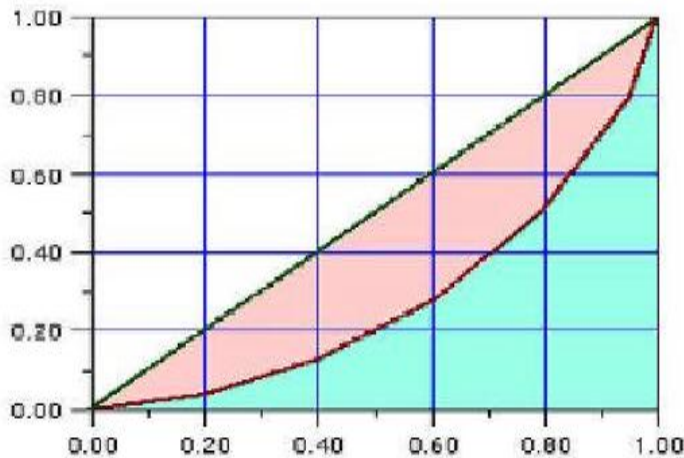
Fourth point: (0.6, 0.3271) where  $0.3271 = 0.1777 + 0.1444$ .

The fifth point: (0.8, 0.5345) where  $0.5345 = 0.3271 + 0.2074$ .

Sixth point: (1.1) where  $1 = 0.5345 + 0.4655$ .

When drawing the Lorenz curve, the proportions of the total population take the x-axis, and the proportions of the total distribution of expenditures (income or consumption) represent the sampling axis.

**Graph No. (01): Lorenz curve according to the data of the World Bank on the standard of living and poverty in Algeria for the year 1995..**

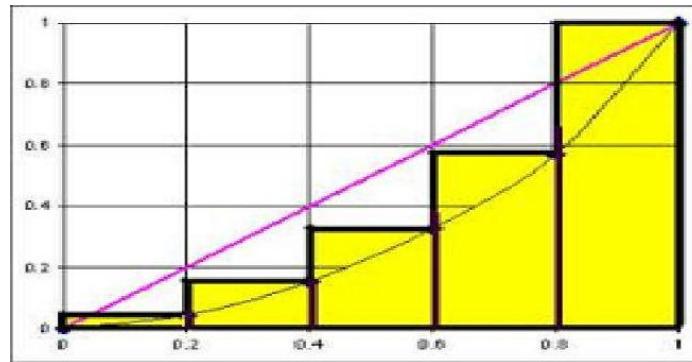


After finding the Lorenz points, we perform the second process, which is based on measuring the maximum area of the Lorenz curve (the position between the deviation representing the achieved equitable distribution)

This area is calculated by adding the area of rhombus where the width of each rhombus is equal to the other (0.2) We take the points on the Lorenz curve and cut the horizontal lines of the curve (0.2, 0.4, 0.6, 0.8, 1) and we draw horizontal lines to get the yellow rhombus as represented In the following figure.



**Graph No. (02): The maximum area of the Lorenz curve in Algeria for the year 1995 (the area of yellow rhombus)**

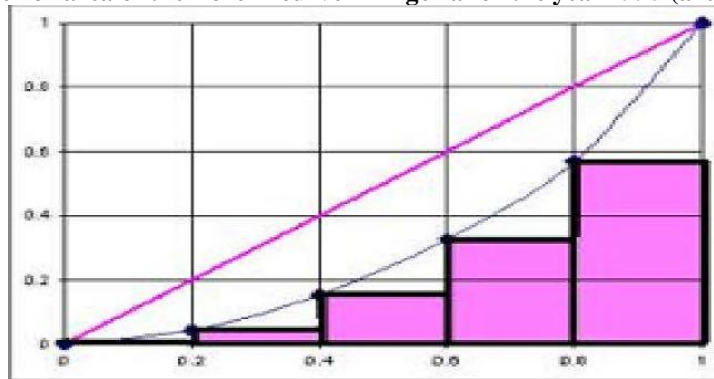


The maximum area of the Lorenz curve in Algeria for the year 1995 is:

$$(0.2 \times 0.068) + (0.2 \times 0.177) + (0.2 \times 0.3271) + (0.2 \times 0.5345) + (0.2 \times 1) = 0.421$$

The third operation is based on calculating the interior area of the Lorenz curve:

**Graph No. (03): Interior area of the Lorenz curve in Algeria for the year 1995 (area of purple rhombus)**



The interior area of the Lorenz curve in Algeria for the year 1995 is:

$$(0.2 \times 0) + (0.2 \times 0.068) + (0.2 \times 0.177) + (0.2 \times 0.3271) + (0.2 \times 0.5345) = 0.221$$

The fourth process, in which we take half of the sum of the two areas (maximum and interior) and subtract them from the number 0.5 (because the area of the triangle between the line of equality and the horizontal and vertical coordinates is 0.5) and multiply the result by 2 to get in the end a Gini index.

$$\text{Gini index for the year 1988: equals } = (0.5 - ((0.421 + 0.221) / 2)) * 2 = 0.357 = 35.7\%$$

#### 4.6. Gini index for the year 2000:

We have a quantitative distribution of the following household expenditures:

First Quantity: 0.078.

The second quantity: 0.117.

Third Quantity: 0.159.

Fourth Quantity: 0.216.

The fifth quantity: 0.432.

The first process we calculate the sum of these quantities in ascending order and we draw the Lorenz curve with 6 points:

The first point: (0,0).

The second point: (0.2, 0.078).

- The third point: (0.4, 0.195) where  $0.195 = 0.078 + 0.117$ .

Fourth point: (0.6, 0.354), where  $0.354 = 0.195 + 0.159$ .

The fifth point: (0.8, 0.570), where  $0.570 = 0.354 + 0.216$ .

Sixth point: (1,1) where  $1 = 0.570 + 0.432$ .

After finding Lorenz points, we do the second process:

The maximum area of the Lorenz curve in Algeria for the year 2000 is:



$$(0.2*0.078)+(0.2*0.195)+(0.2*0.354)+(0.2*0.570)+(0.2*1) = 0.41702$$

The third operation is based on calculating the interior area of the Lorenz curve:

The interior area of the Lorenz curve in Algeria for the year 2000 is:

$$(0.2*0)+(0.2*0.068)+(0.2*0.177)+(0.2*0.3271)+(0.2*0.5345)= 0.21702$$

Fourth process: we get a genetic index which is equal to

$$\text{Gini index for the year 2000: equal to } = (0.5 - ((0.41702 + 0.21702) / 2)) * 2 = 0.36596 = 36.66\%$$

#### 4.7. Gini index for the year 2005:

We have a quantitative distribution of the following household expenditures:

First Quantity: 0.073.

The second quantity: 0.122.

Third Quantity: 0.163.

Fourth Quantity: 0.221.

The fifth quantity: 0.421.

The first process we calculate the sum of these quantities in ascending order and we draw the Lorenz curve with 6 points:

The first point: (0.0).

The second point: (0.2, 0.073).

- The third point: (0.4, 0.195) where  $0.195 = 0.073 + 0.122$ .

- Fourth point: (0.6, 0.358), where  $0.358 = 0.195 + 0.163$ .

The fifth point: (0.8, 0.579), where  $0.579 = 0.358 + 0.221$ .

Sixth point: (1.1) where  $1 = 0.579 + 0.421$ .

After finding Lorenz points, we do the second process:

The maximum area of the Lorenz curve in Algeria for the year 2005 is:

$$(0.2*0.073)+(0.2*0.195)+(0.2*0.358)+(0.2*0.579)+(0.2*1) = 0.441$$

The third operation is based on calculating the interior area of the Lorenz curve:

The interior area of the Lorenz curve in Algeria for the year 2005 is:

$$(0.2 * 0) + (0.2 * 0.073) + (0.2 * 0.195) + (0.2 * 0.358) + (0.2 * 0.579) = 0.241$$

Fourth process: we get a genetic index which is equal to

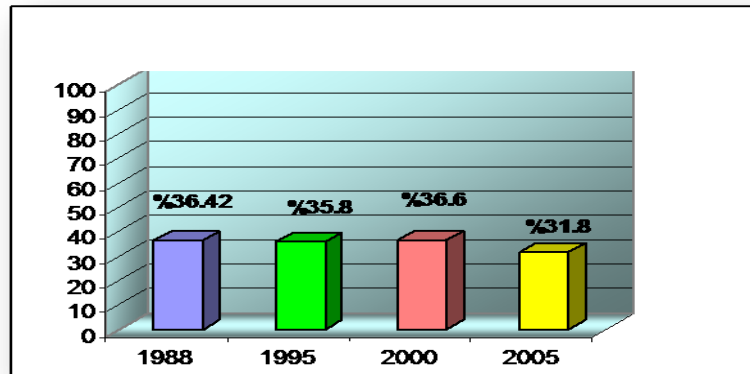
$$\text{Gini index for the year 2005: equal to } = (0.5 - ((0.441 + 0.241) / 2)) * 2 = 0.318 = 31.8\%$$

Finally, let's get the Gini indicators in Algeria between (1988-2005):

**Table No. (02): Genetic rate in Algeria for the years (1988-1995-2000-2005)**

the year	1988	1995	2000	2005
genetic index	% 36.42	% 35.8	% 36.60	% 31.8

**Graph No. (02): Gini Index for the years (1988-1995-2000-2005) in Algeria**



We note from the graph that all Gini indicators are less than 100% and more than 0%, and with this we can say that there is a fair and slight distribution of expenditures (income or consumption) among poor families, and this indicator has diminished to move from 36.42% a year 1988 to 31.8% in 2005, and this inevitably indicates that the

distribution (income or consumption) among the poor is oriented towards moderation, when it reaches 0% (the figure 0% represents a fair and available distribution, while 100% means that the equitable distribution Not found among households)... (PNUD, 2004, p 286).

## **5. Data sources and the most important approaches used to study poverty:**

There are objective and other non-objective approaches. The first tests the possible objective measurement of the poverty level, while the second depends on the contribution methodology, and then depends on probing the people concerned with defining poverty... (Cahier de recherche N° 00-02, 1999), provided that these two types are combined for a general and accurate view of poverty.... (Kouaouci, elouffi, 2006)

### **5.1. The classic approach based on income and savings consumption:**

Classic sources are investigations about savings consumption and household income. Most opinions on poverty in developing countries depend on this methodology. The data used about savings or income of households in developing countries such as Algeria is provided by LSMS surveys.

### **5.2. Standardized Forms Methodology (QUID/QUIBB):**

The International Program for Development (PNUD), the World Bank and the International Labor Office have developed common points in a unified form, which in turn makes a quick measurement of development indicators, taking non-food poverty (education, health, requirements of public interest in electricity and drinking water, drinking water, water drainage channels). ...etc), and this form is simple and easy to register.

It takes many measures that cover most aspects that are specific to the household, the services provided by the social sector (education, health, housing, ... etc.), their degree of satisfaction, agricultural and non-agricultural activities, the welfare of households, services provided by the financial sectors.

### **5.3. Methodology based on unnecessary needs:**

This type is considered as a contributory approach, as it reassures the layoffs of the households interrogated with them to reach the identification of the important needs. The special administrative sources of social activity also contribute to the collection of information about these requirements and needs.

The approved and existing general needs are related to the type of housing, educational level, services provided by the health sectors, potable water and electricity. Then, in the next step, it measures the level of the presence within each household about each important requirement and need.

### **5.4. Methodology that depends on measuring the level of food security:**

Food security remains a very important issue in some contexts as some investigations focus only on this issue, which is practically abandoning other elements of well-being. The benefit from these sources is undoubted, but this approach to nutrition cannot be reduced to an approach from poverty.

### **5.5. Subjective poverty methodology, sense of well-being:**

Another vision, to remove the "relative" and "absolute" poverty thresholds for poverty, with a lower definition of poverty thresholds starting from the savings of people who are verified by themselves (by themselves), that is, they determine the threshold at which their standard of living is satisfactory, i.e. they feel that there is well-being inside their homes, i.e. It is necessary to develop questions directed to people who have a low level of income about ensuring the well-being within the ideal family consisting of two adults and two children.

In this regard, there are various advanced readings from the University of Leiden in the Netherlands, asking each person whose income is low, different thresholds according to the role of personal status (gender, age, work, residence).

However, there is criticism directed at these estimates, which depend on income to estimate well-being. Later, household consumption is estimated, which is a very effective and reliable indicator of household well-being.

In this we can refer to a proposal from the United Nations University regarding this.... (United Nations University, 2005), Although not unanimously, most favor the use of income and consumption together, as the surveys in Africa favor this, the option that focuses on consumption is good because income is less stable than consumption and in addition to the issue of the availability of products and services, it may find the use of income as a method for studying families' standard of living.

The second issue concerns the choice between consumption and expenditure. Surveys use income rather than consumer spending. Then it should include loan repayments, and taxes.

## 6. Poverty cases, depth and severity at the household level in Algeria

To begin with, we must introduce a concept that deserves a quick explanation:

'Impact', 'depth' and 'severity', which allow a particular group's contribution to poverty at the national level. This enables better targeting of vulnerable segments of the population from poverty, and thus any timetable for taking appropriate measures.

By comparing the weight in the population of a particular group in the direct impact index we can see whether that group is more or less affected by the poverty average population. The following table explains the details of these contributions, according to the characteristics of the head of the family.

**Table 5: Contributions of households to poverty, according to the characteristics of the head of the household**

Caractéristiques	P0		P1		P2		Contribution
	Effectif	Incidence	Contribution	Profondeur	Contribution	sévérité	
STRATE							
Urbain	2901	0.082	43.00%	0.227	59.07%	0.092	58.12%
Rural	2046	0.152	57.00%	0.223	40.93%	0.094	41.88%
GENRE DU CHEF DE MENAGE							
Homme	4405	0.1	79.00%	0.2	84.00%	0.08	79.00%
Femme	542	0.21	21.00%	0.32	16.00%	0.17	21.00%
SITUATION INDIVIDUELLE							
Occupé	2990	0.09	49.72%	0.18	49.74%	0.06	41.91%
Chomeur-travaillé	287	0.28	14.85%	0.26	6.90%	0.11	7.38%
Chômeur	19	0.21	0.74%	0.34	0.60%	0.16	0.71%
Femme foyer	195	0.19	6.85%	0.39	7.03%	0.21	9.57%
Retraite/Pension	1303	0.09	21.67%	0.27	32.51%	0.12	36.53%
Autre inactive	152	0.22	6.18%	0.23	3.23%	0.11	3.91%
NIVEAU D'INSTRUCTION							
Sans instruction	1945	0.15	55.29%	0.25	44.96%	0.11	48.82%
École coranique	318	0.14	8.44%	0.2	5.88%	0.07	5.08%
Primaire	1014	0.09	17.30%	0.19	17.81%	0.07	16.20%
Moyen	822	0.05	7.79%	0.21	15.96%	0.08	15.00%
Secondaire	581	0.09	9.91%	0.19	10.21%	0.07	9.28%
Supérieur	224	0.03	1.27%	0.25	5.18%	0.11	5.62%
Total	4904	0.111	100%	0.225	100%	0.093	100%

### 6.1. Poverty according to place of residence:

According to the use of the poverty line for households (11.1%), 8% of urban households can be considered poor, against 15.2% in rural areas. The depth is slightly higher in urban areas, accounting for 22.7% versus 22.3%. As the severity, it is slightly higher than 9.2 percent in urban areas compared to 9.4 percent in rural areas. Poverty in Algeria is primarily in rural areas.

**Table 6: Indicators of poverty by class**

The middle,		the poverty,	the depth,	the severity
urban	mean	0,082	0,227	0,092
	the number	2901	297	297
rural	mean	0,152	0,223	0,094
	the number	2046	408	408
Total	mean	0,111	0,225	0,093
	the number	4947	705	705

Study source: *lsms ceneap 2015, the national investigation on the standard of living of families in Algeria in 2015, raw data in spss.*

## 6.2. Poverty according to the type of head of the family

As in many African countries, households headed by women are more affected by poverty than those headed by men (21% vs. 10%) with higher depth and severity.

## 6.3. Poverty according to the individual situation of the head of the family

These are the households headed by the unemployed who are already suffering the most from poverty (28%) and the households whose head is retired or less than 9% with poverty.

## 6.4. Poverty by sector of activity the head of the family

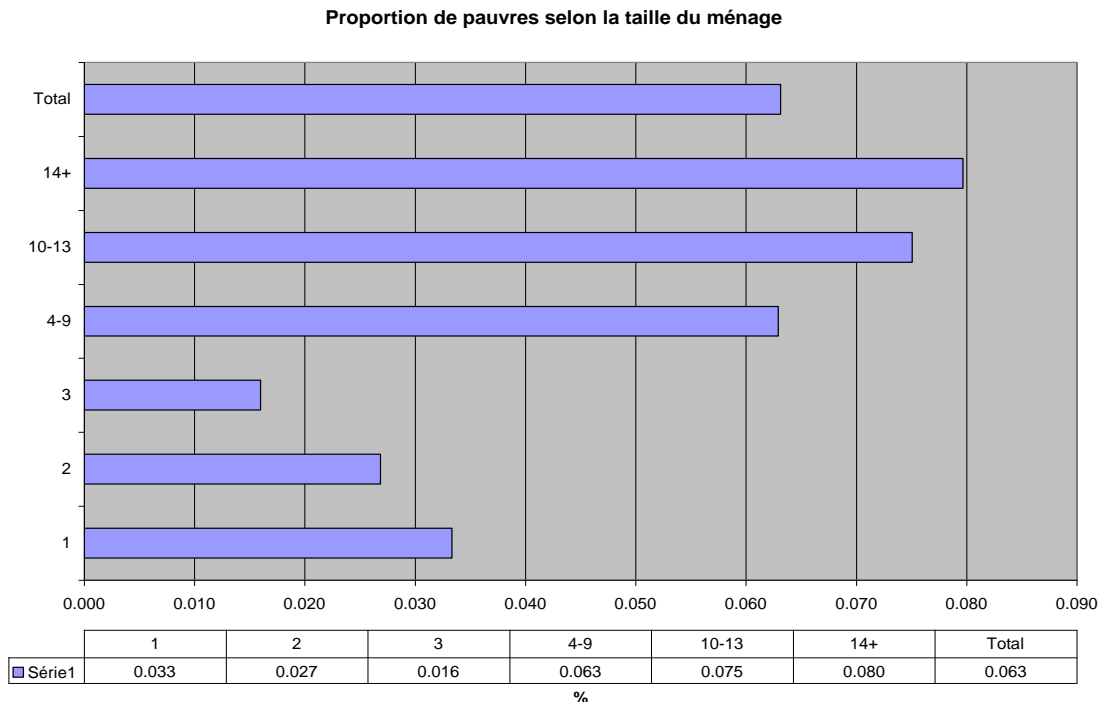
Among the sectors, industry is the best with only 2% of poor households, followed by hotels and services with 7% and commerce at 8%. Households headed by heads involved in agricultural activities, livestock, fisheries or groups most affected by poverty with 19%.

## 6.5. Poverty according to the size of the household

The relationship between family size and poverty is not linear. Instead, it is the curved line with the first peak of households of one person (more than 3% of poverty), then a decrease for households of 2 persons of more than 3 persons of a family and thus of a lower incidence of poverty with just over 1, 5%. Its size exceeds 4, and there is a rapid increase in poverty with the size of the household.

In terms of households, the proportion of 11.1% of poor families must now be expressed by the individual in terms of: If all Algerian families have the same size and composition according to age, the proportion of poor families will be the same as that of the poor. As this is not the case, although 8.2% of those surveyed live in poor households, there are only 6.3% of the people we verify objective and subjective conditions (less than 50% of average expenditure for poverty and cognition).

Figure 3: Percentage of the population dependent on double the size of the household



Source: Individual accounts based on national investigations on the standard of living of Algerian families for the years 1988-1995-2000-2015.

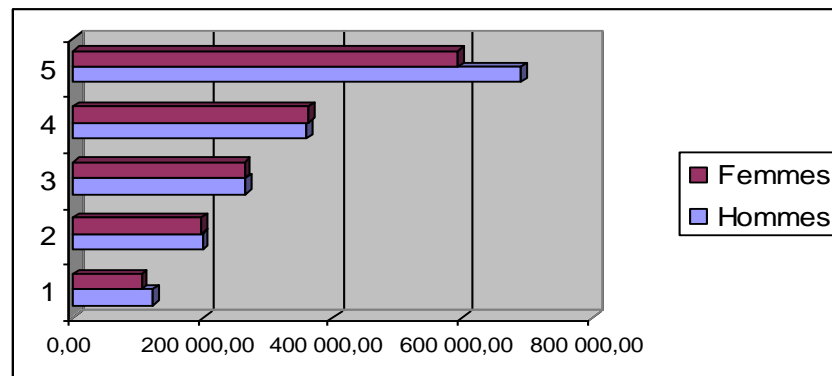
### 6.6. Poverty according to the legal activity sector of the head of the family

Heads of families who work in the informal sector are the most affected by poverty (16%). It is the public sector, which seems more appropriate with 5 per cent, and well ahead of the private sector 12%.

### 6.7. Inequality at the household level

The main indicator will use the Gini indicator. We refer to the reader Chapter 1 for a definition and method of calculating the Gini index. Tables to take over this branch. In addition, in 2015 the Gini index reached 37.5% in urban areas compared to 24.1 percent in rural areas, while the differences between the sexes, as there are many differences and inequality between men as it was only 32.9 % compared to 19.7% for women.

**Figure 4. Average Household Expenditure by Type of Head of Household and Five**



*Study source: lsms ceneap 2015.*

When the type of head of the household is taken into account, there are almost equal dinars for the expenses of the middle classes, namely the 2, 3, and 4 quintiles and inequality in favor of male-headed households for each in the first quintile, and to a much greater degree for the fifth quintile, and if we compare the level of Expenditures according to the level of the head of the family, we find that there is only because in the fifth education difference appears to run decisive, but completely unexpected.

It shows a greater level rise with the level of spending, but I followed closely by the primary and the Qur'an before us now from the middle and secondary level. It is likely that this situation is related to the type of activity, but in the fifth of the activity, the head of the family makes big differences in terms of household expenses. To this end, rises to more than fifths of the level and the higher the volume of expenditure. The activity seems to be the more profitable, which is followed by agriculture, construction and commerce, the less attractive activities from the financial point of view seem to be, industry and management, and if one studies the legal sector, the private sector which is characterized by the highest average spending, Followed by the 'foreign' sector, the public sector occupying the penultimate place, ahead of the informal sector, as the socio-economic group, and it is logical that the lands in the fifth quintile show a higher level of spending to track the already unemployed. However, housewives and other unemployed people who did not work, spend less.

From these differences we can say: Inequality by type of head of household: it is the inequalities between men that are more pronounced (32.9% compared to only 19.7% for women). This could be partly due to the low presence of women in the labor market and the type of jobs that are focused.

Inequality according to the individual situation of the head of the family: It is the inequality between employers is greater and between maneuvers and seasonality is weaker.

Inequality by sector of activity The head of the family: Among the sectors of activity, which is in this industry, we find the greatest inequalities, as well as in agriculture, fishing and livestock.

Legal Inequality According to the activity sector of the head of the household: These are related activities "from the outside" causing greater inequality than the informal sector and that is less inequality, with Gini indices ranging from 15, 3% to 53.3%.

#### 6.8. Poverty at the individual level:

According to the report on development in 2015 by the United Nations Development Program and transmitted to the Algerian government, 3.1% of Algerians living in 2000 were below the food poverty line and 12.1% below the poverty line. Both thresholds represent approximately US\$1.5 (2) PPP, ie 30% of the current dollar for Algeria.

If you want to check how Algeria's population is distributed in 2015, compared to both absolute thresholds, we find that the minimum food sa is about 11.965 dz and the general poverty is 15,953 dz. According to lsms 2015, are respectively 2.7% and 5.7% of Algerians live below the general poverty line and food line, which implies higher levels of extreme poverty and lower levels of general poverty for the year 2015.

**Table 7. Incidence, depth and severity of poverty and different strata considered food poverty line threshold thresholds and an overall national threshold**

	Region				sum	
	urban		rural			
	Rate	number	Rate	number	Rate	number
food threshold	0.020	17569	0.036	13465	0.027	31034
general poverty line	0.036	17569	0.083	13465	0.057	31034
National Poverty Line	0.037	17569	0.097	13465	0.063	31034
The depth of the national threshold	0.012	17569	0.030	13465	0.020	31034
Food Threshold Depth	0.207	347	0.239	488	0.225	835
Depth of the general poverty line	0.271	640	0.247	1115	0.256	1755
The intensity of the national threshold	0.005	17569	0.013	13465	0.009	31034
Food Threshold Intensity	0.068	347	0.099	488	0.086	835
The severity of the general poverty line	0.105	640	0.100	1115	0.102	1755
Poverty line for \$1 per day	0.004	17569	0.010	13465	0.006	31034

Source: lsms ceneap study – 2015.

Table also provides 7 cases, the depth and severity of poverty and habitat work by class different thresholds: Threshold food poverty line national comprehensive Threshold adopted by the study by combining the target on poverty and subjective poverty.

With a poverty threshold of one dollar (01) per person per day, the poverty rate was 1.9% in 1988 and became 0.8 percent in 2015, representing a decrease of more than half. As a result, the first desired goal of the Millennium Development Goals has already been reached in 2015. Extreme poverty as defined by the Millennium Development Goals is still marginal in Algeria and its complete eradication is quite possible. It remains, however, that this threshold is too low for a country like Algeria.

If one chooses a food sa threshold, which is equivalent to an amount of 1.5 PPP measuring the first indicator of the Millennium Development Goals, the trend will be: 3.6% in 1988, 5.7% in 1995, 3, 1 % in 2000 and 1.6% in 2015.

In this scenario also, the 2015 target is reached in 2004. By constitutional, the general poverty line under GSP, or about \$02 PPP, if we extend to 2015 the pace of decline Observed between 1988 and 2004 (- 0.7% per year on average), the target of halving (to 4%) would not be achieved. With 1995, as a sign (when the upward trend has been reflected in poverty) , less than half the poverty rate and achieved in 2015.

#### 7. Poverty Gap Index (x Poverty Depth x Poverty Depth):

This indicator, often called depth of poverty, expresses the difference in spending by poverty with respect to the poverty threshold. The level of poverty (or intensity), which is equivalent to poverty, and the average expenditures from the gap between poverty and the poverty line, relative to the poverty line.

The above table shows an extension of the poverty depth between 1988 and 1995, and between 1995 and 2000 the food threshold decreased. From the constitutional side, the level of poverty has increased during that period.

It has evolved, on average, 11.1% in 1988 to 12.3% in 1995 and 16.1 percent in 2000 (in other words, expenditure for the poor represented 84.5% of the minimum food in 2000).

In the 2015 projection, the FAO Threshold, extending the trend between 1995 and 2000 Because of the observed trend change, the poverty gap index would be equal to (0.18), a level less than half of the 1988 index value (0.20) or 1995 (0.35). The goal is to fulfill.

#### 8. Proportion of population with less than minimum dietary energy:

The calorie level to choose is equivalent to 2,100 calories per person per day. It was used to measure the Food Poverty Line (SA) in Algeria, as mentioned above. In 2015 the goal of reducing the proportion of the population that did not need these calories to orès was already achieved, rising from 3.6% in 1988 to 3.1% in 2000.

**Table 8: The evolution of poverty between 1988 and 2015**

		threshold	2015***	2000**	1995*	1988*
Poverty Rate (%)		01\$	-	0.8	-	1.9
		SA	1.6	3.1	5.7	3.6
		SPG	6.8	12.1	14.1	8.1
Poverty Gap Index		SA	-	0.5	0.7	0.4
		SPG	-	0.025	0.017	0.007
Poverty degree in (%)		SA	-	15.5	12.3	11.1
		SPG	-	20.2	12.1	8.6
The number of poor in the thousands		01 \$	-	243	-	452
		SA	518	952	1611	850
		SPG	2200	3719	3985	1885
	<p>*The Food Poverty Line (SA) is set from the minimum requirement of 2,100 calories per person per day. As for the general poverty line (GSP), it includes, in addition to the food threshold, a non-food component that is estimated in relation to the non-food needs that families consider necessary to the point of accepting that their minimum caloric needs are not met.            SA: Food Threshold SPG: General Poverty Threshold            *Source: The World Bank            ** Source: General Planning and Foresight Authority based on ONS 2000 consumer survey.            *** Source: Public Planning and Foresight Committee: Estimates using World Bank software.</p>					

#### 9. Conclusion

The study presents the results of lsms2015 that are still close to the data contained in the national report in terms of the prevalence of poverty:

- 0.6 percent of the population was less than \$1 a day, compared to 0.8 percent in 2000
- 2.7 percent below the food threshold, compared to 3.1 percent in 2000
- 5.7% below the general poverty line, compared to 12.1 percent in 2000

It also deepened poverty, and was appointed in the 2015 national report on the Millennium Development Goals. The poverty gap will also include:

- 2% for the national threshold in 2015 compared to 2.5% overall for the poverty line in 2000
- Threshold of 8.6% for food in 2015 compared to 0.5 for the year 2 000

As the severity of poverty, the 2015 national report on the Millennium Development Goals set poverty levels, and it will be:

- 9 percent below the national threshold, compared to 16.1 percent in 2000
- Threshold 8.6% for food in 2015
- 10.2% of the poverty line in 2015

Ultimately, regardless of the depth of poverty, the 2015 lsms survey results are rather consistent with published data, remember, sometimes merely projections from past trends.



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