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Analysis of adaptive preferences through the voices of the poor in Ecuador

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List of Acronyms

ECV	Living Conditions Survey
ELQ	Economic Ladder Question
ENEMDU	National Survey on Employment, Unemployment and Underemployment
IEQ	Income Evaluation Question
INEC	National Institute of Statistics and Censuses of Ecuador
MIQ	Minimum Income Question
MSD	Monetary Subjective Deficit
MSI	Monetary Subjective Deficit
MSS	Monetary Subjective Surplus
OLS	Ordinary Least Squares

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Abstract

The neoclassical paradigm postulates that increasing personal income and consumption leads to an individual increase in well-being. In effect, welfare is the product of a chain of sense in which satisfaction depends on choices that come from the revelation of preferences reflected in the purchasing power of rational, well-informed individuals who seek to maximize their utility. This theory has been criticized mainly by Amartya Sen, Martha Nussbaum and Elster from different perspectives. However, the three scholars agree mainly that well-being does not come only from the amount of resources a person has and that the revealed preferences may be modified by the environment in which the individual lives. Through the Survey of Living Conditions of Ecuador (ECV), for the years 2006 and 2014, three objectives are developed in this paper. First, identify those who, being poor, feel satisfied or happy in their lives. Second, determine whether that satisfaction or happiness is a product of adaptation of preferences to the limited circumstances generated by structural processes. And, third, establish whether the vicious circle occurs in which the happiness of poverty, as a result of self-limitation, generates some kind of social immobility that perpetuates the deprived conditions in which poor people live. The ordinary least squares and (multinomial) probability models allow us to conclude that satisfied poor people are mainly indigenous and that the satisfaction comes from adaptive preferences that prevent the present and future generations from leaving the condition of deprivation in which they are and limit their freedoms and capabilities.

Relevance to Development Studies

The eradication of poverty and the search for well-being constitute a social imperative. Therefore, decision makers consider both objectives as priorities in the formulation and follow-up of national and international agendas. However, public policy needs to have sufficient tools to be effective and achieve its purposes. As Stiglitz, Sen and Fitoussi said in 2009, what we measure affects what we do, so if our measurements are defective, the public policy and decision-making will be bad as well. In this sense, it is a responsibility for those who study development, to think and rethink theoretical and methodological frameworks that from an interdisciplinary perspective allow us to overcome models that generate injustice, exclusion, lack of distribution of opportunities; models that lead to societies that produce and reproduce inequality.

Under this logic, the analysis of poverty through the voices of those who suffer it seeks to be a contribution to the debate and a complement to the measurements that have been done in Ecuador during the last years. Studying poverty from different perspectives and other problems related with it could provide insights into the structuring of better defined and focused public policies. The aim will always be to contribute to the search for well-being, conceived as the satisfaction of needs through coexistence in harmony with the community and nature. A well-being that is based on the fulfillment of rights and generation of inclusive

spaces where the capacities, opportunities and freedoms expand and flourish for the benefit of the different nationalities.

Keywords

Chapter 1 : Introduction

"Poverty is the worst form of violence"
Mahatma Gandhi

In 2014, the Community of Latin American and Caribbean States (CELAC by its initials in Spanish) declared the region as a zone of peace because it does not has wars. However, the alarming inequalities and levels of poverty that affects human dignity, and conditions where people of the top are doing very well but people of the bottom are living very miserable lives, could deny the existence of such peace. Peace is not just the absence of war, it is also the presence of human rights as justice, equity and dignity.

The neoclassical theory defend the main assumption that if the aim is to increase well-being, it is necessary to concentrate attention to increase the levels of income and consumption (Sen 1999). Under this approach, the utility (consider as the same as well-being) that an individual derives from goods and services comes from the decisions that she makes – the preferences that she reveals – in her market behaviour. This is based on the premise that individual utility is the extent to which the individual's preferences are satisfied. If it is assumed that individuals are rational, fully informed and seek to maximise utility, then the choices they make are those that, by definition, maximise expected utility (Dolan, Peasgood, and White 2008; 95).

Richard Easterlin (1974) through empirical evidence showed that not necessarily the increase of wealth in the countries lead to a rise in well-being levels. In other words, he proved that money does not buy happiness. Under this logic, different authors from a diverse group of disciplines put themselves in the arduous task of looking for metrics that allow improving poverty measurements or contribute as a guidance for the assessment of Human Well-Being (HWB). In this sense, Amartya Sen introduced the Capability Approach (CA) and some other scholars, included the well-known Martha Nussbaum, support it as a most complete approach than the one establish by the neoclassicals. This approach consider two important concepts "autonomy" and "human agency". The first refers to what a person is actually able to do, the capability set of alternatives that she has (her real opportunities) or put in another way, the things that she is substantively free to do. The second refers to the things she does (Sen 1999:75).

In the case of Ecuador, there are different ways of measuring poverty. It is possible to asses it by income, consumption and more recently by a multidimensional index. However, if, quoting Pigou (1932) "the goal of economics is to make more easy practical measures to promote welfare" it is essential to seek for more methods that allow us to understand the different perceptions of poverty, given that each one of them can constitute an indicator of the well-being of society.

In this sense, economists and psychologists have increased their interest and support in self-reported measures of well-being. Subjective perspectives are often used by psychologists as an umbrella for know how the individuals think and feel about our lives (see Diener, Suh, Lucas, and Smith, 1999). Quoting Ravallion and Lokshin (1999:2): "It is a paradox that when

economists analyse the welfare impacts of policies, they typically assume that people are the best judges of their own welfare, yet they resist directly asking people themselves whether they are better off". Listening to the voice of the poor, as highlighted in the recent World Bank report ("Attacking poverty") has become not only a fundamental imperative for maintaining social cohesion, but is also a requirement in the formulation of anti-poverty programs in order to achieve a better adaptation and effectiveness of them (Herrera 2002:2). Regarding this, it is worth to know from the voices of poor people if the income that their household have is the one needed to live well. In this sense, by their own poverty threshold, we can identify people who consider themselves non-poor (because they feel satisfied with their lives) even according to the neoclassical approach they are poor.

However, the aim of this paper is not only to identify the poor who feel satisfied in their lives but also to determine if that satisfaction is given by adaptive preferences[1]. Quoting Elster (1982:1): "Why should individual want satisfaction be the criterion of justice and social choice when individual wants themselves may be shaped by a process that pre-empts the choice? Why should the choice between feasible options only take account of individual preference if people tend to adjust their aspirations to their possibilities?"

1.1. Research Questions

In other words, our research questions are: *Why is it that a group of (extreme) poor people in Ecuador that live under the poverty line are satisfied/happy? That is, why are there people who, being objectively poor, are not poor in subjective terms? Is it possible that the satisfaction or happiness of the individuals is a product of adaptive preferences? What is the effect of this satisfaction or happiness in the search to surpass poverty?* There is a bunch of answers that we can provide to the main concern but the analysis of this paper focuses on the decisions and actions that each person takes and how it can affects their well-being and agency[2].

1.2. Hypothesis

The hypothesis set in this paper are behind the concept of "sour grapes" or adaptive preferences. Two hypothesis are related with the labor market and one hypothesis refers to the investment in education:

1. **Labor Market**
   Ho: Satisfied poor people dedicate less hours to work in the labor market than the unsatisfied poor people.
2. **Material Myth**
   "As Bruce Lipton wrote in The Biology of Belief: The modern world has shifted from spiritual aspirations to a war for material accumulation. The one with most toys

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[1] John Elster (1982) calls the process of changing our preferences on the basis of the constraints we encounter "adaptive preference formation" (Zwart 2017:2).

[2] It should be noted that due to methodological and time constraints, we do not take into consideration deterministic approach, for example how genetic or weather variations affect income and welfare. Neither, psychological perspectives such as Hedonic Psychology (Kahneman, 1999; Kahneman, et.al., 1999; Diener, et.al., 1999).

wins" (Cannon and Wilkinson 2012). The desire of accumulation would expand wants and if them are not reach it could produce a feeling of frustration.

Ho: Satisfied poor people tend to save less than the unsatisfied poor people[3].

3. **Like father, like son? Intergenerational trap**

Invest in education increase the expectation of improving the quality of life of the household. However, if the satisfied poor people have lower educational levels is possible that they do not show interest to invest in education because it would not make a great difference in their condition.

Ho: The probability that satisfied poor people live in households with children that do not attend to school is higher than the ones of unsatisfied poor people.

The rest of the paper is organized as follows: Chapter 2 includes a brief explanation of the Ecuadorian context and the tendency of poverty measured by consumption, income and multidimensional index. Chapter 3 provides an explanation of how subjective poverty and happiness is measure. Chapter 4 presents the literature review and the theoretical framework. Chapter 5 contains a description of the data used for this research, and a profile of the satisfied poor people. Chapter 6 illustrates the specification of the models used in this paper and the main results. Finally, Chapter 7 includes the conclusions.

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[3] Satisfied poor people will work just to get an income to subsist.

Chapter 2 : Ecuadorian Context

2.1. A transition decade in Ecuador

The arrival of the government of the Econ. Rafael Correa Delgado in 2007 meant transformations in the productive, political and organizational areas of the country. The purpose was to change the neoliberal model in which Ecuador's economy had developed up to that time. Thus, the main challenge was to change the power relations that existed and that deepened inequality and poverty in the country, this implied making changes in the social structures.

It is difficult to evaluate structural changes in a decade; however, it is possible to identify if there has been a transition towards the balance of power relations between the richest and the poorest. According to Karl Polanyi, for having a great viable transformation, a great transition must take place. In this sense, the first relevant transition was the change of guidelines for the national planning through the approval of a new Constitution whose main objective was to guarantee the production and reproduction of material and immaterial conditions that enable good living for both human beings and nature.

The new constitutional principles seek to change the "social market economy" model which was applied in Ecuador for several years before 2007. The benefits that someone can achieve within that model depends in the social class that a person belongs. During the implementation of the neoclassical measures, the households of the higher income strata did not see their income per capita recede, meanwhile the eight deciles of the population decreased their incomes. Nevertheless the panorama changed from 2007, based on official national statistics the difference in the income between the 10% richest and 10% poorest was 19 in 2014, which contrast with the difference presented in 2006 that was 36 (Ramírez 2017: 47).

From 2007 to 2017, poverty on its diverse ways of measurement, especially at a structural level than a monetary one, decreased mainly due to the fact that there was a process of democratization of human rights and capacities (health, education, social security, habitat and work) and that satisfaction with life also improved drastically in all social classes (especially in the poorest) (Ramírez 2017:27). It was consider important to set the context of poverty in Ecuador, for this reason the following section includes a description of the systematically reduce of poverty in Ecuador through different perspectives.

2.2. Poverty by consumption

To measure poverty by consumption, it is used the poverty ($56.6415 dollars in 2006 and $84.299 dollars in 2014) and extreme ($31.92 dollars in 2006 and $45.653 dollars in 2014)

poverty line. However, to compare the (extreme) poverty registered in Ecuador in both periods 2006 and 2014, the same poverty line[4] from 2006 is used, updating it to 2014 considering the evolution of prices in this period (Instituto Nacional de Estadística y Censos 2015:18; Gasparini, Cicowiez, & Sosa Escudero, 2013; Haughton & Khandker, 2009).

By 2014, the incidence[5] of indigence or extreme poverty of consumption was 5.7%, that is, it fell by 7 percentage points from 2006 to 2014, which is equivalent to a percentage variation of 55.8%. In relation to the incidence of consumption poverty, in 2014 it was 25.8%, that is, it experienced a reduction of 12.5 percentage points in the period 2006-2014, which is equivalent to a percentage reduction of 32, 6%. Finally, in relation to the inequality of per capita consumption, the Gini coefficient for 2014 is 0.406, that is, it was reduced by around 5 points in the period of analysis (Instituto Nacional de Estadística y Censos 2015:19). See Table 1.

Table 1: Poverty and Inequality in Ecuador[6]

	2005-2006	2013-2014
Indigence line	31,92	47,5567
Poverty line	56,64	84,32
Engel	0,564	0,564
Incidence of indigence	12,90%	5,70%
Incidence of poverty	38,30%	25,80%
Gini	0,456	0,406

Source: ECV 2006, ECV 2014

The gap[7] and severity are other indicators that have decreased during the study period, indicating a reduction in poverty between 2006 and 2014 regardless of the indicator used. The results are presented in Table 2 at a national, urban and rural level.

Table 2: Incidence, Gap and Severity of poverty in Ecuador

Indicators		2006	2014
Incidence	**National**	38,30%	25,80%
	Urban	24,90%	15,50%
	Rural	61,50%	47,30%
Gap	**National**	13,30%	7,30%
	Urban	6,80%	3,60%
	Rural	24,50%	15,20%
Severity	**National**	6,40%	3,00%
	Urban	2,60%	1,20%
	Rural	12,90%	6,70%

Source: ECV 2006, ECV 2014

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[4] The poverty line is the monetary value of a basket of goods and services that meets a person's basic needs. It is a threshold of well-being that allows to differentiate if a person is poor or not (Instituto Nacional de Estadística y Censos 2015:18).

[5] Number of poor people expressed as a percentage of the total population in a given year. People who belong to households whose per capita income in a given period is lower than the poverty line are defined as "poor" (Secretaría Técnica Plan Toda una Vida n.d.-b:1).

[6] The indigence and poverty line are expressed in dollars per capita per month (Instituto Nacional de Estadística y Censos 2015:20).

[7] The gap and severity of poverty reflect how poor the poor are and, therefore, provides an idea of the deepness of the lack of income or consumption that define a situation of poverty (Secretaría Técnica Plan Toda una Vida n.d.:1)

Regarding the sensitivity of the results to the poverty line selection, Figure 1 presents the incidence curve of the per capita family consumption FGT (0) for the ECV 2006 and ECV 2014 as analysis of stochastic dominance. The curve shows the proportion of people with consumption below a certain consumption value or poverty line. Note that the function of 2006 is always above the function of 2014. In statistical terms, this means that the behavior observed in ECV 2014 dominates the one of ECV 2006. Therefore, for any poverty line that you want to establish, the number of people living in poverty in 2014 will always be lower compared to 2006. In this way, it is verified that the reduction of poverty in the period 2006-2014 does not depend on the choice of the poverty line (Instituto Nacional de Estadística y Censos 2015:20).

Figure 1: First-order stochastic dominance. FGT curve (0)
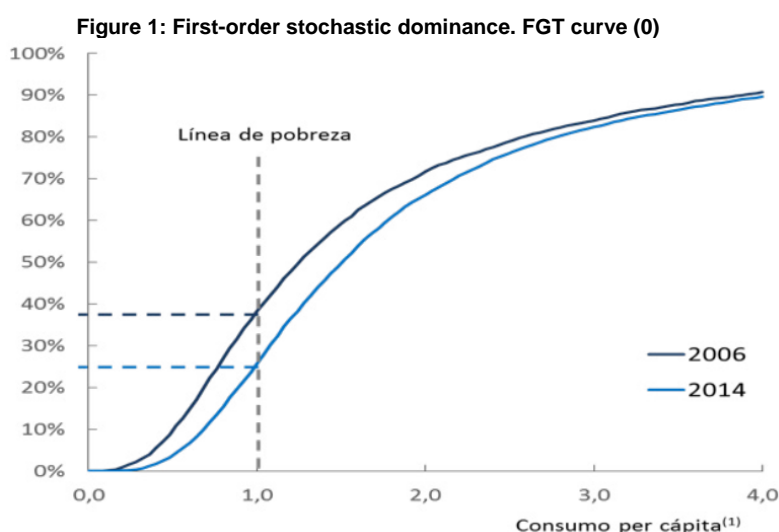
Source: ECV 2006, ECV 2014

2.3. Poverty by incomes

The previous results are calculated through the consumption of the Ecuadorian households. Nevertheless, if we see the trend of poverty by income, the rates also show a downward trend (See Figure 2). From 2007 to 2017 the government promoted pro-poor[8] policies with the aim of reducing poverty through the increase in economic growth. The majority of the policies were applied to enhance the opportunities of the most vulnerable and excluded groups. Just to mention one of them, we can refer to the positive results obtained in terms of income, public health and education through the increase of the Bono de Desarrollo Humano, a cash transfer given by the government to people that belong to the lowest 40% income distribution[9].

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[8] According to Kakwani and Pernia (2014), growth is pro-poor when it is labour absorbing and accompanied by policies and programs that mitigate inequalities and facilitate income and employment generation for the poor, particularly women and other traditionally excluded groups.
[9] Particularly mothers of children under 16 years old, people over 65 years old or who are disabled.

Figure 2: Evolution of poverty and extreme poverty in Ecuador 2007-2017
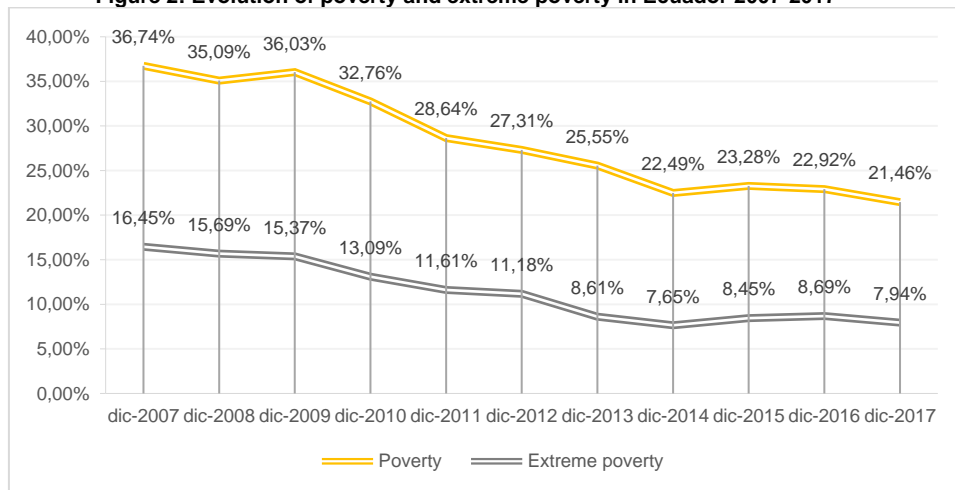
Source: ENEMDU 2007-2017

2.4. Multidimensional poverty

Likewise, the results obtained by the application of the Alkire and Foster method[10] shows a decrease in the levels of poverty. It was a consequence of the great investments that the government did in social sectors. (See Figure 3)

It is worth to say that the assess of poverty through a multidimensional perspective responds to the need to overcome the one-dimensional measurement proposed by neoclassical theory, in which the poverty situation and the level of utility (well-being) are given by the amount of resources typically measured by income and consumption.

Figure 3: Multidimensional Poverty Index in Ecuador 2009-2017
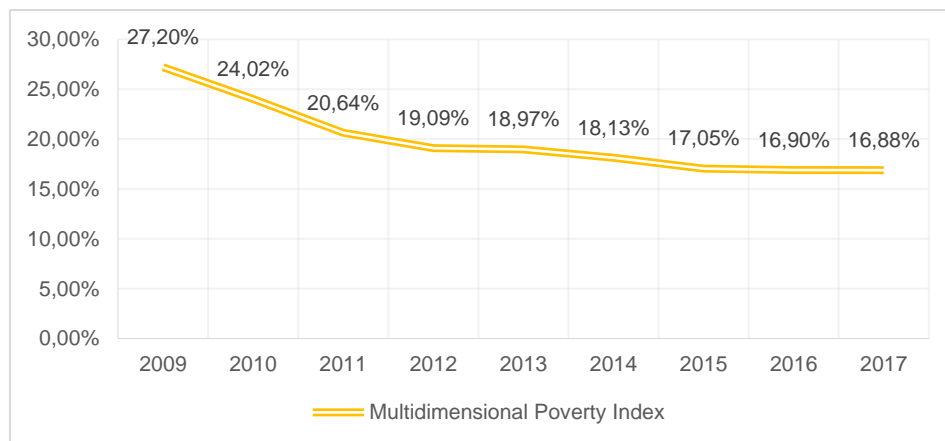
Source: ENEMDU 2009-2017

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[10] AF method was developed in 2007 and refers to the Multidimensional Poverty Index which is the statistical practice most used to measure multidimensional poverty worldwide. This method allows to evaluate simultaneously the different deprivations or violations of rights faced by households. In the case of Ecuador, it includes 4 dimensions (education; health; nourishment and water; housing and healthy environment; and iv) work and social security) and 12 indicators (Castillo and Jácome 2015:5).

A poverty metric that identifies the degree of deprivation that individuals have in different areas of their lives, allow to know what limits the full development of the capabilities of the individuals and their freedom to choose. Based on this perspective, multidimensional poverty can be conceptualized under a framework that seeks to determine the conditions that constrain the plenty exercise of rights by individuals (Castillo and Jácome 2015:3).

In Ecuador, the vision of well-being reached by the compliance of constitutional rights corresponds to the concept of Good Living or Buen Vivir[11]. Theoretically this concept is opposed to the neoclassic approach of accumulation and consumption and is compatible with the capabilities approach proposed by Amartya Sen, which will be addressed later on this article.

The implementation of Buen Vivir as a transversal axis for the evaluation of both individual and collective well-being places Ecuador in a particular and interesting position for the measurement of poverty from its subjective character. If Buen Vivir is used for the attainment of rights, it is not a right for individuals to be heard? How do individuals perceive their own well-being?

The self-perception of people about their well-being allows us to identify if the reduction of poverty in the country also happens from a subjective perspective. At the same time, it is useful in the sense that is possible to know the level of satisfaction or happiness of the individuals with their living conditions.

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[11] Good Living or Buen Vivir proposes to achieve the flourishing of all, in peace and harmony with nature, for the indefinite prolongation of human cultures. Buen Vivir implies that people's real freedoms, opportunities, capacities and potentials expand and flourish in a way that allows them to simultaneously achieve what society, territories, diverse collective identities and each one - seen as a universal human being and particular at the same time- value as a desirable life goal (both materially and subjectively, and without producing any type of domination to another). The concept of Buen Vivir commits us to recognize, understand and value each other, in order to enable the flourishing, self-realization and the construction of a shared future (Ramírez 2009a:9).

Chapter 3 : Subjective Poverty in Ecuador

3.1. How can we determined subjective poverty in Ecuador?

The subjective side of poverty can be analysed through the approach of Van Praag (1968) who proposed an Income Evaluation Question (IEQ), in which individuals are asked if they considered that their income is "very bad", "bad", "not good", "not bad", "good", "very good". There is also the possibility to analyse the subjective perspective through the Economic Ladder Question (ELQ)[12] or the Minimum Income Question (MIQ) which aim is to know the amount of money needed to "make ends meet". The questions of each method are used for two purposes: i) to calculate subjective poverty and ii) to study determinants of the self-perception about the Human Well-Being (Ravallion and Lokshin 1999).

According to the availability of data in the country, the last mentioned method will be the one used in our analysis. In this sense, by the MIQ approach we can calculate Minimum Subjective Income (MSI)[13]. Based on MSI, it is possible to identify the people who feel satisfied or happy as the following subtraction showed it:

$$Consumption\ per\ capita - Minimum\ Subjective\ Income\ per\ capita \qquad (1)$$

The difference between consumption and MSI show us the gap between "realization" and "desire", it is taken as a proxy for measure happiness. A positive value of the subtraction shows that the consumption per capita each month is higher than individual MSI, then the person is considered as subjectively non-poor/happy/satisfied; so we can said that she/he has Monetary Subjective Surplus (MSS). Whereas, if the result is negative then the person is considered subjectively poor/ unhappy/ unsatisfied in monetary terms; so she/he has Monetary Subjective Deficit (MSD).

3.2. Considerations to measure Monetary Subjective Status

According to Gardes and Loisy (1998), MSI could reflect two different notions. On the one hand, households would be doing and evaluation of their fundamental necessities, independently of their income and consumption levels. Conceptually in this way MSI is near to the notion of the absolute poverty line. On the other hand, MSI could be translating claims and aspirations in terms of standard of life, which move away from the notion of "vital minimum". A way to clarify these two alternatives is analyzing the link between MSI and consumption. If there is a positive association between them, then MSI has a relative sense before absolute. Otherwise, if MSI does not depends on the standard of life of the household interviewed (income elasticity of MSI near to zero), then the households are referring to a

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[12] This method include the question: "Please imagine a 9-step ladder where on the botton, the first step, stand the poorest people, and on the highest step, the ninth, stand the rich. On which step are you today?" (Ramírez 2005:9)

[13] It comes from the question *"How much do YOU estimate is the MONTHLY minimum MONEY that your household requires to live well?",* which was included in the Living Conditions of Ecuador (ECV) of both years 2006 and 2014.

notion close to minimum subsistence income, to an absolute poverty threshold (Herrera 2002: 3).

Tables 3 and 4 with their respective graphs show that there is a positive correlation between MSI and consumption. The results reveal that MSI express the relative notion of well-being.

Table 3: MSI per capita and Consumption per capita 2006

	Minimum Subjective Income			
	Only poor	**Only non-poor**	**Poor + MSS**	**Poor + MSD**
Consumption	0,4593	0,6392	0,8239	0,5417

Source: ECV 2006
Elaboration: Author

Graph 1: Monetary subjective deficit and surplus by consumption poverty – Ecuador 2006
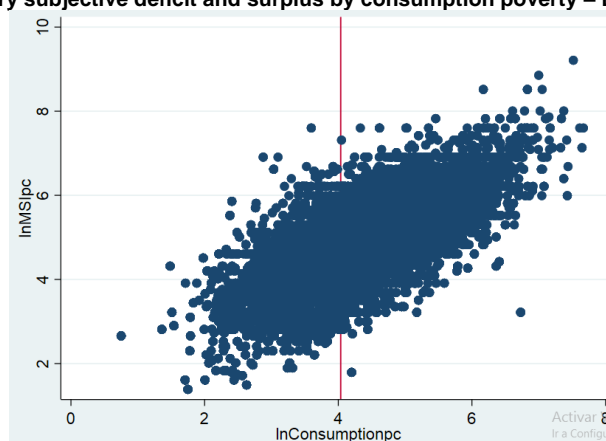
Source: ECV 2006
Elaboration: Author

Table 4: MSI per capita and Consumption per capita 2014

	Minimum Subjective Income			
	Only poor	**Only non-poor**	**Poor + MSS**	**Poor + MSD**
Consumption	0,3857	0,6027	0,5088	0,655

Source: ECV 2014
Elaboration: Author

Graph 2: Monetary subjective deficit and surplus by consumption poverty –2014
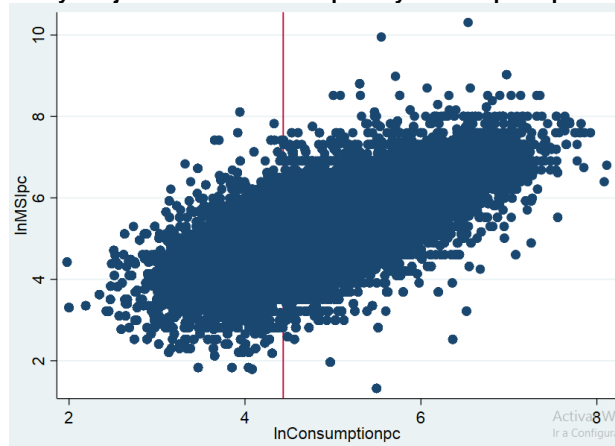
Source: ECV 2014
Elaboration: Author`s calculations

The positive relationship between MSI and consumption allow us to generate a proxy variable for measuring the monetary happiness of poor people which is MSS.

Conceptually, expenditure or consumption in relation to income is a measure that better reflects the well-being of households, since when we consider the possibility of saving / dissaving has a more stable character (Instituto Nacional de Estadística y Censos 2015:8). In addition, to support the use of consumption instead of income to measure the "satisfaction" of people, we can say that in the Andean community self-consumption plays a relevant role within the household's basket. Finally, consumption has been used in other researchings among we can mention Herrera (2002), Garden Loisy (1997), Razanfindroko and Roubaud (2000).

3.3. How many are the poor people with MSS in Ecuador?

As we will explain later on, the subjective perspective would be taken as a complement for the objective perspective. Therefore, in this paper the methodology applied to analyze poverty, employs both objective and subjective perspectives. In objective terms, it is used the poverty line which is based on household's consumption; meanwhile, in subjective terms, it is considered the Minimum Income Question (MIQ) approach, as we show it before. Through this method it is possible to elaborate the categorization presented on Table 5. The value of this typology lies in the fact that it allows us to determine who are the people who, being non-poor in objective terms, feel themselves to be such (E%). Likewise, we can identify the group of people that from an objective perspective are (extremely) poor but from the subjective side are non-poor or have MSS (are satisfied or happy) (B% and D%). It is necessary to point out that the group[14] of interest in this research includes B% and D%, they are the focus of attention to try to understand: *Why is it that a group of (extreme) poor people in Ecuador that live under the poverty line have MSS? That is, why are there people who, being objectively poor, are not poor in subjective terms? Is it possible that the satisfaction or happiness of the individuals is a product of adaptive preferences? What is the effect of this satisfaction or happiness in the search to surpass poverty?*

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[14] MSS is the treatment group and MSD is the control group.

Table 5: Subjective and objective monetary poverty

	Extremely poor	Poor	Non poor	Total
MSD	A%	C%	E%	A+C+E%
MSS	B%	D%	F%	B+D+F%
Total	A+B%	C+D%	E+F%	100%

*Subjective poverty: Poor= Consumption per capita < MSI per capita
**Objective poverty: Poor= Consumption per capita < (extremely) poverty line
MSS= Monetary Subjective Surplus; **MSD=** Monetary Subjective Deficit

To asses if there is a transition in poverty terms, objective and subjective poverty were calculated in 2006 and 2014 (see Tables 6 and 7). The group of poor people with MSS increased from 13,85% in 2006 to 18,42% in 2014.

Table 6: Monetary subjective and objective poverty in Ecuador 2006
(Absolute values)

	Extremely poor	Poor	Non poor	Total
MSD	8, 023	12, 233	24, 222	44,478
MSS	**904**	**1, 967**	8, 317	11,188
Total	8, 927	14, 200	32, 539	55,666

Source: ECV 2006. Instituto Nacional de Estadística y Censos (INEC)
Elaboration: Author

Table 7: Monetary subjective and objective poverty in Ecuador 2014
(Absolute values)

	Extremely poor	Poor	Non poor	Total
MSD	10, 118	22, 128	49, 221	81, 467
MSS	**1, 733**	**4, 997**	21, 497	28, 227
Total	11, 851	27, 125	70, 718	109,694

Source: ECV 2006. Instituto Nacional de Estadística y Censos (INEC)
Elaboration: Author

Chapter 4 : Literature review and theoretical-methodological debate

4.1. Literature Review

In the field of economics, the study of poverty started recently. However, in the last years there have been some progress in terms of conceptualization, classification, measurement and analysis of the determinants of it. In the case of subjective poverty, the studies are scarce due to there are few official surveys that include subjective questions. The following section presents the most remarkable works about this subject.

4.1.1. International contributions

Novak (1996) analysed in Slovenia both objective and subjective poverty. Using the information from the Quality-of-Life Survey, which was done from May to June 1994, the author "compares the social-structural characteristics of those who are objectively poor (using the average household income as a provisional poverty-line) and those who have a perception of themselves as poor reporting a lack of money to make ends meet" (Novak 1996:84). Through the paper the evidence shows that social-structural factors have a weak effect in the perception of subjective impoverishment. The results indicates a significant impact of employment and education on the household income; while gender and age do not. The conclusion of the author was that the self-perception of the individuals about their living conditions can be taken as a complement for the objective facts.

Pradhan and Ravallion (2000) through qualitative questions about the perception of the household's consumption, included in both the Jamaica Living Conditions survey (1993) and the Nepal Living Standards Survey (1995/96), show that subjective poverty lines can be calculated. Using the subjective poverty line the authors tries to develop and implement a qualitative model of the perception of consumption needs. They conclude that aggregate poverty rates, obtained from this poverty lines, are similar to the ones obtained from the "objective" methods. However, some differences appear in the demographic and geographic and poverty profiles.

Kingdon and Knight (2003) asserts that subjective well-being is a less imperfect approach to judge what can be consider a good or bad quality of life because it examines how the individuals perceives their well-being. In their paper, they try to close two remarkable gaps: i) Scarcity of research in poor countries due to lack of data, and ii) Few research on the relationship between poverty and well-being. Using socio-economic information at the individual, household and community level in South Africa, the authors estimate functions that include "variables corresponding to the income approach, some to the basic needs approach (or physical functioning), some to the relative focus (or social functioning) and others to the security approach" (Kingdon & Knight 2003:2). They conclude that subjective well-being can be taken as a concept that generally contributes to identifying the importance of other approaches and the variables that comprise it.

Ramírez (2006) assess the reason why a certain (extremely) poor group, identified from the objective measurement of poverty, has a monetary subjective surplus (MSS) or possesses

monetary happiness (consumption-income). The author asserts that the happiness or satisfaction experienced by this group is a result of structural processes that lead poor individuals to adapt their preferences to their limited circumstances. Through quasi-experimental methods, the empirical evidence indicates that poor people with MSS work as necessary, a smaller number of hours compared to the poor with MSD (Monetary Subjective Deficit), to achieve their self-imposed income goal. Likewise, individuals with MSS save less than those with MSD. Finally, the probability that the poor with MSS live in a household where there is non-attendance to school for children from 6 to 12 years old is greater than that of those with MSD. In addition, this could indicate that education is not given great importance as a tool to improve the condition of future generations. To conclude, "the vicious circle is clear: the happiness of poverty, product of self-limiting expectations, cultivates a certain type of immobility that helps reproduce the deprived situation in which they already live and perpetuates the situation in which they will live their children" (Ramírez 2005:2).

Lucchetti (2006) studies in detail the subjective perception of the individual well-being of people in Argentina. Their analysis consists in two processes, first estimating the joint probability of being considered subjectively poor (not poor) and being considered poor (not poor) according to the level of income through a bivariate probit model. Second, through the subjective poverty line, understood as the minimum income necessary for an individual not to be considered poor in terms of his own perception, he estimates a probit model in which he incorporates income as a regressor. A marginally higher income makes the individual not considered poor, while the opposite happens with marginally lower income. The author concludes that there is a great coincidence between the incidence of subjective and objective poverty, given that the proportion of individuals considered poor is reduced when the proportion of the poor according to the level of income also decreases. It also identifies that education, quality of employment and the region where the individual live significantly influence the probability of being subjective and objective poor.

Following the line of Lucchetti (2006), Giarrizzo (2007) analyses the importance of studying personal perceptions of poverty as a measure more approximate to the well-being of the population. In this sense, during the first semesters of 2005 and 2007, the author made a characterization of poor households in Buenos Aires, through information obtained from the Center for Research in Epistemology of Economic Sciences (CIECE) of the Faculty of Economic Sciences (FCE) from the University of Buenos Aires (UBA) and the Center for Regional and Experimental Economics (CERx). As a result, it was identified that the subjective perception of poverty is linked to consumption restrictions and, consequently, to a loss of economic welfare associated with the level of income. For this author, the subjective analysis of poverty is presented as a complement to traditional approaches, whereby knowing how households are perceived (their needs and expectations) can improve public policies and redefine priorities. It is also a mechanism that would help to understand why the results of certain policies to combat poverty can be completely invisible in the eyes of the individuals to whom these policies were originally intended.

Herrera, Razafindrakoto and Roubaud (2010) corroborated for the cases of Peru and Madagascar the Argyle (1999) and Ferrer-i-Carbonell (2002) hypothesis which indicates that poverty is primarily and above all a monetary issue for both people and the poorest countries. From the 1-2-3 Family Survey in the Antananarivo agglomeration (for Madagascar) and from National Household Surveys (for Peru), they estimate an ordered probit model based on household's income and other factors related to household's and individual's characteristics such as age, gender, employment status, asset holding, human capital, health, environment,

among others. The results confirmed that there is a significant positive correlation between subjective well-being and monetary income, although not too high. In addition, it is find that other aspects like health, education, quality of employment and family structures had a great impact on the perception of poverty (Pinzón 2017:17).

Van Praag and Ferrer-i-Carbonell (2011) studied poverty considering two aspects. First, that poverty is linked to well-being given that individuals are recognized as "poor" when they have a state of low well-being or satisfaction. Secondly, it is possible to assess poverty from different approaches, considering that life is presented from different dimensions such as health, financial situation, social relations, family, housing, among others (called domains of life). Using questions included in the German Socio-Ecoonomic Panel Data, the authors estimated a model of general satisfaction through the method of cardinal least squares. They also developed a variance-covariance matrix between different areas of life. As a result, it was found that the probability of dissatisfaction or being poor in one domain of life influences the probability of being poor in another. However, given the difficulty of finding a direct causality between domains, it is considered preferable to study poverty from its different types and from a multidimensional perspective.

Ravallion (2012) studies the advantages and disadvantages of using the subjective approach, thus it is relevant to recognize key knowledge gaps. On the one hand, the use of subjective data allows us to expand the information traditionally used to assess well-being and measure poverty. For the author, the self-assessment of well-being is not comparable to the well-being measured objectively. The subjective approach seeks to contribute to the identification of weights in the dimensions of well-being and in the determination of the subjective social poverty line, which makes it possible to categorize the condition of poor (below the line) and not poor (above the line). On the other hand, subjective well-being can provide variables that are not necessarily relevant for measuring poverty (for example: personality traits). Likewise, for the application of this approach it is necessary to consider the choice of covariates, survey design issues, measurement errors, frame-of-reference effects, and the study of a potentially important problem as is the latent heterogeneity among individuals in their welfare weights.

In the case of Buttler (2013), he analyses the extent to which income poverty determines subjective poverty throughout Europe. To demonstrate the importance of income poverty in relation to the distribution of national income and of the European Union in the explanation of subjective poverty, based on cross-section data of the eighth part of the European Union Statistics on Income and Living Conditions of the year 2011, the author estimated unconditional models for 28 nation-states of the European Union. As a result, he found that subjective poverty in less affluent countries can be better predicted by a poverty threshold in the European Union, while in prosperous countries it does not seem to be adequately determined in any of the European nation-states considered. The author points out that the main finding of this study is the asymmetric effect of the monetary resources of subjective poverty across the countries of the European Union. Consequently, Buttler (2013) concludes that the traditional approach must be abandoned and attention will have to be placed on the poverty thresholds of subjectively perceived income to assess living standards in the European Union (Pinzón 2017:19).

Guagnano, Santarelli and Santini (2015) analyse how and to what extent the social capital of the household and the community (with its most important components) improve the

poverty perceived by the households. Interest in subjective and multidimensional aspects of poverty aroused interest in researchers and public policy makers, considering that poverty is not an objective state that is based only on the level of income but also on perceptions and feelings of the people. The authors estimated a generalized ordered logit model with data from the 2009 EU-SILC survey and the Eurostat statistics database. As a result, it was found that the socio-economic characteristics of households not only play a crucial role in affecting the self-perception of poverty, but also the social capital endowment of households / communities. In particular, when the social capital endowment of families and communities increases, it also improves the ability of European households to survive. This result has direct and important implications for poverty reduction policies.

4.1.2. National contributions

On a national scale and considering the studies of Van Praag and Ferreri-Carbonell, Ramírez (2009) proposes to evaluate the welfare of people not only in monetary or material variables, but above all in the level of happiness that people have in the multiple areas in which his life develops; and also observe how objective variables influence people's happiness. Through questions about satisfaction with life, as a whole and in its different domains, included in the National Survey of Employment, Unemployment and Underemployment (ENEMDU), in both 2006 and 2007, ordered probabilistic models (ordered probit, PO) and Corrected Ordinary Least Squares (COLS) models were estimated. It should be noted that the research specifically studies the domain of satisfaction with work separately. As a result, the author points out that objective reality is not all reality, but only part of it. While it has been clearly demonstrated that the material aspects directly influence the subjective aspects, we can clearly point out that the well-being of people is partly objective, but also subjective and depends to a large extent on how people feel and evaluate their lives -in the different domains that comprise it- as they satisfy or not their material needs.

Under this same perspective, Ramírez (2017) assesses well-being / discomfort in Ecuador through both objective and subjective and relative indicators calculated by information from the Living Conditions Survey (ECV) for the years 2006 and 2014. The objective indicators are divided into two groups: monetary indicators (consumption and income), structural indicators (multidimensional poverty) and according to unsatisfied basic needs. Subjective indicators uses the subjective social poverty line, the monetary subjective deficit or monetary unhappiness, and self-perception of poverty. As a result, the author concludes that improvements in well-being are notable in both objective and subjective terms during the period of analysis.

4.2. Theoretical Framework

4.2.1. Subjective perception of poverty

The review of both international and national literature, presented in the previous section, indicates the existence of studies about the subjective approach of poverty; however, its analysis continues to be understudied compared to those in terms of objective nature. One possible explanation of it is that, as its name implies, subjective poverty is based on the

self-perception of individuals about their living conditions and the environment that surrounds them[15]. This leads that a group of researchers and policy-makers become suspicious about the analysis of it. Nonetheless, there is another increasingly group of researchers and policy-makers that see this approach as a complement to the objective measures (based on income and consumption). They the subjective perspective to have a broad view about the degree of development observed by the inhabitants of the country and propose more effective policies.

As (Marks 2007:2) said: "A person's own evaluation of whether he or she is living in poverty should not be disregarded. People will have a reasonably accurate idea about whether their financial situation is below what they regard as an acceptable standard. However, their opinions are necessarily subjective and may be reflective of past experiences and social context".

4.2.2. Capabilities approach

In the search to find diverse perspectives that allow us to identify the situation in which the individuals are and thus define the necessary mechanisms to improve their living conditions, Amartya Sen in 1980s introduced an approach to evaluate well-being from a perspective that goes beyond income and consumption measures. The Capabilities Approach even is not a theory to explain poverty, inequality or well-being; it provides a broad normative framework for the evaluation of these phenomena. This approach is used in various fields of study, especially in those related to development studies, welfare economics, social policy and political philosophy (Robeyns 2005:94).

Capabilities Approach focuses on what individuals can effectively be and do. In this sense, according to this perspective well-being should be analyzed from:

> "people's capabilities to function; that is, their effective opportunities to undertake the actions and activities that they want to engage in, and be whom they want to be. These beings and doings, which Sen calls functionings, together constitute what makes a life valuable. Functionings include working, resting, being literate, being healthy, being part of a community, being respected, and so forth. The distinction between achieved functionings and capabilities is between the realized and the effectively possible; in other words, between achievements on the one hand, and freedoms or valuable options from which one can choose on the other. What is ultimately important is that people have the freedoms or valuable opportunities (capabilities) to lead the kind of lives they want to lead, to do what they want to do and be the person they want to be. Once they effectively have these substantive opportunities, they can choose those options that they value most" (Robeyns 2005:95).

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[15] The information for subjective poverty is "based on responses to survey questions which try to elicit either a respondent's evaluation of income levels or his judgment about minimum needs" (Kapteyn, Kooreman, and Willemse 1988:222).

Capabilities approach has been developed further by other scholars, one of the most well-known of them is Martha Nussbaum. Nussbaum's perspective is very close to the Sen's one in terms of the critique to the neoclassical theories like utilitarianism[16]. However, the approaches of this two authors are different in some considerations[17].

Nussbaum suggests a list of 10 categories of capabilities: "(1) life; (2) bodily health; (3) bodily integrity; (4) senses, imagination and thought; (5) emotions; (6) practical reason; (7) affiliation; (8) other species; (9) play; and (10) control over one's environment" (Robeyns 2005:104). The purpose of this list is to provide a tool which can be used by individuals to demand from their governments the fulfillment of their rights based on constitutional principles.

4.2.3. Economy of happiness

From the perspective of some social sciences, including psychology and economics, there are two conceptualizations about happiness. The first, whose reference is Bentham, is subjective - hedonistic[18] - individualistic; and the second, represented by Aristotle[19], is objective - eudaemonist[20] - relational type (Eceiza 2008:3). Through the Capabilities approach, Amartya Sen is considered one of the few authors who is close to the concept of happiness defined by Aristotle.

In the nineteenth century, happiness was replaced by utility. Some economists of this period, who referred to public happiness as a social fact, studied it by the optimization of utility through equations that put income as a key variable (Lecoq 2011:108). This is how happiness disappears from the scenario of economic science. However, both economists Easterlin and Scitovski through their empirical studies contribute to return the interest of the study of happiness in economics and to question the idea that wealth is the main explanatory variable of welfare (Eceiza 2008:3). In 1974, Easterlin showed that the relationship between income and happiness was not significantly different from 0, which indicates that happiness is not affected by economic growth. This finding has been called in the literature of the happiness economy as the "Easterlin paradox" (Rojas 2009:551). Pierre Bourdieu (1998) introduces the general denomination of "Economy of happiness" to refer to an economy that cares about the consequences of growth in different areas of life and not just in the mere

[16] Economic well-being is through the "real income or expenditure of the household to which the person belongs, adjusted for differences in family size and demographic composition (relative to some reference, such as a single adult). This can be defined as household's total income divided by a poverty line given the cost of some reference utility level at the prevailing prices and household demographics" (Ravallion and Lokshin 1999:5).

[17] See Robeyns (2005), Crocker (2004) and Gasper (2004).

[18] "A hedonic view of well-being equates wellbeing with pleasure and happiness (Kahneman et al. 1999; Ryan and Deci 2001)" (McMahan and Estes 2011:3).

19 For Aristotle happiness is the supreme good to which man has access through virtue or, in other words, acting according to what he/she exists for (Lecoq 2011:108).

20 "A eudaimonic view of well-being conceptualizes well-being in terms of the cultivation of personal strengths and contribution to the greater good (Aristotle, trans. 2000)" (McMahan and Estes 2011:3).

GDP growth (Eceiza 2008:2). Economy of Happiness is constituted as a branch of the Welfare Economy.

The study of happiness could improve the measurement of well-being; however, it is needed to treat the results critically and cautiously (Di Tella & MacCulloch, 2006:43). The reasons of it could be: first, individuals sometimes tend not to be sincere, exaggerate their reality and not reveal their preferences. Second, people make a relative assessment of their lives, that is, they tend to compare their condition with the condition of others. Finally, because happiness tends to be modified to adapt to changes over time.

It is worth mentioning that in this research "happiness" and "satisfaction" will be taken as synonyms.

4.2.4. Adaptive preferences

Until now, the main criticisms to the utilitarianism theory have been that: 1) the measurement of welfare only through the levels of income and consumption is incomplete if the self-assessment of individuals is not considered; 2) welfare is not only given by the satisfaction in the financial situation of people but also by different domains of life, which depends on the opportunities that they have; and 3) an increase in income does not necessarily lead to greater satisfaction. However, another criticism to the utilitarianism made by Sen, Nussbaum and Elster is related to its supposed insensitivity to the adaptive preferences problem. According to them under this theory "people's preferences cannot be adequately distinguished between what people really prefer and what they are made to prefer" (Teschl & Comim 2005:236).

Based on the famous children's fable "The Fox and the Grapes", Elster (1982) makes an analogy between the sour grapes and the adaptive preferences formation (AFP) to explain the concept of it.

> "An adaptive preference formation occurs when an individual cannot satisfy a desire, he or she becomes frustrated, and suffers from cognitive dissonance. To alleviate this psychological discomfort, he or she needs to reset his or her preferences and remove from consideration the frustrated desire" (Locke 2013:249)

In this sense, some circumstances lead the individuals to change their preferences to avoid the frustration of not reaching them. So, the preferences revealed by the individuals do not reflect the original desires of them.

> "Utilitarian and social choice theorists thus overdraw the distinction between a choice and a constraint, falsely assuming the latter never has an effect on the former. As such, their cause and effect model is too simplistic and is in need of supplementation" (Locke 2013:249)

Chapter 5 : Data and Statistics

5.1. Data

This paper is based on the Living Conditions Survey, Encuesta de Condiciones de Vida (ECV) which is collected by the National Institute of Statistics and Censuses of Ecuador (INEC). This survey represents one of the most important statistical instruments to study the living conditions of the Ecuadorian population. Poverty by consumption is one of the most relevant indicators, which makes ECV an important input for researchers and policy makers to assess the effects of economic and social policies aimed at poverty reduction (National Institute of Statistics and Censuses of Ecuador, 2015).

The analysis presented in this paper is based on the V Round (November 2005 to October 2006) and VI Round (November 2013 to October 2014). From now onwards, we will called them ECV 2006 and ECV 2014, respectively. ECV 2006 surveyed 13,581 households in the span of twelve consecutive months. The representativeness of the survey is national, urban and rural areas, provincial and four cities (Quito, Guayaquil, Cuenca and Machala) (National Institute of Statistics and Censuses of Ecuador 2005). ECV 2014 has a representativeness at a national, urban and rural areas, 4 natural regions, 24 provinces, 9 planning zones and 4 self-represented cities (Quito, Guayaquil, Cuenca and Machala). It was based on 28,970 households (National Institute of Statistics and Censuses of Ecuador 2015).

The two surveys include very similar questionnaires, although not exactly the same. A previous exercise of making the variables of the two periods comparable was made of the various aggregates, indicators and classifiers. ECV is a statistical operation directed at households by probabilistic sampling. The target population are the habitual residents of the households that live in the housings located in the urban and rural areas of Ecuador. The sample design of ECV is probabilistic, consequently, the results obtained can be generalized to the entire population of the country. It is stratified and proportional to the size of the population, which allows the improvement of the efficiency of the sample design (Molina et al., 2016: 123).

5.2. Profile of the happy or satisfied poor people

Even it is required an exhaustive analysis to identify the economic, social and political factors that explain the changes in subjective poverty, we can start by characterizing people who live in conditions of deprivation. In this sense, based on the poverty profile elaborated by the National Institute of Statistics and Census of Ecuador - INEC in 2016, a series of dimensions and indicators related to the living conditions of the households are calculated. Recognizing the multidimensionality of poverty, it is expected that people who are poor by consumption will also find themselves deprived in other dimensions of well-being. For this reason, it is taken into account aspects such as access to basic services, educational opportunities, and labor, among others. In addition, thanks to the availability of information for two years (2006 and 2014), it is possible to know if the conditions of subjective poor households change over time.

Which are the characteristics of people that feel satisfied even though they are below the poverty line?

5.2.1. Geographic Characteristics

As it is shown in Table 8 there is a higher number of population with MSS in rural areas of Ecuador. In 2006, 13,61% of the poor population and 10,43% of the extreme poor population had MSS and was living in this area. Likewise, Amazon region presents a greater group of people with MSS than the rest of the other regions. In 2006, nearly 13% of the poor people living in this region and 9.73% of the extreme poor people had MSS. By 2014, there is an increase in the poor people with MSS that live in the Amazon region (almost 5 points) and also in the extreme poor people (6 points).

On the other hand, the Coast region was the one that increased in smaller proportion the number of poor people with MSS (3,81 points) and ranks as the region with less people with MSS (poor and extreme poor).

Table 8: Geographic characteristics of the population with MSS

	Incidence (%)	
	2006	**2014**
Poverty		
Urban Area	6,54%	11,76%
Rural Area	13,41%	17,00%
Coast Region	8.50%	12,31%
Highlands Region	12,87%	17,09%
Amazon Region	12,93%	17,69%
National	10,58%	14.87%
Indigence		
Urban Area	3,21%	7,26%
Rural Area	10,43%	13,14%
Coast Region	7,49%	8,34%
Highlands Region	9,73%	13,09%
Amazon Region	9,31%	15,36%
National	8,73%	11,82%

Source: ECV 2006, ECV 2014
Elaboration: Author

The spatial distribution of subjective poverty makes it possible to identify where this phenomenon is located mostly at the provisional level. In this way, in map 1 it is observed that for 2006, Napo, Morona Santiago, Cañar, Azuay and Loja are the provinces with the largest population with MSS; followed by provinces of the south center and coast of the country. By 2014, the provinces of the center south of the country have a greater population with MSS and the provinces of the Coast reduce the number of poor "satisfied" or "happy" people (see map 2).

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Map 1: People with MSS – 2006

% People with MSS
- .177 - .304
- .114 - .177
- .066 - .114
- .045 - .066
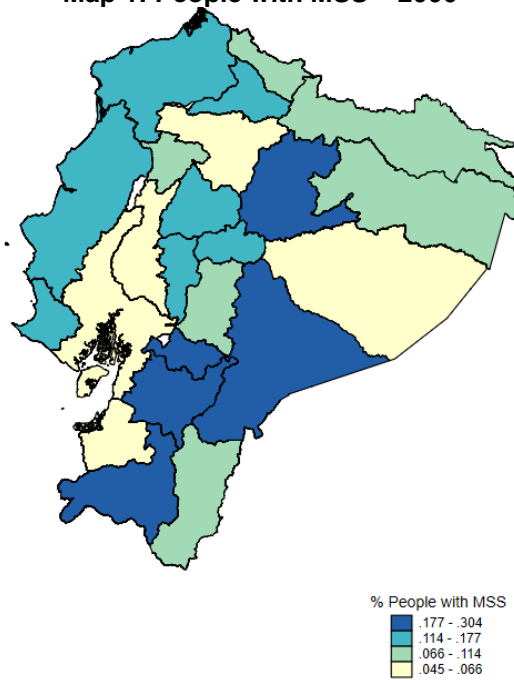
Map 2: People with MSS -2014

% People with MSS
- .216 - .271
- .177 - .216
- .099 - .177
- .06 - .099
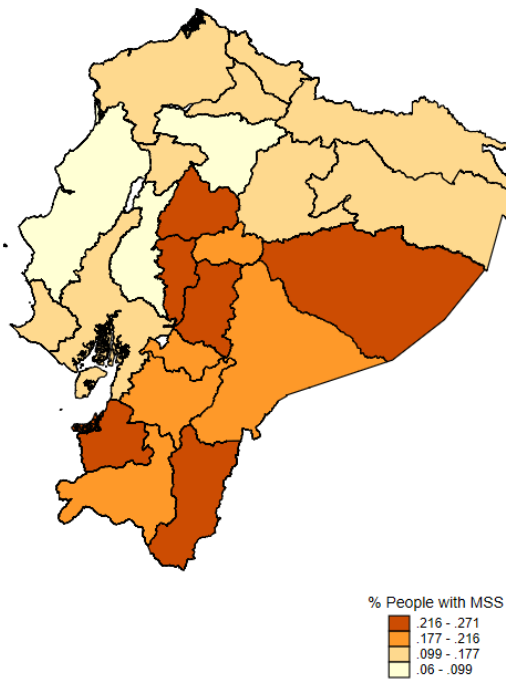
Source: ECV 2006, ECV 2014
Elaboration: Author

5.2.2. Household demographic characteristics

Table 9 shows that the poor people with MSS live in younger households; while 45,45% of the poor people with MSS in 2014 are children, 42,53% of the non-poor people with MSS belong to this age group. Even there is no a great difference, poor households with MSS

have 1 more children under 14 years than the non-poor with MSS. The age composition of poor and non-poor households with MSS is maintained between 2006 and 2014.

Table 9: Changes in the demographic structure of the population with MSS and MSD, 2006-2014

	2006		2014	
	MSS	MSD	MSS	MSD
Age structure (100%)				
Less than 14 years old	47,96%	43,62%	45,45%	42,53%
15 to 24 years old	17,61%	18,25%	17,97%	17,71%
25 to 44 years old	18,42%	22,22%	21,06%	23,81%
45 to 64 years old	10,80%	10,82%	10,57%	10,37%
65 years old onward	5,21%	5,10%	4,95%	5,59%
Average age (years)	22,58	23,41	22,89	24,04
Household size	5,92	5,20	5,99	4,84

Source: ECV 2006, ECV 2014
Elaboration: Author

There is no difference in the household size between the poor people with MSS and MSD. In 2014, the poor tend to live in larger households, with an average per household of 5 people compared to 3.4 for non-poor households. This pattern is similar for many countries in the region and in Ecuador it has remained constant since 2006 (Molina et al. 2016:129).

5.2.3. Ethnic groups

During 2007-2014, Ecuador presented an important economic dynamic within Latin America; however, the speed at which the results of the actions implemented by the government, that allowed an improvement in the quality of life, was not the same among the different ethnic groups of the country. Historically, indigenous people have been the poorest ethnic group in Ecuador and their condition has not changed, it was the group that benefited the least from the country's poverty reduction during the period in mention, compared to the white and mestiza (the largest ethnic group in Ecuador) population (Sánchez 2017). In 1998, 87% of this population lived below the poverty line and in 1999 reached the historical figure of 91.8%. By 2014, the indigenous population continues to be the poorest ethnic group in Ecuador. Unlike the reduction observed for non-indigenous people - on average 15.6 points or 40.8% - the indigenous population reduces 6.1 points or 8.6% (Molina et al. 2016:130).

Table 10: MSS and MSD by ethnic group, 2006-2014

	2006		2014	
	MSS	MSD	MSS	MSD
Indigenous	1,91%	12,31%	3,71%	15,79%
Afro-Ecuadorian	0,87%	6,12%	1,17%	4,82%
Montubio	n.d	n.d	1,06%	7,18%
Mestizo	6,77%	65,87%	8,71%	55,15%
White	0,61%	5,54%	0,22%	2,19%

Source: ECV 2006, ECV 2014
Elaboration: Author

In terms of "satisfaction" and "happiness", by 2014 the indigenous population was the second ethnic poorest group with MSS in Ecuador. It could be linked to the conditions that in different areas they have to face (See Table 10).

5.2.4. Educational Structure

In both international and national agendas of development, the eradication or at least the reduction in poverty has been set as an important goal. On the one hand, "most of the research on education and poverty has focused on the human capital dimension of education, more specifically education as a means of reducing poverty and the importance of education as an effective means of reducing poverty has been firmly established." (Tilak 2002:198). On the other hand, Amartya Sen and Mahbub ul Haq developed as "an alternative paradigm of development, the human development perspective" (Tilak 2002:195). This last approach "recognizes education primarily not as an instrument or means of development, but as development itself, while lack of the same constitutes not just a cause of poverty, but poverty itself. Educational deprivation or poverty of education becomes an integral part of human poverty" (Tilak 2002:195). Even there are differences in the conception of education under this perspectives, the similarity is that these two approaches link the level of education of the population with the levels of well-being and poverty, considering that is the whole society which enhance the conditions for generating future capabilities.

Table 11 shows the positive correlation between lower levels of education and poverty experienced by the population which have MSS. The majority of poor people with MSS have primary or a lower level of education. However, this situation change from 2006 to 2014 when this group improve their education in around 10% due to the great investment in education made by the government during that period.

Table 11: Education and subjective poverty of the working age population, 2006-2014
(Population of 15 years and older)

	2006		2014	
	MSS	**MSD**	**MSS**	**MSD**
Educational structure (%)				
None	12,71%	11,61%	10,58%	9,10%
Primary and less[21]	62,79%	56,61%	52,38%	51,23%
Secondary	22,75%	29,10%	34,63%	36,76%
Higher	1,76%	2,67%	2,41%	2,91%
Years of schooling				
15 to 24 years old	8,18	8,41	9,56	8,58
25 to 44 years old	6,85	7,44	7,68	7,92
45 to 64 years old	4,13	4,98	4,63	5,44
65 onward	3,41	2,6	2,34	2,59
Illiterate rate	20,23%	16,28%	16,57%	14,02%

Source: ECV 2006, ECV 2014
Elaboration: Author

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[21] The category includes primary and lower grades such as kindergarten, first grade of basic education and initial education (Molina et al. 2016:132).

Likewise, the changes observed in access to education are correlated with the new constitutional framework, which in article 28 declares the compulsory nature and universality of basic education and secondary[22] education. At his point it is necessary to indicate that the returns to education are not visible at all in 2014, it will take few more years for the people who are currently studying to be heads of households and generate enough income to escape poverty (Molina et al. 2016:133). This could be an explanation why in terms of years of schooling, the gap between the population with MSS and MSD is not significant and has not changed among the years.

5.2.5. Labor characteristics of working age people[23]

Working conditions of the working-age population are directly related with the situation of the poor households. Table 12 reveals that more than the half of the households are employed. Also, if we analyze by the structure of the sector there is a high participation of the poor people in agriculture (more than 50% in both periods) which is an activity intensive in unskilled labor.

Table 12: Labor characteristics of the working-age population, 2006-2014

	2006		2014	
	MSS	MSD	MSS	MSD
Employed	65,34%	65,85%	60,04%	56,87%
Structure of the sector (100%)				
Agriculture	63,13%	48,80%	54,50%	50,39%
Mining	0,56%	0,42%	0,48%	0,58%
Manufacture	6,60%	9,20%	9,52%	8,99%
Commerce	8,35%	13,04%	9,52%	9,57%
Construction	7,54%	7,11%	8,30%	9,98%
Services	13,80%	21,42%	17,68%	20,49%

Source: ECV 2006, ECV 2014
Elaboration: Author

One of the possible explanations of the self-perception of "satisfaction" or "happiness" of those who practice agricultural activities could be the *feeling of community* that in most of the occasions is present in this sector. This feeling refers to a system of community life or ayllu[24] (Quechua word) in which all its members have the same rights and obligations, giving great importance to the principles of reciprocity and equity. This type of organization leaves aside the permanent competition between individuals and the search for power that does not allow to achieve "satisfaction" or "happiness". During the study period of this research, Ecuador

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[22] The number of years of compulsory schooling is 13 years (Molina et al. 2016:133).

[23] The working-age population includes all persons aged 15 and over (Molina et al. 2016:133).

[24] Social and political model of organization that characterized the territory called Tahuantinsuyo that belonged to the Inca Empire.

recognized the importance of this type of coexistence through the inclusion of the Good Living or *Buen Vivir*[25] proposal in the 2008 Constitution.

5.2.6. Habitat and access to basic services

Poor population lives in more precarious housing conditions and with less access to basic services than the rest of the population. This situation is expected given that poor households are, on average, larger and live in smaller homes. The poor have difficulty accessing basic services, especially adequate services for eliminating excreta and obtaining drinkable water through the public network (Molina et al. 2016:135).

Table 13 shows that from 2006 to 2014, there have been, on average, important improvements in the quality of life of people; although the characteristics described for poor households are structural. Poor households with MSS and MSD reduce the overcrowding rate, the number of people who live in houses with deficient materials and inadequate services (sanitary conditions) and the absence of children to the school.

Table 13: Habitat and access to basic household services, 2006-2014

	2006		2014	
	MSS	**MSD**	**MSS**	**MSD**
Overcrowding	51,34%	46,79%	41,43%	35,64%
Deficient housing materials	32,44%	35,21%	25,43%	26,66%
Inadequate housing services (sanitary conditions)	73,36%	65,27%	39,57%	40,31%
Absence of children from 6 to 12 years old to school	7,54%	4,79%	3,57%	1,30%

Source: ECV 2006, ECV 2014
Elaboration: Author

Empirically, it is found that people who consider themselves as poor and have MSS (are "happy" or "satisfied") in Ecuador, by the years 2006 and 2014, presents the following features:

- Live in the rural area
- Are from Amazon and Highlands regions
- Live in younger homes
- Are indigenous
- Work in the agriculture sector
- Are, on average, larger and live in smaller households

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[25] Buen Vivir is consider as an alternative to development and as a strategy that the country has to follow if the aim is achieving the well-being for everybody. The 275 article of the Ecuadorian constitution establishes that Buen Vivir "will require that people, communities, peoples and nationalities effectively enjoy their rights, and exercise responsibilities within the framework of interculturality, respect for their diversity, and harmonious coexistence with Nature" (Acosta 2010).

- Have houses built by deficient materials and with inadequate services (sanitary conditions)

According to this, the fact of complying with one or more of these characteristics, may possibly have a positive effect on being poor with MSS. In other words, it is expected that if an Ecuadorian has these characteristics the probability of feeling "happy" or "satisfied" increase.

5.2.7. Microeconomic determinants of the population with MSS

The previous section, which contemplates a descriptive analysis, is confirmed in most cases by applying econometric techniques. In this section, the results of the estimation of a logistic model of the probability of being part of the population with MSS is described. The dependent variable is a dummy that takes the value of 1 if the household has MSS and 0 otherwise (which means that the household has MSD). The independent variables are the geographic, demographic, educative, labor and habitat characteristics described above. The estimations of the logit models for 2006 and 2014 are presented in detail in appendix 1.

The results at a national level are presented in the Figures 4 and 5. The odds ratio[26] for each of the independent variables is plotted on the abscissa axis. Given the linear transformation of the model, when the value of the parameter is equal to 1, the probability of having MSS, with respect to the reference category, is zero.

As the figures show, to live in the highlands, to be illiterate, to belong to a household were are children that do not attend to school and to receive remittances are the characteristics that increase the probability of being poor with MSS. Those are the features that prevail from 2006 to 2014.

Figure 4: Microeconomic determinants of the population with MSS, 2006
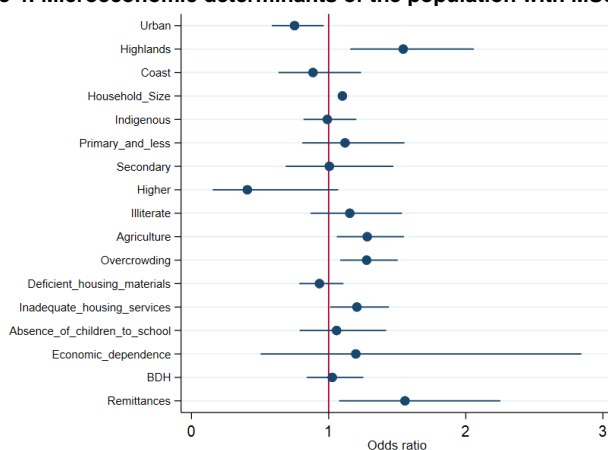
Source: Author's calculations

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[26] "An odds ratio (OR) is a measure of association between an exposure and an outcome. The OR represents the odds that an outcome will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure. Odds ratios are most commonly used in case-control studies, however they can also be used in cross-sectional and cohort study designs as well (with some modifications and/or assumptions)". (Szumilas 2010:227)

Figure 5: Microeconomic determinants of the population with MSS, 2014

Chapter 6 : Empirical strategy

6.1. Estimation models

6.1.1. How people with MSS consider they live?

In order to know how the poor people with MSS (those who feel satisfied or happy) perceive how their household's live with the incomes that they receive, an econometric exercise is proposed. It consists in estimating a multinomial response model. In this model, the individual faces multiple alternatives, of which he/she selects only one of them. In this way, it is evaluate the probability of the alternative j against the alternative $i, \forall\ i \neq j$. The probability that the individual selects the alternative is defined in equation 1:

$$P_{ij} = Pr[y_i = j] = F(X\beta_j) \qquad (1)$$

Equation 2 shows the specification of this kind of models:

$$P_{ij} = G(X_i\beta_j)/\sum_{j=1}^{J} G(X_i\beta_j) \qquad (2)$$

The equation 1 can be estimated under any specification of the equation $G(.)$. However, assuming that the residuals of the model $X_i\beta_j + v_j$ are distributed logistically, then to find the probabilities P_{ij} only the term $G(.)$ should be substituted for $exp(X_i\beta_j)$ and a multinomial logit model is obtained, whose estimation is performed by the Maximum Likelihood method[27].

Under these models, the explanatory variables have differential impacts on the dependent variable, so that the coefficients β_j change and weigh differently each of the alternatives. So, through the establishment of a reference category there will be a β which will be designated as the basis for reaching a single result, leading to the expression of the *multinomial logit model* as is shown by the equation 3:

$$P_{ij} = \exp(X_i\beta_j)/\left(1 + \sum_{j=2}^{J} exp(X_i\beta_j)\right) \qquad (3)$$

For the practical purposes of this research, answer option 3 to the question *"Is the current income of the household reaches to solve the minimum expenses of the home?"* Will be assigned as a reference or comparison alternative, which indicates that the household live bad with the incomes that they have. We will try to evaluate the change on the probability of considering that the income allows the household to live neither well nor bad (alternative 2) and to live well (alternative 1), caused by changes in the explanatory variables of interest[28]. This model

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[27] The Maximum Likelihood Method is a technique for estimating the vector parameters of the joint density function $L = \prod_{i=1}^{n} F(X_{ij}; \theta)d_{xi}$. This function identifies the data generating process that comes from an observed sample and at the same time provides a mathematical description of the data that the process will generate (Greene 2002).

[28] To make this evaluation, it is calculated the marginal effect of a change in each of the explanatory variables on the conditional probability of P_{ij}. For more details, see the appendix 6.

explains the self-perception of subjective poverty based on sociodemographic and household variables.

6.2.2. What about adaptive preference in poor people?

To assess the critique made by Elster, Sen y Nussbaum, it is estimated the effects of "satisfaction" or "happiness" over the number of hours worked, the amount of savings and educational levels. The econometric exercise proposed consists in the estimation of two OLS (Ordinary Least Squares) regressions and one probability regression. The regressions are described below:

$$Y = \alpha + \beta MSS + \gamma Z + \varepsilon$$

$Y: Working\ hours;\ Savings;\ Percentage\ of\ households\ with\ children\ that\ do\ not\ attend\ school.$
$\ MSS: Dummy\ variable\ that\ take\ 1\ if\ the\ person\ is\ happy\ according\ to\ its\ incomes,$

$\quad\ 0=otherwise$
$Z: control\ variables$[29]
$\varepsilon: Error\ term$

6.2. Variables and indicators

In order to make a comparison between the results obtained in 2006 and 2014, we tried to construct the variables and indicators using the same information. However, due to the fact that for 2014 the survey is more extensive, the availability and detail of information improved. This generated differences between years in the calculation of some variables such as income and indicators such as illiteracy. This point is made in order to explain why a pooling[30] of databases was not performed and each year is analyzed individually.

We consider also relevant to point out that a possible limitation of the models selected in this paper does not take all the variables or indicators that could explain subjective poverty. Nevertheless, the explanatory variables proposed here tries to cover, as a whole, factors that make them relevant to assess the self-perception of poverty (consumption, income, education, demographic and geographical location).

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[29] There are include geographic, demographic, educational, labor and habitat variables. It depends on which dependent variable has been taken.
[30] Pooling cross sectional databases is taking multiple snapshots of multiple bunches of (randomly selected) individuals (or states or firms) at different periods of time (Wooldridge 2016:8).

6.3. Results

6.3.1. Perception of life of the poor ones

At first, the coefficients of the variables from the logistic model refer to the relative changes in the probabilities. These only allow to establish the direction in which these probabilities move according to the sign found, so that it is of great interest to quantify the impact of the study variables on the perception of sufficiency of household income. For this purpose, the marginal changes in the probabilities associated to each category of the explanatory variable are calculated.

The marginal effects of the multinomial model are presented in Table 14, disaggregated by three categories according to the answers given by poor people about how they consider they live with the incomes that they have: bad (Category A), neither well nor bad (Category B) and well (Category C). The results are shown for the years 2006 and 2014. In all of the cases, the regressions are controlled by individual, geographical, demographic, ethnic, educational, labor and habitat characteristics.

It can be seen that the feeling of "satisfaction" or "happiness" reflect the expected effects on the different categories of the perception variable about income. On the one hand, the fact that poor people have MSS increases the probability of perceiving that the income allow them to live well by 4,1 percentage points in 2006 and 7,1 percentage points in 2014. On the other hand, having this feeling implies a reduction in the probability of considering that they live bad with the incomes that they have by 6,7 percentage points in 2006 and 4 percentage points in 2014. The results are statistically significant at 99% level.

An interesting result is that being indigenous diminish the probability of considering that they live bad (by 8 percentage points in 2006 and 3,1 percentage points in 2014) with their incomes while the perception of living well increases (by 3,7 percentage points in 2006 and 4.2 percentage points in 2014). The results are statistically significant at 99% level. As we mentioned in Chapter 3, a possible explanation of it can be the way in which indigenous are organized in their communities.

Finally, as it is expected, the poor people that live in overcrowding conditions, in houses with deficient materials and inadequate services (sanitary conditions) consider that they live bad with the incomes that their households have. The probability of considering that they live bad if they have one of this conditions increase on average 3 percentage points in 2006 and 3,9 percentage points in 2014. For category A, the results are statistically significant at 99% level

On appendix 2, the coefficients for each of the control variables are detailed.

Table 14: Marginal effects of the estimated Multinomial Logit Model for Ecuador

	With your household income, YOU estimate that your household:					
	Live bad		Live neither well nor bad		Live well	
	2006	2014	2006	2014	2006	2014
VARIABLES	mfx dydx		mfx dydx		mfx dydx	
MSS	-0.067***	-0.040***	0.026*	-0.030***	0.041***	0.071***
	(0.014)	(0.008)	(0.015)	(0.009)	(0.008)	(0.007)
Controls						
Individual characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Geographic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Demographic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Ethnic characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Educational Structure	Yes	Yes	Yes	Yes	Yes	Yes
Labor characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Habitat characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,976	16,435	9,976	16,435	9,976	16,435

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Note: It is shown the coefficients of people with MSS, but the regression was controlled by: natural logarithm of income, Age, Age square, Male, Urban, Highlands, Coast, Household size, Indigenous, Primary and less, Secondary, Higher, Illiterate rate, Employment, Agriculture, Overcrowding, Deficient housing materials, Inadequate housing services (sanitary conditions), Absence of children from 6 to 12 years old to school, Economic dependence

Elaboration: Author

6.3.2. Adaptive preferences

Table 15 shows a summary of the null hypothesis about adaptive preferences that were evaluated in this paper:

Table 15: Elster's Hypothesis (Adaptive preference)

Labor Market Hypothesis:	Results	Sign	Significance
Poor people with MSS dedicate less hours to work in the labor market than the poor people with MSD	There is no evidence to fail to reject	Negative	No
Material Myth Hypothesis:			
Poor people with MSS tend to save less than people with MSD	Fail to reject	Negative	Yes
Intergenerational Trap:			
The probability that poor people with MSS live in households with children that do not attend to school is higher than the ones of poor people with MSD.	Fail to reject	Positive	Yes

Elaboration: Author

One of the aims of this research is to identify if poverty is a result of a process in which individuals adapt their preferences to their personal circumstances. The problem of poor people adapting their preferences to have a feeling of "satisfaction" or "happiness" can lead to the fact that their condition of deprivation in several atmospheres not only harms the present generations but also perpetuates itself in future generations. In other words, the poor with MSS could lead to never getting out of the poverty trap.

The following section analyze in detail the results obtained for three different outcomes that were taken into account considering the *Sour Grapes methapore*.

Table 16 presents the results for the number of hours that a person with MSS work. As we can see, after controlling for some variables through a linear regression, there is no evidence to affirm that poor people with MSS will work less than the ones with MSD in both years of analysis, 2006 and 2014. The results shows the expected sign but are not statistically significant. The coefficients of each control variable are shown on appendix 3.

The fact that the result is not significant could show that poor people with MSS is working probably the same number of hours per week as the poor people with MSD.

Table 16: OLS estimation of the number of hours per week

Dependent variable: Number of hours per week

VARIABLES	2006	2014
MSS	-0.658	-0.098
	(0.510)	(0.312)
Controls		
Individual characteristics	Yes	Yes
Geographic characteristics	Yes	Yes
Demographic characteristics	Yes	Yes
Ethnic characteristics	Yes	Yes
Educational Structure	Yes	Yes
Labor characteristics	Yes	Yes
Habitat characteristics	Yes	Yes
Observations	9,976	16,435

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Note: It is shown the coefficients of people with MSS, but the regression was controlled by: natural logarithm of income, Age, Age square, Male, Urban, Highlands, Coast, Household size, Indigenous, Primary and less, Secondary, Higher, Illiterate rate, Employment, Agriculture, Overcrowding, Deficient housing materials, Inadequate housing services (sanitary conditions), Absence of children from 6 to 12 years old to school, Economic dependence

Elaboration: Author

Accumulation can be measured by the savings of people. The results in Table 17, after controlling for some variables, asserts Lipton hypothesis showing that poor people with MSS save less than the ones with MSD ($ 183,28 dollars in 2006 and $22,24 dollars in 2014). In other words, poor people with MSD (that are "unsatisfied" or "unhappy" with their incomes) tend to accumulate more than the ones with MSS.

The fact that poor people decide to save less and feel satisfied with it, is similar to what happen with the fox that cannot reach the grapes and renounce them because it thinks that they are sour. Poor people learn to desire less, to limit their wants, due to their limited opportunities. As Elster indicated, the frustration can be eliminated if the desire does not exist.

The results shows the expected sign and are statistically significant at 99% level. The coefficients of each control variable are shown on appendix 4.

Table 17: OLS estimation of saving per month

Dependent variable: Savings		
VARIABLES	**2006**	**2014**
MSS	-183.276**	-22.224***
	(75.736)	(1.234)
Controls		
Individual characteristics	Yes	Yes
Adverse situations	Yes	Yes
Educational Structure	Yes	Yes
Labor characteristics	Yes	Yes
Cash transfers	Yes	Yes
Observations	9,701	21,951

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Note: It is shown the coefficients of people with MSS, but the regression was controlled by: natural logarithm of consumption, Age, Age square, Male, Number of income receiver, Loss of employment, Bankruptcy of the family business, A relative died or is ill, Abandonment of the households head, Criminal act, Primary and less, Secondary, Higher, Illiterate rate, Employment, BDH, Remittances

Elaboration: Author

Finally, does the feeling of satisfaction or happiness leads to a negative effect on intergenerational poverty through the reduction in human capital investment?

Poor people that feel well with the incomes that they have for their household can think that education is not going to make a great change in the deprive situation that they live. In this sense, this group of people cannot be interest in that their children attend to school. This

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hypothesis is confirmed by the results shown on Table 18. The results are significant for both years 2006 and 2014, the probability of living in a household where children do not attend to school increase for poor people with MSS (2,1 percentage points and 1 percentage point respectively). The coefficients of each control variable are shown on appendix 5.

Unfortunately, the legacy of the satisfaction or happiness of the poor could be that future generations do not have the possibility of changing their lives by being able to get out of the trap of poverty through education. This, considering that education is seen as a potential mechanism of social mobility.

Table 18: Logit regression for probability of living in household with children that do not attendance to school

Dependent variable: Household with children that do not attendance to school		
VARIABLES	**2006**	**2014**
MSS	0.021***	0.010***
	(0.007)	(0.003)
Controls		
Individual characteristics	Yes	Yes
Adverse situations	Yes	Yes
Education	Yes	Yes
Labor characteristics	Yes	Yes
Cash transfers	Yes	Yes
Observations	9,713	21,961

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Note: It is shown the coefficients of people with MSS, but the regression was controlled by: natural logarithm of consumption, Age, Age square, Male, Loss of employment, Bankruptcy of the family business, A relative died or is ill, Abandonment of the households head, Criminal act, Illiterate rate, Employment, BDH, Remittances

Elaboration: Author

Chapter 7 : Conclusions

To put it all in a nutshell, the profile of poor individual with MSS is that he/she lives in the rural area, is from Amazon and Highlands regions, lives in younger households, is indigenous, works in the agriculture sector and has a house built by deficient materials and with inadequate services (sanitary conditions). This characteristics of people that feel satisfied or happy do not cause surprise. As we presented in the paper, in Ecuador well-being is related with the concept of Buen Vivir that comes from the philosophy of life of indigenous societies. For indigenous people, there are not concepts such as wealth and poverty determined by the accumulation or lack of material goods (Acosta 2008). Indigenous people find their satisfaction in their harmony relation with the nature that is why they mostly work on agricultural activities that take place in the rural areas of the Highlands and Amazon region of the country. So, without fear of making a mistake, we can say that the majority of people with MSS belong to this ethnic group.

Through the results obtained in two of the three models estimated in this paper we can claimed that the critique to the neoclassical theory about revealed preferences, made by Elster, Sen and Nussbaum, is true. Preferences of individuals can be influenced by the circumstances that the individuals have to face in their daily life. In this sense, the happiness of poor people is the product of a structural process in which they adapt their preferences to their restricted circumstances. This argument is affirmed given that poor people with MSS save less than the group of poor people with MSD. This, as previously mentioned, could be the consequence of the self-restriction of wants due to the limitations given. Avoiding the feeling of frustration leads to not develop the "spirit of accumulation", since it could tend to expand the desires that may not be able to be covered. Finally, in terms of human capital, it was identified that satisfaction or happiness has a negative impact on intergenerational social mobility. The poor with MSS are more likely than the poor with MSD to live in households where there are children who do not attend school. Consequence of this will be the perpetuation of the vicious circle of poverty: the happiness of poverty product of self-limitation, leads to a type of immobility that generates the situation of deprivation in which the present generation lives and could perpetuate the condition in which the next generation will live.

Quoting Esteve (2000) who makes reference to an annotation that John Stuart Mill made in his diary in 1854, we agree to say that: "The only certain and definite rule of conduct or norm of morality is the greatest happiness; but a philosophical assessment of happiness is needed first. The quality, as well as the amount of happiness, must be taken into account: a smaller amount of an elevated class is preferable to a larger quantity of a lower class. The determination of the degree of quality is established by the preference of those who have knowledge of both. Socrates would prefer to be a dissatisfied Socrates rather than a satisfied pig; the pig probably does not; but the pig knows only one side of the question, and Socrates knows both. "

Under this logic, it becomes necessary to continue with research on poverty, well-being and adaptive preferences. Otherwise, we will find the problem of measuring well-being from the neoclassical perspective which, based on its axiom of revealed preferences, does not consider the feeling of frustration which modify the initial preferences of the individuals. In other words, to continue using the utilitarian theory, in some cases it would be possible to demonstrate an increase in satisfaction or happiness; however, can it be considered a social

triumph if that satisfaction and happiness comes from adapting to the limiting conditions of capabilities and freedoms?

It is worth to quote that "Sen argues that our evaluations and policies should focus on what people are able to do and be, on the quality of their life, and on removing obstacles in their lives so that they have more freedom to live the kind of life that, upon reflection, they have reason to value" (Robeyns 2005:94).

Appendices

	MSS	
VARIABLES	2006	2014
Urban	-0.0240**	-0.0450***
	(0.0101)	(0.00803)
Highlands	0.0376***	0.0271***
	(0.0124)	(0.00749)
Coast	-0.0106	-0.0326***
	(0.0146)	(0.00914)
Household size	0.00850***	0.0266***
	(0.00121)	(0.00117)
Indigenous	-0.000827	0.00688
	(0.00871)	(0.00689)
Primary and less	0.00994	0.0103
	(0.0145)	(0.0146)
Secondary	0.000444	0.0123
	(0.0173)	(0.0167)
Higher	-0.0568***	-0.0104
	(0.0208)	(0.0230)
Illiterate	0.0132	0.0446***
	(0.0139)	(0.0142)
Employed		-0.0219
		(0.0153)
Agriculture	0.0216***	3.64e-05
	(0.00829)	(0.00689)
Overcrowding	0.0219***	-0.0140**
	(0.00753)	(0.00651)
Deficient housing materials	-0.00610	0.000892
	(0.00763)	(0.00742)
Inadequate housing services (sanitary conditions)	0.0163**	-0.00908
	(0.00762)	(0.00651)
Absence of children from 6 to 12 years old to school	0.00511	0.0209
	(0.0139)	(0.0210)
Economic dependence	0.0172	-0.0284
	(0.0450)	(0.0209)
BDH	0.00233	0.00828
	(0.00916)	(0.00675)
Remittances	0.0464**	0.0964***
	(0.0229)	(0.0302)
Observations	7,477	16,442

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
Elaboration: Author

	With your household income, YOU estimate that your household:					
	Live bad		Live neither well nor bad		Live well	
	2006	2014	2006	2014	2006	2014
VARIABLES	mfx dydx		mfx dydx		mfx dydx	
MSS	-0.067***	-0.040***	0.026*	-0.030***	0.041***	0.071***
	(0.014)	(0.008)	(0.015)	(0.009)	(0.008)	(0.007)
ln(income)	-0.049***	-0.035***	0.040***	0.029***	0.009***	0.007**
	(0.006)	(0.004)	(0.006)	(0.005)	(0.002)	(0.003)
Age	-0.002	-0.002**	0.004***	0.003***	-0.002***	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Age square	0.000**	0.000***	-0.000***	-0.000***	0.000***	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Male	-0.005	-0.006	0.002	0.003	0.004	0.004
	(0.009)	(0.006)	(0.010)	(0.007)	(0.004)	(0.004)
Urban	0.009	0.097***	-0.002	-0.090***	-0.008	-0.007
	(0.014)	(0.011)	(0.014)	(0.012)	(0.006)	(0.007)
Highlands	-0.131***	-0.076***	0.171***	0.095***	-0.040***	-0.020***
	(0.017)	(0.008)	(0.017)	(0.009)	(0.006)	(0.005)
Coast	-0.118***	-0.047***	0.176***	0.089***	-0.058***	-0.043***
	(0.016)	(0.009)	(0.017)	(0.010)	(0.005)	(0.005)
Household size	-0.008***	-0.005***	0.009***	0.006***	-0.001	-0.002**
	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
Indigenous	-0.080***	-0.031***	0.043***	-0.011	0.037***	0.042***
	(0.012)	(0.007)	(0.013)	(0.008)	(0.007)	(0.005)
Primary and less	0.006	0.006	-0.018	-0.005	0.012	-0.001
	(0.022)	(0.015)	(0.023)	(0.017)	(0.008)	(.)
Secondary	0.028	0.013	-0.021	-0.008	-0.008	-0.006
	(0.026)	(0.017)	(0.027)	(0.019)	(0.009)	(0.011)
Higher	-0.022	-0.023	-0.014	0.018	0.036	0.004
	(0.039)	(0.024)	(0.043)	(0.028)	(0.027)	(0.017)
Illiterate	0.044**	0.056***	-0.069***	-0.059***	0.025**	0.003
	(0.020)	(0.015)	(0.021)	(0.016)	(0.010)	(0.009)
Employed	-	-0.034**	-	0.023	-	0.011
	-	(0.016)	-	(0.017)	-	(0.009)
Agriculture	0.006	-0.003	-0.013	-0.002	0.007	0.005
	(0.012)	(0.008)	(0.012)	(0.009)	(0.005)	(0.005)
Overcrowding	0.030***	0.030***	-0.042***	-0.033***	0.011***	0.002
	(0.010)	(0.007)	(0.011)	(0.008)	(0.004)	(0.004)
Deficient housing materials	0.037***	0.045***	-0.038***	-0.053***	0.001	0.008
	(0.011)	(0.008)	(0.011)	(0.009)	(0.005)	(0.005)
Inadequate housing ser-vices (sanitary conditions)	0.029**	0.041***	-0.033***	-0.054***	0.004	0.013***
	(0.011)	(0.007)	(0.012)	(0.008)	(0.005)	(0.004)
Absence of children from 6 to 12 years old to school	0.041*	-0.026	-0.039*	-0.003	-0.001	0.029*
	(0.021)	(0.020)	(0.021)	(0.023)	(0.008)	(0.015)
Economic dependence	0.139***	0.061**	-0.116**	-0.023	-0.023	-0.039***
	(0.053)	(0.027)	(0.054)	(0.028)	(0.018)	(0.012)
Observations	9,976	16,435	9,976	16,435	9,976	16,435

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
   Elaboration: Author

Appendix 3: OLS estimation of the number of hours per week

Dependent variable: Number of hours per week

VARIABLES	2006	2014
MSS	-0.658	-0.098
	(0.510)	(0.312)
ln(income)	3.055***	3.985***
	(0.236)	(0.174)
Age	0.764***	1.091***
	(0.049)	(0.036)
Age square	-0.010***	-0.012***
	(0.001)	(0.000)
Male	11.072***	11.251***
	(0.360)	(0.246)
Urban	1.721***	0.768*
	(0.562)	(0.406)
Highlands	4.713***	1.801***
	(0.625)	(0.315)
Coast	-0.352	-2.503***
	(0.704)	(0.419)
Household size	0.002	0.090*
	(0.071)	(0.054)
Indigenous	2.255***	0.200
	(0.447)	(0.282)
Primary and less	-2.227***	-0.517
	(0.826)	(0.613)
Secondary	-3.443***	-2.432***
	(0.964)	(0.686)
Higher	-6.438***	-3.816***
	(1.633)	(0.953)
Illiterate	-1.257*	-1.041**
	(0.738)	(0.515)
Employed	-	8.498***
		(0.591)
Agriculture	-5.738***	-6.098***
	(0.449)	(0.303)
Overcrowding	0.465	0.703***
	(0.386)	(0.272)
Deficient housing materials	0.232	-0.037
	(0.400)	(0.291)
Inadequate housing services (sanitary conditions)	-0.049	0.869***
	(0.447)	(0.269)
Absence of children from 6 to 12 years old to school	1.399*	1.927**
	(0.725)	(0.870)
Economic dependence	-1.076	2.650***
	(1.934)	(0.908)
Constant	9.876***	-14.228***
	(1.917)	(1.503)
Observations	9,976	16,435
R-squared	0.177	0.263

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Elaboration: Author

Appendix 4: OLS estimation of saving per month

Dependent variable: Savings

VARIABLES	2006	2014
MSS	-183.276**	-22.224***
	(75.736)	(1.234)
ln(consumption)	-57.033	26.411***
	(170.894)	(1.308)
Age	13.229	0.265*
	(9.672)	(0.145)
Age square	-0.161	-0.002
	(0.100)	(0.002)
Male	-8.757	-0.353
	(132.143)	(1.274)
Number of income re-ceiver	49.966	8.596***
	(34.475)	(0.353)
Loss of employment	-181.655**	4.259**
	(76.080)	(1.888)
Bankruptcy of the family business	33.684	-13.840***
	(143.774)	(3.870)
A relative died or is ill	182.705	-2.221
	(173.939)	(1.629)
Abandonment of the households head	-41.361	-5.314
	(36.391)	(5.051)
Criminal act	-145.372**	5.088
	(60.328)	(3.601)
Primary and less	-17.350	-0.017
	(20.188)	(2.588)
Secondary	-252.862*	4.654
	(130.488)	(2.919)
Higher	-274.856*	26.167***
	(149.729)	(5.009)
Illiterate	-222.770**	-4.376**
	(91.202)	(2.138)
Employed	53.889	6.260***
	(61.831)	(1.231)
BDH	-152.367**	-9.101***
	(59.408)	(1.412)
Remittances	-104.817*	5.621
	(54.003)	(4.859)
Constant	115.338	-82.583***
	(629.232)	(6.405)
Observations	9,701	21,951
R-squared	0.001	0.061

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1
Elaboration: Author

Appendix 5: Logit regression for probability of living in household with children that do not attend-ance to school

Dependent variable: Household with children that do not attendance to school

VARIABLES	2006	2014
MSS	0.021***	0.010***
	(0.007)	(0.003)
ln(consumption)	-0.041***	-0.022***
	(0.003)	(0.001)
Age	0.001*	0.000
	(0.001)	(0.000)
Age square	-0.000***	-0.000*
	(0.000)	(0.000)
Male	-0.001	-0.000
	(0.004)	(0.002)
Loss of employment	0.001	0.009***
	(0.006)	(0.003)
Bankruptcy	0.003	0.004
	(0.004)	(0.008)
A relative died or is ill	-0.006	-0.000
	(0.005)	(0.003)
Abandonment of households head	-0.025**	-0.005
	(0.011)	(0.005)
Criminal act	0.015	-0.012***
	(0.014)	(0.003)
Illiterate rate	0.019***	0.002
	(0.006)	(0.003)
Employed	0.009*	0.002
	(0.005)	(0.002)
BDH	-0.012**	-0.000
	(0.005)	(0.002)
Remittances	0.012	0.001
	(0.013)	(0.008)
Observations	9,713	21,961

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Elaboration: Author

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