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## MEASURING POVERTY IN AN ULTRAPERIPHERAL REGION - THE CASE OF THE CANARY ISLANDS

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# **MEASURING POVERTY IN AN ULTRAPERIPHERAL REGION: THE CASE OF THE CANARY ISLANDS**

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## **ABSTRACT**

Based on a database formulated by the Canary Institute of Statistics (Social Conditions in the Canary Population Survey , 2000) domestic poverty in the islands is analysed. Households were divided into several groups according to several criteria such as island residency, age, work status and educational level of the head of household. In addition to the accepted objective measurements, we estimate poverty using a subjective approach. In the latter, the poverty line was derived from the opinion expressed by the individuals concerning their required income and welfare.

*Keywords:* poverty, objective measurements, subjective measurements.

*Subject :* Regional and local economy

## **1. Introduction**

In this paper, the classic objective perception of poverty in the Canary Islands is complemented by subjective measurements, using the information provided by households regarding income needs and welfare. The state-funded database which was used (Social Conditions in the Canary Population Survey, 2000) was provided by the Canary Institute of Statistics.

Measuring poverty is particularly relevant in most modern societies. Determining when a household may be classed as poor is useful for enabling families to access social assistance (Fouarge, 2004). When quantifying poverty, we need to take into account variable identification which allows us to compare welfare between individuals or households (mainly income and expenditure) and also the poverty line. Obviously, the percentages of poor people provided by these choices may be quite different.

Thus, accepted objective measurements of poverty, with their inherent limitations, may be enhanced by using subjective measures when these are available. Subjective measurements include information regarding how households or individuals perceive their situation and needs.

Spanish researchers have carried out and developed extensive literature concerning inequality and poverty. The national statistical database (INE, initials for the National Statistics Institute) has provided much material through its Household Budget Survey (EPF) and more recently through the European Union Household Panel (PHOGUE) which allows us to compare poverty levels in different countries. Cantó et al (2000) have compiled the most thorough report on inequality and poverty in Spain. The Household Budget Survey 1990-91 (EPF) and European Union Household Panel (PHOGUE) include a subjective module which allows us to widen the knowledge and identify poverty through subjective measurements.

More recently regional institutes across Spain, in the Canary Islands and Basque Country, for example, have included a set of questions which help build and analyse subjective measurements in their social condition surveys (2000). Thus, we can draw a clearer picture of the extent of regional poverty, island by island in the

case of Canaries and counties in the Basque Region, from the new information available.

In the following section the main types of poverty measurements are described and in section 3 the main results are set out, with the most pertinent findings at the end.

## **2. Approaches for measuring poverty**

These different perspectives (objective and subjective) are aimed at establishing a poverty line to classify those under this line as poor people. There are two approaches when referring to this line: objective and subjective. If we focus on the objective approach, which is based on objective data supplied for a person or household (income, expenditure, household items, etc) we may distinguish the absolute and relative view of poverty; it depends on the minimal needs (in absolute poverty) or on income range, which is estimated from the average income of every households. The subjective consideration of poverty is based on the individuals' subjective perception of both the domestic needs as well as different levels of satisfaction (financial, welfare, etc).

### **2.1. Objective approaches**

#### **2.1.1. Objective absolute approach**

This perspective suggests that the needs of a household or an individual (food, dwelling) or a part of them, are not related to the wealth of others. A person could be considered poor or not depending on whether his or her needs are covered. This concept of poverty applies to several developing countries and, it constitutes the official poverty line in the USA.

The Latin American model, known as the Unsatisfied Basic Needs, is related to absolute poverty. This model consists of a series of relevant necessities of life in the family welfare sector, such as household, education and health. It also consists of

classifying as poor those households with no access to a basic household budget. This one applies to the market value of the most vital goods and services.<sup>1</sup>

This poverty measurement, traditionally used by developed countries and the USA, is called Orshanski's poverty line (1965). This line is defined from an average subsistence level basket valued at market prices and multiplied by a factor which is the relative food weight in the average American family's total expenses (reciprocal of Engel's coefficient). This proportion has been set at a third since 1955. Thus, the minimum basket is multiplied by three to defined the poverty line and consider if a family is poor or not. The absolute poverty is not generally measured in Europe or Spain, but considering average extreme poverty (25%), the absolute level may be easily ascertained. However, some experts suggest that this average should be 15%.

To sum up, the complex nature of defining a subsistence level food basket may not help us compare different regions or countries because the products purchased vary greatly.

### **2.1.2. Focus on relative poverty**

In this sense, necessities are relative; they are compared with the needs of the rest of the households or individuals. The definition of relative poverty is based on comparisons with average income in one society and it is the most accepted concept of poverty in the EU and the OECD.

When considering relative poverty, we generally use income or expenditure. The latter is used normally due to the fact that the former tends to be underestimated in most surveys. However, most authors agree that there are more aspects that help classify a household or individual as poor in addition to income and family expenditure.

Research studies on relative poverty tend to take into account family size using equivalence scales. This is because of the economies of scale, in the sense that the expense does not increase proportionately with the members of the household.

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<sup>1</sup> In Chile, for example, in the CASEN survey subsistence food basket, food took up 27%, housing costs 20%, transportation 12%, education 11% and health 9%, although the rural and urban areas differed.

Another reason for using equivalence scales is that there are different consumption patterns between an adult and a child.

Regarding the OECD, there are two equivalence scales commonly recommended. In the first, the first head of household counts for 1, while the rest of the adults are labelled at 0.7 and those under 14 are scored at 0.5. The other is called “OECD modified scale” which differs from the previous one in that the successive adults are scored at 0.5 and the younger people (under 14) at 0.3. This scale is used to reconsider and rebuild the equivalent expenditure or income.

To calculate the relative poverty line, median or mean income or expenditure must be multiplied by a certain percentage. The most frequently used measurements are 50% of the mean or the median and 60% of the median in order to obtain the poverty line. Extreme poverty is generally identified as 15, 25 or 50% of the poverty line. Clearly, the amount of poor people depends on which poverty line which is chosen.

The above mentioned poverty lines do not provide data concerning the intensity of the poverty so other indices have been proposed such as the following. The first is the proportion of poor people, which, in our study, is the percentage of households below the poverty line.

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

where  $q$  is the number of individuals or households of poor people and  $n$  is the population size. This simple index, does not provide any information about extreme poverty and so the poverty gap is used because it takes into account the distance between poor individuals and the poverty line

$$I = \frac{\sum_i (Z - x_i)}{qZ}; \quad Z: \text{poverty threshold and } x_i: \text{equivalent income}$$

Another index which is used (HI) which is obtained by multiplied  $H \cdot I$  and which provides us the required income for all the poor people are located above the level of poverty weighted by total equivalent income. A variant of the HI is the proposal of Hagenaars (1987).

The most common limitation put forth in the literature are non-variants to income transfers among individuals located on the same side of the poverty line. Sen (1976) and Foster et al (1984) put forth alternative indices which are not calculated in this paper.

## **2.2. Focus on subjective poverty**

This focus has opened the way for many research lines. Generally information on household perceptions is collected through surveys. In this focus, individuals are considered the best judges of the poverty situation, although the household's minimum necessities perception increases as income grows.

These surveys include questions which allow us to calculate subjective measurements such as:

*Do you consider your monthly income adequate to fulfil your needs?*

*If we set net monthly income levels of  $X_1, X_2, \dots, X_n$ , what would you think to be very low, low and acceptable levels for your needs?*

*How would you rate your home taking into account its economic situation over the past 12 months? a)Wealthy, b)Above average, c)Average, d)Below average, e)Almost poor, f)Poor*

It is important to differentiate between the poor and those who are not classed as poor but who see themselves as poor, because this may indicate a certain level of social exclusion.

This focus has been criticised for providing responses that may only reflect a certain "mood" among those being interviewed. Another criticism involves interregional comparisons which may be difficult even though they have the advantage of not needing equivalence scales because the households themselves take into account their own size. These responses allow us to calculate implicit equivalence scales.

The EU asked its Union Members to include a subjective questions model in their Household Budget Survey (EPF). In Spain the Household Budget Survey 1990-

1991 included more questions and successive ongoing surveys also tended to include subject questions.

### 2.2.1 Types of lines of subjective poverty

Kapteyn's subject line was based on how the informants answered the following question:

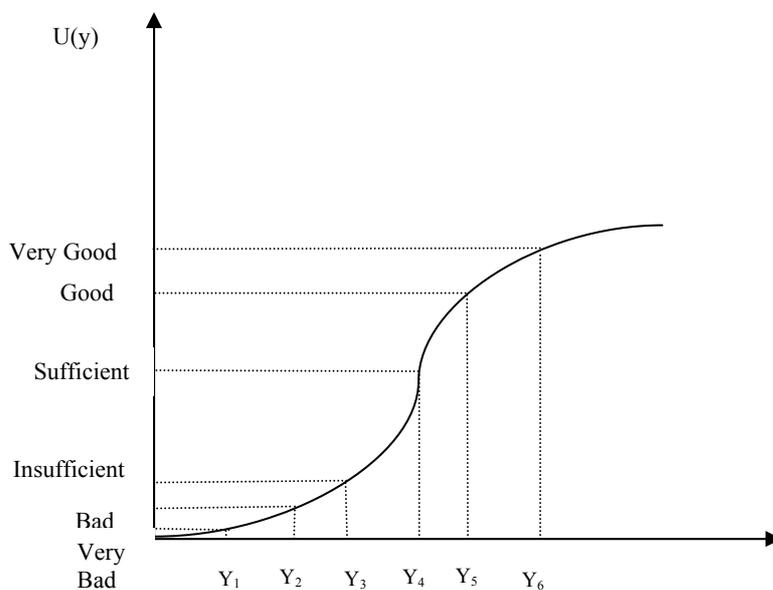
*-In your opinion, what would the minimum monthly net income would you need to get to the end of the month?*

A regression model is estimated based on the responses. Such a model considers that the functional relationship between minimum income variables ( $y^*$ ), real income ( $y$ ) and family size ( $fs$ ) is Cobb-Douglas type. This line of poverty has been criticized for encouraging informants to overestimate their basic needs. So in the 1970s and 1980s the Leyden poverty line was put forth which includes the following questions:

*-Assuming prices to be constant, what monthly income (net of taxes) would you consider for your household (known as Income Evaluation Question ( IEQ), Van Praag (1971)) as:*

*a) Very bad, b)bad, c)insufficient, d)Sufficient, e)Good and f)Very good*

These six household responses are used to calculate a log-lineal utility function.



So the Leyden poverty line is determined by the results of the IEQ, with additional data concerning personal characteristics. Each individual response to this question is denoted as  $c_{i1}, \dots, c_{i6}$ , respectively. Each respondent's own welfare function  $U(y)$  can be estimated. Next we compare family income after taxes and numerical values of welfare. This requires setting out the evaluations on a numerical scale. This gives us the ordinal utility function of income or Welfare Function of Income (WFI). Van Praag (1968) develops a theoretical framework that suggests that WFI may be described by a lognormal distribution function with parameters  $\mu_{li}$  and  $\sigma_{li}^2$ .

If  $\mu_1$  increases the individual will require  $\exp(\Delta\mu_1)y_i$  more than before to attain the welfare level they had previously with their  $y_i$  income. So  $\mu_1$  may be interpreted as a natural unit. In this sense,  $\mu$  is a parameter that depends on current income ( $Y_c$ ) and on household size ( $f_s$ ). In several studies, the specified relationship in empirical studies with different countries  $\mu_1 = \beta_0 + \beta_1 \ln(y_c) + \beta_2 \ln(f_s) + \varepsilon$ .

According to the Leyden Poverty Line, an individual or household is poor at level  $\alpha$  if the evaluation of the total family income is below a certain utility level  $\alpha$ . Fixing  $\ln(f_s)$  in a certain quantity and  $\sigma_1$  in the standard deviation of the population, so the poverty line will only depend on  $\ln(Y_c)$ . If we say that  $\alpha$  represents the threshold of the poverty line, the individuals with a family income (in logarithms) less than  $\ln(Y_\alpha^*)$  they consider themselves poor at level  $\alpha$ , because their poverty limits are greater than their own income. Thus we may consider  $\ln(Y_\alpha^*)$  as the national poverty limit and calculate when  $\ln(Y_\alpha) = \ln(Y_c)$ , which means:

$$\ln(y_\alpha^*) = \frac{\beta_0 + \beta_2 \ln(f_s) + \varepsilon + \overline{\sigma_1} \varphi^{-1}(\alpha)}{1 - \beta_1}$$

For each size of household ( $f_s$ ) an income among  $Y_\alpha^*(f_s)$ , will the cutoff point as to whether people are poor or not. The obvious drawback of the IEQ is that it seeks five levels instead of one only.

Another poverty limit is the Subjective Poverty Level (SPL). Here the amount of income at different welfare levels is not requested, but only one single income amount, which corresponds to a specific welfare level that determines the cutoff line between the poor and non-poor. This question is called the Minimum Income Question (MIQ) where  $C_{\min,i}$  is the individual's response which is known as:

*- To meet the expenses you consider necessary, what do you think is the minimum income, BEFORE TAX, a family like yours needs, on a yearly basis, to make ends meet? (If you are not living with relatives, what are the minimum income needs, BEFORE TAX, of an individual like you?)*

According to the definition of Subjective Poverty Level (SPL), this response is called the individual poverty limit and depends on personal characteristics, of the family income of the period and of the family size of the informant. The equation estimate would be:  $\ln(C_{\min}) = \gamma_0 + \gamma_1 \ln(y_c) + \gamma_2 \ln(f_s) + \varepsilon$ . The Leyden Poverty Line follows a similar pattern  $\ln(C_{\min}) = \ln(Y_c)$ , and obtaining the poverty limits (in logarithms).

$$\ln[C_{\min}^*(f_s)] = \frac{\gamma_0 + \gamma_2 \ln(f_s)}{1 - \gamma_1}$$

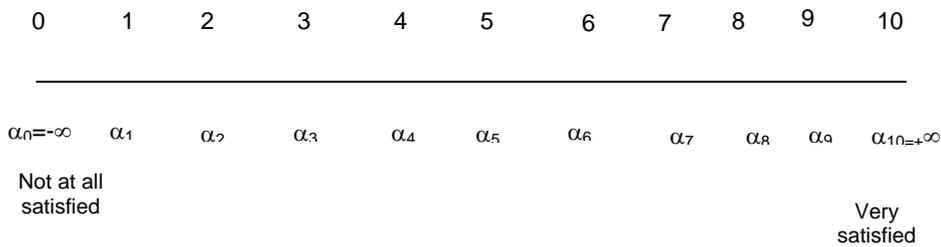
Another subjective poverty limit is that of the Center for Social Policy (CSP) based on the following question:

*-Can you cover your costs with your own net family income: With great difficulty, With difficulty, With certain difficulty, Rather easily, Easily, Very easily?*

The informant may only chose one single category and subsequently a subsample of informants is formed with those who considered themselves as “with certain difficulty.” The minimum between family income of the period  $Y_c$  and the income declared as minimum  $C_{\min}$  (obtained from the MINQ) is defined as income below the survey level. The poverty level is calculated only by selecting those whose lowest incomes did not go beyond the two typical deviations to the median.

The Financial Satisfaction Poverty Line (FSPL) is obtained with the following question:

*-¿How satisfied are you with the financial situation of your family ?*



The response between 0 and 10 is known as SFS (Subjective Financial Satisfaction) and is a function of current income ( $y_c$ ) and family size ( $f_s$ ) and of other sociodemographic variables such as age, education level or marital status. Taking into account these incomes and family size  $SFS = U(y_c, f_s)$  and, based on the work of Ferrer-i-Carbonell and Van Praag (2001) among others, the poverty situation is defined as a value of  $\alpha_3$ . So,  $y_{min}$  will be the solution of  $U(y_{min}(f_s), f_s) = 3$  in which the individuals are compared with level 3 on the 1 to 10 scale of financial satisfaction. If a monotonous transformation throughout the function  $\varphi(\cdot)$  is applied to SFS, we see that

$$\gamma_0 + \gamma_1 \ln y_c + \gamma_2 \ln f_s = \varphi(SFS)$$

where we can derive incomes that provide us with the satisfaction threshold for each household size just by calculating:

$$\ln y_{min} = \frac{1}{\gamma_1} [\varphi(3) - \gamma_0 - \gamma_2 \ln f_s]$$

The solution for  $\varphi$  is based on an estimate of the Ordered Probit<sup>2</sup> (Ferrer-i-Carbonell and Van Praag, 2001) where it is assumed that:

$$P[n < SFS \leq n + 1] = P[\alpha_n < \gamma_0 + \gamma_1 \ln y_c + \gamma_2 \ln f_s + \varepsilon \leq \alpha_{n+1}]$$

In this approximation we need to specify a certain level as the poverty line, which, following the scale of these authors, is level 3. At times, the surveys do not include 1 to 10 scales to assess household financial satisfaction. Instead they contain, following the model of Van de Bosch et al (1993) the following type of questions:

*-Can you manage with your current income?*

*a) Very difficult with the current income*

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<sup>2</sup>The coefficients  $\gamma_0, \gamma_1, \gamma_2, \alpha_1, \dots, \alpha_9$  are estimated with the ordered probit. The error term is normally distributed with median 1 and the typical deviation 1.

- b) Difficult with the current income*
- c) Cover cost with the current income*
- d) Live comfortably*

In this case the threshold for deriving the poverty line would be the limit of the individuals and households “with difficulty” from rest.

Another focus also based on the individual’s subjective perception of welfare level (Subjective Well-Being (SWB)) that attempts to include the aspects of life based on a question of Cantril (1965)<sup>3</sup>, which rather than address mere economic or financial aspects as previously cited measurements have included.

### **3. Results analysis**

Using the database (Social Conditions in the Canary Population Survey, 2000) relative and subjective measurements of poverty in the Canary Islands were calculated. This survey was carried out by the Statistical Institute of the Canary Islands, jointly with the Employment and Social Affairs Council whose aim was to learn the social conditions in the Canary households. Information was collected from 9,758 households and 31,193 individuals in the Canary Islands. These data had statistical validity at both island and council levels.<sup>4</sup>

The monthly equivalent income is used to consider the OECD modified scale to calculate relative measurements of poverty. Cantó et al (2000) have compiled an extensive study which contains the most relevant research studies in Spain. In their paper, the authors also analyse the limitations in the use of income as the main variable in poverty studies.<sup>5</sup>

#### **3.1. Relative Poverty Measurements**

Table 1 shows the number and percentages of households under the extreme and moderate poverty line. In our paper, two poverty lines were considered, 50 and 25% of the poverty threshold (351,6€) These poor households were described using

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<sup>3</sup> How satisfied are you with your life as a whole? On a scale of 0 to 10 from Not satisfied at all to Very satisfied?

<sup>4</sup> For further data, see [www.gobiernodecanarias.org/istac/estadisticas.html](http://www.gobiernodecanarias.org/istac/estadisticas.html)

<sup>5</sup> Cantó et al (2000) brings together research papers which consider the advantages and disadvantages of using income or expenses as an instrument for measuring relative poverty.

socio-demographic variables of the head of household (sex, age, educational level, relationship with the activity and family size). As shown in Table 1, moderate and extreme poverty more frequently affect those households with a male head of household. This is due to the fact that most households in the Canary Islands have a male as head of household.

Using the 50% poverty level, we found that 41.3% of the households have head of household aged 45 to 64. However, if the 25% level is used, severe poverty affects households whose principal wage-earner is younger (30-44 years). This latter aspect should be highlighted because of its implications in social exclusion of young people. Moderate poverty also needs to be studied in the Canary Islands because it greatly affects those residents over 56 years of age. A polarised situation seems to be developing in the Islands in that very young (45.5% of severe poverty) and very old people (44.5% of moderate poverty) are affected.

As in the case of other regions of Spain (Martín Guzmán et al, 2001), in the Canary Islands education provides a buffer against poverty. A mere 1.9 and 4.7% of households with a principal wage-earner with higher education levels could be categorised within severe poverty levels using 50 and 25% poverty lines respectively.

The highest percentage of poor people are pensioners. In the case of moderate poverty it was interesting that those who had jobs were in the second group above the unemployed group.

Households with 2 or 3 people are the poorest, followed by those with 4 or 5 and it is noteworthy that those single-member households were in the third position, which indicates that many of these households have an individual over 65 with severe poverty. On the contrary, the larger households manage to overcome poverty because they have more people contributing money to the family income.

**Table 1****Poverty profile in the Canary Islands. Overall households separating between severe and moderate poverty (50% and 25% of the poverty line)**

	The 50% threshold				The 25% threshold			
	Severe Poverty	% Severe Poverty	Moderate Poverty	% Moderate Poverty	Severe Poverty	% Severe Poverty	Moderate Poverty	% Moderate Poverty
<b>By sex</b>								
Men	7710	65.0	63532	69.6	1322	65.1	69920	69.1
Women	4152	35.0	27762	30.4	710	34.9	31203	30.9
<b>By age</b>								
16 - 29	240	2.0	2384	2.6	0	0	2624	2.6
30 - 44	3670	30.9	18878	20.7	923	45.4	21625	21.4
45 - 64	4904.0	41.3	27695	30.3	740	36.4	31859	31.5
65 and beyond	3048.0	25.7	42337	46.4	369	18.2	45016	44.5
<b>By completed studies</b>								
Without Studies	4918	41.5	43239	47.4	412	20.3	47745	47.2
Primary Studies	3757	31.7	25274	27.7	1043	51.3	27987	27.7
Secondary Studies I	2380	20.1	17274	18.9	482	23.7	19172	19.0
Secondary Studies II	588	5.0	3137	3.4	0	0.0	3725	3.7
Further Studies	220	1.9	2370	2.6	95	4.7	2495	2.5
<b>By activity</b>								
Employed	1676	14.1	25012	27.4	117	5.8	26571	26.3
Unemployed	3903	32.9	7666	8.4	1086	53.4	10483	10.4
Pensioner	4957	41.8	53539	58.6	502	24.7	57994	57.3
Housework	753	6.3	4112	4.5	179	8.8	4686	4.6
Other situation	573	4.8	966	1.1	148	7.3	1390	1.4
<b>By household size</b>								
1 person	1164	9.8	18383	20.1	458	22.5	19089	18.9
2 - 3	4828	40.7	41938	45.9	642	31.6	46125	45.6
4 - 5	4405	37.1	25560	28.0	624	30.7	29341	29.0
6 or more	1465	12.4	5412	5.9	308	15.2	6570	6.5

Source: Survey of Social Conditions in the Canary Population (2000)  
Compiled by the author.

Poverty distribution by islands is set out in table 2 and figure 1. According to table 2, the island of El Hierro ranks first in poverty for the Canary Islands. Some 28% of the households of this island are below the poverty line (60% of the median equivalent income). The least affected island is Fuerteventura, followed by Lanzarote. This poverty profile is closely related with aging indices of the poverty, según los cuales, of the islands of Fuerteventura and Lanzarote which have the highest percentages of young people in their population and El Hierro is the eldest.

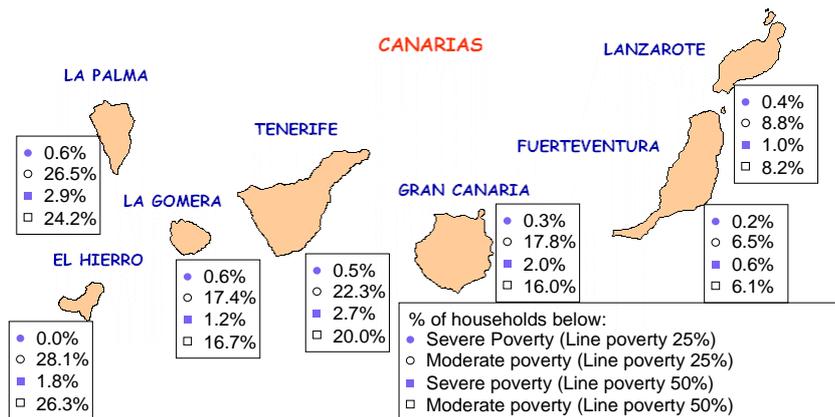
**Table 2**  
**Aggregate Poverty Indices**

	<b>H</b>	<b>I</b>	<b>HI</b>
Lanzarote	0.09	0.24	0.0216
Fuerteventura	0.067	0.28	0.018
Gran Canaria	0.18	0.26	0.0468
Tenerife	0.23	0.26	0.0598
La Gomera	0.19	0.24	0.048
La Palma	0.27	0.25	0.0675
El Hierro	0.28	0.24	0.0672

Fuente: Survey of Social Conditions in the Canary Population (2000)  
Compiled by the author.

This figure 1 shows the relationship between poor households and total households on the island. The island of El Hierro has a higher percentage of poverty than the rest of the islands (although no one is considered in the severe poverty category), followed by La Palma and Tenerife. Severe poverty, under the 25% level, affects La Palma and La Gomera. With the severe poverty level of 50%, we see that La Palma followed by Tenerife and Gran Canaria are the ones with highest percentage of households below this threshold.

**Figure 1**  
**Severe and moderate poverty distribution within each island**



Source: Survey of Social Conditions in the Canary Population (2000)  
Compiled by the author.

### 3.2. Subjective measurements of poverty

The question used to estimate the Financial Satisfaction Poverty Line (FSPL) is included in the questionnaire of the Survey of Social Conditions in the Canary Population (2000) as

*-Which of the following situations best describes the economic situation of your household?*

1. *I live on borrowed money, credit or debt (with much difficulty)*
2. *I am spending my savings to live (with difficulty)*
3. *I spend what I earn (with considerable difficulty)*
4. *I save a bit (with considerable ease)*
5. *I save a lot (with ease)*
6. *I save and invest (with much facility)*

In each parenthesis we present the equivalence that we have established in our study between the question contained in the survey and the one proposed by Van de Bosch et al (1993). That same equivalence incorporates the 2004 survey, in an attempt perhaps to clarify the different options.

Table 3 shows the estimated results of the Financial Satisfaction Poverty Line (FSPL). This table contains two alternative specifications (FSPL(a) and FSPL(b)), depending on whether they include only the total income and family size or these two factors and additional variables such as head of household, age, marital status or educational level, in line with the studies of Ferrer-i-Carbonell and Gërxxhani (2004).

**Table 3**  
**Results of the FSPL estimation**

<b>Explanatory variables</b>	<b>FSPL(a)</b>	<b>FSPL(b)</b>
Ln(Y)=Ln(income)	0.748 (0.02)	0.683 (0.02)
Ln(fs)= Ln(family size)	-0.483 (0.026)	-0.581 (0.03)
Ln(age)		-0.227 (0.037)
Higher_Education		0.271 (0.03)
Married		0.261 (0.03)
Pseudos R <sup>2</sup>	0.0684	0.0773
LR $\chi^2$	1401.18 (0.00)	1593.9 (0.00)
N=	9267	9267

As in other studies (Ferrer-i-Carbonell y van Praag, 2001), (Ferrer-i-Carbonell y Gërkhani, 2004) and (Somarriba y Pena, 2004) family income is positive and significant at standard levels ( $\ln(Y)$ ) in both specifications, in the sense that those households with higher income levels express greater satisfaction levels than others. In the case of family size, the households with more members report less financial satisfaction. In the third column, FSPL(b), which includes the variables of age, educational level and marital status of the head of household, the results are similar to those obtained by Somarriba and Pena in 2004 using the European Social Survey (ESV 2002/03) and those obtained by Ferrer-i-Carbonell and Gërkhani (2004). All these variables are statistically significant at standard levels and present the signs which would be expected (Ferrer-i-Carbonell and Gërkhani 2004).

Table 4 contains the FSPL(a) estimates and compares these results with those obtained using two different relative poverty lines, with 50% of the average and 50% of the median. The subjective poverty lines were noticeably less than the two relative measurements in the case of households with a maximum of five members and conversely, FSPL(a) surpasses both relative measurements in households with six or more members. This seems to indicate that the subjective perception of the smaller households “with difficulties” is related to significantly low income levels. Furthermore, this did not occur in the case of households with more than six members. Somarriba and Pena (2004) reported similar results in a study of 22 countries.

**Table 4**  
**Estimates of FSPL and poverty thresholds**

Family size	FSPL	50% mean	50% median
1	96.10	350.13	240.40
2	150.37	346.87	280.47
3	195.40	365.05	321.54
4	235.31	355.11	301.94
5	271.80	319.06	288.95
6	305.77	300.56	275.61
7	337.79	291.43	266.70
8	368.22	349.89	330.56
9	397.33	304.95	256.79
10	425.32	229.91	264.99

There is considerable debate concerning what should be the most appropriate subjective poverty measure. In most cases, the researchers select those types which according to the availability and quality of the data. In our case, for example, if we compare our database with other ones, our survey shows a reduced percentage of households which consider themselves as “difficult” or “very difficult”. We feel that the problem may be due to the lack of understanding of the question asked because the informants were not asked about the level of difficulty and economic state, in the Social Conditions in the Canary Population Survey (2000). In the event, the possible answers were “*I live on borrowed money, credit or debt*”, “*I am spending my savings to live*”, “*I spend what I earn*”, “*I save a bit*”, “*I save a lot*” and “*I save and invest*”.

### **3.3. An approach to the housing conditions and possession of durable goods of poor households in the Canary Islands**

In order to obtain a more accurate picture of the living conditions among the Canary Islands’ poor households, possession of durable goods and housing conditions were analyzed (Table 5). From these responses, we can see that the furnishing of homes in the “extreme poverty” sectors (25% below the poverty line) did not vary greatly from those which were 50% below the same line. Thus there are hardly any differences in possession of durable goods, for example, of televisions (furthermore, we found that about 98% of the Canary homes of any income bracket, have a TV). This element has become a fixture of any household.

It is noteworthy that, among those households included in the severe poverty category, 1.4% have a PC; and also internet connection and 6.8% also have cable TV connections (in the overall population, these respective percentages are 30, 12 and 27%). The previous results are caused by falsified data on the part of those being interviewed about their true incomes.

In the general population, 69% of the households are owners of at least one car whilst, in the poorest households, the percentage hardly reaches 30%. This result is a consequence of the poverty situation and the common presence of elderly members of the poorest households.

The values which shed the most light on the situation of the poorest household are related to conditions and maintenance of the dwelling. In general, the

state of the dwellings below the 25% poverty line is worse than in those households under 50% and even worse compared to the general population. Of the households under 25% poverty line, 46.5% have problems with dampness and 27.9 and 23.1% imperfections in the façade and in the floors and windows respectively.

The main income sources in poor households are, as we expected, pension and subsidies. These results do not differ from the findings reported in other papers as in the case of Martín-Guzmán (2001) with Household Budget Survey data.

**Table 5**  
**Possession of durable goods and housing conditions of poor households**

	Percentage of households below 25% poverty line	Percentage of households below 50% poverty line
<b>Possession of durable goods</b>		
Colour TV	96.3	94
Cable connections	6.8	11.3
Videos	56.7	60.8
DVDs	0	1.2
Microwave	35.5	33.5
Dishwasher	0	2.1
Fixed telephone line	58.3	66.9
Mobile telephone	33.6	38.1
Hifi stereo system	39.3	53.2
PC	1.4	10.4
Internet connection	1.4	1.2
Computer game console	7.6	10.5
Second home	2.4	3.6
Motocycle	8.4	3.6
Car	29.7	42.7
<b>Housing conditions</b>		
Insufficient space	15.6	16.5
External noise	11.3	17.5
Inadequate natural lighting in some rooms	18.3	7.3
Leaks	21.2	17.9
Dampness	46.5	37.7
Imperfections in floor, wooden windows	23.1	12.9
Cracks in walls and ceiling	20.8	23
Exterior imperfections (façade)	27.9	18.3
Plumbing imperfections and toilet facilities	18.3	13.2
<b>Main income source</b>		
Wage earner	9.1	11.6
Self-employed	1.5	9.2
Pensioner and subsidies	65.1	75.2
Other regular income sources	1.5	9.2

Source: Survey of Social Conditions in the Canary Population(2000). Compiled by the author.

#### **4. Synthesis**

The European Strategy for Social Inclusion put forward at the Lisbon European Council (2000) which was eventually ratified at a similar gathering in Niza (2000) is part of a wider-reaching EU strategy which is based on irrefutable principles of ensuring economic growth while also raising the employment rate as a way of enhancing the community's social fabric.

The close of the last decade saw rapid economic growth in the European Union. The GNP growth rate in real terms was 2.5% annually during the second half of the 90s and this was accompanied by a 4.6% employment rate increase between 1994 and 1999 and a fall in the jobless rate from 11.1 to 9.2 %. However, these figures coincided with reports that at the outset of the 20th century, almost 68 million people were living at the poverty level or at risk of poverty across Europe, of which, almost half were living in that situation for about three years, according to Fouarge (2004).

The new data sources available at a regional level have led to the carrying out of empirical studies of regional poverty and society's polarization. In the case of the Canary Islands, the 2000 Survey of Social Conditions in the Canary Population has enabled us to calculate relative poverty as well as subjective poverty measures in the Financial Satisfaction Poverty Line (FSPL).

The results indicate that there is a polarization between the rich and the poor in the Canary Islands that is substantially different from other islands. One of the reasons for this geographic polarization is the different way that poverty affects the households depending on the age of the head of household. It has been found that if we bear in mind the severe poverty percentages (threshold of 25%) the collective of young people between 30 and 44 year is the most affected group, which would stigmatize the social exclusion situations of these people. Furthermore, regarding moderate poverty, those over 65 years is the most affected, suggesting that there needs to be policies directed at helping this sector of society.

One might be justified in maintaining that education provides an important safeguard against poverty, or at least against extreme poverty. The incidence of

poverty in homes with secondary school studies or with a university degree is very slight.

Subjective measurements for poverty have proved to be important and help us better identify poverty in Canary households. Our results indicate that, as in other studies, the income levels below which individuals consider themselves on hard times are less than those obtained by relative poverty measurements, especially in homes with less than six members. Our studies also indicated how much satisfaction indices increased, as could have been predicted, when household income increased and how it diminished when there were more members in the home.

Finally, we would recommend analyzing the possession of durable goods and housing conditions when we characterize the poor households in the Canary Islands. The results show that the use of several poverty indicators helps in giving a more complete picture of poverty than the sole use of more common indicators such as disposable income or expenditure.

## **Bibliography**

1. Cantó, O., Del Río, C., and Gradín, C. (2000): “La situación de los Estudios de Desigualdad y Pobreza en España”, *Cuadernos de gobierno y administración*, 2. Especial monográfico *Pobreza y Desigualdad en España: enfoques, fuentes y acción pública*, pp. 25-47
2. Cantril, H. (1965): *The pattern of human concerns*. Rutgers University Press. New Brunswick, citado en Martín-Guzmán et al (2001).
3. Ferrer-i-Carbonell, A. and van Praag, B.M.S. (2001): “Poverty in the Russian Federation”, IZA DP No. **259**.
4. Ferrer-i-Carbonell, A. and Gërkhani, K. (2004): “Subjective poverty and the (in)formal sector in a transition country”, Amsterdam Institute for Advanced Labour Studies. Working Paper.

5. Flik, R.J., and Van Praag, B.M.S. (1990): “Definiciones de límites subjetivos de pobreza”, ICE, pp.9-22.
6. Foster, J., Green, J. and Thorbecke, E. (1984): “A class of decomposable poverty measures”, *Econometrica*, **53**, pp. 761-766.
7. Fouarge, D.J.A.G. (2004): Poverty and Subsidiarity in Europe. Minimum Protection from an economic Perspective. Edward Elgar Publishing.
8. Hagenaaers, A.J.M. (1987): “A Class of Poverty Indices”, *International Economic Review*, **28**, pp.583-607.
9. Martín Guzmán, M.P., Bellido, N. and Jano, M.D. (2001): “La pobreza en España”, *Papeles de Economía Española*, **88**, pp.126-142.
10. Orshanski, M. (1965): “Counting the poor: Another look at the poverty profile”, *Social Security Bulletin*, **28**, pp. 3-29.
11. Pradhan, M. and Ravallion, M. (1998): “Measuring Poverty using Qualitative Perceptions of Welfare”, Policy Research Working Paper **2011**. The World Bank.
12. Sen, A. (1976): Poverty: An Ordinal Approach to Measurement”, *Econometrica*, **44**, pp. 219-231
13. Somarriba, N. and Pena, B. (2004): “Medición de la pobreza subjetiva en Europa”. XXX Reunión de Estudios Regionales
14. Van de Bosch, K., Callan, T. Estivill, J., Hausman, P., Jeandidier, B., Muffels, R. and Yfantopoulos, J. (1993): “A comparison of poverty in seven European countries and regions using subjective and relative measures”, *Journal of Population Economics*, **6**, pp.235-259.
15. Van Praag, B.M.S. (1968): Individual welfare functions and consumer behavior: A theory of rational Irrationality, Amsterdam, North-Holland.
16. Van Praag, B.M.S. (1971): “The individual welfare function in Belgium: An empirical investigation”, *European economic Review*, **2**, pp.227-269.